

CHAPTER II

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

A. Literature Review

The nearest research concept is a research titled “Socioeconomic Status and Academic Achievement: A meta-analytic Review of Research” by Selcuk R. Sirin from New York University. The analysis tried to show a relation between socioeconomic status with research achievement with medium to strong relation,² whereas this research focuses solely on analysis of research in a single institution, so that it may be used for further institutional research.

Second important research came from Ann S. Masten and Jelena Obradovic titled “Competence and Resilience in Development”, where the research talks mainly about identification behavioral aspect in doing research and development, where this research may be identified as continuation with some coloration of its own, which is implemented to the specific institution.

The next research to compare is “Strategic development and SWOT analysis at the University of Warwick” from Robert G. Dyson in that it analyses an “established method for assisting the formulation of strategy”³.

The difference lies in the method where this research offers SWOT

² Selcuk R. Sirin, *Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research*, (New York: New York University, 2005) p. 417

³ Dyson R. G., *Strategic Development and SWOT analysis at University of Warwick*, (Warwick: University of Warwick, 2002) p. 1

analysis instead of academic research references to assist the executives' policy-making ability.

The next beneficial and similar research is “From National System and Mode 2 to a Triple Helix of university-industry-government relations” by Henry Etzkowitz and Loet Leydesdorff. The resemblance lies in the analysis of National System of Innovation, which is termed ‘Skripsi’ in Indonesian and this research, and proceed into further analysis of how universities translate it into its own research system, and then also analysis of how the industries impact the research being done in universities. The dissimilarity between the research and this paper is the focus of this research to solely concentrate with how the university process the national system of innovation and implement it without further examination of external factors such as industry demands or government policy analysis.⁴ Regardless, the analysis in this research is proven useful and may be used in aiding differentiation regarding internal and external factors.

Fifth similar research is “Students’ Evaluations of University Teaching: Research Findings, Methodological Issues, and Directions for Future Research” by Herbert W. Marsch. It provides 379-pages full of excellent insight of research from the point of view of students and the hypotheation of conclusions that may aid future research, which this research also tries to achieve. The difference lies in its strong theorization

⁴ Etzkowitz H., *Innovation in Innovation: The Triple Helix of University-Industry-Government Relations* (Social Science Information, 2003) p.293-337

of applicability and future research recommendations⁵ whereas this research stops in the study of research process and implementation. Nevertheless, the current paper position is complementary in which it may continue and benefit Marsh's research material.

B. Theoretical Framework

Before an analysis is made, a clear definition of the research system and its components needs to be carefully identified. Research is defined by the Australian Department of Education and Training as the creation of new knowledge and/or the use of existing knowledge in a new and creative way to create new concepts, methodologies, and understanding. It includes synthesis and analysis of previous research that leads to new, creative outcomes.⁶ System is a set of things working together as part of an interconnecting network or parts of a mechanism. To conclude the definition of the research system, it is a set of things working together as part of an interconnecting network to achieve the creation of new concepts, methodologies, and understanding.

The definition of research is consistent with a broader notion of research and experimental development known as R&D. R&D, or also known in the region of Europe as Research and Technological Development (RTD), refers to innovative activities which are undertaken by corporations,

⁵ Marsh, H. W., *Student' Evaluations of University Teaching: Research Findings, methodological issues, and directions for future research* (International Journal of Education Research, 1987)

⁶ Western Sydney University, *Definition of Research*

governments, or institutions in developing new service or products, or improving existing service or products.⁷ It is a creative work undertaken on a systematic basis to increase the stock of knowledge. In the private institution, R&D is conducted for most likely a commercial exploitation. In an educational institution, however, RTD serves more than enhancing the competitive edge. It is meant to educate students on doing scientific research, although oft institutional RTD and government-regulated research programs for students are separate entities. The latter is often termed Educational Research and Development (ERD).

Educational Research and Development, sometimes named Research-Based Development, appears to be the most promising strategy for improvement of education. Because research and development is a relatively new concept in education, the clear definition must be explained in order to differentiate it with educational research, which was considered by many experts in the past to be the best method for improvement of schools.

Educational Research and Development is a process used for the development and validation of educational products.⁸ The steps of the process are referred to as the R&D cycle, which consists of examining research findings pertinent to the product of development, developing it

⁷ A b c Staff, *Research and Development*, (USA: Investopedia, 2003) <https://www.investopedia.com/terms/r/randd.asp> accessed 22/01/2019

⁸ Walter R. Borg, Marjorie L. Kelley, Phillip Langer, and Meredith Gall., *The Minicourse: A Microteaching Approach to Teacher Education* (Macmillian Educational Servies, Inc, 1970)

based on these findings, field testing the product in the setting where it will be eventually used. This cycle is repeated until the field test data indicate that the product meets the defined objectives.

In contrast, the goal of the educational research is not about the development of products, rather it is to discover new knowledge, which is done through basic research, or to answer specific questions about practical problems, which is solved through applied research⁹. However, these materials are developed only to the point where they can be used to fulfill the national curriculum. For this reason, it is very rare for applied educational research to yield products that are ready for implementation in schools. Although they have many essential contributions to make to education, basic and applied research are generally poor methodologies for developing new products that can be used in schools. Particularly in applied research, the researchers often finds himself comparing poorly designed, incomplete products to determine which of them is less adequate. This methodology produces negative results and brings improvement in education at a slow rate.¹⁰

For long have educators and researchers seek a way to bridge the gap between research and practice for many years. It seems a challenging task because the translation of research upon school practice to usable

⁹ Walter R. Borg, *Educational Research* (New York: David McKay Company, Inc., 1974) p. 413

¹⁰ *Ibid.*, p. 414

educational products is not an ancient practice. R & D theoretically increases the potential impact of basic and applied research, but a careful analysis before bringing significant change needs to be made. Therefore, the main essential idea about this research is to analyze completely the research system, so that it may contribute to hypothetical research to further bridge the research and practice.

Analysis is defined by Merriam Webster dictionary as a detailed examination of complex things in order the nature to be understood, or to determine its essential features. Simply put, it is a thorough study.¹¹ Something that is complex is something that has many different parts and is oftentimes difficult to understand. To be able to comprehend a complex system such as FIS and its research system, where many things are interconnected, it is then useful to analyze things from many different aspects, whether it is economical, academical, behavioral, or other aspects in order that the complex system may be untangled and then analyzed properly.

Beginning by consideration of behavioral or psychological aspect, the research system and the study of student or education worker behavior is analogous or linked. The research system in FIS often employ students and lecturer alike as a research worker, and it is then critical to be able to

¹¹ Merriam Webster, *Merriam Webster Dictionary*, (Massachusetts: G & C Merriam Co, 1828)

understand the research system itself. Are the students are motivated to do research by financial incentives, or something else?

Thus then begins the importance of experimental psychology in this research. Experimental psychology examines connections between human and mind behavior and is centered on fact-based, scientific research, and experimentation. Experimental ingenuity can bring the most improbable tendencies or behaviors for experimental investigation. It is no longer necessary to rely solely on inferences from behavioral observations made on experimental analogs of actual situations¹². For example, numerous class absences of a student may be taken as the analog of the student laziness, even though it may be influenced by various other factors: working because of financial disadvantage or chronic sickness, for instance. Nevertheless, the use of analogs is still used along with questionnaires, because each method has obvious limitations but also its advantages. In the case of this research, as the method is quite limited, the experiment is done by manner of interview, but formulated by a method of experimental psychology beforehand.

The next consideration comes from the business aspect study, which may play some role in how FIS conducts the research. In recent years, institutions of higher education have faced higher costs and fewer

¹² Charles L. Sheridan, *Fundamentals of Experimental Psychology*, (Missouri: University of Missouri, 1971) p. 371

government fiscal support. For most institutions, this situation has created a greater need than ever before to increase revenues.

In the case of FIS, analog questions may be formulated regarding the business aspect to further theorize about the relationship between business and research. The deconstruction of the FIS system most likely will result in a finding of business aspect centralization in the level of faculty. The analog questions are then provided to the dean which cover key Indicators such as profitability, decision-making, etc.

Closely related to the business aspect lies the decision making or leadership facets. From the Islamic perspective, the Prophet Muhammad (PBUH) is the best role model for a leader. Thus the prophetic mission is seen as what is ideal for a leader to do, that is the duty or responsibility to serve others to their goal of life, which are happiness and salvation¹³. Yet these two are very hard Indicators to observe and analyze, so the indication of the prophetic leadership may be judged through analog question in the willingness to serve others rather than serving solely the institution.

The managerial concept that is more complementary with the main model of this study, however, is the concept of evidence-based decision-making. Evidence-based decision-making is a process for making a decision about a program, policy, or practice that is grounded in the best

¹³ Imam Mudjiono, *Kepemimpinan dan Keorganisasian*)

research evidence conducted and informed by experiential evidence from the field and relevant contextual evidence¹⁴. Therefore, the analog questions that will be provided to executive positions need to be integrated with understanding the position of scientific evidence in decision making, whether it is from an external or internal source, together with the accomplishment of the prophetic mission.

The part of the theoretical blueprint below hence covers further the guiding theories along with the formation of the blueprint design in conducting the analysis research of FIS' RTD system.

A notable introduction before we analyze a research system is the law made by system theorist John Gall, where the majority of complex systems that work grow from a simple system that works. The vice-versa also appears to be true: a complex system designed from scratches never works and cannot be made to function. Therefore, the hypotheccation of the entire brand-new research system is futile¹⁵. It never works in real word because it has not been subject to environmental selection forces while being invented. Unanticipated uncertainty as a result of interdependencies will be a tremendous factor in deciding the failure of an untested complex system.

¹⁴ Veto Violence, *Understanding Evidence: Evidence Based Decision-Making Summary* () p.1

¹⁵ Josh Kaufmann, *The Personal MBA: a world class business education in a single volume* (London: Penguin, Ltd., 2012) p.356

The above law then demands a full analysis of the current research system in FIS, so that the current working system may be known, rather than creating a complete overhaul of the research system that relies heavily on hypotheses. It is better to split the research for analysis and the research for hypothecation. In the case of this research, it is focused on analysis as there is a lack of scientific material to do hypothecation, and leave the analysis result open for further research. This analysis research then requires varying sources in order to be as reliable as possible that may assist in further research that is meant to improve the current research system.

Unfortunately, the analysis of a system that is operating is difficult because the system must be analyzed while it is working. One of the possible ways to do that is doing the deconstruction. Deconstruction is a process of separating a very complex system into the smallest possible subsystems in order to understand how things actually work¹⁶. Instead of an endeavor to understand everything at once, the system is broken into parts, and then be understood in regards to how they interact with one another. Deconstruction is the reverse-engineering of the Law of John Gall. It is to be mentioned once more that complex system that works inevitably grows from a simple system that also works. Therefore, the

¹⁶ *Ibid*, p. 367

collected data of the current R&D system that FIS has needed to be deconstructed before a full understanding of the system may be gained.

Once important subsystems have been identified; which in the case of FIS the subsystems most likely are the faculty, Islamic studies, and study program; they need to be temporarily isolated to be understood clearly how they work: Where do the subsystems begin in FIS, IS, and IE? What process is happening inside each system in regard to the research system? Does each system realize the importance of research? Where do the research systems end? What are the research outputs? All are subjects for analysis.

Interdependence between the subsystem also needs to be carefully watched out, because in deconstructing it is very easy to lose sight of the interconnections. Eventually, the triggers and the endpoints also important aspects. For example: was the R&D system as a whole very prone to error when the Dean gave the wrong instructions? Or what if the Head of Department decides to not implement the research findings which means the inefficacy of the research system that belongs in Islamic Studies? The interdependence plays a big role.

Also, an important aspect is the conditional part of the subsystems. For example: what if a generation of students has a low motivation for helping out researches? Will, it means a reduction in research performance? Will it eventually lead to accreditation downgrade? Will additional financial

stimulus helps? The conditional fragment is also a subject for further analysis. Therefore, the creation of diagrams or flowcharts is very beneficial in assisting the understanding of the R&D subsystem and how they interact with other subsystems.

Once the R&D system as a whole is understood, the next question is how well the system is operating. We then rely heavily on measurement in measuring the systems as it operates. Measurement is a process of collecting data as the system is running. By collecting pieces of information related to the essential function of the system, it is much easier to judge whether the system itself performs well or not. It is then where the listed literature review researches come in handy, as it already has what is needed to be a comparison of the performance. Measurement helps tremendously to avoid Absence Blindness in analyzing a system.

Absence Blindness is a fallacy, a bias that prevents identifying things that often cannot be observed. For example, The Dean's action to reject experimental research cannot be observed, for the repercussion of the unimplemented research is not happening. Perhaps the impact is beneficial, perhaps not. Therefore measuring with other systems along with identification of unimplemented policies gives a clearer insight into whether the performance as a whole is satisfactory or not. The most important data for this come from the Head Executive of Islamic Education Study Program Mizan Habibi and the Head of Islamic Studies Faculty Tamyiz Mukarrom.

In addition to all the above, much attention need to be paid to key performance Indicators. Here is the problem with all the measurement concept above: There are literally a million different possibilities. Even an analysis of the academic performance of certain students or technical performance from a lecturer may affect the research and development, yet is it significant enough? Measuring too much will inevitably lead to a meaningless sea of data. Some measurements are indeed more important than others, so the most critical parts of a system are called Key Performance Indicators, or KPIs, for short. In this research, the endeavor is to formulate what is the most important Indicators in order to keep the data in control.

The dilemma of choosing KPIs is whether the focus of key aspects is on business or profitability aspects, which is probably the most important aspect in any private institution, or on academic performance, the standard Indicators of higher educational institutions such as FIS. Using all the Indicators from either side will ultimately absorb much time, but being in the middle without comprehensive identification will eventually result in incomplete analysis. Therefore, the Indicators group will also be subjectively picked by the researcher according to personal hypothesis and further research analysis, which then will be covered in the attachment.