Circular Economy (CE)

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structural equation modeling Vietnamese people circular economy

1. Introduction

Environmental pollution is getting worse and worse in almost every country globally [1]. Climate change, environmental pollution, resource scarcity, biodiversity loss, and population growth are urgent factors that threaten the earth's life. When facing the increasing risk of climate change, the sustainable development model becomes more and more critical. Many countries worldwide have transitioned to a sustainable development model to balance economic growth, environmental protection, and social welfare. The circular economy (CE) is considered one of the best solutions to support sustainable development [2]. The CE is utilized because the earth is a closed economic system, and all business activities of production and consumption must be based on a secure dual system. In a CE, the economy and the environment are linked together in a closed circle. However, the concept of CE is still controversial. The most widely accepted definition is the flow of resources, and the efficient use of raw materials and energy are core features of this concept. The CE model brings many benefits compared with the traditional linear economic model [3]. For developing countries, the transition to a CE represents the nation's responsibility to address the challenges posed by environmental pollution and climate change while enhancing its capacity and competitiveness of the economy. The CE uses used materials instead of generating waste disposal costs; minimizes the exploitation of natural resources, making the most of the value of resources; and reduces waste and emissions into the environment [4]. For society, the CE helps reduce social costs in managing and protecting the environment and responding to climate change, creating new markets, new job opportunities, and improving people's health [3]. For businesses, the CE reduces the risks of overproduction and resource scarcity crises, creates motivation to invest, innovates technology, reduces production costs, and increases the supply chain.

After 35 years of renovation, Vietnam has become a bright growth spot in the region and the world with many remarkable achievements [5]. Vietnam's economy has grown in size, but the quality of growth has also improved and, with this, the material and spiritual life has also improved. However, Vietnam faces many challenges in resource depletion, pollution, environmental degradation, and climate change. Currently, Vietnam ranks 4th in the world in plastic waste, with 1.83 million tons/year. The volume of daily-life solid waste generated is more than 61,000 tons/day, of which up to 71% of the total waste volume (equivalent to 43 thousand tons/day) is treated by the burial method [6]. Many resources are currently severely depleted, particularly coal. Since 2015, Vietnam has had to import coal. It is forecasted that by 2030, it will be necessary to import up to 100 million tons of coal per year [7]. According to the World Bank (WB) calculations, environmental pollution could cost Vietnam up to 3.5% of GDP by 2035. In particular, Vietnam is among the countries which are most vulnerable to climate change [8]. It is forecasted that climate change and natural disasters could cause damage to up to 11% of Vietnam's GDP by 2030 [9]. Therefore, to implement sustainable development goals and international commitments, the approach to the model transformation from a "linear economy" to a "circular economy" should be considered a priority in the new development stage of Vietnam. In facing the opportunities brought by the CE, Vietnam has made many positive actions to facilitate the development of the CE model. Over the years, the Vietnamese government has issued many policies to transform the growth

model towards sustainability, strengthen the management of natural resources, protect the environment in response to climate change, and increase recycling and reuse of waste [10].

2. Discussion

In today's social context, individuals are always looking for personal identity in their groups. They tend to be influenced by each other to match the rest of the group they are in. Thus, the opinions of individuals influence other individuals. Mkhize and Ellis [11] tried to adopt environmentally friendly behaviors such as buying green products. Therefore, ATI has a significant impact on purchasing CE products. The results of this study are also consistent with previous research showing that the attitude towards a decision significantly affects the level of willingness to buy CE products, which also meant that they were willing to participate in the CE. Therefore, relevant policymakers should carefully consider promoting individuals' participation in the CE. Policymakers need to pay more attention to people's groups such as family, friends, and mainstream media. Another policy implication is that it is necessary to distinguish population groups according to different criteria such as occupation, education level, and age to assess people's willingness to participate in the CE.

The research results also show a positive relationship between the level of willingness to participate in the CE and concern for the environment (ATE). Individuals who have environmental sacrifice are more likely to express their intention to buy green products. Kurrbanov et al. [12] stated that concern for the environment is a typical attitude towards the environment. A positive attitude towards the environment also encourages individuals to look for options for eco-friendly products and fit daily necessities. Cardoos et al. [13][14] also showed individuals' level of willingness to sacrifice money, level of willingness to sacrifice life, and level of willingness to pay taxes to achieve the goal of environmental protection. As the willingness to sacrifice money to protect the environment increased, the level of payment for green products also increased. Individuals in this category will also be more willing to replace products of the linear economy with CE products. They will also be glad to bear the effects of this change. From these two aspects, the increase in environmental protection will lead to the rise of ATE. Environmental protection attitudes also play a guiding role in purchasing and selling green products. Based on these findings, policymakers need to develop appropriate policies to promote the spirit of dedication of the people. The government needs to balance practical difficulties with efficiency to develop appropriate ways to encourage people to participate more deeply in the CE. Key stakeholders involved in the CE include consumers, governments, and businesses. CE consumption is also an essential aspect of assessing people's participation in the CE. One of the purposes of the CE is to limit the use of non-renewable materials and increase the use of renewable materials, converting waste into raw materials. Muranko et al. [15] argued that consumers buying and selling green products is indispensable to the CE. The intention or need to buy and sell products in a CE drives businesses to produce products and services in a CE. Individuals' purchasing behavior of CE products can be called participating in the CE. Therefore, the greater the intention to buy green products, the higher the willingness to participate in the CE.

The BOE that impacts IP also shows that individuals intend to purchase CE products when they perceive these products/services to provide more excellent economic benefits. Individuals always seek to maximize their utility when making consumption-related decisions. Research by Lee and Chen-Yu [16] has shown that the lower the product price, the higher the purchase intention. If consumers perceive the price of green products to be lower than that of traditional products with the same usability, they will choose CE products. Thus, previous studies have shown that price, discount, and other economic factors positively impact consumer purchase intention. Therefore, the task posed to policymakers is the pricing policy for products of the CE. Policymakers need to have policies to support prices, adjust tax rates, and support production supply chains to reach the ultimate goal of reducing production costs and thus stimulating consumer interest in CE products.

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