The Influence of Eco-Preneurship Dimensions towards Students' New Business at Telkom University in Indonesia

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ABSTRACT

Eco-preneurship is a new concept of knowledge to emerge the relationships between entrepreneurial and environmental system in terms of eco-commitment, eco-innovation, and eco-opportunity. In the neighbourhood of higher education, the activity of eco-campus has begun to appear, as the concept to build environmental awareness by declining the activity that would increase the environmental damage. Specifically, under this dynamic condition, a variety of eco-campus activities can be measured by a green metric index. The findings of this research suggest that the green metric parameter can be a good influence to realize the new start up business of student is environmental friendly.

This study is related with the eco-campus campaign conducted by the assosiation of youth entrepreneurs at Telkom University in Indonesia. This association is having opprotunities to develop an entrepreneurial concept and also eco-preneurship as the basic knowledge of entrepreneurships. The concept to establish the student awareness about the value of eco-preneurship in addition to implementing the eco-campus concept by using a quantitative approach in a causal research design.

Keywords: eco-preneurshi; eco-commitmen; eco-opportunity; eco-innovation

I. INTRODUCTION

Environmental issues have recently become one of the most important and most noticed topics to concern. The world community is starting to not be in good shape. The tagline of "green" or "green", however, has become a new trend in everyday world society. Environmental aspect turns out to be one of the basic forms of development. On the other hand, entrepreneurship also remains to be taken as the topic of study that continues to grow both in the academic environment, business, community and government. It makes entrepreneurship to be tightly related to the economic growth of a country either at the micro level (i.e., individuals and companies) or at the macro level (i.e., industries, regions, and countries). If this entrepreneurial topic is not carefully carried out by taking the environment for granted, it is not impossible that the earth will be destroyed by the act of entrepreneurs. Due to the trend in consumer-based demand for environmentally friendly, of course, becoming an eco-preneur is a potential opportunity for any business, both for the existing entrepreneurs and those who are in the stage of pioneering a new business. The basic principle of becoming an eco-preneur is the same as that of becoming an entrepreneur in general. The only difference is in the business approach, where eco-preneurs believe that their business is derived from any opportunities addressing environmental problems. Eco-preneurs, however, also create jobs on a large scale by providing some opportunities for people to contribute o, i.e. by preserving the environment while managing the business they run.

Eco-campus is a concept in managing the environment in the campus area by involving all academic community. According to the Environment Management Agency (Badan Pengendalian Lingkungan Hidup, BPLHD) as the agency that manages environmental management in West Java, eco-campus is categorized based on:

- 1. The difficulty in solving environmental problems;
- 2. Potential knowledge transfer is delivered through formal and informal education channels:
- 3. The Involvement of students possessing some awareness in environmental management;
- 4. The increase of student and environmental interaction;
- 5. The increase of public participation.

Table 1 shows the rankings of 10 universities in Indonesia based on the 2013 GUI green metric.

The spirit to implement eco-campus certainly should not only focus on the internal activity unit. It is from this condition, that this study is then conducted aimed at finding out the implementation of eco-campus in an external activity unit, where the only external activity unit associated with business pioneering is the Indonesian Young Entrepreneur Association, commonly called as HIPMI-PT. As the name suggests, HIPMI-PT certainly is a community of knowledge related to entrepreneurship. Besides, HIPMI-PT has also been able to create young entrepreneurs in different universities. However, it is questionable to what extent that these young entrepreneurs are able to understand eco-based efforts. This study is logically relevant since HIPMI-PT of Telkom University is a fusion of several HIPMI-PTs including HIPMI-PT of IT Telkom and HIPMI-PT of IM Telkom.

Table 1
World ranking based on the 2013 UI green metric

World ranking based on the 2013 UI green metric									
No.	University	Ranking	Total Score	Setting and Infrastructure	Energy and Climate Change	Waste	Water	Transp ortation	Educa tion
1.	Universitas Indonesia	30	6.379	983	1.635	1.050	475	1.475	761
2.	Institut Pertanian Bogor	32	6.363	856	1.330	1.125	775	1.375	902
3.	Universitas Diponegoro	47	6.172	621	1.495	1.350	525	1.375	806
4.	Universitas Negeri Semarang	48	6.165	825	1.545	1.050	675	1.375	695
5.	Institut Teknologi Bandung	85	5.756	689	1.360	1.425	875	900	507
6.	Institut Teknologi Sepuluh November	123	5.308	684	1.395	1.050	875	675	629
7.	Universitas Sebelas Maret	134	5.174	612	1.285	1.050	575	1.175	477
8.	Universitas Andalas	146	5.032	676	1.505	1.050	500	659	643
9.	Universitas Lampung	148	4.984	795	1.285	1.050	400	800	654
10.	Universitas Riau	164	4.814	574	1.060	900	750	925	605

Source: Universitas Indonesia (2013)

In general, the purpose of this study is to find out the implementation of the Green Concept at Telkom University that is not only to achieve the rank, but also to foster the interest and awareness of students in pioneering entrepreneurship based on environmentally friendly concept. It is expected that future young entrepreneurs in Indonesia can apply the concept of eco-preneurship to a new student business pioneer. Optimism, in this case, is necessary, i.e. to maintain the spirit in increasing the green rating of the campus environment of Telkom University; so the next generation will enjoy the benefits. The effects coming from the implementation towards the major aspects of eco-preneurship may not be realized now, but it will certainly be in the next future.

The study on environment-based business at HIPMI-PT of Telkom University is derived from eco-preneurship theory which has three dimensions of eco-innovation, eco-commitment and eco-opportunity (Kainrath, 2011). Three research objectives to be achieved from this study are:

 Describing the results of the study into the three dimensions of eco-preneruship identified at HIPMI-PT of Telkom University; including eco-innovation, ecocommitment, eco-opportunities.

- 2. Analyzing the results of the study examined from the calculation towards the influence of eco-innovation, eco-commitment and eco-opportunities on the realization of a new business pioneer at HIPMI-PT of Telkom University.
- 3. Providing some recommendation on some basic concepts in realizing a student business pioneer at HIPMI-PT of Telkom University to realize eco-campus in relation to the spirit of green metric.

II. LITERATURE REVIEW

The main frame of eco-preneurship is given as a kind of guidance, which shows the eco-preneurs how the concepts are intersecting and related to one another. Framing is not intended to be the ultimate definition of eco-preneurship, but as a basic conceptualization of eco-preneruship used in this study and perhaps as a starting point for other studies (Kainrath, 2011: 14).

Entrepreneurship
Field

Ecopreneurship
Sustainability
Studies

E
C
O
P
Eco-Innovation
R
E
N
E
U
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H
I
D
Eco-Commitment
P

Figure 1
Framing eco-preneurship

Source: Kainrath (2011: 15)

In contrast to other fields of study, the study on eco-preneurship is relatively new [Schaper (2002) in Kairath (2011: 141)]. Eco-preneurship began to develop as a study in the early 1990s, when some authors began discussing the "green entrepreneur", "the environmental entrepreneur" and the "eco-entrepreneur" which were subsequently merged into the "eco-preneur" [Schaper (2002) in Kairath (2011: 141)]. Although it is still relatively new, but the literature on eco-preneurship continues to grow, perhaps because it is still fragmented and some concepts are still not very clear. Eco-preneurship is still in research, mainly because the empirical studies of eco-preneurial companies are low in number, as Schaper explains, "The business of being environmentally friendly or environmentally responsible is a field that can relatively

still continue to be studied".

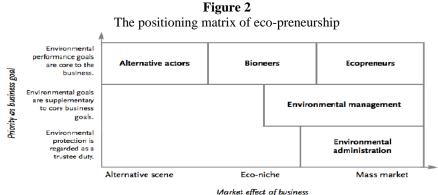
The following will describe the definition of eco-preneurship that is comprised by the three dimensions of eco-innovation, eco-commitment and eco-opportunities.

- a) **Eco-innovation** is all measurement of relevant actors (companies, politicians, unions, associations, households), who develop new ideas, behaviors, products and new processes, and apply them to contribute in reducing environmental burdens or specific ecological sustainability objectives [Rennings (2000) in Kainrath (2011), p. 28).
- b) **Eco-commitment**, Keogh and Polonsky (1998) in Kainrath (2011: 30) modified the "organizational commitment" model proposed by Meyer and Allen (1991). If it is not specifically stated, commitment to the environment can be seen only as a commitment to an idea or an issue. Furthermore, Keogh and Polonsky put forward the idea of a problematic commitment. They claim that the environment is seen as an entity, not just a physical entity but also an entity consisting of various forces aimed at realizing a company's agenda, such as the rule of law, market power, and internal strength of the company. Whether an individual or an organization can implement a commitment in this model. Lynes in Kainrath (2011: 31-32) suggests that the evidence of the environmental awareness commitment of an institution or company can be defined from (1) the commitment made to run; (2) the actions implemented in accordance with the commitments that have been made; (3) the sense of responsibility for the actions taken; (4) the dedication to improve environmental performance; and (5) the levels of engagement with environmental issues (both internally and externally).
- c) **Eco-opportunity,** Dean and McMullen in Kainrath (2011: 32) identify some factors relevant to the environment and market failures, how it can lead to environmental degradation, and then offer ideas on how eco-preneurs can restore such environmental damage through the implementation of eco-friendly concept (eco-opportunities). Based on the differences on how eco-opportunities are used, Dean and Mcmullen develop an environmental entrepreneurship theory. The following market failures are considered to be the possible sources of eco-opportunity: public facilities, monopoly power, improper government intervention, and less comprehensive information. Dean and Mcmullen reveal that not all market failures, even those relevant to environmental concerns, are related to eco-opportunities [Dean and McMullen (2005) in Kainrath (2011: 33)]. By utilizing eco-opportunity, eco-preneurs not only achieve entrepreneurial rents but also reduce the burden on the environment (environmental burden). Eco-friendly products or services directly contribute to the environment or at least have a detrimental effect compared to other unsanitary alternatives [Pastakia (1998) in Kainrath (2011: 33)].

In addition, there is also one of the most comprehensive frameworks used to classify eco-preneurship is the positioning matrix developed by Schaltegger (2002). This framework is illustrated in Figure 2 below.

The combination of these dimensions provides some business positions so it is possible to distinguish eco-preneurship from various forms of activities carried out in a corporate environment:

The management towards environmental issues is low in priority n considering
that environmental protection is a mandate and focus on the implementation of
environmental regulations and standards. Environmental issues are commonly
submitted to legal entities and bureaucracy, which manage issues in accordance
with formal rules and regulations.



Source: Schaltegger (2002 : 49)

- 2. Corporate leaders take environmental issues as an additional aspect of the development of environmental management systems and departments that try to control environmental impacts in the most efficient way. Cost reduction, enhanced competitiveness and eco-efficiency, campaigning and product and service differentiation are the main objectives of environmental management.
- 3. Companies located on the upper right-hand side of Figure-4 treat environmental problems as the central of their core business because their economic success is strongly linked to their environmental performance.

Along the horizontal axis in Figure 2, there is the market effect that is distinguished by alternative scenes, eco-niches and mass markets:

- 1. The suppliers of alternative economic modes (e.g., non-monetary swapping) act on their own in an alternative scene or eco-scene. This turnaround is meant to secure a personal lifestyle. There is no target market.
- 2. Eco-niches reflect the mid-market segment and are occupied by bioneers. The phrase "bioneer" is a combination of 'bio' and 'pioneer' and an attempt to reveal a major role in research and development as well as efforts to find customers with high preference for their creation and innovation. Bioneers focus on exciting market niches with their customer-focused eco-products.
- In comparison, their eco-preneurs and companies aim to gain a large and growing market share to achieve or increase turnover in mass markets or mass markets.

A. Green Entrepreneurship

Definitions of entrepreneurs and green entrepreneurs are found to be appropriate for an investigative stufy. They have found some useful insights from the general literature on entrepreneurship and have presented an entrepreneurial green exploration typology and have coined the term "innovative opportunist", "ethicalmaverick", "ad hoc enviropreneur" and "visionary champion" to describe alternate green motivations or entrepreneurial orientations green. (Taylor and Walley, 2003). Kirkwood and Walton (2012) in research conducted in New Zealand further understand and describe how these eco-preneurs start, operate and manage their business. The result of this study is

that Eco-preneurs have a passion for the environment and a spirit conditions distinguishing them from other entrepreneurs.

"Green entrepreneurship" is also defined as a phenomenon increasingly relevant to a sustainable development perspective, but it much remains under investigation. However, global inequality and rising unemployment make some great challenges to policy makers, and so does the extensive destruction of wildlife and natural habitats, together with the effects of climate change and the rapid loss of biodiversity, as well as the vulnerability of already burdened social groups and ecosystems. It is an inefficient negative impact of economic activity on the environment and its consequences for the economy that have encouraged policymakers and scientists to emphasize the urgent need to move in a greener direction by encouraging the adoption of sustainable practices and cleaners technologies (Farinelly, 2011).

B. Research Framework

In an effort to overcome environmental problems at Telkom University, the academic community should appropriately reflect the sense of care for the environment, and in this case be devoted to the environment of HIPMI PT of Telkom University. To realize the sensitivity towards environment, of course the human beings within the environment, i.e. at HIPMI PT of Telkom University, should be more focused whether they have approached an appropriate concept or not. One concept offered is ecopreneurship that certainly cannot be separated from eco-preneur that is in the literature referred to as Framing Eco-preneurship. In that connection, the researcher tries to design a frame of mind as a starting point for answering the problem formulation. The frame of thought is shown in Figure 3 below:

Eco-Innovation
(X1)

Eco-Commitment
(X2)

Eco-Opportunities
(X3)

Figure 3 Research framework

III. RESEARCH METHODOLOGY

This study uses a causal research method. According to Nargundkar (2008: 23), causal research design is a research that seeks to establish the relation of causality as far as possible in a situation so that it can be concluded how the dependent variable (Y) is influenced by the independent variable (X). Supported by the use of quantitative approach, it is defined as the research implemented using some measurements and figures to be then analysed through some description and made into some generalization (Suharsaputra, 2012: 49). According to Sugiyono (2009: 58), research variables are anything set by the researchers to learn and to be then drawn in a conclusion. This study consists of two variables studied, namely:

- a) Endogenous or dependent variables are the variables that are affected or which become the result of the independent variables (Sugiyono, 2009: 59). The dependent variable in this research is the new student business stub.
- b) Exogenous or independent variables are the variables that influence or the cause of the change or the incidence of the dependent variable (Sugiyono, 2009: 59). The independent variable in this research is eco-preneur.

Operationalization of variables in this study is shown in Table-2 below.

Table 2 Operationalization of variables

Variable	Sub-variable	Indicator				
	Eco-Innovation (X1)	 Product care Product improvement Functional innovation System innovation 				
Eco-preneur (X)	Eco-Commitment (X2)	 The pledges of actions Responsibility The dedication to improving its environmental performance The level of involvement with environmental issues 				
	Eco- Opportunities (X3)	Mitigate the environmental degradationNot only achieves entrepreneurial rents				
Eco-Campus (Y)		 Green rules Green Attitude and Green Lifestyle Green Infrastructure				

IV. FINDING AND DISCUSSION

A. Respondent Characteristics

Table 3
Respondent characteristics

Characteristic	Qty	Percentage		
1. Gender				
 Female 	93	62%		
 Male 	57	38%		
2. Batch				
Batch 1	69	46%		
• Batch 2	45	36%		
• Batch 3	36	24%		
3. Stewardship Status				
Member	114	76%		
 Organization committee 	36	24%		
4. Faculty Classification				
 Economic and Business 	102	68%		
 Creative Industry 	21	14%		
 Engineering 	18	12%		
Applied Science	9	6%		

In this research the respondents are dominated by women that is equal to 62%, where the most participant is the member of Batch 1 with the amount of 46%. Total 76% of respondents is as a member. The highest number of respondents from the Faculty of Economics and Business with the number of respondents 102 people or as much as 68%.

B. Description of Research Variables

The following Table 4 will explain the results of the respondents' answers to the statements about the independent variables of eco-preneur divided into three sub variables, namely Eco-Innovation, Eco-Commitment, and Eco-Opportunities, and the dependent variable is of Eco-Campus.

C. Discussion

1. Simultaneous discussion the influence of eco-innovation, eco-commitment, and eco-opportunities towards eco-campus

Based on the hypothesis testing (F test) on the regression model done above, the value of simultaneously significance of regression model is 0.000, where this value is smaller than the significance level of 0.05 (5%), or 0,000 <0.05. The comparison between calculated F-test and F-table shows that the F-test score is 36.891 and the F-table is 2.67, which means F-test > F-table that is 36.891> 2.67. From the results obtained, it can be concluded that simultaneously the three independent variables of Eco-Innovation, Eco-Commitment, and Eco-Opportunities variables significantly affect the dependent variable of Eco-Campus variable. Simultaneously, the influence of Eco-Innovation, Eco-Commitment, and Eco-Opportunities to Eco-Campus is 43.10%.

Table 4

Result description							
Variable	Sub-variable	Indicator	Actual Score	%	Mean Score	Category	
	Eco- Innovation	 Product care Product improvement Functional innovation System innovation 	494 525 520 511	82.33 87.5 86.67 85.17	3.29 3.50 3.47 3.41	Very High Very High Very High Very High	
	TOTAL	2033	84,71	3.39	Very High		
Eco- preneur (X)	Eco- Commitment (X2)	 The pledges of actions Responsibility The dedication to improving its environment-tal performance The level of involvement with environmental issues 	510 526 535 523	85 87.67 89.17 87.17	3.40 3.51 3.57 3.49	Very High Very High Very High	
	TOTAL SCORE		2094	87.25	3.49	Very High	
	Eco- Opportunities (X3)	 Mitigate the environmental degradation Not only achieves entre- preneurial rents 	529 520	88.16 86.67	3.52 3.47	Very High Very High	
	TOTAL SCORE		1049	87.41	3.49	Very High	
Eco-		Green rulesGreen Attitude and Green	527 526	87.95 87.76	3.51	Very High Very High	
Campus (Y)	ТОТАІ	Lifestyle Green Infrastructure SCORE	524 1577	87.38 87.69	3.49 3.48	Very High Very High	

2. Partial discussion of eco-innovation, eco-commitment, and eco-opprtunities

a. The influence of eco-innovation towards eco-campus

Based on the t-test conducted on the regression model, the value of Eco-Innovation variable significance is 0.006 < 0.05 (the significance level of the research). In addition,

the comparison between t-test and t-table shows that the t-test score is of 2.813, while the t-table is of 1.976 so that t-test > t-table is 2.813 > 1.976. It can be concluded from this research that partially Eco Innovation variable significantly affects Eco-Campus variable, whereas the influence of Eco-Innovation variable towards Eco-Campus variable is of 2.70%.

The study shows the influence of Eco-Innovation on Eco-Campus. This is because the Eco-Innovation is measured from relevant actors (companies, politicians, unions, associations, households), who develop new ideas, behaviours, products and new processes, and apply them to contribute to the reduction of environmental burden or on specific ecological sustainability goals. Eco-Innovation in this case is a commercial application in of the knowledge to obtain ecological improvement directly or indirectly. It is often used to describe related ideas, including the advancement of environmentally friendly technologies and an innovative and socially acceptable pathway to sustainability. Eco-Innovation requires some workforce that can consider issues from multiple perspectives and that can work effectively in cross-functional teams. Therefore, Eco-Innovation will lead to new ideas on the products produced that concern on environment, so it will be associated with the application of Eco-Campus concept.

b. The influence of eco-commitment towards eco-campus

Based on the t-test conducted on the regression model, the significance value of the Eco-Commitment variable is 0.000 < 0.05 (the significance level of the research). In addition, the comparison between t-test and t-table shows that the t-test score is of 6.693, while the t-table is of 1.976, which means that t-test > t-table (6.693> 1.976). Thus, it can be concluded that partially Eco-Commitment variable significantly influence to Eco-Campus variable, where Eco-Commitment variable gives some influence to Eco-Campus variable (19.70%).

The study shows the influence of Eco-Commitment to Eco-Campus. In this case an eco-preneur follows the vision of an entrepreneur, preceded by one or a combination of the three forms of commitment to the environment such as affective commitment, continuance commitment, and normative commitment. An eco-preneur whose movements are based on affective commitment to environmental development will always strive to create the best environmentally friendly solutions. Continuance commitment relates to economic and social losses caused by the neglect of the environmental aspect or the term cost opportunity. A person whose movements are based on a continuance commitment will greatly appreciate the existence of social and economic norms; therefore, he will strive to achieve socially and economically acceptable eco-opportunities. In addition, an Eco-preneur who runs a normative commitment will have a sense of duty. This may be caused by some external influences, such as environmental protection laws, or those imposing liability in relation to the environment. The Eco-Commitment of an eco-preneur will create some willingness to work hard and provide some energy and time for an activity that it will be able to be associated with the application of Eco-Campus concept.

c. The influence of eco-opportunities towards eco-campus

Based on the t-test conducted on the regression model, the significance value of the Eco-Commitment variable is 0.000 <0.05 (the significance level of the research). The comparison between the t-test and t-table, however, shows that t-test score is of 6.897 while t-table is of 1.976, which means that t-test> t-table (6.897> 1.976). Thus, it can be concluded that partially Eco-Opportunities variables significantly influence the Eco-Campus variables, where the Eco-Opportunities variable gives some effect to Eco-Campus variable (20.70%).

The results show that Eco-Opportunities give some influence on Eco-Campus. However, economic activity makes some environmental or social losses; in this case, economists have tried to attribute this fact to market failure. Theories of entrepreneurship often try to identify some associated opportunities that exist in the marketplace. Anything related to environment as well as market failures that leads to environmental degradation offers some ideas on how eco-preneurs can restore such environmental damage through eco-opportunities. By utilizing an eco-opportunity, eco-preneurs may not only achieve entrepreneurial Rents but also reduce the burden on the environment (environmental burden). Accordingly, the Eco-Opportunities an eco-preneur have will be able to bring some advantages on having some opportunities in producing products that are not only oriented to profit but also to the environment. Therefore, the Eco-Opportunities known by the members of HIPMI-PT of Telkom University may certainly be in line with the application of Eco-Campus concept.

V. CONCLUSSION

Based on the results of the study, the conclusions obtained regarding Eco-Innovation, Eco-Commitment, and Eco-Opportunities are as follows:

- 1. From the study on Eco-Innovation at HIPMI-PT of Telkom University, it can be seen that respondents have some desire in developing new ideas, behavior, innovation for new products and processes. It can also produce multifunctional products or services, which can be applied in an environmentally oriented manner, so as to reduce the environmental burdens or gives some contribution to specific ecological sustainability targets as an Eco-Innovation-friendly form.
- 2. From the study on Eco-Commitment at HIPMI-PT of Telkom University, it can be seen that respondents have a some willingness to work hard, give some energy and time to a some works or activities that concentrate on environment as Eco Commitment with reference to affective commitment, Continuance commitment, and normative commitment. Besides, it can also be seen that they are very keen on trying to be responsible, have a some dedication to the environment and also have an some engagement with environmental issues.
- 3. From the study on Eco-Opportunities at HIPMI-PT of Telkom University it can be seen that respondents believe that they are very eager to get an opportunity to cope with the environmental damage that already happened due to economic activity, and very eager to reduce some environmental degradation and also very eager to be oriented not only on profit but also on environmentally friendly.
- 4. The study on Eco-Campus at HIPMI-PT of Telkom University shows that respondents think that they really want to realize Eco-Campus concept but this can be

realized if there are some supporting programs such as policies and regulations of from the rectorate. The rectorate policy and regulation is in line with the environmental awareness, behavior of all academic community related to the awareness of towards environmental problems, facilities and infrastructure (physical facilities) supporting matters relating to environmentally friendly. As a member of HIPMI-PT of Telkom University, one must show a sense of care to the environment that is not just babble, but more towards the implementation to make positive ideas can be realized and become reality as a form of Eco-Campus.

- 5. The study through hypothesis testing simultaneously or together show that Eco-Innovation, Eco-Commitment, and Eco-Opportunities have some influence on Eco-Campus. The influence of Eco-Innovation, Eco-Commitment, and Eco-Opportunities simultaneously towards Eco-Campus is of 43.10%.
- 6. The study conducted through partial hypothesis testing shows that Eco-Innovation, Eco-Commitment, and Eco-Opportunities affect Eco-Campus. The effect of Eco-Innovation in influencing Eco-Campus is of 2.70%. Large influence of Eco-Commitment in giving influence to Eco-Campus is of 19.70%. While the effect of Eco-Opportunities in giving effect to Eco-Campus is of 20.70%.

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