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Stakeholder Mapping of Educational Supply Chain Management (ESCM): Insight from Private Universities in Indonesia

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Abstract:

Supply Chain Management (SCM) has become an important approach for organizations, both operating in manufacturing and services, to create good performance and to achieve competitive advantage in highly competitive business environment. So far, research on SCM mostly conducted in the field of manufacturing and still limited in the field of services, especially higher education, that known as Educational Supply Chain Management (ESCM). This study conducted to investigate some issues related to stakeholder mapping, contributions and responsibilities, and the implementation of ESCM strategy within private universities in Indonesia. By using qualitative approach, this study classified stakeholders into five major categorizations, which are considered to have reciprocal relationships with the university's program, consist of: initiators, educational industries, labor, community and governments. Each stakeholder has different contributions and responsibilities according to their respective roles in the relationship or cooperation. The clarity of the organization's vision and mission and continuous collaboration between both parties become the most important concerns in managing the cooperation. Commitment, trust, and communication are considered to be the key factors to succeed the cooperation. Both informal and formal evaluation, such as questionnaire survey and focus group discussion are used to investigate the success of the collaboration.

Keywords: Educational supply chain management, stakeholder mapping, private university

1. Introduction

Supply chain management (SCM) is a strategic issue that plays important role in the success of business organizations. The presence of SCM might integrate and optimize various organizational activities with the aim of satisfying stakeholders, including internal organizations. The concept of SCM commonly used in manufacturing industry, however since 2007, SCM models for services have come to be known, especially for higher education institutions, which known as the 'Educational Supply Chain Management (ESCM)' model (Pathik, Chowdhury, & Habib, 2012). In the context of ESCM, universities as higher education institutions serve as service companies offering intangible products that can apply supply chain management into a chain of college systems (O'Brien & Deans, 1996 in Gopalakhrisnan, 2015).

According to Basu, Jayesingam, and Habib (2016), there is a surge of interest in the field of supply chain management at private universities in order to achieve sustainability. To achieve sustainable performance, universities should recognize that improving organizational efficiency alone is not enough, the overall synergies of the supply chain are needed that lead to competitive performance. This condition requires universities to analyze service offerings and institutional business models to improve collaborative and integrated performance by understanding the characteristics of stakeholders involved along the supply chain. Stakeholders play important role in providing input to the university. In the ESCM model, the university's most important role is generating output for end-customer welfare and society, both in the form of graduates and researches.

Kurniawan (2016) conducted a study through a supply chain management simulation approach to improve new policies and regulations in increasing customer satisfaction in the ESCM areas. While O'Brien and Deans (1996) as cited in Gopalakhrisnan (2015) conducted an empirical study at the University of Strathclyde by adopting the SCM concept of manufacturing industry in the educational industry, integrating the cooperation of schools, colleges, students, university staff, and graduate users into the decision-making process in designing curriculum to ensure stakeholders satisfaction. Meanwhile Lau (2007) as cited in Kurniawan (2016) designs integrated educational supply chain management through case studies at the University of Hong Kong. The results suggest the development of two separate supply chains models between the students supply chain and the research supply chain. The model of supply chain commodity at these

institutions demonstrates significant cost efficiency throughout the supply chain and assists in the management of multi commodity procurement scientifically and optimally.

Sarrico and Rosa (2016) argue that the efforts to develop mutually beneficial relationships between universities and its suppliers or customers to manage and to improve organizational performance are considered lacking. This is due to the terminology of suppliers and customers is conceptually not used in educational institutions since it has connotations with the business world. In addition, there are historical reasons that can be explained, ie. university seemed to be in "ivory tower" and apart from the industrial world. In fact, universities are not stand-alone organizations and require cooperation with a wide range of stakeholders including their "suppliers" and "customers" (Sarrico & Melo, 2012).

The importance of stakeholder and the implementation of ESCM, motivates to deeply investigate the issues related to stakeholder mapping and ESCM implementation in higher education. This is important since the benefits and objectives of ESCM stakeholder identification are to elevate community values through the contribution of qualified graduates and research findings that are beneficial to the community even to the country (Habib & Jungthirapanich, 2010). This study conducted to answer three main research questions include: 1. Who are the stakeholders of private university's program in Indonesia? 2. How is the classification of stakeholder's private university's program in Indonesia? 3. How are stakeholder contributions and responsibilities in ESCM to private universities in Indonesia? This paper is organized as follows: Firstly, it discusses the introduction. Secondly, the paper will discuss literature review on the evolution of supply chain management studies and previous studies on educational supply chain management implementation in higher education. Thirdly, the paper will discuss the methodology and continues with the findings and discussion at the fourth part. The discussion will end with conclusion.

2. Literature Review

2.1. Supply Chain Management: Definition and the Evolution of Literature

Supply Chain Management (SCM) researchers provide different definitions in the development of the SCM literature, leading to debate about the specific definition of SCM (Jain, Dangayach, Agarwal, & Banerjee, 2010). Supply chain management includes a variety of practices carried out within an organization in order to maximize organizational effectiveness through managing the flow of finished goods, services, and information from point of origin to consumers which directly linked organizations in the chain (Anatan, 2014). It can be concluded that SCM is the process of moving goods through the stages of raw materials, supply, and distribution of products to consumers.

Companies have varying levels of supply chain depending on the size of the company and the types of products that has been produced. Companies that study how to improve supply chain management will become successful companies in global market competition (Jain et al., 2010). Traditionally, SCM affects from logistics and transportation functions, operational and material management and management of distribution, marketing, purchasing and information technology. Ideally, all SCM emphasis supports each function to produce the supply chain strategies that can improve company performance (Croom, Romano, & Giannakis, 2000 in Han, 2014).

The conceptual and empirical literature on SCM has been published for over twenty years, however the topic is still evolving and debating (Jain et al., 2010). The development of SCM literature encompasses both the development of SCM theory and practice, requiring a review of the development of knowledge and SCM literature. They also describe research methods in two dimensions: theoretical and empirical and do not provide the number of articles associated with each level of analysis. Burgess et al. (2006) reviewed 100 randomly selected papers from 614 articles found in the ABI / Inform Database over 19 years period (1985 to 2003). The sample research includes manufacturing and consumer industries, and the research reviewed is focused on the operations management approaches to SCM. They classify articles in four groups, including: 1) Descriptive features of SCM, 2) Definition of issues, 3) Theoretical concentrations, and 4) Methodological issues.

Burgess et al. (2006) study is considered important and has a significant contribution as it provides a broader base on the development of conceptual literature and SCM applications. Their study also helps researchers in the field of SCM to be able to identify research gaps in the literature, upcoming research trends, and also underscores the importance of research and robustness issues in related studies.

Guinipero et al. (2008) conducted a literature review of SCM and noted that in fact, research on SCM is still fragmented and although some studies focus on SCM issues, the majority of studies only test one link in the supply chain, or more importantly only focus on supply chain performance. They conclude that there are several gaps that they have identified based on literature review, including: 1) small sample size, 2) one-tier investigation, 3) limited methodological analysis, 4) lack of longitudinal studies, 5) limited global analysis of supply chain.

In Indonesia, Kurniawan, Christiananta, and Ellitan (2015) conducted research on supply network strategy as a new concept of management and supply chain management philosophy that was born as the solution of decision makers in the face of increasingly complex problems. The strategy is positioned as a planning approach in a management strategy that can provide a competitive advantage. While Ellitan and Ninuk (2017) conducted study in East Java manufacturing SMEs to investigate the effect of information sharing and quality on supply chain performance. The study found that information sharing and quality significantly influence the supply chain performance.

In recent supply chain management study, Sherlywati (2018) has concluded the development of SCM research in Indonesia, which are showed by raising many new topics and methods, covering in business world, any industries including education, and government area. Trends and challenges of SCM research force researcher to conduct multidisciplinary research. The main challenge of supply chain management is facing how to coordination, networking, and

communication between the actors who involved in the supply chain management area, not only the supply chain manager, but also all of stackholder that will make a decision throughout the organizational structure.

Based on the literature review, it is concluded that the majority of conceptual and research articles on SCM use manufacturing sector as the research settings (Habib, 2010). Only a small portion of SCM issues are addressed in the service industry (Nixon, 2001; Kathawala & Khaled, 2003), particularly focusing on the implementation of SCM in the higher education sector. Habib (2010) suggests only two relevant empirical articles about SCM implementation in education, particularly higher education, known as ESCM or educational supply chain management. Figure 1 shows the evolution of the development of SCM literature.

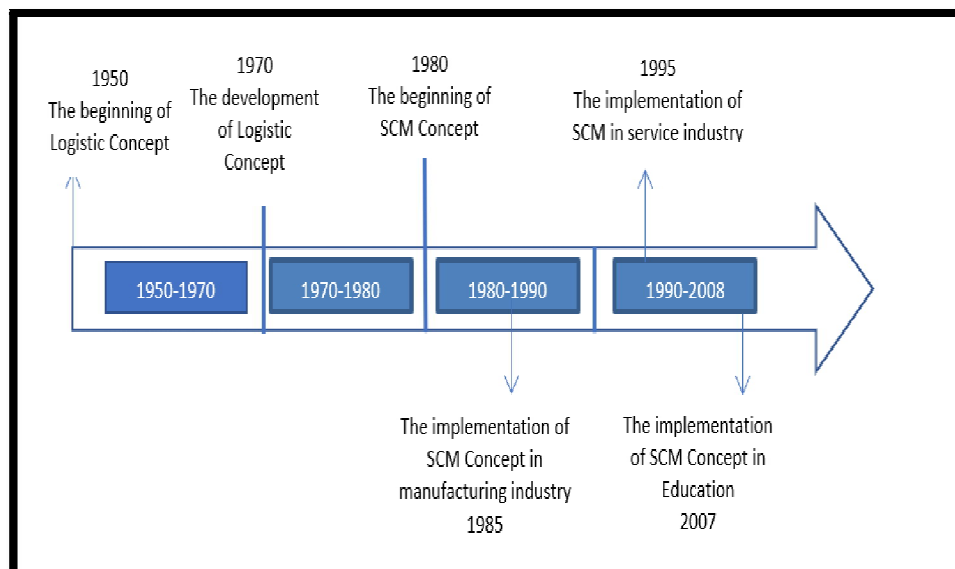


Figure 1: The Evolution of SCM Literature Development
Source: Habib (2010)

Education is part of the service industry that has different characteristics from the manufacturing industry in terms of its products, ie, intangible knowledge. Effective education depends on personal knowledge, experience, and ethics. SCM is fairly easy to define and implement in manufacturing, where every participant in the supply chain receives input from a group of suppliers, processes inputs, and distributes different consumer groups. At educational institutions, one of the key suppliers in the process is the consumer itself, which has body, mind, possession, information as input in the service process. In the context of ESCM, the concept of a consumer as a supplier refers to the concept of "customer-supplier duality." Duality results in ESCM relations bidirectional, ie production flow occurs in two directions (Sampson, 2000).

2.2. The Implementation of Supply Chain Management in Higher Education

The concept of ESCM parallels with the SCM concept in the industrial context. ESCM has students who enter educational organizations as "raw materials" and out of education into professional labor as the final product. The similarities between SCM concepts applied in industry and ESCM in the education context include structure, mission (quality dependence on each stage and final output, cost efficiency, and time constraints), and the need to share information and data. One of the ESCM implementation objectives is to improve the welfare of the final consumer or the community. To achieve these objectives, educational institutions require a certain level of knowledge about partners in the supply chain that includes suppliers, customers, and consumers. Supply chain performance is largely determined by the coordination of all stakeholders to ensure the achievement of desired outcomes (Habib & Jungthirapanich, 2010).

As discussed in the previous section, one of the important suppliers in the process of educational institutions is the consumer, therefore the concept of the consumer as a supplier in this case refers to the concept of "customer-supplier duality" resulting in a bidirectional relationship where production flow occurs in two directions (Sampson, 2000). In its implementation, the university cooperates with schools, students, university staff, and alumni who have entered the workforce to design the curriculum (Heskett, 1964 as cited in Habib, 2010). Universities should ensure that all stakeholder needs are satisfied. Educational supply chain has a "customer-driven" vision that can produce a number of competitive advantages for supply chain by improving productivity, increasing consumer satisfaction, and producing outcome quality.

In ESCM, there are student services directly and indirectly to process "raw material" that is the student itself (Habib, 2010. Direct student services include student development and design, student selection and resources, academic and non-academic training of students, practical student training, student exam results, and final student development). Indirect student services can include campus maintenance and development, IT infrastructure, hostels, cleanliness, bookstores, security, restaurants, and sports facilities. In the context of ESCM, a student must be handled by a lecturer who oversees the student development process through supply chain, this is because the student is not identical, and the university cannot use one supply chain process for all students. In the context of integrated ESCM, the supply chain process for each student is different and it is important to ensure the students quality (Habib & Jungthirapanich, 2009).

Harris (1998) cited in Habib and Pathik (2012) suggests three levels of decisions in SCM adapted by higher education institutions including: strategic level, planning level, and operational level.

Strategic level is the highest decision-making level. At this level the decision focuses on general direction, long-term goals, philosophy, and values. This decision is a less structured and most imaginative decision, the least risky and the least obvious outcome. This is because, at a strategic level, organizations focus on achieving important long-term goals. Planning level aims to support strategic decisions. Decisions at the planning level tend to be medium range, medium significance, with moderate consequences. At the operational level, the decision made is the daily decision used to support the planning level decision. Decisions are made with little thought and structured. The perceived impact is immediate, short-term, and usually low cost. The consequences of poor operational decisions can be minimized despite a series of poor operating decisions and disrupting organizational performance (Harris, 1998 in Habib & Pathik, 2012).

According to Habib (2010), one of the main objectives of ESCM is to improve customers or society welfare. To achieve these goals, higher education institutions need to have a high level of knowledge about partners in their supply chains, such as suppliers, customers, and consumers. The SCM performance depends on the coordination of all stakeholders involved in the supply chain to ensure the achievement of desired outcomes, one of which is related to teaching and research activities in higher education institutions. Lau (2007) in Gopalakrishnan (2015) proposed to achieve the goal, there are four things that need to be analyzed include: faculty capability, facilities, program formation, and university culture.

Faculty capability refers to a good faculty member communication, able to provide broad knowledge in teaching and learning, best practice models, creating opportunities for reflection and supporting participation in curriculum planning, teaching and research. Traditionally, faculty members were evaluated according to three main criteria covering teaching, research, and services (Comm & Mathaisel, 1998 in Habib, 2010). This facility is related to the university's ability to provide modern facilities to its students. These facilities include lecturer hall, library, laboratory, and information technology services to ensure students get a comfortable learning environment comfortably. Another thing related to the availability of online learning, e-journaling, e-learning via the internet.

Establishing courses for education and research especially in terms of university development and assessment by designing diverse programs to enhance diversification in research development and assessment. Innovative academic methods, community demand needs, information technology facility provisions, experience, and industry placements demonstrate higher education efforts to develop different programs. The university culture depends on the management of the university and the administrator. Habib and Jungthirapanich (2009) argue that the university culture is characteristics of the university.

2.3. Previous Research on Educational Supply Chain Management (ESCM)

According to Habib and Jungthirapanich (2009), SCM's main objective is to integrate and optimize the activities within and between organizations to achieve satisfaction of all stakeholders. In general, a supply chain consists of manufacturing companies or service providers that receive input from suppliers, process inputs, and distribute to consumers. While ESCM aims to increase the value of society by producing qualified graduates and quality research findings. The majority of research on SCM is done in the manufacturing industry and only a small portion focuses on the service industry, particularly in education (Habib & Jungthirapanich, 2010).

Habib and Jungthirapanich (2009) argue that SCM's main objective is to integrate and optimize the activities within and between organizations to achieve satisfaction of all stakeholders. In general, a supply chain consists of manufacturing companies or service providers that receive input from suppliers, process the inputs, and distribute to consumers. While ESCM aims to increase the value of society by producing qualified graduates and quality research findings. The majority of research on SCM is conducted in manufacturing industry and only a few focuses on the service industry, particularly in education (Habib & Jungthirapanich, 2010).

Lau (2007) in Gopalakrishnan (2015) conducted a study that aimed to analyze the implementation of ESCM in higher education. The study was conducted with an in-depth case study approach at a university against personnel in the department and collected from university documents. The results of the study identified three supply chains within the university including commodities, special requests, and supply chain outsourcing. Restoring existing supply chains is recommended to improve the effectiveness and efficiency of higher education.

Habib and Jungthirapanich (2010) conducted an exploratory study that examined educational supply chain and research supply chain as an important cost in the implementation of ESCM in higher education. The study involved 493 respondents representing the administrative staff of universities, faculty member, alumni, and other workers. Research data were analyzed using multiple linear regression (MLR) to evaluate the accuracy and validation of model and structural equation modeling (SEM). The result of data analysis shows that: 1) student and research supplier have important contribution for university, 2) model represent that alumni have big contribution to customer, for example society, 3) Both educational customer and research customer have equal contribution to society, therefore prosperity of society will be possible if the quality of alumni and the quality of research results produced by the university through the successful ESCM can be improved.

Habib and Pathik (2012) conducted a descriptive study illustrating the initial analysis of the ITESCM (Integrated Tertiary Educational Supply Chain Management) practice developed by Habib (2010) especially for educational institutions. The ITESCM model illustrates the provision of inputs, provision of output, supply chains in education, research supply chains, and integrated educational management of higher education institutions. The study was conducted at universities in Bangladesh involving 307 respondents representing the administrative, faculty member, graduate and

other workshops participating in the survey to justify the outcomes generated in supply chain management in the field of education based on user perspective. The model provides two contributions related to the provision of qualified graduates and quality research results. According to the researchers, the development of community quality, which is the main objective of ESCM, will be possible if the quality of graduates and research outcomes can be produced by implementing the right ESCM.

Sarrico and Rosa (2016) analyzed several case studies conducted in various countries and highlighted the concepts, empirical findings on challenges and best practices related to ESCM. The study involved four institutions of higher education and nine schools. Data are obtained from national and institutional documents as well as from individuals and panel interviews. To analyze, the researcher uses content analysis method for both data and interview transcript. The study results show that information sharing, trust, integration and leadership are the greatest challenges in implementing ESCM in the higher education system. Education is a very important activity affecting the welfare of society.

2.4. Stakeholder Mapping of Educational Supply Chain Management

ESCM-related studies, both literature review and empirical studies are very important. This is due to feedback from universities to senior secondary schools on the development and needs of students that can be supplied from senior secondary schools is considered inadequate. The education system does not specify how many students are required to enter each stage of education for both current and future needs. The academic system is not a profit-oriented system and has no stockholders, however academic systems transfer intelligence with knowledge, ability, emotion, self-interest and ability to improve beyond supply chain management. Implementation of ESCM is considered important because of the objective to produce high quality outputs from each stage and final output that satisfy market and community needs and reduce delay time at each stage through effective forecasting and information transfer, as well as adjustment of supply capacity at each stage (Krishna & Subbaiah, 2012 as quoted in Anatan & Ellitan, 2017).

ESCM implementation often does not have a significant impact on the involved parties because of the differences in strategic objectives and conflicts of interest, making it difficult to achieve agreement among stakeholders. Stakeholders are all parties that influence the activities within the organization (Freedman & Red, 1983). In fact, one of the tasks in decision-making is the management of stakeholder demand that have different strategic objectives. Therefore, the identification and mapping of stakeholders, as well as the identification of potential conflicts become important issues in the study of inter-organizational cooperation, especially in the context of ESCM implementation. Stakeholder mapping is a collaborative process of research, debate, and discussion derived from multiple perspectives to identify stakeholders along the chain of cooperation. Mapping can be derived in four phases that include: identification, analysis, mapping, and priority. The stakeholder mapping process is very important and the quality of the process is highly dependent on the knowledge of the participating parties.

The identification stage is the early stage of mapping process that aims to list relevant groups, organizations, and parties that have mutual influence for the organization. The list will change as the environment changes around the organization and business networks, as well as changes in decisions or opinions from stakeholders themselves. In this stage, stakeholder identification is needed to facilitate the mapping process by listing groups, organizations, and relevant parties, such as owners (including investors, shareholders, agents, analysts and agencies), labor (current workforce (potential suppliers, retirees, representatives and independent workers), industry (suppliers, competitors, industry associations, industry leaders and media), communities (residents around the organization, and special interest groups), environment (non-human species, future generations, scientists, ecologists, spiritual communities, advocates, and NGOs), governments (public authorities, local policymakers, regulators, and opinion leaders), and community groups (NGOs, faith-based organizations and trade unions).

The analysis phase aims to understand the perspectives and interests of stakeholders. This stage is done after the company identifies stakeholders and is very important to be able to better understand the relevance and perspective they offer, to understand the relationship of each other's issues, and prioritize based on relative usability in the cooperation relationship. Some of the criteria that can be used include: contribution, legitimacy, willingness to cooperate, influence, and interest to engage in cooperation. The mapping stage aims to visualize relationships to other goals and stakeholders. Through the mapping process it allows researchers to see where each stakeholder is located when evaluated using the same criteria. The next step is setting priorities aimed at determining the relevance of stakeholders and identifying issues.

In the field of management, the theory of stakeholders increases the success of cooperation between the parties involved. Johnson et al. (2005) suggests that understanding of the organization's strategic position focuses on identifying the impact of the strategy on capabilities, the external environment, and expectations, as well as the influence of stakeholders. Therefore, the organization should focus on effective cooperation, so that the organization can create knowledge and values for stakeholders. Concepts of stakeholder identification and mapping and the interests of the organization have been widely discussed in strategic management literature (Ackerman & Eden, 2011). The majority of the literature suggests that stakeholders are managed by an organization, however because of the top management team that strategizes, stakeholder management is required so that the stability of robustness can be eliminated. By managing and anticipating stakeholder responses to organizational strategies, appropriate action can be taken, both in terms of capital to achieve a positive or negative response.

3. Methodology

This study aims to reveal the specific conditions of educational supply chain management at private universities in Indonesia by conducting in-depth investigations through open questions. The researchers conducted a pilot test on the

questionnaire to the field as well as make improvements to the initial questionnaire. Furthermore, the researchers conducted observation and in-depth interviews on resource persons to collect the data. Primary data were obtained through mail questionnaire and direct interviews. To improve the rate of return of the questionnaires, the researcher tried to follow the suggestions proposed by Issac and Michael (1990) with the system of free postage stamps and sending letters to the respondents. Respondents in this study are leaders of study programs at private universities in Indonesia. Descriptive statistics are used as analytical techniques to analyze research data and provide a description of a set of data through descriptions in tabulation and text or text form. Distribution of questionnaires through post surveys and interviews was conducted three months with a six-week return limit.

4. Findings

4.1. Research Informants

Twenty of the head of programs from eight (8) private universities in Indonesia scattered in the provinces of DKI Jakarta, West Java, DI Yogyakarta and East Java participated in this study. The eight universities include Atma Jaya University Jakarta, Maranatha Christian University Bandung, Parahyangan Catholic University Bandung, Sanata Dharma University Yogyakarta, Atma Jaya University Yogyakarta, Duta Wacana Christian University Yogyakarta, Universities Katholik Widya Mandala Surabaya, and Petra Christian University Surabaya. Throughout the data collection process by mail and direct survey, we received 25 replies, 20 informants gave complete responses and could be used in data analysis, 4 informants gave incomplete responses that were not used in data analysis, and 1 informant returned the empty questionnaire. Table 1 summarizes the informant's information that participated in this study.

No	University	Faculty	Programs
1.	Atmajaya University, Jakarta	Faculty of Economics	Business Administration
2.	Maranatha Christian University, Bandung	Faculty of Economics	Master of Accounting Management
		Faculty of Engineering	Computer System Engineering
			Industrial Engineering
		Faculty of Letters	Mandarin
			DIII Mandarin
		Faculty of Psychology	Psychology
		Faculty of Arts and Design	Visual Communication Design
3.	Parahyangan Catholic University, Bandung	Faculty of Engineering	Industrial Engineering
4.	Sanata Dharma University Yogyakarta	Faculty of Economics	Master of Management
5.	Atma Jaya University Yogyakarta	Faculty of Social Science and Political Science	Sociology
		Faculty of Economics	Economics
		Faculty of Engineering	Architecture
6.	Duta Wacana Christian University, Yogyakarta	Faculty of Business	Management
7.	Widya Mandala Catholic University, Surabaya	Faculty of Business	DIII Accounting
			Management
			Accounting
8.	Petra Christian University, Surabaya.	Faculty of Industrial Engineering	Industrial Engineering and International Business Engineering
		FKIP	

Table 1. Research Informants

Source: Author's Elaboration

4.2. Stakeholder's Interest

The initial phase in the stakeholder mapping process in this study refers to BSR's Approach to Stakeholder Engagement, which identifies stakeholders. This stage aims to create a list of organizations and related parties that have a mutual influence for the organization and to facilitate the mapping process by listing organizations, and related parties categorized into five major categorizations consists of: initiators, educational industries, labor, community, and government. Table 2 summarizes the categorization of stakeholders concerned with the programs in this study.

No	Stakeholder Categorization	Stakeholder
1	Initiator	Foundation
		Other Organization
2	Education Industry	Competitor
		Supplier
		Users
3	Human Resource	Structural Official
		Lecturers
		Educational Administration
		General Administration
		Outsourcing
4	Community	Internal Community
		- Student Association
		- Center/Work Unit
		External Community
		- Professional Association
		- Religion-based Organization
		- Corporate-based Organization
5.	Government	Central
		Local

Table 2: Stakeholder Categorization

Source: Author's Elaboration

Initiators are the parties who initiate the establishment of the programs and universities where the programs exist. Considering that the research object is study program of private universities in Indonesia, the initiator is classified into two related parties including foundations and other organizations such as religion-based organizations or corporate-based organizations. The education industry includes competitors, suppliers, and users. The three parties are considered important in improving the study programs performance, competitors act as sparring partner of the program to improve the study program quality, the supplier acts as the source of the prospective student, and the users acts as the graduate user produced by the study program.

Human resource is the third categorization of stakeholders that play an important role in maintaining the study program sustainability. The human resources include structural officials, lecturers, educational and general administration, and outsourced personnel who all play an important role in supporting the operational activities of the study program. The fourth categorization is a community, both internal and external communities. The internal community includes student and center or work units, while the external community includes professional associations, religion-based organizations, and corporate-based organizations. The government is the next categorization of stakeholders who have important reciprocal relationship for the study program, the government covers both the central and local governments.

4.3. Stakeholders Contributions and Responsibilities

Each stakeholder has different contribution and responsibility role to the survival of the cooperation and the study program progress. Table 3 summarizes the contributions and responsibilities of stakeholders based on the participants who participated in the study.

No	Stakeholder Categorization	Stakeholder	Contributions and Responsibilities
1	Initiator	Foundation	<ul style="list-style-type: none"> - Budgeting and funding - Establish regulations - Develop organizational values - Decision maker - Scholarship
		Other Organization	<ul style="list-style-type: none"> - Source of spiritual values - Scholarship provider for prospective students - Founder of study program and supervisor of the organization as a whole - Pension fund manager - Monitor changes at faculty and study program - Providing resource needs to study programs - Provide moral support and maintain organizational survival - Provide support for study programs development and the initiation of new programs.

No	Stakeholder Categorization	Stakeholder	Contributions and Responsibilities
2	Education industry	Competitors	<ul style="list-style-type: none"> - Competitors in getting students through the competition of study costs - Provide competitive level feedback - Triggers the program creativity to be more innovative both in terms of curriculum and governance and responsible in building characterized human beings - Benchmarks for organizations, providing input or input on the student selection process - Sparring partner for organizational development
		Supplier (prospective student's schools)	<ul style="list-style-type: none"> - Source of intake for new students and provides feedback on the lifestyle of prospective students - Provide input for curriculum development that leads to ready-to-use alumni in business world
		Users	<ul style="list-style-type: none"> - Employment providers and provide learning feedback and update the labor market. - Provide informal feedback on employment information - Recruit, guide, and direct graduates in order to have career development - Provide feedback on the involvement of accreditation and curriculum development - Provide internships for students
3	Human Resources	Structural Official	<ul style="list-style-type: none"> - Implementing policies and responsible in leading the organization - Provide good internal control and deliver the latest lecture materials - Empowerment of workers (thoughts, feelings, and energy) and responsible for generating positive action - Responsible in decision-making at study program level for example decision related to curriculum, cooperation, activity of Tridharma Higher Education - Create policies, manage programs, and create budgets and lead and determine policy directions - Implementation of project administration
		Lecturers	<ul style="list-style-type: none"> - Business operators and responsible for running the organization - Educators and responsible in fulfilling Tri Dharma Perguruan Tinggi - Providing lectures, guiding students and responsible for giving lectures, providing guidance and final task
		Education Administration	<ul style="list-style-type: none"> - Supporting business operations and comfort, and responsible for providing support in the way of the organization - Archiving and services that affect the organization
		General Administration	<ul style="list-style-type: none"> - Administrative handling such as correspondence and person in charge of operational activities of study program - Assisting university administration activities and responsible for preparing administrative files and preparing and managing administrative data. - Supports the distribution system of room facilities, tuition payments of students, payroll, and employment, as well as general academic administration
		Outsourcing	<ul style="list-style-type: none"> - Teaching areas, such as teaching staff for general courses such as English, practitioners, and other certified teaching personnel - Maintain the cleanliness and security of the campus. - Knowledge sharing and practical experience and run the class up to assessment.

No	Stakeholder Categorization	Stakeholder	Contributions and Responsibilities
4	Community	Internal Community	
		- Student Association	<ul style="list-style-type: none"> - Market and teaching partners as well as networks and echoers - Supporting the program activities such as implementation of engineering week, trained to be independent in decision making - Improve student soft skills and be responsible as a grouping container for students - Educational, devotional, religious, and sports programs
		- Centers or work unit	<ul style="list-style-type: none"> - Supporting lectures and providing opportunities for students to become assistants - Providing services for the community and community service opportunity for lecturers - Scholarship for lecturers and students - Provides job vacancies and is responsible for providing research data and journals - The main partner for academic management and responsible for the student data management
		External Community	
		- Professional Association	<ul style="list-style-type: none"> - Networking, knowledge sharing and discovery- Contribute to curriculum development - The rules of the profession and responsible for socializing and monitoring the rules - Establish cooperation between study program and responsible for improving the quality of research - Student mentoring and responsible in work program and coordinator - Scientific forums, workshop activities, seminars, training, and brainstorming.
		- Religion-based Organization	<ul style="list-style-type: none"> - Provide curriculum-related information - Support student activities - Fostering student spirituality - Collaborative research, enhancing lecturer practice experience and responsible for providing research journals, informing projects related to cooperation, providing practice and research workplaces - Establish an ethics and be responsible in facilitating consultations - Support the distribution of information
		- Corporate-based Organization	<ul style="list-style-type: none"> - Provide opportunities and cooperation in the long run - Provide scholarships for students, place of practical work and final project, and supporting student activities - Determining the graduate's profiles and responsible as a forum for student associations. - A media for the development of lecturer and student science and responsible for providing practice and research - Faculty exchange and responsible for providing cooperation and assistance
5.	Government	Central	<ul style="list-style-type: none"> - Networks, regulators, and funders - Protect and embrace the aspirations of the people. - Provide academic rules - Provide training skills
		Local	Community service and practical work

Table 3: Stakeholder Contributions and Responsibilities

4.4. Management and Evaluation of the Collaboration

Table 4 summarizes the management and evaluation of cooperation with stakeholders based on the opinions of the twenty participants in this study. The discussion covers what is the main concern of participants in managing stakeholder engagement, what key factors are considered to be critical determinants of successful collaborative management with stakeholders, and what forms of evaluation have been undertaken to assess successful collaborations with stakeholders.

Primary Concern	<ul style="list-style-type: none"> - Cooperation that can realize the vision and operationalization of the organization's mission - The importance of accreditation and seeking student input to increase the number of students - The needs of stakeholders relating to needs, wants, and demands - Long-term benefits for the program to improve quality, promotional media to attract prospective students and employment providers - Continuous communication and activities - The quality of lecturers and services provided to students and the community, the relationship between the study program and the provider of students, and the study program and employment provider - Reputation of study program and alumni - Compliance with the competence of KKNi (Kerangka Kualifikasi Nasional Indonesia) to be achieved is related to the subject and absorption of graduates - Input to support the curriculum - Follow-up/implementation of the MoU - Organization development through cooperation with stakeholders.
Key Factors	<ul style="list-style-type: none"> - Shared vision, spirit and values, vision and mission, and mutually beneficial cooperation - Commitment of both parties - Conducting informal meetings - Quality of service from various good parties - MoU and study programs needs - A clear and well-planned program, openness, regular, and ongoing communication contacts - The ability of a relationship manager on a regular basis - Trust - Development of a cooperative network - Trust on quality, benefits gained from cooperation with stakeholders, and internal infrastructure such as laboratories and the internet
Evaluation	<ul style="list-style-type: none"> - Effectiveness evaluation, whether the cooperation is closer to achieving the vision, mission, or not. - Ethical evaluation: whether the cooperation undertaken reinforces organizational values or not. - Efficiency Evaluation: whether the cooperation undertaken cause material harm to the organization. - Evaluation meetings, field assessments through polls given to some of the participants, and informal communication to ask the level of satisfaction to the vendor - Filling in questionnaires and focus group discussions. - Evaluate the learning and teaching processes, graduate users. - Evaluation of alumni on curriculum and teaching and learning process, and evaluation of lecturer on teaching and learning process. - Survey of activities and discussed in joint meetings with stakeholders - Determine the financial measurement and number of successful graduates. Both are key performance indicators in evaluating the success of cooperation with stakeholders. - Comparing the implementation of cooperation with study program vision. - Number of activities, involvement of lecturers and study program, the amount of funds used (research and abdimas). - Tracer study.

Table 4: Management and Evaluation of Stakeholder Cooperation

Source: Author's Elaboration

Some of the key areas of concern in the collaboration management include the clarity of the organization's vision and mission, the needs of each cooperating party, the follow-up of cooperation, and the organization development through

cooperation with stakeholders such as student certification, student internships, student development both hard skills as well as soft skill, and summer program with students. The commitment of both parties, trust, communication is considered to be a key factor in the success of cooperation with stakeholders that directly related to the study program. Regarding the evaluation strategy. Both informal and formal evaluation, such as questionnaire survey and focus group discussion are used to investigate the success of the collaboration.

5. Conclusion

Based on the results of data analysis obtained from 20 participants through written and direct interviews, this study classifies five major categorizations that are considered to have reciprocal relationships, include initiators (foundations and other organizations), education industry (competitors, suppliers, and users), human resources (lecturers, structural officials, education and public administration), community (both internal and external community), and governments (central and local). Each stakeholder has different contributions and responsibilities according to their respective roles as discussed in the previous section.

The main concern to the participants in managing the cooperation, what key factors are considered, and how evaluation conducted to assess the success of cooperation can be identified as follows:

- a. The organization's vision and mission, each party needs, the follow-up of cooperation, and the organization development through cooperation with stakeholders such as student certification, student apprenticeship, and student development both hard skill and soft skill, summer program with students become the most important concerns in the managing cooperation with stakeholders.
- b. The commitment of both parties, trust, communication is considered to be key factors to succeed the cooperation with stakeholders directly related to the study program.
- c. Both informal and formal evaluation, such as questionnaire survey and focus group discussion are used to investigate the success of the collaboration.

This study is a research embryo undertaken to map stakeholders of ESCM at private universities in Indonesia. Research conducted to investigate the specific conditions of ESCM management in Indonesia, especially adopted by private universities in Indonesia. For future research development, it is necessary to develop the proposed ESCM conceptual framework that can be empirically tested to contribute significantly both theoretically and practically for management literature. This study is focus on describes ESCM mapping at study program level, however there are another level in a university such as faculty level and university level that also deal with ESCM. Since these levels are more dynamic, it is needed to conduct field study at these levels.

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