

Strategy for The Development of Academic Power Capacity (PKTA) to Improve Productivity and Competitiveness PT

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Abstract—This study aims to identify and analyze the main supporting and inhibiting factors faced by academic and institutional personnel in the effort of developing the capacity of lecturers, especially to achieve professorship. Key issues to be researched and studied are related to (1) supporting and inhibiting factors, (2) existing strategies and strategies that should be undertaken, (3) design of academic capacity building models, and (4) evaluating the impact of study results and follow-up. This study is motivated by the government's policy demands to increase the professorship with the identified shortage of big professors as much as 17,000 people by kemenristekdikti and PTN bh needs in an effort to improve the quality and global competitiveness as World Class University (WCU). In that context PTN bh need an effective strategy to increase the capacity of human resources of lecturers especially acceleration to achieve doctoral degree (S3) and professorship (Professor) supported by international standard research capability and competence in accordance with the science / field of study.

Keywords—lecturers; research; capacity; standards

I. INTRODUCTION

A. Background

In 2017 the Ministry of Research, Technology and Higher Education identified a shortage of 17,000 professors. This shows an overview of the quality of the academic staff to achieve the highest functional position degraded in number and quality compared to other countries in the Asean region. So the idea of the government emerged that would import professors (professors) from other countries. Of course the policy is not a solution to the problems of national universities, because it will cause many excesses. While the obstacles faced by lecturers are writing scientific papers or international journals indexed by Scopus.

A number of PTNbh experienced the same problems in an effort to increase the number of professors because they were not directly proportional to the lecturers' scientific work. Other causes are because the professors who retire and die so that they have difficulty achieving equilibrium the number of professors.

UPI in 2016 has institution accreditation with the title A. An achievement that should be grateful, however, the achievement is not final because there are still many homeworks that still have to be done, including the management of lecturers who still need improvement. HR as one of the standards that has a high value or weight in institutional accreditation. As an illustration of the condition of UPI lecturers according to UPI 2015 HR data, it is described from the number of 1,251 lecturers who still have S1 degrees as many as 31 people, 725 masters or masters, and 495 doctors who have doctorates. While from the functional position of expert assistants as many as 92 people, the Lector 455 people and the Chancellor head 550 people. While 78 professors. Apabia is seen from the rank of 642 class 3 and 609 class 4 people.

From the data, the number of lecturers still shows that functional positions are still dominated by 39.56% of lecturers, 43.96% of head professors, and 6.23% of professors, while according to standards, universities have at least 10% professors or 125 people. Here, there is a gap between the ideal minimum number and reality, which is only 6.23% (still 78 people) or there is a difference of 47 people who must immediately attain professorship.

The problem that arises in developing human resources at UPI is how HR development policies, characteristics of lecturers who are studying further, develop career both rank and functional to reach professors.

B. Formulation of the Problem

Based on the background of the problem above, the formulation of the problem in this study is as follows:

- What are the supporting and inhibiting factors or the main constraints of the lecturer to reach the S3 and professor?
- What are the supporting and inhibiting factors for lecturers who are in the process of being proposed to the Professor?
- Are efforts and strategies being carried out by institutions and individual lecturers?

- How is the change-based HR Development Model Mind set (Changing of mind set)
- How is the standard mindset that includes the spiritual, belief, capability and behavior aspects of UPI lecturers

C. Research Purposes

- Identified output indicators: (1) documents of supporting factors and inhibitors of capacity building for academic staff (PKTA), (2) PKTA's key success factors, (3) Increasing the number of national and international standardized scientific publications.
- Identification of outcome indicators; (1) a significant increase in the number of academic staff who attained doctoral programs (S3), and a significant increase in the number of lecturers who reached professors.

D. Research Output

Lecturer development strategies and published in national and international seminar scripts, national and international indexed journal manuscripts and IPR Acquisition

II. LITERATURE REVIEW

Paradigm of the Model of Academic Power Capacity Development (PKTA) based on changes in Mind Set (Growth Mind Set)

Researchers assume that there is a gap between the expected ability and the ability of the academic staff at this time due to an undeveloped mind set. They stare stagnant having a mental block, mental attitude that is not good in responding to situations, opportunities and challenges.

The structure of mind set in the institution with the behavior (behavior) and environment (environment) related to aspects of values, spiritual, belief (belief) and capability (capability), (Doc. Dikti, 2010). Changes to these aspects tend to change behavior that is influenced by the mind set in responding to the environment (demands, situations, conditions as opportunities and challenges) that must be responded to.

Effectiveness in capacity building efforts requires a mindset based conceptual model that analyzes the weaknesses and shortcomings of academic staff in responding to the professionalism found in the aspect of belief or belief device. The minimal set of belief influences its behavior and attitude. achieve the success of his life career.

Conceptual model of human resource development based on changes in mind set (growth mind set) which includes aspects of (1) spiritual, (2) belief. (3) Capacity, and (4) Behavior for academic personnel is described as follows:

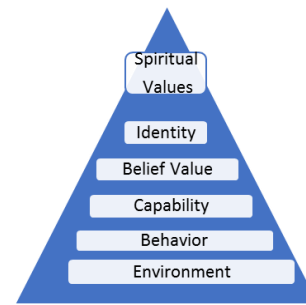


Fig. 1. Mind change pyramid set.

Changing the way of thinking is the most difficult activity, but has a spectacular effect. This means that major changes can only be done by changing the mindset (mind set).

Researchers think that a person's behavior is largely determined by what is in his mind. This means that if you want to change behavior, an effective way is to change or develop a standard mindset that must be possessed by academic staff in order to be able to make changes and improve themselves. Researchers assume that one's mind set is based on values, abilities (capability) that affect achievement and behavior. Simply can be described as follows:

Grindle and Keban, is more specific about capacity building as a series of strategies aimed at increasing the efficiency, effectiveness, and responsiveness of government performance, by focusing attention on dimensions: human resource development; organizational strengthening; and institutional reform [1,2].

A. Changes in the Role of Higher Education

Advances in technology and science, especially telecommunications and transportation have made it easier for everyone to access so that the boundaries between countries are increasingly transparent economically, socially, politically and culturally, so that this has triggered global competition that has strengthened over time. Each country faces the challenge of increasing its productivity and competitiveness among countries in the world to be able to maintain economic growth and improve the welfare of its citizens. Globalization according to Carnoy, is more competition, not only with companies in the same city or region [3]. Globalization also means that state borders do not limit the investment, production or innovation of a country.

In a world that is moving rapidly towards a globalized system, cross-border human movement and mobility is more easily part of daily life. Higher education as one of the spearheads of human resource development must be in the front to prepare its graduates to be equipped with the skills needed, insight and ability to work and be productive in the system. PT must prepare its graduates with the creativity and lifelong learning skills needed for future generations. Students must also be equipped with a good understanding of global issues and exposed to multi-cultural situations to be educated as responsible global citizens. Therefore, PT internationalization is inevitable.

University according to Florida, in his research entitled *The Role of the University: Leveraging Talent, Not Technology* (1999) suggests that universities are far more important to act as the main source of the state in the creation of knowledge and talents. Smart people are the main economic resources, especially knowledge-based economies that are growing rapidly [4]. From this opinion it can be concluded that productivity in research and development of human resources to produce talents is very strategic and influences the competitiveness of universities and more generally influences the economic competitiveness of a nation.

Regarding transformation in the world of education, Duderstadt states that universities as social institutions have been good enough in their capacity to change, and to keep making changes to this day [5]. But the impetus for change at the University, driven by social, economic and technological change, may be greater than the adaptive capacity of the current educational paradigm. We may have reached a crisis point from higher education where it is necessary to reconstruct the university paradigm of the most fundamental elements, maybe even to reinvent the university.

To be successful, we must develop a more flexible culture. We must be able to adapt quickly, but still maintain the value and purpose of goals that are encouraging and relevant in achieving the mission. We must ask ourselves: what do our students need in the age of globalization? What do people need in the future? How do we form a new mission for the community that continues to change while still holding the values that have been valid. This capacity, that is to change, for renewal, is a key goal that must be achieved with great effort in the coming year, a capacity that will provide the ability to transform as has been done several times in the past [5]. Then stated that the transformation area that needs to be observed by the university must cover all aspects of the institution, namely:

- University mission
- Financial restructuring
- Organization and governance
- Intellectual transformation
- Relations with other constituents
- Cultural change

III. RESEARCH METHODS

The research method uses descriptive method mix between qualitative and quantitative. Qualitative aspects examine in depth and in detail the whole phenomenon that occurs naturally. Quantitative aspects in the sense that a number of formulas have been compiled mathematically are used to process quantitative data. This quantitative data is then studied in depth given the meaning and discussed so as to produce findings and conclusions that are meaningful both in terms of practical and scientific. This combination of qualitative and quantitative methods is very appropriate for research on education financing.

A. Data Source

The data sources in this study were related officials ranging from university leaders, faculties, and study programs and HR directors. At four PTN: UPI ITB, UGM and USU.

B. Research Instruments

The instruments used were prepared for data collection through documentation studies, interviews and focus group discussions.

C. Data Collection Process

Data collection using instruments that have been compiled using the dominance review guidelines, checking data consistency, in-depth interviews with relevant officials and group discussion (FGD) forums.

D. Data Processing

Data processing is carried out with workshops and discussion forums for researchers to verify data, data consistency, validate the validity of the documents, process and process data.

E. Report Writing

Preparation of reports in accordance with applicable rules.

F. Activity Steps

Activities carried out include:

1) *Study desk and proposal preparation*: Proposals are prepared based on problem analysis or setting agenda of the PTAK PTN policy that is developing, so that the study is based on the real problems faced by higher education in implementing financing policies in PT and the problems faced.

2) *Field study preparation*: Understanding and deepening of proposals and followed by preparation of research instruments. In this case the study is focused on the need, the PTAKPTN mechanism. This model is carried out by the research team so that it is effective in conducting research.

3) *Focus group discussion*: FGD is carried out to analyze PTAK PTN policy problems that are actually faced and strategy analysis and problem solving of the policies that have been taken. Next consider the steps of the research to be taken so that this research is meaningful and beneficial for policy makers. The FGD also produced a draft instrument that will be used in the field and charted the steps of the next study.

4) *Survey*: Interviews and filling out questionnaires and study documentation of sample universities, or multi methods so that the required data can be fulfilled as complete as possible.

5) *Analysis of survey result data*: Data entered were analyzed by descriptive statistical techniques and qualitative data classification techniques. Perform gap analysis and SWOT analysis.

6) *Designing further study activities for implementation and impact studies of the model developed*.

G. Research Roadmap

The research will be conducted for three years: First year Need assessment of PTAK program, second year PTAK Model Design, third year PTAK model implementation, and fourth year Evaluation of results (impact) from PTAK PT.

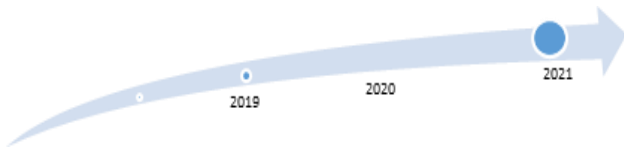


Fig. 2. Research roadmap.

TABLE I. RESEARCH ROADMAP

Phase 1 2018	Phase 2 2019	Phase 3 2020	Phase 4 2021
Desk Study Needs assesment 1. Identification of Needs 2. Targeting 3. Source allocation 4. Determine PKTA concrete steps	1. Designing PKTA Mode based on Mind set 2. Capacity gap analysis 3. Develop priority and target programs (Material change mind set) 4. Principle (learning mind set technology)	1. Analysis / reflection of Model Theory / Concept 2. Empirical and Factual Analysis / Reflection 3. Mind set change strategy	1. Impact Evaluation 2. Key Performance Indicator 3. Model Review 4. Outcome 5. Increasing the number of Doctors 6. Enhancing great teachers 7. Output: 8. Full text; 9. Intellectual Property Rights 10. Proceedings of the seminar (national and international)

IV. RESULTS

Based on data from the Strategic Plan of UPI, it was seen that UPI had fulfilled the university ranking criteria for the KemenristekDikti version, namely cluster 1. UPI Accreditation Values had met the Dikti criteria, namely A. Study programs that were accredited A at UPI of 57% had not met the criteria of dikti's demands of 80%. There are 3 international classes in UPI, which do not meet the criteria of the Dikti's demands of 6 classes. QS rating in UPI is 3 that does not meet the criteria of the dikti demands, namely 6. QS world university ranking by subject edu in UPI is 500 already meet the criteria of Dikti, namely 300. ISO 9001: 2008 certified unit UPI has met the criteria of Dikti which is 100%. The number of S3 lecturers in the UPI is 43%, it does not meet the criteria of the dictation demands of 100%. The number of professors lecturers in UPI is 10%, it does not meet the criteria of the dictation demands of 30%. International standardized study programs in UPI are 8 study programs. Student bodies at the UPI for the domestic number are 38,648 and abroad are 133 (46 countries).

Based on academic data at UPI, the total academic staff at the Indonesian Education University in 2017 was 1189 people, with an S1 qualification of 0.76%, namely 9 people, a S2 of 53.32%, 634 people and a doctoral degree of 45.92 % that is 546 people. FIP has a total academic staff of 183 people, 1 person with S1 qualifications, 68 people with S2 qualifications and 114 people with S3 qualifications. FPIPS has a total academic staff of 127 people, 1 person with S1 qualifications, 64 people with S2 qualifications and 62 people with S3 qualifications. FPBS has a total academic staff of 146 people, 1 person with S1 qualifications, 87 people with S2 qualifications and 58 people with S3 qualifications. FPMIPA has a total academic staff of 204 people, 97 people with S2 qualifications and 107 people with S3 qualifications. The FPTK has a total academic staff of 149 people, 2 people with S1 qualifications, 82 people with S2 qualifications and 65 people with S3 qualifications. FPOK has a total academic staff of 82 people, 4 people with S1 qualifications, 47 people with S2 qualifications and 31 people with S3 qualifications. FPBE has a total academic staff of 103 people, 56 people with S2 qualifications and 47 people with S3 qualifications. FPSD has a total academic staff of 61 people, 36 people with S2 qualifications and 25 people with S3 qualifications. KAMDA has a total academic staff of 134 people, 97 people with S2 qualifications and 37 people with S3 qualifications.

The total academic staff at the Indonesian Education University in 2017 was 1189 people, divided into 45 educators, 95 expert assistants, 447 lecturers, 504 chief lecturers and 97 professors. The FIP has a total academic staff of 183 people, which is divided into 4 teaching staff, 11 expert assistants, 77 lecturers, 72 head lecturers and 19 professors. FPIPS has a total academic staff of 127 people, divided into 8 teaching staff, 14 expert assistants, 33 lecturers, 50 head lecturers and 22 professors. FPBS has a total of 146 academic staff, which is divided into 7 teaching staff, 16 expert assistants, 48 lecturers, 59 head lecturers and 16 professors. FPMIPA has a total academic staff of 204 people, which is divided into 6 teaching staff, 11 expert assistants, 85 lecturers, 84 head lecturers and 18 professors. The FPTK has a total academic staff of 149 people, which is divided into 5 teaching staff, 15 expert assistants, 50 lecturers, 73 head lecturers and 6 professors. FPOK has a total of 82 academic staff, divided into 4 teaching staff, 8 expert assistants, 35 lecturers, 30 head lecturers and 5 professors. FPBE has a total of 103 academic staff, which is divided into 4 teaching staff, 7 expert assistants, 40 lecturers, 43 head lecturers and 9 professors. FPSD has a total academic staff of 61 people, which is divided into 1 teaching staff, 2 expert assistants, 26 lecturers, 31 chief lecturers and 1 professor. KAMDA has a total academic staff of 133 people, which is divided into 6 teaching staff, 11 expert assistants, 33 lecturers, 52 head lecturers and 1 professor.

A. International Accredited Rating: 8 Study Programs

Based on the accreditation rating of the study program in the UPI version of the Ban-PT that as a whole, that is 68 study programs. At Bachelor level which has A accreditation value of 64.7%, namely 44 study programs, at S1 level which has B accreditation value of 30.9%, namely 21 study programs, at S1 level which has C accreditation value of 4.4% namely 3 study

programs. While at S2 level there are 33 study programs. At the Masters level, which has an A accreditation value of 45.5%, namely 15 study programs, at S2 level with B accreditation of 42.4%, namely 14 study programs and at S2 level with C.1 accreditation of 12.1%, namely 4 study program. In addition, there are 19 study programs at the S3 level. At S3 level which has an A accreditation value of 47.4%, namely 9 study programs, at S3 level with B accreditation of 36.8%, namely 7 study programs and at S3 level with C accreditation of 15.8%, namely 3 programs studies.

Based on Scopus indexed scientific data, it can be seen the growth of Scopus 12 PTN indexed Scientific Publications from 2014 to 2016. Scopus indexed Scientific Publications at the Bandung Institute of Technology has increased, in 2014 at 4157, 2015 to 5090 and in 2016 to 6926. Scopus indexed scientific publications at the Bandung Institute of Technology in 2016 occurred at 36%, namely 1836 scientific publications.

Scopus indexed Scientific Publications at the University of Indonesia has increased, in 2014 at 3550, in 2015 to 4129 and in 2016 to 5766. The increase in Scopus indexed scientific publications at the University of Indonesia in 2016 was 40%, namely 1637 scientific publications.

Scopus indexed Scientific Publication at Gadjah Mada University has increased, in 2014 namely 2011, 2015 to 2741 and in 2016 to 4228. The increase in Scopus indexed scientific publications at Gadjah Mada University in 2016 was 54%, namely 1487 scientific publications.

Scopus indexed Scientific Publications at the Bogor Institute of Agriculture has increased, in 2014 at 1582, 2015 to 1917 and in 2016 to 2730. The increase in Scopus indexed scientific publications at the Bogor Agricultural Institute in 2016 was 42%, namely 813 scientific publications.

Scopus indexed Scientific Publications at the Ten November Institute of Technology has increased, in 2014 at 1141, in 2015 to 1389 and in 2016 to 2057. The increase in Scopus indexed scientific publications at the Ten November Institute of Technology in 2016 was 48%, namely 668 scientific publications.

Scopus indexed Scientific Publications at Diponegoro University has increased, in 2014 that was 751, 2015 to 884 and in 2016 to 1372. The increase in Scopus indexed scientific publications at Diponegoro University in 2016 was 55%, namely 488 scientific publications.

Scopus indexed Scientific Publication at Padjadjaran University has increased, in 2014 that was 679, in 2015 it became 886 and in 2016 it was 1238. The increase in Scopus indexed scientific publications at Padjadjaran University in 2016 was 40%, namely 352 scientific publications.

Scopus indexed Scientific Publication at Airlangga University has increased, in 2015 at 777 and in 2016 to 1037. The increase in Scopus indexed scientific publication at Hasanudin University in 2016 was 33%, namely 260 scientific publications.

Scopus indexed Scientific Publications at the University of North Sumatra has increased, in 2015, namely 283 and in 2016 to 450. The increase in Scopus indexed scientific publications

at the University of North Sumatra in 2016 was 59%, namely 210 scientific publications.

Scopus indexed Scientific Publications at the University of Education in Indonesia has increased, in 2014, 149, 2015 to 174 and 2016 to 384. The increase in Scopus indexed scientific publications at the Indonesian University of Education in 2016 was 121%, namely 210 scientific publications. Universitas Pendidikan Indonesia has the lowest number of scientific publications, which is ranked 11th, although in 2016 UPI has experienced an increase in scientific publications of more than 100% but UPI has to increase scientific publications even more.

Based on data from the number of studies at UPI, it can be seen that there were 1087 lecturers involved in research at the Indonesian University of Education. The approved title amounted to 619 with a total fund of Rp. 41,269,286,000. Research including IPR of 243 and 9 PATENTS. The number of Scopus indexed studies recorded up to September 2017 is 284.

Based on student body data, it can be seen that the number of students at the University of Indonesia Education is 38,648 students, while for foreign students there are 133 students from 46 countries.

Based on the budget allocation, it can be seen that the funding source of Universitas Pendidikan Indonesia is 60%, that is Rp. 474,843,021,500 from Non-PNPB, 30%, that is Rp. 222,282,934,000 from APBN and 10%, that is Rp. 70,179,000,000 from BPPTN-bh. The RKAT provides funds totaling Rp 722,269,710,428.

Based on data from university cooperation, it can be seen that the Indonesian University of Education carries out 241 domestic cooperation and 170 foreign cooperation.

Based on the citation index of UPI lecturer articles from google scholar, there are 16987 google scholar documents with the highest three in the University of Education, namely FPMIPA, FIP and FPBS totaling 4041, 3232 and 2364. While for the lowest three rankings are FPOK, FPEB, FPSD of 737, 907 and 422. In addition, there are 71169 google scholar index citation with the highest three ratings namely FIP, FMIPA and FPIPS amounting to 215119, 66589 and 6034. While for the lowest three rankings are FPTK, FPSD, KAMDA of 28677, 19419 and 19419. In addition, there are 1532 google scholar h-indices with the highest three ranks, namely FPMIPA, FPIPS, FIP with 2295, 2135 and 1492. While the three lowest ranks are KAMDA, FPOK, FPSD of 0.971, 0.952 and 0.714.

Based on the recapitulation of the number of IPRs from 2010 to 29 December 2017 at the Indonesian University of Education, a total of 367 IPR proposals and 223 were received.

The total proposal for copyright is 346 pieces and the number received is 294 pieces. In 2010 there were 12 copyright proposals and all were accepted, in 2011 there were 5 copyright proposals and all were accepted, in 2012 there were 6 copyright proposals and all were accepted, in 2013 there were 8 copyright proposals and all were accepted, in 2014 there were 36 proposals copyright and all received, in 2014 there were 61 copyright proposals and all were accepted, in

2015 there were 61 copyright proposals and all were accepted, in 2016 there were 83 copyright proposals and all were accepted, while in 2017 there were 135 copyright proposals but only 83 received.

Total proposals for patents / simple patents are 18 and the number received is 9. In 2010 there were 6 patent proposals but only 5 were received, in 2011 there was one patent proposal but was not accepted, in 2012 there were 2 patent proposals and all were received, in 2013 there was 1 patent proposal and received, in 2014 there was 1 patent proposal and accepted, in 2015 there were 2 patent proposals but none were received, in 2016 there were 2 patent proposals but none were received and in 2017 there were 3 patent proposals but none were received.

Industrial design proposals only existed in 2013 as many as 2 pieces and all were accepted. Brand proposals only exist in 2015 as many as 1 piece and are accepted.

V. CONCLUSION

Globalization in PT has implications for the revitalization of PT management towards WCU quality standards, especially in fulfilling international standard research. The main criteria of PT WCU is that in increasing the number of international students refers to the standard ratio of 20% of the number of students in a university, as the main indicator of PT WCU. need to meet the standard of the second number of international standard research quality with a weight of 60% from other indicators namely graduate employability, 10%, 20% quality teaching, 10% international recognition.

The development of the Entrepreneurial Education model needs management specifically that is able to increase Income Generating which so far tends to be state universities in our country including UPI and UGM still relying on relatively limited funds sourced from the government. Several national

PTs in Japan innovated government policies in PT management with the concept of "Corporatization and Changing University Governance". in the context of internationalization and recruiting the number of international students. Since 1980 PT in Japan has a policy in responding to globalization in the field of education with corporate concepts, by developing marketing strategies, educational financing, international research, all this is done in the context of reform in the field of higher education (Higher Education Reform). The ability of UPI in the achievement of IG is still very limited, therefore it is necessary to have a Grand Design, clear strategy and Roadmap.

The key to success in meeting PT WCU standards is the factor of PT leadership in conducting advocacy, transforming values, transforming science, research management, learning management, marketing management of scientific work by lecturers and students and accountable asset and financial management.

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