Entrepreneurship Education and Green Entrepreneurial Intention: A Conceptual Framework

I Wayan Santika
Faculty of Economics and Business, Udayana University, Bali, Indonesia

I Made Wardana
Faculty of Economics and Business, Udayana University, Bali, Indonesia

Putu Yudi Setiawan
Faculty of Economics and Business, Udayana University, Bali, Indonesia

I G. N. J. A. Widagda
Faculty of Economics and Business, Udayana University, Bali, Indonesia

Abstract---The developments and changes that have occurred related to business and environmental aspects that have occurred in the last decade have led the international community to apply the concept of a green economy. A behavioral approach to green entrepreneurship can be done through the delivery of its values at the higher education level. Despite much attention has been focused on the importance of entrepreneurship education, its impacts on green entrepreneurial intention among students remain unclear. This study is a literature review to explain the relationship between entrepreneurship education and green entrepreneurship intentions with moderating environmental values and institutional support for green entrepreneurship. A literature review was conducted on 20 articles on the relationship between entrepreneurship education and green entrepreneurial intention. The results of a literature review referring to the Theory of Planned Behavior propose a conceptual framework for research on green entrepreneurial intention. This study is the first to explore the role of environmental values in the relationship between entrepreneurship education and the three antecedents of intention, namely attitudes, subjective norms, and perceived behavioral control. This study also explores the role of institutional support and green opportunity identification to increase green entrepreneurial intentions.
**Keywords**—entrepreneurship education, environmental values, green entrepreneurial, institutional support, planned behavior.

**Introduction**

Green entrepreneurship has received significant attention from governments, academics, and policymakers to address social and environmental problems. However, green entrepreneurship has not been fully supported worldwide, especially in developing countries (Tien et al., 2020). While governments and policymakers are progressively inspired by green economies as another development worldview, observational proof from business people running green organizations has been inadequate (Gibbs & O’Neill, 2012). There are still few studies on green entrepreneurship, especially in developing countries. The study of green entrepreneurship has high urgency because of the urgent need to meet the needs of the community through entrepreneurship and the urgent need to save the environment for sustainability.

Green entrepreneurial behavior among the younger generation can be seen from the intention. Green entrepreneurial intention is a major predictor of green entrepreneurial behavior. This refers to the Theory of planned behavior (Ajzen, 1991), which is a reliable theory to explain entrepreneurial attitudes, intentions, and behavior (BUI et al., 2020). The intention to become a green entrepreneur is a planned behavior, therefore the event of becoming a green entrepreneur is the result of an individual’s tendency to take the risk of starting a new business in the green business sector (Loon & Nordin, 2019). Entrepreneurship education is an activity that can shape planned behavior. Sun et al. (2017), explained that the fundamental components of entrepreneurship education are know-what, know-why, know-who, and know-how. Know-what refers to entrepreneurial concepts and knowledge; Know-why refers to the values and motives for starting entrepreneurship; Know-who refers to social interactions, namely interactions with teachers, successful entrepreneurs, or experts in the field of entrepreneurship research; and Know-how refers to the abilities, techniques, and skills needed to create one’s own business. All of these are important components for developing students’ entrepreneurial attitudes and intentions (Sun et al., 2017). Shi et al. (2019), stated that entrepreneurship education is an important factor for growing entrepreneurial attitudes and intentions. Hoang et al. (2020), confirmed that entrepreneurship education plays an important role in encouraging students’ entrepreneurial intentions.

The intention to become a green entrepreneur is planned behavior that can be formed by social marketing in universities and communities. Green entrepreneurship social marketing is an idea to convey entrepreneurial concepts to be accepted by students and makes them behave in green entrepreneurs. Liguori et al. (2020), revealed that sometimes students want to become entrepreneurs, but due to lack of support and resources, they do not pursue it as a career. Therefore, to promote the concept of green entrepreneurship and the importance of implementing green in business, it is the responsibility of educational institutions to provide awareness and support. Students need support from educational institutions because they can help their students
through awareness and development of green entrepreneurship concepts. Educational support includes the knowledge, skills, networks, and opportunities they receive from institutions (Saeed et al., 2015). Exposure to entrepreneurship education to students is a valuable experience gained in college, which is an important driver for students to choose an entrepreneurial career, therefore entrepreneurship education is an additional variable for an entrepreneurial experience that must be included in the entrepreneurial intention model (Zhang et al., 2019).

Attitude toward behaviors refers to a positive or negative individual evaluation of certain behaviors or interests (Ajzen, 1991). Attitude is a factor in a person who is studied to give a positive or negative response to an assessment of something given. The emergence of interest in a person’s behavior is influenced by the emergence of the initial attitude of the person. Several studies have shown that attitude toward behavior has a positive and significant effect on green entrepreneurial intentions (Vuorio et al., 2018; Thelken & de Jong, 2020; Nordin, 2020; Yasir et al., 2021; Peng et al., 2021). While the research by Sargani et al. (2020), shows that attitude towards behavior does not affect green entrepreneurial intentions. The inconsistency of previous studies shows that there are research gaps on the influence of Attitudes on Green Entrepreneurial Intentions.

According to the theory of planned behavior, subjective norm involves the social pressure felt by a person from the majority of people who are important to him, which the individual considers whether to perform the behavior. Several studies have shown that Subjective Norm has a positive and significant effect on Green Entrepreneurial Intentions (Sargani et al., 2020; Londono et al., 2020; Yasir et al., 2021; Peng et al., 2021). Meanwhile, other research shows that Subjective Norm does not affect Green Entrepreneurial Intentions (Ranasinghe & Ajward, 2019; Nordin, 2020; Thelken & de Jong, 2020). The inconsistency of previous studies indicates that there are research gaps on the influence of Subjective Norms on Green Entrepreneurial Intentions.

Perceived behavioral control according to the theory of planned behavior refers to the perceived ease or difficulty of performing a behavior and is assumed to reflect experiences, as well as anticipation of obstacles. Perceived behavioral control in entrepreneurship is the perception of a person’s belief in his or her ability to become an entrepreneur. Peng et al. (2021), stated that perceived behavioral control is a key predictor of green entrepreneurial intention. Several other studies have shown that Perceived Behavioral Control has a positive and significant effect on green entrepreneurial intentions (Qazi et al., 2020; Nordin, 2020; Thelken & de Jong, 2020; Yasir et al., 2021). While the research by Sargani et al. (2020), and Soomro et al. (2020), showed that perceived behavioral control does not affect green entrepreneurial intentions. The inconsistency of previous studies indicates that there are research gaps in the effect of Perceived Behavioral Control on Green Entrepreneurial Intentions.

The development of green entrepreneurship can be achieved with comprehensive social marketing of the priority audience segment. In addition to entrepreneurship education from universities, green entrepreneurship social marketing can use a partnership and policy approach so that green entrepreneurship programs run
effectively. It is understood that for influence the behavior of the target segments of various categories is not easy. Partnership or cooperation between organizations and institutions related to entrepreneurship involved in social marketing is necessary. This partnership can be carried out between organizations both private and public sector organizations. Meanwhile, from a policy perspective, in certain situations, changing the behavior of certain target segments may be coercive. In such situations, a regulatory set is required, so those involved in social marketing need to consider influence parties who have the power to make this coercive behavior change a reality (Anthony et al., 2017; Tripathy, 2018).

In view of the above, the purpose of this paper is to conceptually explore the relationship between Entrepreneurship Education and Green Entrepreneurial Intentions to address the gaps in previous research. Specifically, the study aims to examine the effect of Environmental Values and Entrepreneurial Ecosystems on the relationship between Entrepreneurship Education and Green Entrepreneurial Intentions. To achieve this objective, the remaining part of this paper reviews related literature on Entrepreneurship Education, Green Entrepreneurial Intentions, and the Theory of Planned Behavior.

**Literature Review**

This study explores the relationship between entrepreneurship education and green entrepreneurial intention. Green entrepreneurial behavior is planned behavior that can be formed through entrepreneurship education obtained in college. In addition to universities, institutional infrastructure and entrepreneurial ecosystems also play a role in shaping green entrepreneurial interest and behavior through green entrepreneurship social marketing programs. The literature on green entrepreneurial intentions in 2011-2021 obtained articles from several leading website databases, namely SCOPUS, Emerald, Proquest, and Google scholars.

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Table 1

A review of recent research on the impact of entrepreneurship education on green entrepreneurial intentions based on the theory of planned behavior models
Green entrepreneurial intention

Krueger (1993) defines “entrepreneurial intention” as a commitment to starting a business. Entrepreneurial intention is a state of mind that directs one’s focus, abilities, and activities to start a new business (BUI et al., 2020). The formation of intentions can be explained by the theory of planned behavior which assumes that humans always have a purpose in their behavior. These three aspects of human behavior are a central model of the theory of planned behavior, namely Attitude (the degree to which individuals believe that the behavior is attractive or unattractive), Perceived Behavioral Control (individuals’ perceptions of how easy or difficult the behavior is to perform), and Subjective Norm (perceived social pressure to perform or not to perform the behavior) (Zaremohzzabieh et al., 2019). Green entrepreneurial intention is an individual’s intention to become an environmentally friendly entrepreneur. Green entrepreneurship refers to a series of entrepreneurial activities that create economic and environmental value by providing environmentally friendly products and services (Jabarzadeh et al., 2018). Green entrepreneurs are people who successfully create business models that are not only economically profitable but also create environmental and social value so that green entrepreneurship is considered a solution to social and environmental problems (Demirel et al., 2019). Going beyond commercial and social entrepreneurship that adds value to business processes and the social environment, green entrepreneurship adds value to the Earth, limits the negative effects of climate change (global warming and sea-level rise), and green entrepreneurship is very sensitive to environmental damage and exploitation (Frederick, 2018). Green behavior in entrepreneurship is an urgent need to tackle social and environmental problems. The contribution of green entrepreneurship in supporting a green economy is to reduce the negative impact of entrepreneurial activity on global environmental damage so that it is sustainable.

Entrepreneurship education

Entrepreneurship education is an activity that can shape planned behavior such as green entrepreneurial intentions and behavior. Sun et al. (2017), explained that the fundamental components of entrepreneurship education are know-what, know-why, know-who, and know-how which are important components in developing students’ entrepreneurial attitudes and intentions. Shi et al. (2019), and Hoang et al. (2020), stated that entrepreneurship education is an important factor in fostering entrepreneurial attitudes and intentions. The intention to become a green entrepreneur is planned behavior that can be formed by social marketing in universities and the community. Green entrepreneurship social
marketing has an idea to convey entrepreneurial concepts to be accepted by students and make them behave in green entrepreneurs. Liguori et al. (2020), revealed that sometimes students want to become entrepreneurs, but due to lack of support and resources, they do not pursue it as a career. Therefore, to promote the concept of green entrepreneurship and the importance of implementing green in business, it is the responsibility of educational institutions to provide awareness and support. Students need support from educational institutions because they can help their students through awareness and development of green entrepreneurship concepts. Educational support includes the knowledge, skills, networks, and opportunities they get from institutions (Saeed et al., 2015). Exposure to entrepreneurship education to students is a valuable experience gained in college which is an important driver for students to choose an entrepreneurial career, so entrepreneurship education is an additional variable for an entrepreneurial experience that must be included in the entrepreneurial intention model (Zhang et al., 2019).

**Theory of planned behaviour**

The theory of planned behavior (Ajzen, 1991), is an extension of the theory of reasoned action. The theory of reasoned action links belief, attitude, intention, and behavior. The theory of reasoned action explains that a person's intention towards behavior is formed by two main factors, namely attitude towards behavior and subjective norms, while in the theory of planned behavior one more factor is added, namely perceived behavioral control (Ajzen, 1991).

The theory of planned behavior is a widely accepted theory for predicting intention and behavior and has been popularly used to study entrepreneurial intentions (Solesvik et al., 2012). The theory of planned behavior was first applied to the field of entrepreneurship by Kovereid, which was followed by other empirical studies so that it became a reliable theory to explain entrepreneurial attitudes, intentions, and behavior (BUI et al., 2020). According to The Theory of Planned Behavior, a person's entrepreneurial intention is a function of his or her positive attitude towards entrepreneurial behavior, favorable subjective norms for entrepreneurial behavior, and positive perceived behavioral control for entrepreneurial behavior (Trivedi, 2016).

Research has demonstrated the effectiveness of the Theory of Planned Behavior in the prediction of entrepreneurial intentions and behaviors of different categories of individuals (Trivedi, 2016). Empirical studies show that attitude towards behavior, subjective norms, and perceived behavioral control have a positive and significant impact on students' entrepreneurial intentions (Munir et al., 2019; Wardana et al., 2020; Paray & Kumar, 2020). Empirical studies on green entrepreneurship also confirm that attitude towards behavior, subjective norms, and perceived behavioral control have a positive and significant impact on green entrepreneurial intentions (Peng et al., 2021; Yasir et al., 2021).

**Social marketing**

Green entrepreneurship campaigns can be carried out with a social marketing approach to change entrepreneurial behavior to be environmentally friendly. The
Idea of green entrepreneurship can be included in the higher education curriculum to increase interest in green entrepreneurship among students. The concept of green has been gradually accepted by the public, thus strongly promoting a form of green business or green entrepreneurship (Ye et al., 2020). The promotion of green entrepreneurship can be done through a comprehensive and targeted social marketing program. Social marketing is an adaptation of marketing theories to design a program to influence targets by changing their behavior voluntarily to improve the well-being of the individual and the community of which the individual is a part (Lee & Kotler, 2019). In general, social marketing is a professional activity that relies on various disciplines to create intervention programs to change human behavior.

To adopt complex social marketing problems, Lee & Kotler (2019), include partnerships and policies in the marketing intervention mix so that social marketing can run effectively. As it is understood that for influence the behavior of target segments of various categories is not easy. Partnership or cooperation between organizations and institutions related to entrepreneurship involved in social marketing is very necessary. This partnership can be done between organizations both private and public sector organizations. Meanwhile, from a policy perspective, in certain situations, changing the behavior of certain target segments may be coercive. In such a situation, a regulatory framework is needed so that influence parties who have the power to make these coercive behavior changes a reality (Khairullina et al., 2021; Thamrin et al., 2021).

To research green entrepreneurship by sifting through the existing literature, it was found that most of the research items were aimed at developed countries with related solutions, conclusions, and recommendations. In terms of developing countries, higher levels of diversity are found because one country may differ from another in terms of development level, awareness, and capability of green entrepreneurship, socio-cultural context, legal and institutional arrangements (Tien et al., 2020).

**Entrepreneurship education and green entrepreneurial intention**

Based on the literature review, the research gaps on green entrepreneurial intention are shown by the inconsistency of previous studies on the effect of entrepreneurship education on attitude, subjective norm, and perceived behavioral control; and the inconsistency of previous studies on the influence of attitude, subjective norm, and perceived behavioral control on green entrepreneurial intention. Research by Sun et al. (2017); Zhang et al. (2019); Otache (2019); Wardana et al. (2020); Paray & Kumar (2020), state that entrepreneurship education has a positive and significant effect on attitude toward behavior, while Karimi et al. (2016); Galvão et al. (2018), found that entrepreneurship education does not affect attitude toward behavior. The research of Sun et al. (2017); Otache (2019); Wardana et al. (2020); Paray & Kumar (2020), state that entrepreneurship education has a positive and significant effect on the subjective norm, while research by Galvão et al. (2018), found that entrepreneurship education does not affect subjective norm. Research by Trivedi (2016); Karimi et al. (2016); Wardana et al. (2020); Mozahem & Adlouni (2021), state that entrepreneurship education has a positive and significant effect
on perceived behavioral control, while research by Galvão et al. (2018), state that entrepreneurship education does not affect perceived behavioral control.

The next research inconsistency is the influence of attitude, subjective norm, and perceived behavioral control on green entrepreneurial intention. The research of Vuorio et al. (2018); Thelken & de Jong (2020); Nordin (2020); Peng et al. (2021); Yasir et al. (2021), stated that attitude toward behavior has a positive and significant effect on green entrepreneurial intentions, while research by Hamzah et al. (2016); Sargani et al. (2020), stated that attitude towards behavior does not affect green entrepreneurial intentions. Research by Londono et al. (2020); Sargani et al. (2020); Yasir et al. (2021); Peng et al. (2021), stated that subjective norm has a positive and significant effect on green entrepreneurial intentions, while research by Ranasinghe & Ajward (2019); Nordin (2020); Thelken & de Jong (2020), found that subjective norm does not affect green entrepreneurial intentions. The research of Qazi et al. (2020); Nordin (2020); Thelken & de Jong (2020); Jiang et al. (2020); Peng et al. (2021), stated that Perceived Behavioral Control has a positive and significant effect on Green Entrepreneurial Intention, while research by Sargani et al. (2020); Soomro et al. (2020), found that perceived behavioral control does not affect green entrepreneurial intention.

The inconsistency of previous research requires a solution in the form of moderating variables and mediating variables. The inconsistency of the relationship between entrepreneurship education and attitudes, subjective norm, and perceived behavioral control can use a moderating variable solution, namely Environmental Value. This refers to the theory of planned behavior, which states that background factors such as values and beliefs will affect attitudes, subjective norms, and perceived behavioral control, and then affect intentions and behavior. In the context of green entrepreneurship, the environmental value becomes relevant as a moderator to improve attitudes, norms, and control of green entrepreneurial behavior (Nave & Franco, 2019; Vesper & Gartner, 1997).

The inconsistency of the influence of attitude, subjective norm, and perceived behavioral control on green entrepreneurial intentions can use a moderating variable solution, namely Institutional Green Entrepreneurial Support. This refers to the social marketing concept, which states that partnership and policy will increase the effectiveness of the green entrepreneurship social marketing program. Partnerships and policies of institutional infrastructure that support green entrepreneurship can be a perfect ecosystem for the development of green entrepreneurial intentions and behaviors. This is the intervention point of the green entrepreneurship social marketing program in the theory of planned behavior model. Finally, the inconsistency of the influence of Perceived Behavioral Control on Green Entrepreneurship Intentions can use a mediating variable solution, namely Green Opportunity Identification which refers to Krueger Jr & Brazeal (1994); Sargani et al. (2020), which states that the identification of green opportunities is an actual behavior control that bridges the influence of Perceived Behavioral Control on Green Entrepreneurial Intention.
Based on the explanation above, the propositions that can be formulated are:

P1) The impact of Entrepreneurship Education on Attitude toward Behavior, Subjective Norm, and Perceived Behavioral Control is moderated by Environmental Values

P2) The impact of Attitude toward Behavior, Subjective Norm, and Perceived Behavioral Control on Green Entrepreneurial Intention is moderated by Institutional Green Entrepreneurial Support

P3) The impact of Perceived Behavioral Control on Green Entrepreneurial Intention is mediated by Green Opportunity Identification

**Conceptual framework**

In light of the review of related literature on entrepreneurship education, green entrepreneurial intentions, social marketing, and drawing on Theory of Planned Behavior, the following conceptual framework is developed. Therefore, Figure 1 is configured diagrammatically to show the relationship between entrepreneurship education and green entrepreneurial intentions.

The conceptual framework suggests that entrepreneurship education influences green entrepreneurial intentions through attitudes, subjective norms, and perceived behavioral control. The novelty of this literature review is to use the moderating variable of environmental values to strengthen the influence of entrepreneurship education on attitudes, norms, and control of green entrepreneurial behavior. Previous research from Qazi et al. (2020), used environmental values as a moderator on the effect of attitudes and subjective norms on green entrepreneurial intentions. If referring to the theory of planned behavior,
behavior and empirical studies of Yasir et al. (2021), then the value first affects attitudes, norms, behavior control, and then affects intention.

Novelty is also shown by the moderating variable Institutional Green Entrepreneurial Support and the mediating variable Green Opportunity Identification because green entrepreneurship is different from conventional entrepreneurship in terms of paying attention to environmental aspects. Institutional infrastructure support for green entrepreneurship is different from institutional infrastructure support for conventional entrepreneurship. Institutional support for green entrepreneurship also varies from country to country (Jiang et al., 2018; Lefebure, 2019; Widana et al., 2020).

Summary and Conclusions

This study conceptually explores the relationship between Entrepreneurship Education and Green Entrepreneurial Intentions. The paper specifically explores the role of Environmental Values, Institutional Support, and Green Opportunity Identification on the relationship between Entrepreneurship Education and Green Entrepreneurial Intentions. From the review of related literature, it has been noted that the social marketing of green entrepreneurship through entrepreneurship education at universities is an alternative to overcome the gap in green behavior in entrepreneurship. Institutional infrastructure support and an entrepreneurial ecosystem are needed to develop green behavior in entrepreneurship. Social marketing of green entrepreneurship through partnership and policy approaches is an effort to effectively shape green entrepreneurial behavior in priority audience segments.

This study provides solutions to the inconsistency of previous studies of the relationship between Entrepreneurship Education and Green Entrepreneurial Intentions, namely the moderating variable for Environmental Values, the moderating variable for Institutional Green Entrepreneurial Support, and the mediating variable for Green Opportunity Identification to form a conceptual model of Green Entrepreneurial Intentions which is the development of Theory of Planned Behavior. The conceptual model requires further empirical testing.

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