

## Eco-Entrepreneurs of Tomorrow: Green Innovation for Contribution in Sustainable Development

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### Abstract

In the contemporary discourse of sustainable development, the emergence and significance of eco-entrepreneurs stand as pivotal drivers of green innovation. Marketing strategies no longer solely emphasize aspects like quality, price, and benefits but also emphasize environmental sustainability and social responsibility, thus enabling industries to pursue sustainable development. The primary aim of this research is to investigate the contribution of ecological entrepreneurship through green innovation in achieving sustainable development. Methodology in this research using literature review which serves as the backbone for understanding the dynamics of eco-entrepreneurship and green innovation for contribution in sustainable development. Through a comprehensive literature review, the research examines existing theories, case studies, and empirical evidence related to eco-entrepreneurship, green innovation, and sustainable development. The literature review method allows for an in-depth analysis of the various strategies and innovations employed by eco-entrepreneurs to reduce environmental impact while maintaining economic viability. The study emphasizes the vital role of green innovation importance in driving sustainability, exploring how society responds to green innovations, green innovation contributions to sustainable development, and also the green innovation business models that incorporate green practices. It highlights the interconnectedness of technological advancements, public acceptance, and strategic business approaches in fostering a sustainable and eco-friendly future.

## 1. Introduction

All countries in the world have focused on accelerating economic development and national income over the last few years. The development process of each country has a main target in the form of economic improvement so that there is a possibility of competition between developing and developed countries. The main trigger aspect for improving the economy in the Asian region in developing and industrial countries is the latest industrial technology by the private sector while still paying attention to other sectors and/or factors. On the other hand, these efforts have negative consequences in the form of problems with the intensity of uncontrolled use of resources and environmental polluting industrial waste. The economic benefits and advantages of competition are triggered by the appropriate use of energy and materials to utilize, process and recycle [1]. In an era where environmental concerns are escalating at an unprecedented pace, the role of eco-entrepreneurs in shaping the future of sustainable development cannot be overstated. Researcher delves into the heart of this paradigm shift, focusing on the innovative strategies that are driving ecological entrepreneurship, particularly in emerging economies. The dawn of the 21st century has brought with it a heightened awareness of environmental degradation and its impact on the planet's health and human well-being. This consciousness has given rise to a new breed of entrepreneurs – the eco-entrepreneurs – who are not only committed to building profitable businesses but also to ensuring that these enterprises operate in harmony with the environment. Their approach is multifaceted, intertwining economic viability with environmental sustainability and social responsibility. Green innovation is a form of greening environmental innovation that focuses on reducing waste, preventing pollution and implementing an environmental management system that aims to help reduce the impact of operational processes on the environment [2]. Green innovation is a method used by companies to achieve strategic targets by using new techniques, systems, practices and production processes in order to reduce the impact of environmental damage [3]. Pressure arising from investors will make companies move to compete competitively between companies, which

causes companies to compete to innovate products, such as PT Unilever Indonesia which introduced a Refill Station supported by sophisticated machines with an interface system from Algramo. The Refill Station is an example of implementing the circular economy concept by prioritizing the importance of reuse and recycling elements and reducing the use of plastic [4]. Environmental responsibility is environmental responsibility which is considered as a form of company commitment and practice to adopt responsible actions to protect and improve the natural environment into daily operations and management [5]. The company's responsibility to align environmental protection activities with values [6].

The impact is that new markets emerge on consumers and the environment. Because green marketing affects all areas of the economy, and not only causes environmental protection but also creates new market opportunities and job opportunities. Companies that are able to care and protect the environment in developing their business will have more opportunities to get many satisfied and loyal customers. In a situation like that, what is called green consumerism finally emerges. Green consumerism is a continuation of the global consumerism movement which began with consumers' awareness of their rights to obtain appropriate, safe and environmentally friendly products which is becoming increasingly strong [7]. This is also consistent with the increasing attention to environmental issues by public regulators that can be seen as another indication that environmental concern is a potential area as a business strategy [8]. Environmental or green marketing is a new focus in business ventures, namely a strategic marketing approach that began to emerge and become the attention of many parties starting at the end of the 20th century [9]. Conditions like this require marketers to be careful when decisions taken involve the environment. Attention to environmental issues is evident from the increasing market awareness of the environment [10]. Attention to environmental issues is marked by the rise of business people in implementing international standards or better known as ISO-14000. However, green marketing continues to gain support from both producers and consumers, especially considering the increasing global concern about climate change. These concerns have led many companies to advertise their commitment to reducing climate impacts and their consequences [11]. The American Marketing Association (AMA) held the first workshop on ecological marketing in 1975 and it was not until 1980 that the issue of green marketing was socialized for the first time. The companies have a big impact on how well companies perform with green competitive advantages [12]. The company performance is positively influenced by Green Competitive Advantage [13]. Apart from that, market expansion is influenced by green competitive advantages [12]. Green Innovation includes innovations carried out in company products and in the production process in preventing and minimizing environmental pollution, saving energy, and greening designs [14]. Green Innovation does not only make the product its sole focus, but also focuses on manufacturing and significant developments in the processing chain, sales system and the company's latest steps [15]. The research aims to investigate the contribution of ecological entrepreneurship in achieving sustainable development including understanding how green innovation and sustainable business practice can have a positive impact on sustainable aspects.

## 2. Methodology

The methodology of this research is centered around an exhaustive literature review, which serves as the backbone for understanding the dynamics of eco-entrepreneurship and green innovation for contribution in sustainable development. Research methodology aims to collect and extract the essence of previous research and analyze various expert overviews written in texts [16]. This comprehensive review is structured to encompass various sources, ensuring a holistic view of the subject. This research follows a systematic approach to identify, select, analyze, and synthesize the relevant literature from various sources, such as academic journals, books, reports, and case studies. It encompasses a literature review, comparative analysis, and data synthesis, followed by disseminating the results to articulate a personal perspective on the research outcomes.

### 3. Results and Discussions

#### 3.1. The Importance of Green Innovation

According to a report by the Organization for Economic Co-operation and Development, the World Bank and the United States, prepared for the G20 Summits, that if there are no new policy actions, it is projected disasters due to climate change are projected to cause the deaths of 500,000 people and environmental damage that will cost \$340 billion, an increase in the number of deaths from the 315,000 people and damage worth \$125 billion by 2030, increasing greenhouse gas emissions by 50 % and this condition will continue to worsen urban air pollution, and also global water demand is projected to increase by 55% in 2050, due to insufficient water reserves in 2050 [15]. As a result, it is estimated that almost 40% of the world's population will live in areas categorized as areas experiencing severe stress due to lack of water by 2050. Over the past 25 years, 60% of the world's major ecosystems have been damaged or cannot be used sustainably, including there is a decrease in soil quality, land degradation and reforestation. By 2050, global biodiversity is projected to decline by more than 10%. In agriculture, increased productivity has helped to limit the loss of natural ecosystems in many countries, but the lack of intensive management has exacerbated agrochemical and groundwater pollution [15]. The costs and consequences of inaction in addressing environmental challenges are enormous, both in economic and human terms, and can endanger economic development and poverty reduction, and this could significantly disrupt the welfare of future generations.

The fundamental reasons for critical problems correspond to the basic understanding of Economics, how people use limited resources to satisfy unlimited wants [17]. Thus, humans have limited resources on earth, but must serve the unlimited desires of the world [11]. The right of "Freedom of Choice", generally exists for individuals and organizations, to satisfy their desires. When companies face inadequate natural resources, they must be able to develop new ways or alternatives to satisfy these unlimited desires. Realizing the importance of this, the main business strategy that can be a solution to related resource problems (sustainable development) is green marketing. Ultimately green marketing looks at how marketing activities utilize inadequate resources, to satisfy consumer desires, both individual and industrial, as well as to achieve organizational goals. Considering the critical problems that arise, the country has a high concern for environmental protection. People all over the world are concerned about sustainability issues related to the matters discussed previously. Various studies by environmental experts show that people are more concerned and have changed their bad behavior patterns that don't care about the environment.

Businesses serve a variety of stakeholders, including customers, investors, and employees; so that industry leaders who are sensitive to new regulations will carry out processes to produce green products. They know that projecting an image as a leader and innovator can be achieved by caring about social issues and being environmentally conscious. Customers who are already interested, only want to do business with companies that are building green-oriented businesses, as well as companies that have launched large and powerful advertising and web campaigns, published widely documented sustainability reports, collaborated with external sources to communicate transparently, and communicate their efforts internally. Now we see that most consumers, both individuals and industries, are becoming more concerned about environmentally friendly products. According to the latest comprehensive global report by Global Industry Analysts (GIA) in the green marketing market, there has been an increase in awareness of environmental issues among consumers, both governments and businesses, funding rounds in the global market for green marketing are projected to reach \$3.5 trillion in 2017 [20]. So, in an era where consumers determine the fate of a company, green marketing embeds proactive strategies to satisfy the market by providing environmentally friendly products or services or both to reduce or minimize adverse impacts on the environment. Seeing the importance of green marketing in basic life, it can be stated that green marketing is a strategy that must be carried out, to save the earth and the welfare of future generations.

#### 3.2. The Society Responses to Green Innovation

In 1989, Americans stated that 67 percent of their peoples willing to pay 5-10 percent more expensive for ecologically compatible products [18]. In 1991, environmentally conscious people were willing to

pay between 15-20 percent for green products. Today, more than one-third of Americans say they would pay a little extra for green products [19]. An important challenge facing marketers is to identify which consumers are willing to pay more for environmentally friendly products. It is clear that enhanced knowledge of consumer segments would be very useful. Everett Rogers, communications scholar and author of *Diffusion of Innovation*, claims that the following five factors can help determine whether a new idea will be adopted or not, including the ideal of a shift towards green, namely 1) Relative Advantage, is the extent to which a new way is believed to add better results. profitable than current practice; 2) Observability, is how easy it is to see the results of the new method being offered; 3) Trialability, is the ease of trying new methods by an individual without full commitment; 4) Compatibility, is the extent to which the new method is consistent with current practice; 5) Complexity, is how difficult it is to implement new methods [19]. Research results by Choudhary & Gokarn concluded that companies with smaller marketing budgets tend to spend more on green marketing [20]. Firms with a marketing budget of under \$250,000 spend just over 26% on green marketing, while those with budgets of more than \$50 million spend 6% on green marketing [20]. Which means that companies that have a relatively small marketing budget tend to spend more on green marketing, as seen in the comparison where companies that have a budget of under \$250,000 spend more than 26% while companies that have a budget of more than \$50 million spend costs for green marketing are 6%.

Apart from that, regarding the brand awards won by one of Indonesia's start-up businesses. Next, there are start-up business people who sell environmentally friendly products. Based on sales, Erika Firniawati, Founder of Sapu Upcycle 5 stated that around 70% of the monthly production volume is sent to Europe [20]. Usually buyers are attracted through marketing activities that are innovative and remain environmentally friendly through exhibitions held by them, and most of them are from England and France. It can be found that foreign consumers value environmentally friendly products more with higher price acceptance. Based on a survey released in 2012, consumers in America, England, Germany, France, Brazil, India and China believe that green products are more expensive than non-green products and they plan to spend more money to buy them. The communication aspect in marketing it is also an attraction for consumers and researchers, scientists and environmental activists are people who are considered credible in marketing it when discussing environmental change [21].

### 3.3. Contribution of Green Innovation to Sustainability Development

Economic and community activities are limited by environmental boundaries [22]. Thus, we must frame it effectively for optimal use of natural resources and maintaining a safe environment. All the different cultures from around the world teach us to love nature. But now we don't use natural resources just to meet our needs, but to fulfill our greed. As a result, many social, economic and environmental problems are experienced by the planet's greedy inhabitants. The solution to this problem is to implement sustainable development. Sustainable development according to the Report of the World Commission on Environment and Development United Nations in 1987, can be seen as a pattern of resource use aimed at meeting human needs while protecting the environment so that these needs can be useful not only in the present, but in the future which is unlimited [23]. Sustainable development is a form of development that aims at sustainable consumption and sustainable economic growth and tries to protect the environment. These two main terms aim to maintain long-term economic, social and environmental capital. Meanwhile, sustainable consumption is a way of life by using resources in a way that minimizes damage to the environment in order to support community welfare.

The term green innovation or green business strategy, which evokes an environmental vision and increases costs for normal goods, was only coined a decade ago. Currently, most industries have a perception that assumes there is no value for environmentally friendly products. They feel no pressure to make the business environment green and behave in a more responsible way, both from the government and legislation and from consumers. Everything runs with awareness of how important environmental sustainability is, so that it can benefit people in the world in a sustainable manner.

By implementing the green innovation concept, it can have an impact on improving the quality of products, both goods and services. Green innovation also increases the transparency of the company's production process which can be used as a way for marketing. 87% of consumers say that they care

about the environment and make conscious product purchases and 33% of consumers say that they have purchased green products or are ready to buy them [9].

#### 3.4. Green Innovation Cases

Danone-AQUA established a Recycling Business Unit (RBU) around Labuan Bajo to accommodate used plastic bottle waste which was then processed into new bottle material called AQUA Life which has processed 10 tons of plastic bottle waste and 12,000 plastics per year in six RBU in Indonesia. This is proof of the commitment of large companies to support sustainable development through green innovation in Indonesia. Not only can it reduce waste and create a friendlier environment, green marketing can also increase investment opportunities. Because if a country focuses on the SDGs, natural resources which can be said to be capital can also be preserved and utilized by the next generation. The concept of environmentally friendly investment is in accordance with the green marketing concept which always pays attention to the long-term sustainability of products and production processes [24]. Car sharing services are a long-term solution for better fuel economy, reducing congestion and parking problems, in order to achieve a more open environment and reduce greenhouse gases. The community is very aware of environmental sustainability by organizing time sharing such as Zipcar (East Coast), I-GO Mobil (Chicago), and Jam Mobil (Twin Cities). In Indonesia, apart from the three in one policy which is implemented to reduce air pollution and save fuel, there are communities, which have the same goal, known as the "nebenger" group, especially during the Eid homecoming period, which provide car sharing services [25].

In electronic sector, HP provides space to use green marketing to attract new customers by promise to reduce global energy use 20 percent by 2010. To achieve this reduction, in 2005, Hewlett-Packard Company announced plans to provide energy-saving products, services and energy agencies to provide guidance on efficient energy-saving operating practices worldwide [26]. Besides of that, Phillips Lighting Company's "Marathon" CFL lightbulb. At the time of Philips Lighting's initial market launch, the Earth Light brand compact fluorescent light (CFL), priced at \$15 compared to 75 cents for an incandescent lamp, was not popular with customers. Then the company again launched a new product "Marathon", with the slogan 'super long life' and the promise of saving \$26 on energy costs over a lifetime of five years. Finally, with the US EPA's Energy Star label for added credibility as well as new sensitivity to rising utility costs and electricity shortages, sales rose 12 percent in an otherwise flat market (27).

Now companies are offering more environmentally friendly products as an alternative to their customers. Recycled products, for example, are one of the most popular alternatives that can benefit the environment, including sustainable forestry, clean air, energy efficiency, water conservation and healthy offices. One example, is the E-commerce business and office equipment company Shoplet which offers a web tool that allows you to replace similar items in your shopping cart with environmentally friendly products (28). Other than that, New Delhi, India's capital, experienced pollution so serious that India's Supreme Court forced businesses to switch to alternative fuels. In 2002, an advisory was issued to fully adopt CNG in all public transport systems to curb pollution [29].

#### 4. Conclusion

The contribution of green innovation to sustainable development is in the form of reducing the level of waste which can pollute the environment and is contrary to goal 6 of sustainable development. By using green innovation, companies can also improve their image in the eyes of the public because more than 80% of the public are aware and care about environmentally friendly products (including the marketing process), especially generations Y, Z and Alpha. Not only that, the green marketing concept can also increase a company's investment opportunities, by paying attention to the sustainability of a product and its production process over a long period of time because it is in accordance with its components, namely green, greener and greenest and also paying attention to the pillars of sustainable development, namely People, Planet, and Profit (3P). In ensuring sustainable development in the long term, marketing must be able to find solutions to increasingly complex environmental problems. The general finding of

sustainable development strategies is the need to integrate economic and ecological policies in decision making by decision makers in order to preserve the quality of agricultural development and environmental protection for current and future generations. Energy efficient development, better pollution control, use of recyclable packaging, ecologically safe products are all part of green marketing, which leads to sustainable development. In this way, green marketing is a means towards the broader goal of sustainable development. This is a long-term strategy of policies that address poverty and resource scarcity and inequality; provide economic, production and livelihood incentives as well as other alternative models, and aim to protect development and growth prospects, as well as the impact of environmental damage. The key to successful green marketing is credibility. Don't over-discuss environmental issues or build unrealistic expectations, but continue to develop communication through sources or people you can trust. Looking at the latest trends in green marketing and its benefits for the whole world, it can be said that if sustainable development is the desired moment, then green innovation is a tool and means to achieve expectations, so that all people in the world can enjoy the benefits generated by green innovation.

This research has the potential for a very positive impact when applied to emerging countries which shows that by adopting green innovations in various economic sectors, emerging countries can achieve sustainable growth while reducing negative environmental impacts. By implementing innovative, environmentally friendly practices, such as the use of renewable energy, efficient waste management, and sustainable agriculture, emerging countries can reduce carbon emissions, improve environmental quality, and improve the well-being of their communities. In addition, this research also highlights the importance of international collaboration in supporting emerging countries in adopting green innovations. Cooperation with developed countries in the transfer of green technology and funding sustainable projects can accelerate the process of sustainable development in emerging countries. Thus, this research provides a strong scientific basis for implementing green innovation as an important tool in achieving sustainable development in developing countries, which will ultimately benefit the environment, economy and society as a whole.

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