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# Factors Influencing the Implementation of the Circular Economy at Tourism Destinations in Vinh Phuc, Vietnam

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## ABSTRACT

**This study focuses on testing and analyzing factors influencing the implementation of the circular economy at tourism destinations in Vinh Phuc Province, Vietnam. The study employs a questionnaire survey of 300 respondents, including local residents, business managers, local government officials, tourists, and tour guides. Based on the survey results, the research identifies the principal factors affecting the implementation of the circular economy in the tourism sector in Vinh Phuc, namely: policies and legal frameworks, infrastructure, technology, tourists' awareness and behavior, business capacity, inter-sectoral cooperation and networks, financial resources and incentive mechanisms. On this basis, the study proposes several solutions to promote the implementation of the circular economy in local tourism development in the next phase.**

**Keywords:** circular economy, tourism destinations, Vinh Phuc, influencing factors.

## INTRODUCTION

In the context of increasing resource depletion and environmental pollution, the circular economy (CE) is regarded as a sustainable development model that serves as an alternative to the traditional linear economy. The Ellen MacArthur Foundation (2013) defines it as: "*A circular economy is an industrial system that is resilient and renewable by design. In which the flow of materials and energy is maintained in a closed loop through waste reduction, reuse, recycling, and resource recovery, aiming to decouple economic growth from the exploitation of finite resources".* In Vietnam, the CE has been institutionalized in the 2020 Law on Environmental Protection and further promoted through various policies encouraging its implementation at both enterprise and local levels.

Vinh Phuc province possesses immense tourism development potential. From unique natural landscapes like Tam Dao mountain – known for its cool climate and picturesque scenery – to traditional craft villages such as Huong Canh pottery village, Trieu De rattan weaving village, Bich Chu carpentry village, in addition to numerous ranked historical and cultural relics as well as architectural and artistic heritage sites such as Binh Son Tower and Tho Tang Communal House, along with a wide variety of local specialties and a rich, distinctive culinary culture. These abundant tourism resources have enabled the province to develop famous tourism destinations that attract both domestic and international visitors. Decision No. 1335/QD-UBND of The People's Committee of Vinh Phuc province, dated June 6, 2011, approving the " Master Plan for Tourism Development in Vinh Phuc Province to 2020, with a Vision to 2030"[16] explicitly states that "Vinh Phuc aims to develop tourism into a key economic sector of the province. Sustainable tourism development will be pursued by leveraging internal resources, mobilizing investment resources for tourism development, and effectively exploiting the potential of natural landscapes and human resources...". From this perspective, and in order to achieve the objectives of sustainable tourism development, the adoption of the circular economy model in the tourism sector is an inevitable approach. In this regard, the implementation of the CE at tourism destinations in Vinh Phuc Province represents a pioneering initiative. This article is based on the findings of an institutional-level research project conducted by the authors and funded by the Academy of Finance, entitled "Implementing the Circular Economy in the Tourism Sector: A Study of Selected Tourism Destinations in Vinh Phuc Province". The paper presents an analysis of the factors influencing the implementation of the circular economy at several tourism destinations in Vinh Phuc province, serving as a basis for proposing solutions to enhance the implementation of the circular economy at tourism destinations and the tourism industry in Vinh Phuc province, contributing to the sustainable tourism development of Vinh Phuc province in the next phase.

## LITERATURE REVIEW

### Circular Economy

Linear Economy is defined as an economy that begins with the extraction of natural resources as inputs for the economic system, which are then used to produce goods, circulated, distributed, consumed, and finally disposed of. Prolonged economic development based on this model has resulted in serious consequences, notably the depletion of natural resources and increasing environmental pollution[11]. Evidence from reports by the Global Footprint Network (GFN) indicates that current human demand for natural resources to support economic activities exceeds the Earth's biocapacity by approximately 1.7 times[8]; and the demand for natural resource consumption is projected to increase by threefold by 2030 compared to current levels[7]. A report by World Bank (2022) indicates that the world generates approximately 2.24 billion tonnes of solid waste annually, projected to increase to 3.88 billion tonnes by 2050. This seriously impacts human life and the natural world, thus necessitating a transition in socio-economic development activities towards a CE model aimed at conserving resources and reducing emissions. The concept of the circular economy was first introduced in the 1960s by economists such as Boulding (1966), followed by industrial architects & analysts including Stahel and Reday-Mulvey (1976), and later by Pearce and Turner (1990). These scholars proposed a new economic model grounded in the fundamental principle that "everything serves as an input to something else". The concept has since been further developed and progressively refined. According to an overview by the OECD, there are

approximately one hundred definitions of the circular economy. However, the basic assumption consists of designing out waste and pollution of the economic system. The circular economy avoids materials being used once and forever gone, through: closing the loops by recycling and remanufacturing; slowing loops by increasing the working life of goods and products; and narrowing loops by using natural resources and goods more efficiently within the linear system (e.g. buildings and cars) (McCarthy, Dellink and Bibas, 2018)[13].

Up to now, the most widely recognized and applied definition of the circular economy is that proposed by the Ellen MacArthur Foundation[11]. According to this definition, "the circular economy refers to an industrial economy that is restorative by intention; aims to rely on renewable energy; minimises, tracks, and eliminates the use of toxic chemicals; and eradicates waste through careful design"[4]. "The circular economy takes production processes into consideration and outlines how to reuse, repair, and recycle items, thus increasing sustainable manufacturing and consumption. This way, in addition to reducing waste, saves energy and helps avoid irreversible damage caused in terms of climate and biodiversity, as well as in terms of air, soil, and water pollution, owing to the use of resources at a rate that exceeds the Earth's capacity to renew them"[19].

A circular economy is based on the principles[5]: (1) Designing out waste and pollution: By changing our mindset to view waste as a design flaw and harnessing new materials and technologies, we can ensure that waste and pollution are not created in the first place; (2) Keeping products and materials in use: Products and materials must be kept in the economy through designing some products and components that can be reused, repaired, and remanufactured; (3) Regenerating natural systems: In nature, there is no concept of waste. Everything is food for something else – a leaf that falls from a tree feeds the forest. Instead of simply trying to do less harm, we should aim to do good. By return in valuable nutrients to the soil and othe econsystems, we can enhance our natural resources.

Researchers worldwide and the practical experiences of developing circular economy models in various countries show that this model is a prerequisite for achieving sustainable development goals by ensuring sustainable production and consumption.

**Circular Economy in Tourism Development**

From the 1970s to the 1990s, as the negative impacts of the linear economic model became widely recognized, concepts such as *sustainable development, sustainable tourism, and ecotourism* emerged, laying the ideological foundation for the circular economy in tourism. By early years of 21st century, circular economy was more clearly addressed in environmental research and policy, particularly in the EU, Japan, and China, that energy-saving models, waste management, and resource reuse in hotels, resorts and tourism destinations began to be systematically applied. Since 2015, following the UN's adoption of 2030 Agenda and 17 Sustainable Development Goals (SDGs), circular economy has become key direction in many sectors, including tourism. Concepts such as *green tourism, responsible tourism, zero-waste tourism, and low-carbon tourism* are linked directly to circular economy thinking. Circular economy in tourism is implemented from the strategic planning and national policy levels down to the local level, destinations (tourist areas), businesses, communities, and tourists themselves.


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The basic contents of implementing a circular economy in tourism include: (1) Efficient management and use of natural resources, including saving and reusing water, especially in hotels, resorts, and amusement parks; Utilize renewable energy, limit overexploitation of natural resources, and protect ecosystems and landscapes; (2) Waste management through waste reduction is implemented from the early stages of tourism product design and includes waste segregation, recycling, reuse,…; (3) Developing green tourism infrastructure and services; organizing optimized tourism supply chain to minimize costs, such as prioritizing the use of local products, connecting businesses, encouraging reuse, repair, and extending the product lifecycle; (4) onserving and promoting local cultural values, while enhancing community participation in tourism management and development,…

**Research on Factors Influencing the Implementation of Circular Economy in Tourism**

In the study by Gusmerotti et al. (2023), the authors built a system for measuring the implementation of circular economy at tourism destinations based on four types of capital: natural capital, human capital, physical capital and social-governance capital. In addition, the system was developed according to five core principles of the circular economy: reduce, reuse, recycle, restore, and circular design [9].

According to the European Commission (2021), the monitoring and evaluating circular economy implementation are based on a comprehensive indicator framework structured around five main thematic areas: production and consumption, waste management, secondary raw materials, competitiveness and innovation, and global sustainability and resilience. The specific measurement variables include the material footprint of consumption, waste recycling and treatment rates, the extent to which recycled materials are used as subtitutes for raw materials, the pace of growth and innovation in circular economy–related industries, as well as greenhouse gas emission indicators and levels of dependence on raw material imports [6].

Axhami et al. (2023) analyzed the circular economy in tourism through the case of a resort, focusing on practices such as increasing resource and energy efficiency, reducing emissions and waste management, and applying renewable energy. The study also highlighted initiatives such as material recycling, renovation instead of new construction, designing more durable products, and developing green supply chains. These practices deliver value in three aspects: economic (cost reduction, increased efficiency), environmental (pollution reduction, resource conservation), and social (improved reputation, customer experience)[2].

Tang, Ma, and Ren (2023) analyzed the environmentally friendly behavior of tourists in circular economy tourism, with independent variables including knowledge, motivation, opportunity, and capacity to participate, two mediating variables being environmental identity and environmental commitment, and the dependent variable being environmentally friendly behavior [17].

Al-Romeedy and Alharethi (2023) used three main groups of variables: internal training and commitment (employees are trained, leaders are committed to CE target), resource and waste management (saving electricity, water, regeneration and recycling), and external innovation and collaboration (green technology, sustainable services, supplier-customer linkages)[1].

In the study by Marjamaa, Salminen, and Heikkinen (2021), the authors analyzed stakeholders' perspectives on the circular economy through three groups of factors: value-based motivations (environmental, social, and ethical commitments), expectations (economic, ecological, and social efficiency), and actual benefits/participation (roles, collaboration, policy support). The study examines multiple stakeholder groups, including ministries, associations, research institutions, local authorities, and enterprises, thereby highlighting the multidimensional nature and the need for coordinated efforts to promote the circular economy in tourism and at the local level [10].

In the study "Stakeholder roles in circular tourism governance" (Qiu et al., 2021), the authors analyzed the roles and participation of stakeholders through variables such as: role, level of participation, commitment, influence, expectations, barriers & support policies, and cooperation. These variables not only demonstrate the complexity and coordination required to promote circular tourism but also reflect the interactive relationship between government, businesses, communities and associations in building a sustainable tourism model [16].

In the study "Tax incentives and financial mechanisms for circular tourism" (Papamichael et al., 2023), the authors examine variables such as tax & cost incentives, financial mechanisms, economic–environmental–social benefits, implementation barriers and the roles of stakeholders, thereby clarifying the impact of financial policies in promoting circular tourism [14].

The study "Financing Circular Economy Transitions in Tourism SMEs" (Chan et al., 2022) examines variables such as transition costs, alternative financial instruments (e.g., crowdfunding), technical-financial-communication support from authorities, awareness and marketing related to CE, governance and benefit-sharing mechanisms, as well as the measurement and communication of project benefits, with the aim of promoting CE practices in small and medium-sized tourism enterprises[3].

## METHODOLOGY

The authors developed a survey questionnaire with 300 respondents including local residents, business managers, local officials, tourists and tour guides at tourism destinations at Vinh Phuc Province. The survey results were collected and analyzed using SPSS software to clarify the factors influencing the implementation of circular tourism industry in the locality.

### Research Hypotheses on Influencing Factors

Proposed Research Hypotheses:

- H1: Policies and legal frameworks that have a positive effect on the implementation of the circular economy in tourism in Vinh Phuc Province.
- H2: Infrastructure that has a positive effect on the implementation of the circular economy in tourism in Vinh Phuc Province.
- H3: Technology that has a positive effect on the implementation of the circular economy in tourism in Vinh Phuc Province.
- H4: Tourists' awareness and behavior that have a positive effect on the implementation of the circular economy in tourism in Vinh Phuc Province.


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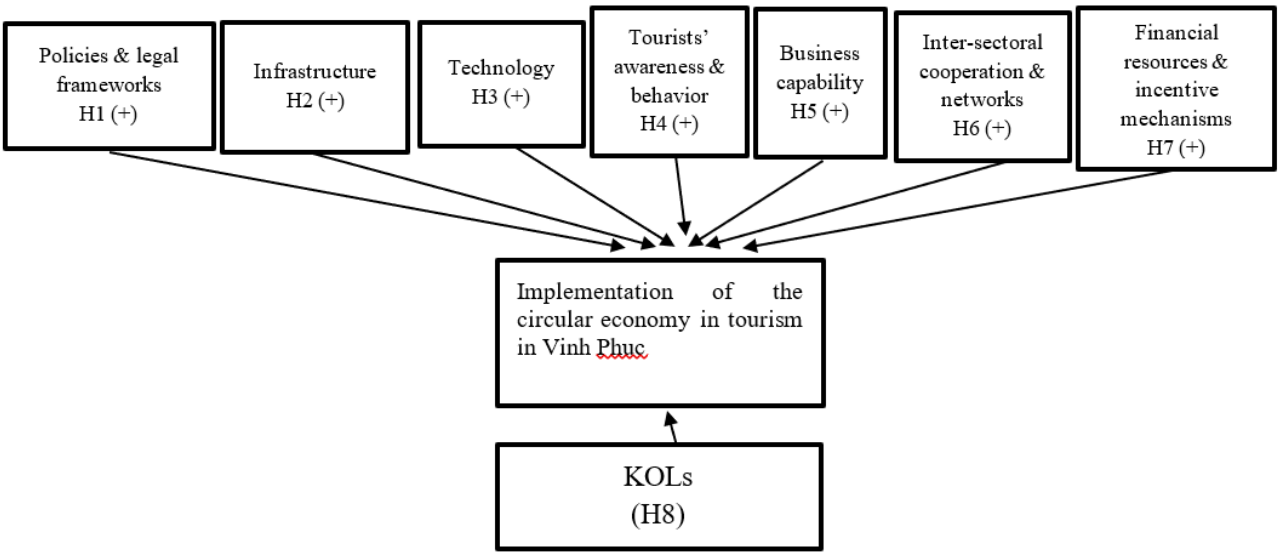
- H5: Business capability that has a positive effect on the implementation of the circular economy in tourism in Vinh Phuc Province.
- H6: Inter-sectoral cooperation and networks that have a positive effect on the implementation of the circular economy in tourism in Vinh Phuc Province.
- H7: Financial resources and incentive mechanisms that have a positive effect on the implementation of the circular economy in tourism in Vinh Phuc Province.
- H8: KOLs that have an effect on the implementation of the circular economy in tourism in Vinh Phuc Province.

## Proposed Research Model on Influencing Factors Tourism Development




**Picture 1: Proposed research model**
(Source: Compiled by the research team)

**Table 1: Revised measurement used for formal analysis**

| No. | Code | Details | Sources |
|---|---|---|---|
| I | **Policies & legal frameworks (CS)** | | |
| 1 | CS1 | Official regulations or standards for circular economy activities at tourism destinations have been established. | Gusmerotti et al. (2023) |
| 2 | CS2 | Financial mechanisms (subsidies, tax incentives, support schemes) are available to encourage tourism enterprises to adopt CE solutions. | Gusmerotti et al. (2023) |
| 3 | CS3 | Authorities of tourism destinations have clear long-term strategies and action plans for transitioning toward a CE. | Gusmerotti et al. (2023) |
| 4 | CS4 | Policies require transparency in emissions data, including periodic reporting by tourism enterprises | Proposed by the authors |
| **II** | **Infrastructure (CSHT)** | | |
| 1 | CSHT1 | Waste collection and source separation systems are fully implemented at tourism destinations. | European Commission (2021) |
| 2 | CSHT2 | Local waste treatment and recycling facilities are available to reduce the amount of waste transported to area outside. | |

| | | | |
|---|---|---|---|
| 3 | CSHT3 | Public transport, bicycle lanes, pedestrian infrastructure to help reduce reliance on private vehicles | |
| 4 | CSHT4 | Application of IoT and AI technologies in waste and energy management systems at tourism destinations | Proposed by the authors |
| III | **Technology (CN)** | | |
| 1 | CN1 | Tourism enterprises/destinations use renewable energy sources (e.g., solar, wind, biomass). | Axhami et al. (2023) |
| 2 | CN2 | Technologies for organic waste treatment (e.g., composting, anaerobic digestion) are applied to reduce landfill waste. | Axhami et al. (2023) |
| 3 | CN3 | Digital platforms are used to share resources, equipment, and materials within the tourism sector. | Axhami et al. (2023) |
| 4 | CN4 | Eco-design solutions are applied to tourism products and services to enhance durability and repairability. | Axhami et al. (2023) |
| IV | **Tourists' awareness & behavior (NT)** | | |
| 1 | NT1 | Tourists understand the concept of the circular economy & know how to apply it during their trips. | Tang et al. (2023) |
| 2 | NT2 | Tourists regularly practice waste sorting and energy/water conservation and use environmentally friendly products. | Tang et al. (2023) |
| 3 | NT3 | Tourists are willing to pay more for tourism services that prioritize CE practices. | Tang et al. (2023); Gusmerotti et al. (2023) |
| 4 | NT4 | Tourists prioritize choosing tourism destinations with eco-certification. | Proposed by the authors |
| V | **Business capability (NL)** | | |
| 1 | NL1 | Business leaders are committed to and set clear objectives for CE implementation. | Al-Romeedy & Alharethi (2023) |
| 2 | NL2 | Enterprises allocate reserved funds for investment in circular technologies and processes. | Gusmerotti et al. (2023) |
| 3 | NL3 | Employees are trained in CE–related processes (e.g., waste sorting, energy conservation). | Al-Romeedy & Alharethi (2023) |
| 4 | NL4 | Enterprises have internal procedures (SOPs) in place to implement CE practices. | Axhami et al. (2023) |
| VI | **Inter-sectoral cooperation & networks (HT)** | | |
| 1 | HT1 | Regular information sharing among stakeholders is implemented regarding CE initiatives | Gusmerotti et al. (2023) |
| 2 | HT2 | Stakeholders trust and support one another in implementing CE solutions. | Marjamaa et al. (2021) |
| 3 | HT3 | The roles and responsibilities of stakeholders are clearly defined in CE activities. | Qiu et al. (2021) |
| 4 | HT4 | Multi-stakeholder partnerships are encouraged to promote CE implementing solutions. | Gusmerotti et al. (2023) |
| **VII** | **Financial resources & incentive mechanisms (TC)** | | |
| 1 | TC1 | Financial support programs or public budget allocations are available for CE activities. | European Commission (2021) |
| 2 | TC2 | Tax incentives, fee reductions or subsidies are provided to encourage CE adoption. | Papamichael et al. (2023) |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| | | | |
|---|---|---|---|
| 3 | TC3 | Enterprises have access to loans and credit to invest in CE technologies. | Chan et al. (2022) |
| 4 | TC4 | Market-based financial mechanisms (e.g., pay-as-you-throw schemes) are applied to promote waste reduction and recycling. | Zorpas et al (2021) |
| **VIII** | **Circular Economy (CE)** | | |
| 1 | CE1 | The 3R principles (Reduce, Reuse, Recycle) are applied in tourism business operations. | Zorpas et al (2021) |
| 2 | CE2 | Environmental pollution and waste emissions from tourism activities are reduced through CE practices. | Qiu et al. (2021) |
| 3 | CE3 | Resource-use efficiency is improved and costs are reduced through CE initiatives. | Papamichael et al (2023) |
| **IX** | **KOL** | **KOLs influence the implementation of CE.** | **Proposed by the authors** |

(Source: Compiled by the research team)

## RESEARCH RESULTS

Vinh Phuc is a province with many attractive tourism destinations in Vietnam based on its rich natural landscapes and cultural resources. Prominent tourism destinations in Vinh Phuc include the Tay Thien-Tam Dao scenic area, Dai Lai Lake, Ngoc Thanh Lake, Hai Luu Stork Garden, etc. The province is home to approximately 1,300 historical and cultural relics, of which 533 have been officially classified, including: 4 special national relics, 65 national-level relics, 464 provincial-level relics and 01 national treasure. Vinh Phuc possesses 03 intangible cultural heritages that have been inscribed by UNESCO as representative of Intangible Cultural Heritage of Humanity—namely Ca Tru singing, the Practice of Worshipping the Mother Goddesses of the Three Palaces and The rituals of tugging game, in addition with 07intangible cultural heritage have been officially recognized and ranked at the national level [12] . Compared with other provinces nationwide, Vinh Phuc has a highly diverse and well-distributed system of historical relics across localities, reflecting the people's reverence for and commemoration of national heroes who contributed to the founding and defense of the country. Based on these resources, Vinh Phuc has developed many famous tourism destinations such as Tay Thien - Tam Dao and Dai Lai ; has built attractive tourist routes connecting traditional craft villages and system of temples, pagodas, cultural and historical relics, and architectural art ; and has developed attractive organic farming experience tours that encourage students from schools to visit and participate... Based on survey results at tourism destinations in Vinh Phuc (Tay Thien - Tam Dao scenic and spiritual tourism area, Dai Lai tourist area, Huong Canh pottery village, and Taca Farm organic agriculture and experiential tourism), the research team synthesized and studied several factors affecting the implementation of CE at Vinh Phuc's tourism destinations. This study uses frequency statistics to analyze information including gender, age and occupation, as detailed in the following table:

**Table 2: Statistical results of observed variables**

| Category | Description | Number of Respondents | Percentage (%) |
|---|---|---|---|
| Gender | Male | 130 | |
| | Female | 170 | |
| | Other | | |
| Age group | From 18 to 25 | 57 | 19,0 |

| | | | |
|---|---|---|---|
| | From over 25 to 35 | 67 | 22,3 |
| | From over 35 to 45 | 50 | 16,7 |
| | From over 45 to 55 | 74 | 24,7 |
| | Over 55 | 57 | 19,0 |
| Occupation | Local government officials | 10 | 3,33 |
| | Local residents | 30 | 10,0 |
| | Tour guides | 10 | 3,33 |
| | Enterprise managers | 20 | 6,67 |
| | Tourists | 230 | 76,67 |
| **Total** | | **300** | **100** |

(Source: Compiled by the research team)

## Reliability and Suitability of the Scale

According to the research results, all 28 observed variables in the model have Cronbach's Alpha coefficients greater than 0.6. Therefore, these 28 variables are considered a good scale for conducting further tests. All 03 observed variables of the dependent variable have Cronbach's Alpha coefficients greater than 0.6 and are therefore accepted.

## Exploratory Factor Analysis (EFA)

The KMO measure for the factors influencing the dependent variable (PT) is 0.828, which falls within the acceptable range of 0.5–1.0, and the significance level (Sig.) is 0.000 (< 0.05), indicating that the EFA is statistically appropriate. The analysis extracts 07 factors with a cumulative explained variance of 80.554% (> 50%) and an eigenvalue of 2.663 (> 1), which indicates that the 07 extracted factors explain 80.554% of the total variance of the 28 observed variables included in the EFA. Therefore, it can be concluded that the research indicators meet the criteria required for EFA. For the variable PT, the KMO value is 0.690 and the significance level (Sig.) is 0.000 (< 0.05), indicating that the EFA is statistically appropriate. The analysis yields an eigenvalue of 2.001 (> 1) with a cumulative explained variance of 66.712%.

## Correlation Analysis

All correlations between the independent variables and the dependent variable are statistically significant, with Sig. (2-tailed) values of 0.000 (< 0.05). Specifically, the variables CS, CSHT, CN, NT, NL, HT, and TC exhibit linear correlations with the dependent variable CE. Among the independent variables, correlations are generally low to moderate, with most Pearson correlation coefficients below 0.30, indicating no serious multicollinearity concerns. However, the pair of variables CS and HT shows a very high correlation ($r = 0.884$, $p < 0.01$), suggesting a strong association between these two variables.

## Model Testing and Research Hypotheses Verification Using Multiple Linear Regression Method

The ANOVA analysis results showed that the regression model was statistically significant with an F value = 150.378 and a Sig. value = 0.000 (less than 0.05). This indicates that the regression model is appropriate and has overall significance. The adjusted $R^2$ coefficient = 0.778 indicating that the variation in the independent variable explains 77.8% of the variation in the dependent variable. This is a good adjustment coefficient for regression. The Durbin-Watson index (DW = 1.875) means there is no first-order serial autocorrelation in the model.


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## Regression Results

**Table 3: Summary of the model's Main regression coefficients**

| Model | Variables | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| 1 | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| | (Constant) | 0,775 | 0,105 | | 7,368 | 0,000 | | |
| | CS | 0,157 | 0,034 | 0,268 | 4,544 | 0,000 | 0,214 | 4,666 |
| | CSHT | 0,134 | 0,017 | 0,216 | 7,815 | 0,000 | 0,969 | 1,032 |
| | CN | 0,138 | 0,009 | 0,409 | 14,779 | 0,000 | 0,973 | 1,028 |
| | NT | 0,201 | 0,016 | 0,354 | 12,862 | 0,000 | 0,984 | 1,016 |
| | NL | 0,135 | 0,015 | 0,246 | 8,827 | 0,000 | 0,959 | 1,043 |
| | HT | 0,123 | 0,026 | 0,276 | 4,684 | 0,000 | 0,215 | 4,653 |
| | TC | 0,139 | 0,011 | 0,339 | 12,158 | 0,000 | 0,957 | 1,045 |

Source: Authors' calculations based on SPSS 20 output

The variance inflation factor (VIF) values for all variables are below 2; however, two variables—HT and CS—exhibit relatively higher VIF values (though still below the threshold of 5) so overall, the adjusted model does not indicate serious multicollinearity among the independent variables. All corresponding Sig. values for the variables are less than 0.05. As the regression coefficients are standardized, the regression equation can be expressed as:

$$PT = Y = 0{,}157*CS + 0{,}134*HT + 0{,}138*CSHT + 0{,}201*CN + 0{,}135*NT + 0{,}123*NL + 0{,}139*TC + \varepsilon$$

## Testing Dummy Variable KOLs

**Table 4 : Group analysis**

| PT | KOL | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| | 1 | 149 | 3,6622 | 0,37366 | 0,03061 |
| | 0 | 151 | 4,1788 | 0,26041 | 0,02119 |

*Nguồn: Nhóm tác giả xử lý dữ liệu trên phần mềm SPSS 20*

The T-test results for the mean difference showed a Sig. (2-tailed) value of 0.000, less than 0.05, meaning the mean difference between the two groups is statistically significant. The mean difference between the "no KOL influence" group (Mean = 3.6622) and the "with KOL influence" group (Mean = 4.1788) is 0.5166, with a 95% confidence interval from -0.5899 to -0.4433, indicating that a real difference exists between the two groups. The effect size was calculated using Cohen's d ≈ 1.55 (based on the mean and grouped standard deviation). This value indicates that the influence of KOLs on the implementation of the CE is very significant, not only statistically but also practically. Thus, it can be affirmed that the participation of KOLs plays a crucial role in promoting businesses to implement circular economy, contributing to increased commitment and adoption of CE compared to businesses not influenced by KOLs.

## PROPOSAL SOLUTIONS

Based on the analysis of influencing factors as presented above, the research team proposes several key solutions to enhance the implementation of CE at Vinh Phuc tourism destination as follows:

- Firstly, localities need to implement CE in a coordinated manner through the development of strategies, policies, regulations, and guidelines. Training courses should be conducted for local administrators, tourism destination managers and businesses, local households and the general public. This will raise awareness of necessity, benefits and methods of implementing CE in tourism. In addition policies should be developed to support its implementation.
- Secondly, at tourism destinations, it is necessary to build infrastructure systems that facilitate the implementation of CE such as directional signs at tourist areas, accommodation facilities, entertainment venues, etc. Infrastructure for convenient means of implementing CE should also be developed, such as designing waste collection and sorting points, etc.
- Third, tourism destinations should further strengthen the application of supporting technologies to facilitate the implementation of CE. This includes installing solar-powered electrical equipment for public lighting systems; deploying facilities for the sorting and collection of recyclable waste, particularly plastic waste; applying technologies to develop distinctive local tourism products that are closely linked to tourism development, originate from local resources and are based on recycling and reuse. Such products may include organic agricultural goods, handicrafts derived from woodworking, bamboo and rattan weaving, garment production, ceramics, and souvenir items made from recycled materials and locally sourced inputs. In addition, digital technologies should be applied to monitor and evaluate the implementation of CE practices at tourism destinations, including recreational sites, restaurants, hotels, and accommodation facilities, etc.
- Fourth, communication and awareness-raising efforts regarding the implementation of CE, energy conservation and green consumption should be strengthened at tourism destinations in order to enhance awareness and promote CE practices among tourists, local residents, policymakers and tourism enterprises.
- Fifth, it is necessary to develop dedicated financial policies to support enterprises and tourism destinations in implementing CE, while also mobilizing and attracting socialized (private and non-state) capital for CE initiatives at tourism destinations.
- Sixth, networks should be established to strengthen linkages among tourism enterprises, between enterprises and local communities, and between tourism businesses and local firms in order to facilitate experience sharing and enhance commitment to CE practices in tourism development in Vinh Phuc Province.
- Seventh, enhance the participation of influential figures in workshops, conferences, trade fairs, performances and media activities related to the implementation of CE in tourism in order to enhance dissemination and community-wide adoption of circular economy practices at tourism destinations.

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