



Formulation of a Mapping Model for Opening New Study Programs based on Strategic Planning to Strengthen Higher Education Management in Indonesia's Private Universities

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Article Info	Abstract
Article History Received: 2022-08-11 Revised: 2022-09-22 Published: 2022-12-07	The main purpose of this study is to get an overview of the mapping of the opening of new study programs based on strategic planning for strengthening higher education management in private universities, this is motivated by the phenomenon of the proliferation of closed study programs, study programs that lack students, and the number of graduates who are not absorbed by IDUKA. The method used is a descriptive method with a qualitative approach, a case study of best practice strategic planning at Telkom University as a Vocational Private College in the West Java and Banten Regions, which on average 9 new study programs are opened per year. The process of collecting data through literature studies, documentation studies, interviews, and observations. The results show that the strategic planning that has been prepared describes the mapping of the opening of new study programs resulting from a systematic and comprehensive environmental analysis using the Penta Helix environmental analysis approach and the application of Competence Based Education (CBE) in Knowledge Management, thus mapping the opening of new study programs based on strengthening higher education management has been completed well described and projected that have interrelationships in socio-economic development that encourage a knowledge-based economy to innovate and entrepreneurship through beneficial collaboration and cooperation among universities, government, industry, civil society, and social entrepreneurs.
Keywords: <i>Strategic Management;</i> <i>Higher Education Management;</i> <i>Knowledge Management.</i>	

Artikel Info	Abstrak
Sejarah Artikel Diterima: 2022-08-11 Direvisi: 2022-09-22 Dipublikasi: 2022-12-07	Tujuan utama penelitian ini adalah untuk mendapatkan gambaran tentang pemetaan pembukaan program studi baru berdasarkan renstra penguatan manajemen pendidikan tinggi di perguruan tinggi swasta, hal ini dilatarbelakangi oleh fenomena menjamurnya program studi, program studi yang tertutup bahwa kekurangan siswa, dan banyaknya lulusan yang tidak terserap oleh IDUKA. Metode yang digunakan adalah metode deskriptif dengan pendekatan kualitatif, studi kasus best practice strategic planning di Telkom University sebagai Sekolah Tinggi Swasta Vokasi di Wilayah Jawa Barat dan Banten yang rata-rata membuka 9 program studi baru per tahun. Proses pengumpulan data melalui studi literatur, studi dokumentasi, wawancara, dan observasi. Hasil penelitian menunjukkan bahwa renstra yang telah disusun menggambarkan pemetaan pembukaan program studi baru hasil analisis lingkungan yang sistematis dan komprehensif dengan pendekatan analisis lingkungan Penta Helix dan penerapan Competence Based Education (CBE) dalam Knowledge Management, dengan demikian pemetaan pembukaan program studi baru berbasis penguatan manajemen pendidikan tinggi telah selesai, dideskripsikan dan diproyeksikan dengan baik yang memiliki keterkaitan dalam pembangunan sosial ekonomi yang mendorong ekonomi berbasis pengetahuan untuk berinovasi dan kewirausahaan melalui kolaborasi dan kerjasama yang bermanfaat antara perguruan tinggi, pemerintah, industri, masyarakat sipil, dan pengusaha sosial.
Kata kunci: <i>Manajemen Strategis;</i> <i>Manajemen Perguruan Tinggi;</i> <i>Manajemen Pengetahuan.</i>	

I. INTRODUCTION

Disruption of technology that affects the development of industry and the world of work is a challenge for vocational universities which are supposed to be producers of a skilled workforce in industry and the world of work (Schwab & World Economic Forum, 2016; Pfeiffer, 2017; Georg Spoetl & Vidmantas, 2020). One example

is that some time ago, the higher education community was shocked by information from Google and Ernst & Young that they would hire anyone who could work with them without having to have any diploma, including a diploma from a university (Slayback, 2015).

The existence of this phenomenon prompted a professor named Sudaryono to write a response

to the problem, with an article entitled "Mass Suicide in Higher Education Towards Assembling Education", where he discussed the two main stream models, namely; (1) Universities that are organized on the basis of the spirit of discovery and (2) Universities that produce as many assembly experts as are needed by the industry. Where is the first university, because it requires high abilities, but the number of needs is small, the Discovery College or the existing study programs at the university, is limited both in number and in students. Meanwhile, Assembling Colleges or vocational colleges, because they don't need the ability as high as the Discovery College, but have a lot of needs, the opportunities are opened as wide as possible, (Sudaryono, 2017).

One of the reasons for this phenomenon is to answer these challenges where there is currently a gap between industrial needs and available human resources, the State of Indonesia still lacks 57 million skilled workers until 2030, (Lidwina, 2019). While the development in 2019 of individuals who have very high skills per 100 individuals aged 15 years, Indonesia is 0.5 below India at 0.8, while the United States is 6.5, Thailand 9.4 and South Korea is 18.2, (Lidwina, 2019). Based on the description above, research related to the Strategic Planning Implementation Model of Mapping New Study Programs Based on Strengthening Higher Education Management in Private Universities in West Java and Banten Regions was conducted.

II. METHOD

1. Analytical Descriptive Studies

Analysis of the symptoms of certain facts and conditions must know its status when it occurs in the field, thus an analytical descriptive study is used in this study because it has the characteristics as needed in this study, while the characteristics of the descriptive study are (1) descriptive research tells something systematically about data or characteristics of certain populations or certain fields in a factual and accurate manner, as well as analyzing and interpreting existing data; (2) descriptive research emphasizes more on observation and natural setting (natural setting), seeking theory and not testing theory (hypothesis-generating) and not (hypothesis-testing), heuristics and not verification. Thus, descriptive research is needed to produce tentative theories; (3) there are several types of descriptive research, including: case studies, surveys, developmental studies, follow-

up studies, documentation analysis, trend analysis, behavior analysis, time and motion studies and motion study), and correlational studies (Sugiyono, 2013).

2. Determination of Research Object

As has been explained about the selection of education providers is the implementation of education that has characteristics in accordance with the problems and objectives in this research, thus in this section will be explained about (a) the characteristics of cases based on their position or function in the context of the research problem; (b) sequential determination of cases; (3) continuous case adjustment; until the selected case is determined because it has met the same characteristics as the research problem, (Moleong, 2010). The characteristics that correspond to the problems in this research are: (1) Colleges or universities that have the largest and most varied distribution of Vocational Study Programs or already have many Vocational Study Programs so that they are considered to have the advantages of strategic planning for mapping new study programs based on reinforcement. management of higher education, (2) universities that have a mapping of the opening of new study programs in the Master Plan for Development and Strategic Plan for Higher Education,

Universities that have programs to strengthen higher education management that support the mapping of the opening of new study programs, and (4) Accredited Higher Education A and Accreditation of Study Program A or B in general in the LLDIKTI Region of West Java and Banten. Based on the data above, the object of research that has conformity with the characteristics needed in answering this research question is Telkom University Bandung by looking at the characteristics of the Number of Study Programs, which are 43 Study Programs, then with Higher Education Accreditation A, and Accreditation of Study Programs A and B in Study Programs Vocational studies there are a number of 34 study programs.

3. Informants

Sallis (2007) "The main educational stake holders are students who directly receive services, the second education stake holder is parents, and the third education stake holder is the party who has an important, albeit indirect, role, such as the government and

society as a whole". Referring to this opinion, it can be clearly concluded that to find out the questions in this study, it is necessary to deepen information from; (1) the data section of LLDIKTI IV West Java and Banten, (2) the Chancellor/Chairman of the Higher Education as the leader who has the authority to determine policies at the Higher Education, (3) the Chair/Head of SPMI and the like as the person in charge of implementing internal quality assurance at the Higher Education level, (4) Head of Study Programs, and (4) Lecturers.

III. RESULT AND DISCUSSION

1. Strategic Planning in Higher Education

In this section, we will discuss how strategic planning is carried out at Telkom University with a case study focus on mapping the opening of new study programs based on strengthening higher education management programs. Thus, this section will explain step by step strategic planning at Telkom University as presented in the research results section as a form of implementing a strategic plan based on a higher education management strengthening program. As stated by Siagian (2012) that the preparation steps consist of; (1) Conduct a strategic environmental analysis, (2) Analyze the current situation of higher education education, (3) Conduct an analysis of the expected school education situation in the next five years, (4) Determine the gap between the current education situation and the expected five years in the future, (5) Formulating the vision of the university, (6) formulating the mission of the university, (7) determining the implementation strategy for the university, (8) determining the key success milestones (milestones), (9) determining the cost plan, and (10) Determine the monitoring and evaluation plan, (Nuryanta, The Implementation of Strategic Management on Competitive Advantage in Islamic University of Indonesia (UII) Yogyakarta, 2018; Hunger & Wheelen, 2012; Akdon., 2007; Rothaermel, 2013).

The steps for the preparation of strategic management at Telkom University as described in the research results section have complete conformity with the concept above. However, in its implementation, Telkom University formulates the stages of the process of preparing its own Strategic Plan, namely systematically as contained in the Strategic Plan of Telkom University Year

2019-2023, namely (1) Chapter 1 Introduction which contains the Current Real Condition of the Institution, (2) Chapter 2 which contains facts-organizational facts and internal environment categorized based on the Balanced Scorecard (BSC) Theme, namely Customer, Internal Business Process, Learning and Growth and Financial, Operational Environment and External Environment. (3) Chapter 3 Strategic Issues of Institutions categorized under the Tridharma Theme of Higher Education, namely Education, Research and Community Service. Chapter 4 Formulation of the institution's vision, mission, goals and values (5) Chapter 5 contains the SWOT-TOWS analysis, (6) Chapter 6 contains strategic objectives, and (7) Chapter 7 contains key performance indicators (indicators) and targets, (Suhendra & dkk., 2019; Conway, Mackay, & Yorke, 1994; Rizanti & Saragih, 2017; Pasha & Bhupathyraaj, 2018).

Based on the empirical data from the research results mentioned above, in this section the discussion will be grouped on the theme of discussion according to the needs of the formulation of the model for the opening of new study programs based on strategic planning for strengthening higher education management, to answer the questions in this study, this is as explained in the theoretical study that the steps involved in this study are: The strategic planning step used as the theme of the analysis is the model of Hunger & Wheelen (2012).

2. Higher Education Management Strengthening Program

The Higher Education Management Strengthening Program at Telkom University as the results of documentation studies, interviews and observations, can be grouped as follows (1) Competence Based Education (CBE) Implementation Program, (2) The Strengthening Program includes increasing Accreditation, and (3) Strengthening Program The management includes components of Good University Governance (GUG) and World Class University (WCU). The explanations for each of these sections are as follows, (Suhendra & dkk., 2019). The application of Competence Based Education (CBE) as the basis for scientific development (Opening of New Study Programs) is part of the Strengthening Program in Knowledge Management. The learning system deemed appropriate by Telkom University in providing human resources who

are ready to play a role in the Industrial Revolution 4.0 era is the application of Competence Based Education (CBE), (Suhendra & & dkk., 2019; Magnusson & Osborne, 1990; Maharani, 2019; Malik, Soenarto, & Sudarsono, 2018).

The implementation of CBE includes aspects of Knowledge Management development, as stated by Masduki (2019) that Knowledge Management has a significant effect on the performance of private universities through organizational culture. This system is not only the existing regulations or standards but also involves the parties who are directly related, namely human resources. Knowledge management is one of the management tools that can be used to support the achievement of organizational goals and demonstrate competitive advantage so as to create good organizational performance (Megantoro, R. G., Miyanto M., & Rahadjo M., 2014).

Furthermore, the Management Strengthening Program includes the Good University Governance (GUG) and World Class University (WCU) components as explained in the research results section where Good University governance can be represented by achievements related to institutions, such as rankings, university accreditation, study programs and several achievements of higher education rankings, both national and international levels. As a "world class university" university, accreditation must refer to international standards, such as IABEE, ASIC, ABEST, and so on. These achievements are a form of quality assurance and institutional performance from an institutional perspective, (Suhendra & & dkk., 2019).

3. Mapping Program Opening New Study Program

Based on the results of the documentation study, interviews and researcher observations on the unit analysis of the higher education management strengthening program as a basis for mapping new study programs at Telkom University, this is very clearly evident in the relationship as described in the research section. That in order to increase the diversity of the scientific fields of graduates produced and the sustainability of the institution, Telkom University needs to open new study programs again in the next 5 years. The Telkom Education Foundation has planned the development of faculties and study programs

within the higher education institutions under it, in the 2019-2023 period.

In the research results section, it has been explained as described in the picture above that in 2019 Telkom University mapped the opening of new study programs as many as 4 New Study Programs referring to the results of the analysis study recommending the scientific name of the Study Program which is also related to the strengthening education management program, namely 40 % Digitization, and so on. Of course, this is not limited to such a recommendation, but an in-depth study has been carried out so that the results of the recommendation will actually become a well-planned mapping of the opening of the New Study Program.

This is in line with what was stated in Permendikbud Number 7 of 2020 that the freedom to open new study programs must meet the terms and conditions, including: (1) A and B accredited universities, (2) There has been cooperation with company partners, local governments, non-profit organizations, BUMN and BUMD, multilateral institutions, or QS Top 100 universities, and (3) new study programs to be opened outside the field of Health and Education (Permendikbud, 2020).

4. Discussion and Implications

As stated in the research methodology section, the aim of this research is to formulate a Mapping Model for Opening New Study Programs Based on Strategic Planning Strengthening Higher Education Management in Private Universities as a form of implementing good practice from case studies at Telkom University, this is based on the assumptions researchers who have been presented in chapter one as a conclusion of the results of the preliminary study of researchers in this study. Then these assumptions with reference to the premises of the results of the study of the literature or literature review as summarized in chapter two, are assembled into a framework of thinking in conducting research on the Formulation of Mapping Models for Opening New Study Programs Based on Strategic Planning for Strengthening Higher Education Management at Private Universities.

With the basis of this framework, facts, empirical data regarding the implementation of Mapping for Opening of New Study Programs Based on Strategic Planning Strengthening Higher Education Management in

Private Universities are obtained as the results and or research findings presented in the research results section of chapter four, the next step is the data is analyzed using a theoretical analysis approach, the results of previous research, national and international scientific journals and the results of the analysis are presented in the research discussion section of chapter four.

Referring to these steps, especially the results and discussion of the research, it gives rise to a picture of good practice that composes a systematic pattern of certain strategic management, thus there is a pressing need for a solution to the Mapping Formulation of Opening of New Study Programs Based on Strategic Planning Strengthening Higher Education Management in Private Universities, as has been stated. presented in chapter one, which later in this study will present the steps for the preparation of the Mapping Formulation for the Opening of New Study Programs Based on Strategic Planning for Strengthening Higher Education Management in Private Universities

The model that will be compiled is a model called an alternative model that is hypothetical so that to get face validity related to the Mapping Formulation of Opening New Study Programs Based on Strategic Planning Strengthening Higher Education Management in Private Universities is to do the following things. (1) Conducting discussions with supervisors/promoters, (2) Colleagues in the field of strategic management and higher education management, (3) Studying the theories of Education Administration, higher education management, strategic management, Education planning, Knowledge Management, management systems quality, total quality management, quality assurance, and internal quality assurance, (4) Conduct an analysis of the higher education strategic management models currently being used and relevant models and research results, (5) An analysis of the real needs in schools and the environment around, (6) Reviewing all the results of the first to fifth study. In this section, the components of the alternative model formulation of the Mapping Model for the Opening of New Study Programs Based on Strategic Planning Strengthening Management of Higher Education in Private Universities will be discussed in detail referring to all the components of the study as presented,

including the real conditions of the Mapping Model for the Opening of New Study Programs Based on Strategic Planning. Strengthening Higher Education Management in Private Universities at Telkom University.

5. Model Formulation Philosophy

The formulation of the Mapping Model for the Opening of New Study Programs Based on Strategic Planning for Strengthening Higher Education Management in Private Universities at Telkom University which is proposed as an alternative model in this study refers to the results of theoretical studies and empirical studies in the field, regarding this model the philosophy is that Strategic Planning is based on Strengthening Higher Education Management is the main and decisive thing in science management (development of new study programs), quality management to be able to make continuous improvements both from the input, process, output and outcome components, the philosophical basis refers to theoretical studies or basic existing philosophy as described below.

Porter's understanding of strategic philosophy in (Parnell, 2005) Strategy is about making choices. Since the systematic collection of relevant information regarding the organizational environment is an uncertain science, strategic managers are inevitably left with varying amounts of uncertainty associated with each strategic alternative at their disposal. When faced with this dilemma, a strategic manager relies on his personal, subjective perspective of strategy related to the organization and its environment (Hendry, 2000).

It is this perspective that forms one's strategic philosophy. In this context, strategic philosophy refers to one's personal view of the nature of organizational strategy based on intuition, reason, and experience. A person's strategic philosophy can be influenced by various personal factors. The personality and self-interest of middle and upper-level managers have been linked to strategy formulation in a number of empirical studies, (Guth, W.D. & Macmillan, I.C., 1986), I.C., 1986). More specifically, strategy formulation is related to the top executive's personal philosophy of how an organization should function, (Hambrick, D.C. & Fredrickson, J.W., 2001). Basically, philosophical ideas imply the existence of competing ideals and multiple perspectives on an issue, (Barney, 2001).

One should not view the influence of strategic philosophy as opposed to the concept of rational strategic planning for two main reasons; First, while the rational perspective seeks an objective "best decision" among alternatives, the philosophical perspective recognizes that a certain level of subjectivity may also be involved, recognizing the role of the "philosophical perspective" of strategic decision makers. However, both perspectives above are concerned with making decisions that maximize organizational performance over a period of time. Although most strategy research appears to have adopted a rational perspective, integrating philosophical considerations into discussions acknowledges the pervasive subjectivity of strategic decision making. Second, while there may be several valid perspectives on a given strategic issue, it stands to reason that there may not be a "single best answer" or that one perspective may be preferred in several other, but not all situations. In this context, one philosophical perspective may be objectively superior to another in a given context.

Thus, the three key dimensions of the strategic philosophy in more detail are: management as an art or science, strategic emphasis on consistency or flexibility, and strategy as a top-down or bottom-up approach. So, in the perspective of this research, it will present a proposition regarding the structure of the formulation of the mapping model for the opening of new study programs based on strategic planning for strengthening higher education management in private universities at all levels of management, and explaining the scale used to measure each of its dimensions.

6. Model Structure Design

Referring to the results of research findings and discussion of analysis, strategic analysis, assumptions and philosophical foundations related to the need for a mapping model formulation for the opening of new study programs based on strategic planning for strengthening higher education management in private universities, in this section these needs are mapped in an abstraction. The structure of the Mapping Model for the Opening of New Study Programs Based on Strategic Planning for Strengthening Higher Education Management in Private Universities is composed of the basics as presented in the results of the research discussion, then

coherently and systematically explained specifically regarding the needs of the Mapping Model for the Opening of New Study Programs Based on Strategic Planning for Strengthening Education Management Higher education at Telkom Private Universities starts from rationality, strategic analysis and is abstracted into a model in this section so that it is easier to understand and becomes a guide for preparing design steps for implementing the model.

This model is a series of methods, systematic steps and guidelines for Mapping the Opening of New Study Programs Based on Strategic Planning Strengthening Higher Education Management in Private Universities at Telkom University, so that in its implementation it allows for developments in each of its elements. The structure of the Mapping Model for the Opening of New Study Programs Based on Strategic Planning for Strengthening Higher Education Management in Private Universities at Telkom University as shown above was developed from the higher education management model and strategic management with a Knowledge Management approach as shown in the picture of the research framework. Formulation of the Mapping Model for Study Program Opening New Based on Strategic Planning for Strengthening Higher Education Management in Private Universities in the rationale and need for model formulation by compiling or abstracting the strategic planning process as shown in the picture, the following is the structure of the Mapping Model Formulation for Opening New Study Programs Based on Strategic Planning for Strengthening Higher Education Management in Universities Private High systematically.

7. Elements of Model Structure

Strategic management offers many models, the Hunger and Wheelen model is a strategic management model that is often used. The Hunger and Wheelen model divide the four strategic management processes into four initial steps or four basic elements, namely: environmental scanning, strategy formulation, strategy implementation, and evaluation and monitoring. Each element contains several sub-elements as follows: (1) Environmental scanning: (External analysis, and Internal analysis), (2) Strategy formulation: (Determining mission, determining objective, making strategy, determining policy), (3) Implemen-

tation strategy: (Programming, Budgeting, Making procedures), and (4) Evaluation and monitoring: (Measurement of performance), (Hunger & Wheelen, 2012). The elements of the model component in question are the elements that make up the abstraction structure of the model as described in the model formulation drawing above, while the explanation is as follows.

8. Environmental Scan

Environmental Scanning is the process of monitoring the organization's environment to identify current and future threats and opportunities that may affect the organization's success in achieving its goals. This environmental examination can be done by using a SWOT analysis (Strength, Weakness, Opportunity, Threat), (Hunger & Wheelen, 2012). The process of Scanning the Internal and External Environment (Scanning) aims to see a comparison of strengths, weaknesses, opportunities, and threats known as SWOT analysis. SWOT analysis produces a number of alternative strategies, to choose these alternatives organizations evaluate each other by paying attention to the ability to achieve goals, (Akdon., 2007). As previously explained in the research and discussion results section, the process can be formulated as a systematic step in conducting internal environmental analysis, especially at Telkom University which can answer the substance of environmental analysis in strategic management itself in mapping the opening of new study programs based on strategic planning. strengthening higher education management.

The environmental analysis process, which in this section is referred to as the environmental scanning process at Telkom University as described in the model abstraction picture above, consists of;

First: Preparation, at this stage a Formulating Team consisting of 3 Senate Commission Elements as Director and Development is carried out by the Director of Suv consisting of a book drafting team led by one chairperson. The Formulating Team is at the preparatory stage in charge of; (1) Conducting Internal Needs Analysis by reviewing the Main Reference Documents in the preparation of the Strategic Plan, namely; 2019-2023 RENIP document, Previous Strategic Plan Document, Self Evaluation Report Document, and Performance Report Document, (2) Conduct analysis of Institutional Data and Information and its

relation to Institutional External Planning consisting of Kemenristekdikti Ranking Cluster data (Institutional, Publication and Student Affairs), and National Planning Documents related to Higher Education consisting of the RPJPN, RPJM and RPJM of the related PT.

Second; Strategic Situation Analysis; the next stage after the above preparatory steps, the Formulating Team will return to the Strategic Situation Analysis Step, namely a more in-depth environmental analysis of; (1) Internal Environmental Analysis, where from the initial preparation step an internal needs assessment is carried out based on internal documents and data from RENIP, Renstra, LED and LAKIP then proceeds to SPMI's findings related to these documents and produces a Problem Identification Document Internally related to PT National Standards, Research National Standards, Community Service National Standards, and CPL to KKNi, (2) The next step from the results of the study on the results of the identification of internal problems is to study, explore and accommodate and pay attention to stakeholder inputs. Internal interests are from the leadership elements (Rector and Faculty Senate).

Furthermore, External Environmental Analysis; (1) Departing from the data and information obtained in the preparation step, the next step is to conduct an assessment and data mining on SPME documents such as BAN-PT Accreditation Documents, LAM-PT and ISO which produce problem identification data in the perspective of guarantees external quality, (2) The next step is to pay attention to inputs from external elements consisting of elements of Foundation Leaders, Alumni, Industry and Government.

9. Strategy Formulation

Strategy formulation is a decision about the path to be taken to achieve what has been set in the objective. Based on the analysis conducted on the social, operational, and internal environmental factors, then with objective considerations an objective strategy was established (Hunger & Wheelen, 2012). Based on the findings of this study as presented in the results and discussion section of the study, that the approach used in scanning the environment (Scanning Environment) in formulating strategies (Strategic Formulating) by Telkom University is the Penta Helix Model approach. Penta Helix is a socio-economic

development model that encourages a knowledge based economy to pursue innovation and entrepreneurship through beneficial collaboration and collaboration among universities, government, industry, civil society, and social entrepreneurs, (Suhendra & & dkk., 2019).

The strategy formulation steps from the results of the analysis of the external and internal environment in the previous stage, then a SWOT analysis is carried out. SWOT analysis, this analysis is generally intended to see the weaknesses and strengths of the organization as well as opportunities and challenges objectively so that they are balanced in preparing work programs, (Akdon., 2007). The elements that make up the abstraction of the model for the Mapping of the Opening of New Study Programs Based on Strategic Planning for Strengthening Higher Education Management in Private Universities are:

First, Internal Environmental Analysis (SWOT), whose unit of analysis study refers to the National Tridharma of Higher Education Standards, namely; Education, Research and PKM whose management strengthening approach uses Knowledge Management by implementing Competence Based Education (CBE). Broadly speaking, the CBE system provides a learning ecosystem where students have the flexibility to understand a material and demonstrate their understanding through a predetermined assessment mechanism. The implementation of CBE effectively and efficiently requires enormous effort and resources, in its application CBE needs to be customized according to the characteristics of the disciplines of each study program and pay attention to the general skills required by graduates, (Complex Problem Solving, Critical Thinking, and etc). Thus, in relation to the abstraction of the model above, the CBE can produce the output of the results of a comprehensive and systematic analysis of Penta Helix in order to obtain an overview of the needs of the New Vocational Study Program.

Second, External Environment Analysis (SWOT), whose unit of analysis study refers to (1) Capabilities, (2) Industry, and (3) Operational, this is as stated in the research results and discussion section. The approach used in conducting the analysis of the external environment with the three groups of analysis units on Penta Helix is to use the Knowledge-

Based Economy approach, where with this approach the relation to the abstraction of this model is to obtain a comprehensive and systematic description of the output of external studies in projecting determination. IDUKA needs.

Third, the Telkom University Senate Plenary Meeting, the results of the previous external and internal environmental analysis studies were then taken to the next stage, namely the plenary meeting of strategic policy formulation whose agenda was to review and reformulate Internal strategic issues based on the results of the study in the previous step on the Mandates, Vision-Mission-Objectives, Strategy, Resources, and Performance. Furthermore, external strategic issues regarding PT Regulations, Government, IDUKA, Competitors, and Partners so as to obtain an overview of the workforce skills needs required by stakeholders using graduates, then perform benchmarking according to the recommendation from the results of the study of these issues. The output of this stage is the Strategic Policy (Milestone Resntra) which is related to the abstraction of this model, including the Milestone of Opening a New Study Program every year in the Strategic Plan.

Fourth, Strategic Planning Document Preparation and Ratification, at this stage the next step is after all the steps are carried out, the Strategic Plan document is ratified which will be used as a guide in the strategy implementation process.

10. Strategy Implementation

Strategy implementation is the total number of activities and choices needed to carry out a strategic plan. It is a process for implementing strategies and policies through the development of programs, budgets, and procedures, (Hunger & Wheelen, 2012). Based on the results of the research findings and discussion as previously presented, the strategy implementation process of strategic planning at Telkom University in terms of explaining the abstraction of this model can be grouped into (1) Higher Education Management Strengthening Program Themes, (2) Partnership Program Themes, (3) Systematic Compilation Key Performance Indicators, Budgets and Procedures, (4) Implementation of Balanced Scorecard, and (5) Communication Pattern Approach with Integration, Approval and Diffusion.

IV. CONCLUSION AND SUGGESTION

A. Conclusion

Strategic planning at Telkom University in general, the process has been able to describe the mapping of the results of a systematic and comprehensive environmental analysis with the Penta Helix environmental analysis approach and the Application of Competence Based Education (CBE) in Knowledge Management, thus mapping the opening of new study programs based on strengthening higher education management has been described and well-projected that have interrelationships in socio-economic development that encourage a knowledge-based economy to pursue innovation and entrepreneurship through beneficial collaboration and cooperation among universities, government, industry, civil society, and social entrepreneurs.

The program to strengthen higher education management in the 2019-2023 strategic plan with the vision of "Becoming a research and entrepreneurial university in 2023", with a development direction model on three themes, namely Creating Research & Innovations, Building Professional & Entrepreneurial, and Developing University Enterprises Network, as well as development directions partnerships with the Government, Partner Industries, Spin-off Companies, and Banks & Venture Capitalists, thus mapping the opening of new study programs on each of these development themes has been described and projected in the strategic plan document.

The constraints faced in the mapping of the opening of new study programs have been well identified which are described in the results of the analysis of weaknesses and challenges in the internal and external environmental analysis process which has then formulated strategies to overcome them by utilizing the analysis of strengths and opportunities. The formulation of the model as described in the discussion section is a systematic stage that can be used to map the opening of new study programs based on strategic planning to strengthen higher education management in private universities.

B. Suggestion

Discussion regarding this research is still very limited and requires a lot of input. Suggestions for future writers are to study more deeply and comprehensively about

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