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Green Technology to Improvising Sustainable Development & Environmental Safety

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Abstract:
The idea of green technology, which sprang from the distress caused by ecological imbalance, is the main topic of this study work. As a result, environmental preservation has gained international attention. It is brought on by the current ecological challenges. Green technology encompasses a variety of research aimed at designing, modifying, and transforming items in order to promote sustainable development. To raise customer awareness of environmental issues, this also entails changes to the production process, packaging, and advertising. The goal of our society today is to achieve sustainable development in every way. To address environmental challenges in the current context, the research article examines the literature based on sustainable development and the green technology intervention method. This includes ecological well-being for the current and future generations due to socioeconomic demands addressed by environmentally friendly products and practices. To ensure environmental safety, it attempts to connect green technology with sustainable development.
Key words: *Green Technology, Sustainable Development, Environmental Safety, Green Product.*

I. Introduction

Innovative green supply and value chain processes are thought to include the terms "green technology" and "envirotech." Green technology advancements will focus on sustainable performance without altering our conventional notions of technological practices. The cluster that bridges the gap between conventional methods and the ecological dependability of the environment includes the approaches to environmental, eco-, and green technology. Green technology has emerged gradually as a result of technological management combined with environmental sensitivity. Sustainability is the fundamental and essential component of green technology (Charter, 1992). According to McDonagh and Prothero (1998), the green approach to production and use includes enjoying the current level of life without compromising future standards.

The word "environmentalism" has quickly spread throughout the world. The manufacturing and industrial industries have seen the effect of environmental concerns as an opportunity. Green technology techniques are used to turn this possibility into profitability. Social issues that arose as a result of environmental issues have now been shifted to technological issues. Achieving sustainability is a societal goal that will essentially change how people behave (Van Dam and Apeldoorn, 1996). Indian customers are becoming more supportive of implementing green technologies. Thus, the corporate organization is not new to the idea of green technology. Numerous businesses have admitted their obligation and responsibilities for environmental protection. Businesses have promoted the idea of "going green" by creating eco-friendly products and modifying their manufacturing methods to reduce pollution and increase revenue simultaneously (Hart, 1997). Green technology refers to the actions taken by businesses that are tackling environmental issues and meeting customer demands by providing green products (Soonthonsmai, 2007).

The purpose of the Study

The purpose of this study article is to reevaluate how technology has responded to ecological concerns in the current environment by implementing a green technology approach to achieve sustainable development. This study paper's attention is limited to the field of green technologies.

Green Technology

The demand for green technology is urgent and unavoidable (Peattie, 1992; Pierre and Prothero, 1997; Groth, 1998). It describes the process of producing goods with as little negative environmental impact as possible. In India and other developing nations, green technology has emerged as a key idea that is seen as a necessary strategy to support sustainable development. As a result, producers are now more environmentally

conscious and create eco-friendly goods, which might lead to a rise in their market share and a boost in the company's reputation for being environmentally conscious. Today's marketers employ countless phrases to communicate the green worth of their goods and services. Additionally, they use the phrase "green" as a catch-all to describe everything that is recyclable, natural, and not harmful to the environment. Over the past few decades, consumers' buying habits and demand for eco-friendly items have been expanding quickly. Additionally, it has increased customers' curiosity about the uniqueness of green products. Businesses must seize these chances to "prove" the superiority of their products over competing ones and their greenness. The significance of environmental management as a strategic tool that lowers environmental threats and expands economic opportunities has been recognized by today's marketers.

Due to unethical business tactics and environmental degradation, our society has grown increasingly fragmented. Environmental preservation is a priority for both businesses and consumers. Consequently, a change occurs in an individual's purchasing behavior.

Therefore, as compared to traditional items, consumers now favor ecologically friendly products (Amatriaín and Diamond, 2005). A corporate organization was created to address society's "new" concerns as a result of this shift. Businesses today understand that they cannot thrive in the current competitive climate by only implementing a green technology strategy at its heart. However, sustainability requires long-term monitoring.

Sustainable Development

One of the most important and fundamental concerns facing nations worldwide is sustainable development. Even though sustainable development has gained attention recently, In 1987, the Brundtland study—a study on research conducted by examining the effects of growth on the environment—was released by the United Nations. According to this research, sustainable progress is a process meant to alleviate current needs without endangering the capacity of future generations to satisfy their own. The idea that sustainability stems from concentrating on the triple bottom line has been embraced by industry practice ever since the United Nations released the report.By taking into account the environment, society, and economics, a triple bottom line is a comprehensive strategy for achieving sustainability.

Sustainable Development Elements

Natural variable capital stock and man-made built-constant capital stock are the components of sustainable development, according to Pearce et al. (1994). The reserve of all ecological and renewable resources makes up the long-term natural capital stock. On the other hand, the term "man-made built" refers to both the stock of human capital, or knowledge and ability, as well as capital machinery and infrastructure, such as buildings and highways.

Sustainable Development and Technology

One significant idea that marketers are utilizing these days as a major tactic for sustainable growth is green technology. The idea of sustainability from a technological perspective is the main emphasis of this study. In this regard, the researcher has provided a definition of green marketing, as well as a theoretical framework of sustainability in terms of marketing. However, companies are adopting green technology because of its development and product life cycle. Today's customers associate technology with being environmentally friendly, reusable, recyclable, minimal carbon emissions, and energy-efficient.

In the late 1970s, the idea of green technology itself began to gain traction as a field of study. The American Technology Association held the first-ever workshop on "Ecological Marketing" at this time in 1975. Following that, Henion and Kinnear published their first book on "Ecological Marketing" in 1976. According to this study article, Polonsky's definition has been used. The concept of "sustainable marketing," which refers to technological activities that are both ecologically friendly and competitive, satisfies the condition of sustainable development (Polonsky et al., 1997). There is no doubt that marketing plays a significant part in the development process (Kinsey, 1982; Riley et al, 1983; Dholakia, 1984; Carter 1986; Kotler, 1986).

Many businesses have implemented green technology strategies to address the challenges of trade and Biswajit Das, Surya Narayan Mishra, and BhubaneswariBisoyi htttp://iaeme.com/Home/journal/IJMET 1090 editor@iaeme.com industry growth with ecological safeguard for sustainable development. Various organizations use green technology strategies, such as logistics strategies, green technology mix strategies, shifting consumer consumption to green products, and adopting an eco-friendly mindset (Polonsky et al, 1997; Ottman, 1997; Willum, 1998; Charter et al, 1999). Developing and formulating strategies for implementing technical measures while simultaneously conserving the environment is the main goal of green technology. However, the goal of sustainable development is to preserve the natural environment in the same condition that previous generations had it. This necessitates protecting and developing the environment. Therefore, sustainable development is the dependent variable in this case, whereas green technology and other elements function as

independent variables. The conceptual framework depicted in Figure 1 explains the connection between green technology and sustainable development.

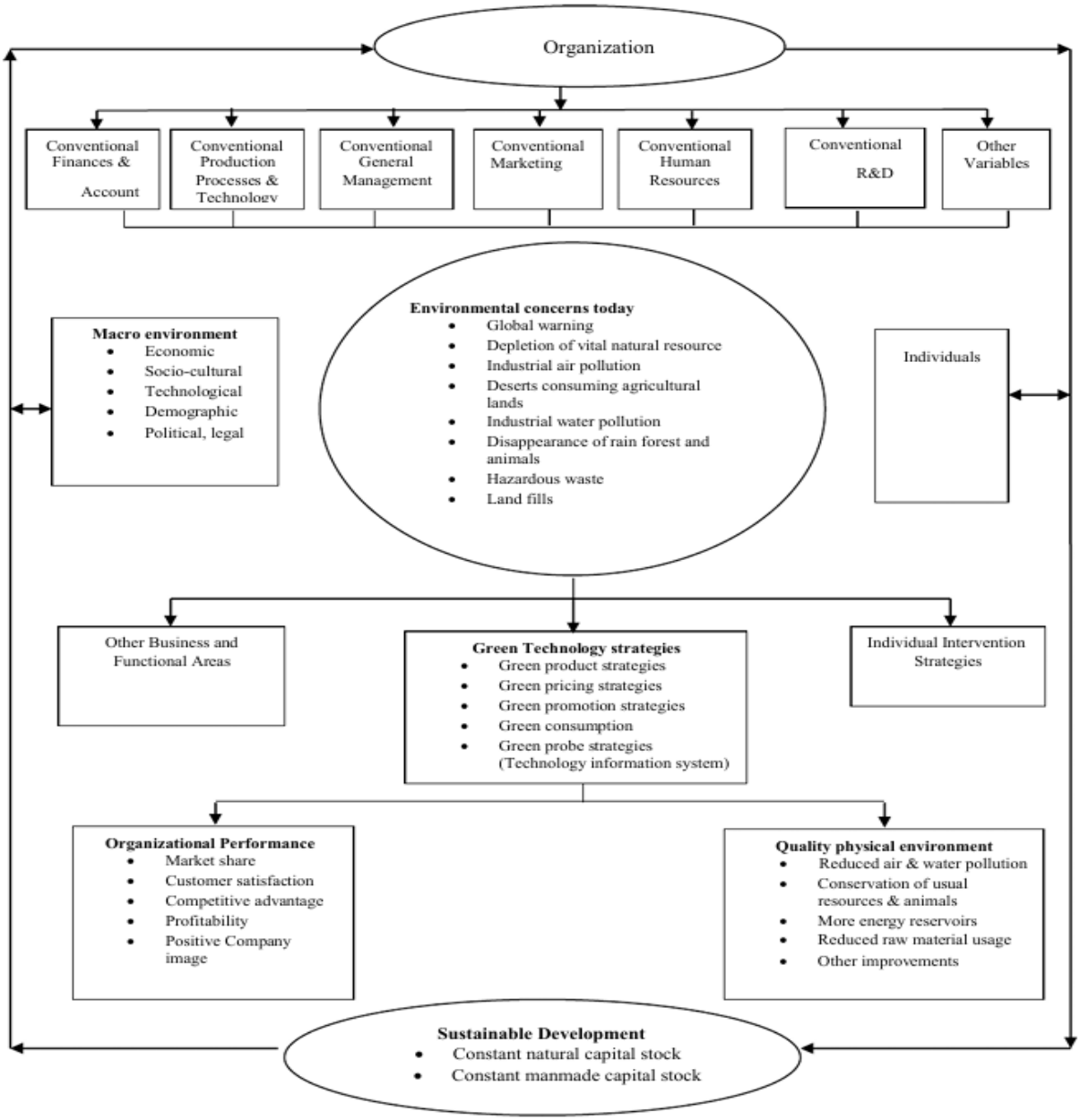

Figure:1- Conceptual framework source: Own Compilation, 2018

All of the factors that contribute to the environmental issues that the globe faces today are exemplified by the framework. The image illustrates how crucial green technology is in offering a solution to the difficulties brought on by environmental concerns. Green technology methods will improve the physical environment and organizational performance, which will contribute to sustainable growth.

II. Literature Review:

This section's goal is to examine the literature on the evolution of green technology strategies used by different organizations to address a variety of environmental problems, including ozone layer depletion, acid rain, carbon footprint growth, and other issues, in order to achieve sustainable development (Chandler, 1990). Over the past several decades, it has been noted that achieving sustainable growth in the industrial and production sectors necessitates a drastic overhaul of the whole procedure (Ottman, 1997). In order to address the

sustainability concerns, several academics have proposed developing green technology techniques. For the sake of this article, these tactics are separated into two groups: general strategies and technology mix strategies.

TECHNICAL GREEN STRATEGIES:

When companies are thinking about introducing green products, they want to be selective about the green technological approach they will use to enter the market and increase their market share. As a result, the 4Ps of green technology—product, price, location, and promotion—have been employed to protect against market obstacles. Green technology is seen as an innovative approach to solving such issues. According to Darling, Heller, and Tablada (2009), green technology.

Green Product Strategy: Companies have made major adjustments to their products to better meet the needs and requirements of their customers. As a result, businesses want to provide environmentally friendly products. Products that are environmentally friendly often preserve natural resources and lessen air pollution. Because these eco-friendly items may be produced by recycling and reusing previously used products. Marketers have a responsibility to inform and create goods that meet customer demands for green features including organic, reusable materials, energy efficiency, and less toxic chemicals in cosmetics and personal care products (Sharma and Joshi, 2016).

Green pricingstrategies are thought to be the most delicate and important component of the green marketing mix. Customers are known to be highly sensitive to changes in product prices, which has an immediate impact on their choice to buy (Davari and Strutton, 2014). Given the added value that green products offer over conventional ones, the majority of customers could be ready to pay a premium for them. According to Sharma and Joshi (2016), green technology must prioritize aesthetic appeal, taste, design, and performance while charging customers a premium.

Availability of Green Product: This part of the green technology mix addresses the distribution channels that marketers employ to deal with consumer-friendly green products. The outcome for marketers is to reassure customers about the availability of green products and to promote their convenience (Govender, 2016). The inner and outer are two separate components that make up the green product's distribution system. According to Martin and Schouten (2012), the inner viewpoint refers to the company's internal environment, which should be a sign of passivity among agents and superiors. Customers seem to be influenced by the staff's friendly and contented demeanor. The location of green product, technology, and service availability is referred to as the external aspect (Bisoyi and Das, 2015; Sudhalakshmi and Chinnadorai, 2014).

Green Promotion Strategies: Environmental advertising of green products is the main way to raise customer awareness (Munuswamy and Gopal, 2016). This provides accurate information about the goods without causing financial harm to the good and acquisitive customers. It is imperative that businesses avoid providing false information about their products while advertising them. Using promotional strategies is what green marketing consists of, according to Dua (2013). A greater number of people are becoming aware of green promises and promotions, and the more people are inclined to buy green products. Most customers are psychologically drawn to advertisements that demonstrate a company's environmental commitment.When a company conveys this through its advertising, encroachment, public relations, and corporate social responsibility, it will undoubtedly get a large number of devoted customers (Garg, 2015).

Green Consumer Practices:

The production and distribution of green products, including biodegradable goods, energy-efficient goods like LED lighting, solar items, and organic food, has increased in the modern era (Bisoyi and Das, 2017). However, overall, consumers' green purchase patterns have overtaken the advantages of adopting green products (Midden, Kaiser, and McCalley, 2007). This serves as a compelling motivator to acknowledge that consumers are exhibiting favorable purchasing patterns for environmentally friendly products. It is evident that certain consumers are more concerned with environmental issues and take this into consideration when making decisions about what to buy (Laroche, Bergeron, and Farleo, 2001).

III. RESULTS

The current study is based on books and research papers that cover the pertinent topics and emphasize the perspectives of many writers in order to present a comprehensive overview of the ideas and viewpoints required to provide a detailed understanding. Green brands and goods that are safe for the environment depend on green technology. This creates the foundation for examining the research questions. Lastly, this study offers an analysis of effective ideas and arguments for determining the elements that have influenced green technology in relation to sustainable development. For the benefit of society, this research project offers some direction for creating the conceptual model that connects green technology and sustainable development.

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