The World Class University; A View Of Academic Culture, Development And Information Communication Technology

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Abstract

This study explained about Information Communication Technology based on academic culture towards world class universities. The research was conducted on a small scale at the Indonesian University of Education and subsequently will be conducted on a medium scale and broad scale on all of legal entity college in Indonesia. This research is a new approach in higher education with managing based on data approach, through in the form of software that can be used in the development of higher education management innovations. This study analyzes academic culture development with information communication and technology based on the systems. The research findings are academic culture in higher education should develop by data systems based on, academic culture in higher education with legal entity has a significant difference, academic culture and structuring of the institutional system of state owned legal entity are manifested in several programs and the results of average comparison with a maximum score multiplied by 100 the achievement of understanding the special difficulties in the implementation of world class university was 74.6% and it can be interpreted that the average of Indonesia University of Education academic community has a good understanding of the specific difficulties in implementing world class university.

Keywords: world class university; academic culture; information communication technology

Classification Codes: World Class University

Introduction

Management innovation in higher education is the universal culture of the higher education, it means that the culture owned by each personality who involve in academic activity. Building a higher education management innovation is a difficult job. Socialization effort is required in academic activity, creating a habit in academician environment to practice the norms in academic activity (Olseen, 2016). If the socialization applied continuously, then the norms become a tradition and culture for everybody in campus society (Ackers, L., & Gill, B. (2008). Academic norms are the result of learning and practice activity and not a talent Balve, J. (2014). Management innovation of higher education occurrence should become an idol for every personality in higher education, especially for the lecturer and student Altbach, P. (1998).

The highest academic level achievement for a lecturer is a level of professor. For the student, the achievement is performing their best academic study to the highest level as possible. For the lecturer, in order to gain the highest academic level, the lecturer must have a personal habit to support the activity for academic achievement. This lecturer must perform an

academic, course activity, and related activity properly, and continuously finding a new reference Buckley, P.J. (2014). The lecturer must conduct a research to support the scientific article writing, publishing in scientific journal, participating in workshop in any level and various forum, and etc. Besides that, the lecture must provide a community service to improve knowledge, skill, and society welfare.

For the student, factors that supports the academic achievement result are preparing a schedule for study, finding an actual and an update reference, discussion about academic topic, and etc. Quality culture should develop when the academic society practice the academic culture continuously and constantly. The practice would become a habit and attitude for lecturer and student during the education process in the college Burgess, C., Gibson, I., Klaphake, J., & Selzer, M. (2010).

Consequently, if there is no achievement in the academic activity, an academician would be hard to reach the academic normative values. This academician would talk about norms and academic values in public area, but the norms will never realize without a learning and practicing process if no realization in daily activity Bolling, M., & Eriksson, Y. (2016). On the contrary, the academician will have a conscience to practice a violation in specific area, consciously or unconsciously Carayannis, E.G., Campbell, D.F.J., & Rehman, S.S. (2016).

Probably the academic values reach cognitive area only but does not reach the affective and psychomotor area Cummings, W.K. (1994). This phenomenon would happen in an academician who constantly put his name only in lecturer activity, scientific article writing, research, community service, and nowadays academic title transaction take place frequently

Etzkowitz, H., & Goktepe-Hulten, D. (2010).

In addition, this problem related to the global competition challenge of the higher education in education field. Today, the echo of Education World Class University becomes trending topic in higher education area. Therefore, we should understand if the university had participated instrumentally to realize the effort and achievement for the higher education management innovation Hazelkorn, E. (2015). College is an umbrella of intellectuality and morality development and becomes the foundation of science and technology and culture, in terms of general definition. However, the higher education institution as an independent institution definitely must become a pilot project for others institutions. Therefore, the higher education in Indonesia should practice a different higher education management innovation than the others institutions Heitor, M.V., & Horta, H. (2016).

Therefore, instrumental model is required. A model with higher education management innovation development orientation with competitive advantage on quality innovation of higher education management in advanced country. Therefore, the model becomes a requirement in our institution unit as a higher education institution in Indonesia with world class university standard in management innovation. The model creates a unique management innovation in higher education Hills, J.M., Michalena, E., & Chalvatzis, K.J. (2018). The assessment criteria are unique and has a specific software to practice the higher education management innovation system as a state of art technologies for the development of higher education management innovation in Indonesia. The realization activity collaborates with International Colleges and University to create a supporting software for a model of higher education management

innovation in Indonesia. Therefore, this research emphasis on academic culture, development, and information technology system with capability presents the higher education management innovation for a preparation to the world class university.

Method

This research applied research and development method, in accordance with research objective, developing, and validating the higher education management innovation model for a preparation towards to Education World Class University. The data sample is from the Faculty of Education, a fifth rank faculty with technology supports based on Webometrics version. The research and development conducts with 10 major steps, which are, (1) research and collecting the information, (2) planning, (3) first step model development, (4) first step field test, (5) first step model revision, (6) testing the primary model, (7) revision of operational model, (8) field test of the primary model, (9) final model revision, and (10) dissemination and implementation (Borg and Gall, 1989:784-785). Research methods and approaches during the first step are direct observation, interview, questioner, and literature/document study of academic quality or higher education management innovation.

The research informants are related parties in higher education management in Indonesian University of Education, who are the Rector, Assistant Rector, Internal Quality Assurance System Institute, Dean of Faculty of Education, Assistant Dean and Academic Party in Faculty of Education, the Head Department of Faculty of Education, and also the Indonesian University of Education students.

Problems in this research are related to the support of technology information as a system that operated for the higher education management innovation model and becomes the result of this research.

Therefore, one of the respondents of this research is Directorate of Technology Information and Communication in every collage of Indonesia as the research object. The research carries the development step and model validation. Three primary activities in the model development step are: (1) limited model test; (2) an advance model test; (3) formulating the final model, and (4) testing the model. Design development, implementation, evaluation, and completing the model performed in limited model test step, as a foundation for further model development. For advance model test step, there are finishing model development, second step implementation, evaluation, and completing the model to find the final design result. End of development and model validation creates a tested model.

Activities in this step are: (1) compiling the manual book/a guideline of Academic Quality Culture; (2) compiling textual book/student book about reorientation and higher education management innovation model; (3) creating a web based media for scientific works publication; (4) creating the education system based on information communication technology (Learning Management System); (5) creating a reviewer system/web based scientific publication assessment; (6) creating the compensation system for activity in higher education management innovation; (7) testing and developing the model to get a recommendation model for national model/tested as the third model for the third year of the research.

Result and Discussion

According to the "The World Class University; View of Academic Culture, Development, and Information Communication Technology" in Indonesia University of Education by a questioner distribution, then the average information result from the respondent answers is 3.83 or 76.57% who agree with the statement items.

A detail of research result description explained in table below.

Table 1. Recapitulation of Result

Item		Quantity	Mean	Achievement	Criteria
1	I have a knowledge about academic culture	377	3.77	75.4	Good
2	I understand about academic culture planning	359	3.59	71.8	Good
3	I admit the importance of academic culture implementation	444	4.44	88.8	Very Good
4	I agree with the importance of academic culture coordination	435	4.35	87	Very Good
5	I participate in formulating the academic culture, training, discussion, article, scientific competition, symposium, workshop, society development	372	3.72	74.4	Good
6	I have a target for academic culture implementation	304	4.05	81	Very Good
7	I have been aware about the importance of lecturer, staff, and student participation in implementing of academic culture	421	4.21	84.2	Very Good
8	I have a skill in ICT system, programmer	304	3.04	60.8	Good
9	I have received about ICT system explanation	304	3.15	63	Good
10	I feel ICT system helps me	380	3.8	76	Good
11	I have verified the ICT explanation with the education activity for international journal access	354	3.54	70.8	Good
12	I identify a success in world class university model	337	3.37	67.4	Good
13	I found problem during the implementation of world class university	378	3.78	75.6	Good
14	I have corrected the world class university policy	375	3.75	75	Good
15	I look a world class university effectiveness	386	3.86	77.2	Good
16	I feel a positive impact from the world class university policy	355	3.55	71	Good

Item		Quantity	Mean	Achievement	Criteria
17	I think participation from all parties should improve to implement the world class university	413	4.13	82.6	Very Good
18	I need specific system for world class university implementation	420	4.2	84	Very Good
19	I believe with world class university sustainability for employment and industry	336	3.36	67.2	Good
20	I have understood about particular difficulty during the implementation of world class university policy	373	3.73	74.6	Good
21	I think we need world class university enforcement team	454	4.54	90.8	Very Good
22	I investigate the follow up of team performance for world class university achievement	367	3.67	73.4	Good
23	I appreciate the world class university enforcement team performance	379	3.79	75.8	Good
24	I purpose a review for implementation of world class university policy	367	3.67	73.4	Good
25	I hope there is a measurement achievement scale for world class university policy	430	4.3	86	Very Good
26	I ask for the availability of facility in world class university policy	428	4.28	85.6	Very Good
27	I facilitate the student for world class university achievement	374	3.74	74.8	Good
28	I support the university to implement the world class university policy	361	3.61	72.2	Good
29	I have further communication on world class university policy	379	3.79	75.8	Good
30	I feel more comfortable before the implementation of world class university policy	408	4.08	81.6	Very Good
Quantity		11374	3.83	76.57	Good
Mean		3.83			

According to the Table 1, 92 of 100 respondents or 92% require to build an enforcement team in order to world class university achievement, 90.8% responds is very good category. The second percentage shows 85.6% or very good category that

explain about facilities availability for world class university achievement. The lowest percentage is 73.4 about a follow up the world class university program.

Opportunity of Result Implementation

The world class university missions are recognized by the higher education management innovation with global competition capability. The scientific publication is a characteristic feature for the higher education in Indonesia as the education quality responsibility character. The characteristics of Indonesia higher education has a management innovation image in accordance with the national character. The university as High ter in education de $_{\text{Total}}$ nent is a demand and/or a policy for every college. This demand must integrate in national level in order to create national impact and increase the productivity level to solve the educational problems. The education solution should address collective. According to premise from above paragraph, the result of this research certainly required and would implement with a collaboration of the Indonesia higher education. Specifically, the result required for proposer and model visibility unit to follow up as an improvement solution for higher education management innovation.

Based on the advantage of the results, as well as the achievement target with a great opportunity, policies and/or previous research about improvement of each higher education quality, then there should be a model with integration capability that offers a national solution and present a wider contribution for the problems of national education. The premises are based on a sequence description, how the potency of this research to create the output with national impact. The output is the Model Development of Management Innovation Based on Information, Communication, and Technology for the Worlds Class University.

Model development is an obligation and will has a developmental capability to the wider scale.

Economic Aspect Analysis

Economic aspect analysis is from efficiency perspective and would provide an added value or additional income/a proper welfare value. The result of this research presents an efficiency and effectiveness value for scientific publication because the result indirectly becomes a mediator for scientific publication, where the publication activity required a bureaucracy and expensive cost. In fact, a scientific publication must become an academic culture in every academic Middle Jar Low ok, K.H. (eds.). (2019).

In addition, the publication should become a support to create a habit and becomes the culture as an improvement effort for a sustainability of scientific quality and accelerate the career development or promotion Jongbloed, B. (2015). Furthermore, from of technology aspect, the creation works provides higher effectiveness and efficiency value than measuring the activity manually. As a result, economically, this research has a high value to create an efficiency value and effective management.

Policy Aspect Analysis

In order to reach the output, as well as aforementioned, a support from policy aspect should available as well as practice by Indonesia University of Education. The policy support should establish from research aspect to reach the vision and mission achievement, either from the unit level or university level.

National Character Aspect Analysis

This analysis triggered from eccentric perspective, from idiomatic about "intellectual jobless" or similar terms. The expression explain about an education has a luck characteristic, not a culture that built to create something and supporting the

development of potency, on the contrary, the eccentric perspective supports an existing negative character.

Therefore, as a college in Indonesia, the institution has a responsibility to show a good model for a development of higher education management innovation that supporting by an advance and latest technology for competition in global society or known as Education World Class University Mateos-Gonzalez, J.L., & Boliver, V. (2019). As a result, requirement to the researcher obviously becomes an obligation that should formed to build a national character.

Urgency for Further Research

Higher education with legal entity is an institution that participate and having a strategic position in national character building because a success of higher education in Indonesia reflects a success of the teacher or the academic society. The academician has a quality and provides a benefit to create a national character as a human resource that definitely required for the country who experience a moral degradation.

Consequently, higher education in Indonesia with legal entity has obligation to become the role model for higher education management innovation to developed the national character to World Class University. The intention of higher education management innovation is how the culture that developed in higher education in Indonesia build the national character with humanistic knowledge. In addition, the higher education in Indonesia has specific responsibility on humanity. This responsibility relates with a remarkable mission of the education itself. Therefore, the institution must continuously control or improve the higher education management innovation that has been contaminated with external culture contact.

Higher education responsibility in Indonesia is an obligation through management innovation to build a comprehensive national character or building humanity. However, this responsibility must stable and maintain constantly by the higher education in Indonesia. The higher education management innovation responsibility will be lost when there is no model of higher education responsibility.

World class university has education system standard including higher education management innovation. Therefore, obligation of higher education in Indonesia is not only practice the higher education management innovation with specific feature and correlates with the national culture. The higher education must have competitiveness capability with other nation in the context of education. This is inspiration for our institution to build a higher education management innovation model in collaboration with national glorious culture, humanity feature through socialization to the world education field. As a result, technology becomes an important thing to build a higher education management innovation in Indonesia higher education, especially for the objective of this research.

Sustainability and Result Application

As well as developed by the Indonesia University of Education, web-based imaging of higher education management innovation is one of the requirements to support the higher education management innovation based on the information communication technology. As a result, Indonesia University of Education has their own innovation standard and terms. For example, is related with further research of this research, such as Development of Lecturer and Staff Directory. In correlation with the higher education management innovation model development, the innovations are reviewer system or assessment on scientific article from the campus society. This scientific article will have a support of

publishing. The publishing collaborates with some publisher in local, regional, national, and international level.

Beside the development of character building in campus society, this is a realization of university vision and mission from proposer unit as a higher education in Indonesia as the role model for higher education management innovation with national and humanity character. Therefore, the target achievements of this research are: (1) Building a Model Development for Indonesia Higher Education Management Innovation based on ICT, (2) Reviewer System for Indonesia Higher Education Management Innovation for scientific works publication based on ICT, (3) A Mission to Increase the International competitiveness or towards to the World Class University, (4) University Mission as a Research Based University for All Higher Education in Indonesia in collaborates with organizing the Article Publication in National Level and cooperating with International Publisher Institution, (5) Compiling the Textual Book for management innovation based on education science discipline and national characters, (6) Developing Higher Education Management Innovation with global competitiveness level, and also (7) Utilizing the Model Result as the measurement tool on Higher Education Management Innovation for Indonesian higher education as an effort to build the national character.

The target achievement is obviously and one of the requirements of proposer unit in specific and higher education in Indonesia in general. In order to implementing the targets, the higher education in Indonesia will become the research and development education center. The technology road map for each target in supporting the achievement process explains below. Presentation of our training programs on information, communication, and technology is one of the answers for the challenge of world changes which

concentrated the importance and skill on the information, communication, and technology system. As we know, trend of technology required all people to understand and comprehend to the information, communication, and technology system to survive in global competition. This fact can find if the information, communication, and technology has come to all area of this life. The terms of e-learning, e-commerce, e-government, e-book, e-mail, e-library, and so on is some examples of the benefit of information, communication, and technology. Therefore, the author tried to provide a solution of various training about information, communication, and technology system.

Conclusion

First, academic culture in higher education with legal entity has significant difference, the teacher shows a higher respond, 92 of 100 respondents or 92% are answering good and comfortable with the world class university policy and 8 respondents answered very good (8%) or very comfortable. The comfortable level for the world class university is 4.08. Average comparative result with maximum score multiplied by 100, then the comfortable level achievement for the world class university policy is 81.6%. The result explains that most of the academic society in Indonesia University of Education are very comfortable with the policy. It means that, the institutional system is based on the Indonesia University of Education vision as a leading and outstanding university in education science discipline and science education in Indonesia in 2010 and becomes one of the leading and outstanding university in Asia in 2025.

Second, academic culture and institutional system management of public university with legal entity realizes with some of these programs: 1) Restructuring the organization and managing the management system in accordance with the Article of

Association/by-laws; 2) Compiling the procedures and new work flow in accordance with the application of new improvement; 3) Preparing the regulation for the operation of all institutional management component in accordance with the new system; 4) Developing the financial management system; 5) Developing the performance accountability and quality assurance system; Developing a modern higher education management system with international standard; 6) Improving the management performance of the local campus; 7) Improving the management performance for the laboratory-model school; 8) Managing and empowering the supporting business unit and another supporting unit in accordance with the Article of Association/by-laws; and 9) Developing the green energy management system.

Third, previous explanation presents a description of 29 of 100 respondents or 29% respondents are understood, and 69 respondents or 69% answering a good statement, and the rest is 2 respondents or 2% answering a very good statement. The average of achievement to understand the specific problems as the implementation of world class university is 3.73. If average comparative result with maximum score multiplied by 100, then the achievement of understanding in specific problems for the implementation of world class university is 74.6%. As a conclusion, most of the university society of Indonesia University of Education has a good understanding on the specific problem for the implementation of world class university. Fourth, aim of world class university program design is to increase the institutional competitiveness in international level. The program design is explained in the goal, target, and operational strategy.

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