

## Original Research Article

# An Investigation of the Effect of Green Creativity on the Development of the Tourism Industry (Case Study: Ardabil Province)

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**Abstract** Nowadays, environmentalism has increased among consumers. For this reason, firms can use a concept called green creativity to respond to this trend. Also, since the development of the tourism industry in a region can lead to disadvantages such as environmental pollution or damage to local culture and heritage in addition to advantages, tourism firms should pay more attention to the concept of green creativity. The purpose of this research is to answer the main question: what role does green creativity play in the development of the tourism industry in Ardabil province? The type of research was applied in terms of purpose and descriptive-correlational in terms of the nature of the method. The sample of the research was the employees of service businesses related to tourism in Ardabil province. For sampling, a simple random sampling method was used, and to select the sample size, Cochran's formula was used, based on which the sample size was equal to 346. Collecting the required data was done using two standard questionnaires on green creativity and effective factors in the development of tourism in the region. Validity was checked and confirmed using confirmatory factor analysis and reliability by Cronbach's alpha. Data analysis was done using the SEM method and SPSS 26 and Smart PLS 3 statistical software. The findings of the research showed that since the variable of green creativity explains the variance of the tourism industry, green creativity has a positive and significant effect on the development of the industry. Also, based on the findings, among the dimensions of green creativity, green creative motivation is effective for the development of the tourism industry. The findings of this research can be effective in encouraging organizations and firms active in the tourism industry to pay more attention to green creativity.

**Keywords** Ardabil Province, Green Creativity, Tourism Development, Tourism Industry.

**Introduction** Nowadays, tourism is considered one of the influential factors in the development of relations between nations, but its development requires special facilities such as infrastructure, facilities, and equipment, historical and cultural monuments, natural attractions, weather conditions, customs, and traditions, etc. (Sobhani, 2010, 114). However, Ardabil province has not achieved a good position in the tourism industry with its many tourism talents (Vejdan Taleshmichael, 2008, 3). In such a

way that the absence of a specific management procedure and the absence of a regular and coordinated plan and the lack of foresight for the development of tourism in the province have caused, despite its capabilities, no effective step has been taken for its development, and its capacities are not exploited as they should be (Nazmfar & Alibakhshi, 2022, 61). For example, the city of Ardabil, which is the main tourist hub of Ardabil province and compared to other regions, has a unique position in terms of its geographical location in the center of the province. Suitable resources and potentials, and proper access

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to this city, special features have given it an important status and position in the tourism sector but despite its various tourism potentials, this city has not been able to be successful in attracting tourists (Minaei, Heidari Chianeh & Ghorbani, 2020, 144). Due to deprivation and a high percentage of youth unemployment, the villages of Ardabil have not been able to gain the recognition they deserve despite their potential in various fields including tourism (Taleshi, Khodapanah & Aghayari Hir, 2018, 171). Since the tourism industry, as one of the most important and income-generating industries in the world at the beginning of the third millennium, accounts for a huge part of the countries' foreign exchange earnings, and in addition to creating jobs, it causes foreign currency acquisition, peace of mind, fair distribution of wealth, and the exchange of cultures (Fartukzadeh et al., 2016, 94); Therefore, it is necessary to carry out activities and take some measures for the development of the tourism industry in the province to help cities and villages reap the above-mentioned benefits.

But on the other hand, despite the many benefits that can be considered for tourism, in the absence of proper planning in this field, the development of tourism will have negative environmental, economic, cultural-social effects, etc. In this case, tourism will not only be considered a profitable activity but also a harmful and undesirable activity (Majnoony Toutakhaneh & Soleimani, 2018, 42). Since global warming and devastating environmental pollution have increased the need for environmentalism, corporations are now dealing with more environmentally concerned stakeholders. Strict environmental regulations, increasing demand for green products, and pressure to comply with international standards are a reflection of stakeholders' focus on environmental issues. To mitigate pressure from various stakeholders, firms have adopted an environmental management system, that enhances their corporate image and competitive advantage. In today's competitive business world, organizations are producing green products to respond to consumers' environmental concerns. To do so, green creativity serves as a competitive weapon to deal with increased competition and customers' demands (Mansoor et al., 2021, 1).

Based on the explanations given about the state of the tourism industry in Ardabil province, as well as the need to pay attention to environmentalism in the current era, and since there has been no research on the effect of green creativity on the development of the province's tourism industry, therefore, it is expected to carry out this research, while expanding this issue, can contribute to the development and prosperity of the tourism industry in Ardabil province and provide tourism benefits for the region, along with increasing the attention of tourism

organizations and firms to maintaining the health of the natural environment and culture of the region through the use of green creativity. Based on what was said, the main purpose of this research is to explain the effect of green creativity on the development of the tourism industry in Ardabil province. It should be noted that the current research was conducted to answer the main question, what role does green creativity play in the development of the tourism industry in Ardabil province?

## Research Background

There are few domestic studies in the field of green creativity. In research, Parviz et al. (2019) in an article entitled "Green Transformational Leadership Role Based on Improving Green Creativity Through Green Organizational Identity" collected data from managers and employees of tourist hotels and after analyzing the data, they came to these results. It has been found that green leadership has a positive impact on green organizational identity, which in turn leads to the improvement of green creativity in organizations. Since resource allocation acts as a mediator and moderator in the relationship between green organizational identity and green creativity, therefore, hotels should increase their resource allocation to improve green creativity among their staff. In another research entitled "The Effect of Green Education on Green Citizenship Behavior with the Moderating Role of Green Management Performance, Green Creativity and Green Employees Involvement in A Hospital" by collecting and analyzing data from the employees of a hospital in Tehran, Andervazh et al. (2020) concluded that green education in green citizenship behavior has a significant effect on the moderating role of green creativity and the moderating role of green employees. Therefore, effective green education can help hospitals take effective measures to maintain environmental sustainability. Among the foreign researchers, Joshi and Lochan Dhar (2020) in research entitled "Green Training in Enhancing Green Creativity Via Green Dynamic Capabilities in the Indian Handicraft Sector: the Moderating Effect of Resource Commitment" surveyed 211 handicraft sector managers and found that green training influences the organizations' green creativity both directly and indirectly, and that green dynamic capabilities further influence the green creativity indirectly via the moderating role of resource commitment to producing superior creative outcomes. In research entitled "Green Creative Behavior in The Tourism Industry: The Role of Green Entrepreneurial Orientation and A Dual-Mediation Mechanism", Luu (2020) collected and analyzed data from tourism employees and managers in the emerging markets of Asia-Pacific and finally reached these results. It has been found that the positive

relationship between green entrepreneurial orientation and green creative behavior of employees is mediated through the dual paths of green creative self-efficacy and environmental passion. Also, the quality of green communication plays a moderating role in the relationship between green entrepreneurial orientation, green creative self-efficacy, and harmonious environmental enthusiasm, and in this way, green entrepreneurship and creativity are pushed toward the field of tourism. Based on this, to create sustainable tourism services, organizations active in the tourism industry should strengthen the green creativity of employees through the cultivation of green entrepreneurial orientations. By collecting and analyzing data from among the employees of the tourism and hospitality sector, in a study entitled “Green Inclusive Leadership and Green Creativity in the Tourism and Hospitality Sector: Serial Mediation of Green Psychological Climate and Work Engagement”, Bhutto et al. (2021) found that green inclusive leadership has a positive relationship with green psychological climate and green creativity, green creativity with green work engagement and green work engagement with green creativity. In addition, the sequential mediating effect of green psychological climate and green work engagement is supported. These results are useful for the tourism and hospitality sector, where a relational leadership style, such as inclusive leadership, is relevant given the small size of business units, the sector’s service-oriented nature, and the power of employees to foster greater creativity at the point of contact with customers. In their research entitled “Green Mindfulness and Green Creativity Nexus in the Hospitality Industry: Examining the Effects of Green Process Engagement and CSR,” Kalyar et al. (2021), collected and analyzed data from the frontline managers of the hospitality industry in Pakistan and reached the following conclusions: Green mindfulness has a positive relationship with GCPE and green creativity. In addition, GCPE plays a mediating role in the relationship between green mindfulness and green creativity. Also, perceived corporate social responsibility moderates the relationship between green mindfulness and GCPE. The mediating effect of perceived corporate social responsibility is also significant. Farooq et al. (2022) in their research titled “Do Green Human Resource Management and Self-efficacy Facilitate Green Creativity?” on luxury hotels and resorts” found a positive relationship between green human resource management and green creativity and highlighted the mediating effect of green self-efficacy on the relationship between green human resource management and green creativity. But the mediating role of green transformational leadership was not confirmed by the indirect effects of green human resource management and green creativity. As observed,

the conducted researches show the importance of green creativity in various organizations and firms and indicate the necessity of providing contexts and resources for the growth and cultivation of green creativity among employees. It is on this basis that in the present study, the role of green creativity of employees of tourism service organizations in Ardabil province is investigated in its tourism development.

## Theoretical Principles

### • Green creativity

Creativity is defined as “the production of novel and appropriate ideas in any realm of human activity, from science to the arts to education, to business, to everyday life”, thus the ideas have to be new and appropriate to the opportunity or problem presented (Al-Ababneh, 2020, 245). To comprehensively uncover the nature of creativity, Rhodes proposes a 4P’s model of creativity. The model assesses creativity in four different ways, including person, process, press, and products. Specifically, the term “person” refers to the creative attributes of individuals, e.g., personality, thinking styles, and intelligence. The term “process” depicts the personal behaviors to achieve creative goals, e.g., learning, perception, and communication. The term “press” means the creative environment, like external and internal sources. The term “product” reflects creative outcomes, like novel and useful ideas, solutions, and products. In the last decade, scholars introduce creativity into the emerging research domain of green behaviors. The roles of green creativity are argued to be the premise of green innovation. Chen and Chang initially propose the concept of green creativity. Referring to the notion of creativity, they defined it as the production of new and useful ideas about green products. Although this definition is widely applied in the research field of green creativity, it can only reflect in the dimension of the product. However, it is hard to say whether the product can completely account for green creativity. Because it is unreasonable for managers to judge a newcomer without any experience in green product R&D as a person with no or low level of green creativity. To solve this problem, we put forward an integrative definition of green creativity as a comprehensive capacity for employees to develop green products (Jiang et al, 2021, 2). Based on this, Green creativity is “the development of new ideas about green products, green services, green processes, or green practices that are judged to be original, novel, and useful” (Mansoor et al, 2021, 3).

### • Dimensions of employee green creativity

By adopting the 4P’s model, we propose a four-dimensional model of employee green creativity, which identifies four “bases” of green creativity: green creative motivation,

thinking, behavior, and outcome. Accordingly, green creative motivation represents the dimension of the press; green creative thinking represents the dimension of the person; green creative behavior represents the dimension of the process; green creative outcome represents the dimension of the product (Jiang et al., 2021, 3). Below, each of these dimensions is described:

1. Green creative motivation: It refers to the internal desire in the soul and thinking of the individual to generate substantial ideas for the production and development of green products that reduce environmental pollution and achieve long-term sustainability. The presence of these individuals in the organization will serve as the engine and catalyst for the rest of the staff to generate new fundamental ideas.

2. Green creative thinking: It requires individuals to possess cognitive capabilities in identifying fundamental problems, finding solutions to them in creative ways, and enjoying cognitive flexibility in developing strategic plans and solutions in line with every new problem that appears before them, and to be able to collect different ideas from their peers and discuss them seriously and flexibly to reach the core idea.

3. Green creative behavior: It is the ability of individuals to learn green behaviors and skills and the ability to communicate and exchange these green behaviors and knowledge in a flexible manner with others, to achieve green creative goals through offering or developing green products, and they have the fundamental capabilities to improve their dynamic capabilities and develop their green behavior.

4. Green creative outcome: An effort to develop new ideas and proposals for green products, green services, green processes, or green practices, which are judged and recognized as original, novel, and beneficial to the environment. It is a strategic effort to reduce the negative effects of production processes on the environment to contribute to achieving environmental sustainability. Here we emphasize the need to quickly consider the quantity, quality, and value of creative ideas when employees develop and implement green products (Taha & Abbas, 2021, 21-22). It should be mentioned that in the current research, these dimensions are used to measure the green creativity of employees and also to examine the impact of each of them on the development of the tourism industry.

#### • Tourism and tourism industry

The United Nations World Tourism Organization (UNWTO) defines tourism as follows: “The activities of a person who travels outside of his/her usual environment for less than a specified period, the main purpose of his/her travel is to perform activities other than those visited in the place” (Karnama, Dehghani & Shafiei, 2014, 790).

Similarly, the Organization for Economic Co-operation and Development states that “tourism includes the activities of people who travel to places outside their usual environment for a maximum of one consecutive year for leisure, business, and other purposes carried out with the activities. It is different in the place visited, in which they stay” (Safari Ali Akbari et al., 2018, 484). It should be noted that the processes, activities, and results resulting from communication and interaction between tourists, tourism industry activists, the local community, and the surrounding environment, which provide the means to attract and accept tourists to the destination, are called the tourism industry. Therefore, the tourism industry is a collection of various industries, services, and activities that lead to a travel experience (Seifollahi, Hazeri & Hosseini, 2016).

#### • Development of the tourism industry

Generally, the term ‘development’ can be used in three senses, namely: a process, the outcome of that process, and the activities that support the process, each of which embraces or may be considered from competing social, economic, political, and environmental ideological perspectives (Sharpley, 2009, 30). The development of tourism in the world today is concerned with the sustainable aspects of the preservation of cultural heritage and conservation of the natural environment. Many destinations have begun to minimize the social-cultural impacts and the impact on the environment due to tourism. Tourism development nowadays tends to no longer adapt the massed tourism development but more in the form of special interest tourism development or considered as alternative tourism development. The stage of development of this tourism is more as a stimulus to the concern for the carrying capacity of the natural and cultural environment as well as the welfare of local communities. From the motivation, awareness, and growing maturity among these special interest travelers, destinations are required to assess the carrying capacity of the natural and cultural environments to accommodate the expectations of tourists not limited to the physical products offered, more than that, experience and understanding outstanding (the real experiences) and quality innovative services. An example is the authenticity of the cultural appeal (authenticity) that information can relate to the interpretation of the environment. WTO (1993) stated that sustainable development should embrace the three basic principles of ecological sustainability, social and cultural sustainability, and economic sustainability for both present and future generations which will come. In addition to the sustainability of natural and economic resources, cultural sustainability is a very important resource in the development of tourism. Sustainable tourism will be



achieved if there is a continuous use of natural resources, cultural resources, and human resources in addition to economic sustainability fairly and equitably (Amerta, Sara & Bagiada, 2018, 249). The opposite point of sustainable tourism is unsustainable tourism; In this way, if the correct policies and plans are not well designed and formulated to achieve tourism goals, unsustainable tourism will occur (Falah-Fa'āl & Kia Kojouri, 2021, 35).

• **Effective factors in the development of the tourism industry**

generally, many factors play a role in the development of the tourism industry of a region, and the interaction and communication between them shape the development of tourism. The three main factors in the development of tourism are tourists, the people of the region, and the characteristics of the destination (Shoraka, Alizadeh & Jafari, 2022, 125). However, it can be said that the tourism system consists of elements that are the most important factors in the development of the tourism industry, which are divided into five criteria in a general classification, each of which has several sub-criteria. These criteria and sub-criteria are:

- a) Tourism infrastructure: Transportation facilities, Accommodation-welfare facilities, Basic infrastructure, and Access to human settlements;
- b) Economic power: Support from government and non-government sectors, Amount of income (Rials and foreign currency), Investment opportunities, and Job opportunities related to tourism;
- c) Natural power: Tourist attractions, Weather conditions, and Special strategic location of the region;
- d) Tourism facilities: Advertising and marketing, Tourism agencies and tours, Recreational and cultural facilities, and Seasonal exhibitions and festivals;
- e) Demographic-social capacity: The security situation in the area, The acceptance of the tourism industry by the residents, and Citizen participation in the development of tourism (Saeideh Zarabadi & Abollah, 2014, 39).

All of the contents stated in the theoretical foundation section are used to draw the conceptual model of the research and show the relationships between the variables, as well as formulate the hypotheses of the research, which are presented below.

**Conceptual Model of Research**

Based on the review of previous research and theoretical principles, a conceptual model can be drawn as shown in Fig. 1 for the current research. Based on this model, green creativity and its components (i.e. green creative motivation, thinking, behavior, and outcome) are considered independent variables, and the tourism industry is the dependent variable of the research. With

the help of the conceptual model, hypotheses can be formulated for this research.

Based on this, the main hypothesis of the current research is formulated as follows:

“Green creativity has a significant effect on the development of the tourism industry in Ardabil province.”

Also, the sub-hypotheses of this research are:

- Green creative motivation has a significant effect on the development of the tourism industry in Ardabil province.
- Green creative thinking has a significant effect on the development of the tourism industry in Ardabil province.
- Green creative behavior has a significant effect on the development of the tourism industry in Ardabil province.
- Green creative outcome has a significant effect on the development of the tourism industry in Ardabil province.

**Methodology**

The current research was conducted to explain the effect of green creativity on the development of the tourism industry in Ardabil province. This research is applied in terms of purpose and descriptive-correlational in terms of the nature of the method. The statistical population of the research was the employees of service businesses related to tourism in Ardabil province. The sampling method was random sampling, and to determine the sample size, Cochran’s formula was used. With regard to the existence of 315 hotels, guesthouses, and apartment hotels in the province (which have a total of about 3500 employees), the sample size was 346. The method of data collection was library research (including the use of books, theses, articles, etc.) and also the field method (using a questionnaire). The field data collection was done with the help of two standard questionnaires “green creativity” (consisting of 4 dimensions and 16 questions) and “effective factors in the development of tourism in the region” (consisting of 5 dimensions and 18 questions). All questions are graded on a five-point Likert scale (from option 1 = completely

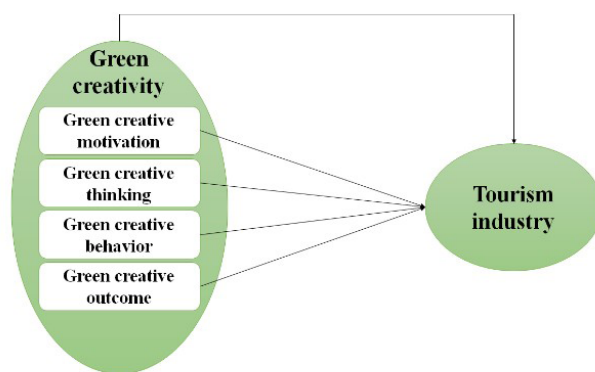


Fig. 1. Conceptual model of research. Source: Theoretical principles. Source: Author.

disagree to option 5 = completely agree). Validity has been examined and verified by confirmatory factor analysis and reliability using Cronbach's alpha. In addition, the questionnaires have been approved by experts in terms of content validity. Data analysis was done with the help of structural equation modeling (partial least squares approach) and using SPSS 26 and Smart PLS 3 software.

### Area of the Study

Ardabil Province with the center of Ardabil city is one of the northwestern provinces of Iran. This province is bordered by the Republic of Azerbaijan from the north, East Azerbaijan Province from the west, Gilan Province from the east, and Zanjan Province from the south. One of the characteristics of this province is the pleasant and cool weather of this region in spring and summer. Other cities of this province include Ardabil, Beileh Savar, Parsabad, Sareyn, Nir, Khalkhal, Meshgin Shahr, and Namin. Ardabil province is one of the most prosperous and valuable regions of Iran in terms of nature, history, society, and culture. The special geological and topographic situation of the region has created natural attractions and beautiful landscapes and added to the natural wealth of the region. In most areas of the province; Many natural and historical monuments are scattered. The magnificent Sabalan mountain with the Sabalan volcanic peak and spa springs and small but numerous natural lakes are considered the most important natural attractions of Ardabil province. Sareyn Spa Complex, 25 km west of Ardabil city, is one of the most famous tourist areas of Ardabil province. Gurgor Sabalan Spring, which is located in Meshgin Shahr city, Nav Khalkhal pass, which is connected to the Rasht and Astara road from Talesh forests, and Heyran pass, which is one of the most beautiful and unique natural landscapes of Iran, are located in this province. Ardabil province also has many historical buildings and places of interest, some of which, like the tomb of Sheikh Safi al-Din Ardabili, include many buildings from different periods, and by going to a place of interest, you can visit several historical and old works. Castles such as Qahqaheh Castle, Kohne Ghale, ancient hills, old baths, large mansions (Wakil al-Raaya House), famous cemeteries, and sacred and historical tombs are among other sights of Ardabil province, which have provided unique attractions in addition to handicrafts and social and cultural attractions of the region (National Cartographic Center of Iran, 2013, 50). The geographical location of Ardabil province in the country is shown in the form of a map (Fig. 2).

### Measurement model fit

The measurement model defines the relationships between latent and observed variables. To check the convergent

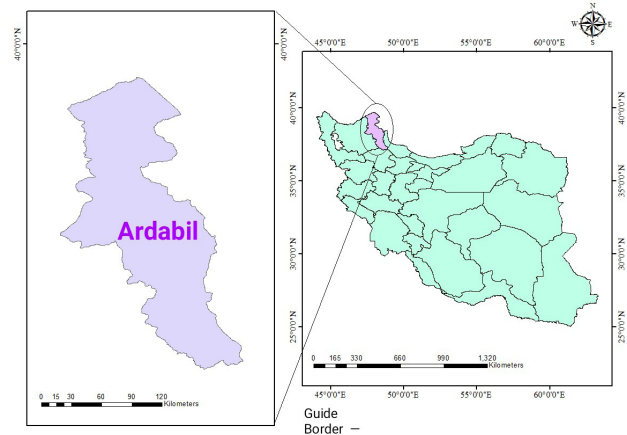


Fig. 2. The location of Ardabil province. Source: Author.

validity, the Average Variance Extracted (AVE) measure is analyzed. AVE values are higher than 0.4, which shows that the convergent validity of the questionnaire is suitable. Composite reliability (values higher than 0.7) is a criterion for assessing the internal fit of the model, which can be calculated based on the consistency of the questions related to the measurement of each factor. The composite reliability measure is the ratio of the sum of the factor loadings of the latent variables to the sum of the factor loadings plus the error variance. Its value is between 0 and 1 and is an alternative to Cronbach's alpha. Standard consistency for composite reliability (CR) is a value above 0.6, all composite reliability values were greater than 0.6. Therefore, the measurement model has good reliability. Cronbach's alpha measures the simultaneous loading of latent variables when increasing an observed variable. The value of this measure is between 0 and 1. The degree of relationship of a construct with its indicators in comparison with other constructs is determined by divergent validity. According to the Fornell & Larker test, the square root of the average variance extracted from each latent variable must be greater than the maximum correlation of that latent variable with other variables. Acceptable divergent validity of a model indicates that a construct in the model interacts more with its indicators than with other constructs. A minimum value of 0.5 has been considered for it, and this means that the desired latent variable explains at least half of its observable variance. Table 1 shows AVE, composite reliability, Cronbach's alpha coefficient, and Fornell-Larker test, which are more than their minimum value and the variables have high reliability. Based on this, the measurement model has high reliability (Table 1).

### Structural Model fit

To check the structural model fit, two criteria  $R^2$  and  $Q^2$  have been used.  $R^2$  measures the proportion of the variance of the dependent variable around its mean that is

Table 1. Measurement model fit indices. Source: Author.

Variable	Average Variance Extracted	composite reliability (CR)	Cronbach's alpha	Fornell & Larcker
Green creativity	0.58	0.96	0.95	0.76
Green creative motivation	0.77	0.93	0.90	0.88
Green creative thinking	0.77	0.93	0.90	0.88
Green creative behavior	0.72	0.91	0.87	0.85
Green creative outcome	0.78	0.94	0.91	0.89
Tourism industry	0.48	0.94	0.94	0.69

explained by the independent variable. Values around 0.67 are considered strong, values around 0.33 are considered moderate, and values below 0.19 are considered weak. Q<sup>2</sup> explains the relative impact of predictive relevance with the values of 0.02, 0.15, and 0.35, which indicate its small, medium, and large effect size. In Tables 2 & 3, both criteria R<sup>2</sup> and Q<sup>2</sup> have an acceptable value.

### Data analysis and findings

#### • Main hypothesis

The research findings indicate that the variable of green creativity explains the variance of the tourism industry. As can be seen in Figs. 3 & 4, the path coefficient of the effect of the green creativity variable on the tourism industry has been calculated equal to 0.498 and considering that the t-value is equal to 10.916 and is significant at the 0.05 level with 95% confidence is said that green creativity has a positive and significant effect on the development of the tourism industry, and if green creativity is strengthened in tourism firms and organizations, tourism will also develop.

#### • Sub-hypotheses

Based on the findings and as seen in Figs. 5 & 6, the path coefficient of the effect of green creative motivation on the tourism industry is equal to 0.486 and its t-value is equal to 7.693, which is significant at 0.05 level and it is said with 95% confidence that the green creative motivation has a positive and significant effect on the development of the tourism industry. But the path coefficient of the effect of green creative thinking on the tourism industry is equal to -0.122 and its t-value is equal to 1.763, the path coefficient of the effect of green creative behavior

on the tourism industry is equal to 0.087 and its t-value is equal to 1.088 and the path coefficient the effect of the green creative outcome on the tourism industry is equal to 0.135 and its t-value is equal to 1.702, none of which are significant at the 0.05 level, and therefore, it can be said with 95% confidence that green creative thinking, green creative behavior, and green creative outcome do not have a significant effect on the development of the tourism industry.

### Overall Model Fit

To check the overall model fit, a criterion called GOF has been used. Based on three values of 0.01, 0.25, and 0.36, which represent weak, medium, and strong values of the GOF criterion respectively, and the value obtained for GOF (for the main hypothesis and sub-hypotheses) can confirm the overall and strong fit of the research model.

Table 2. R<sup>2</sup> and Q<sup>2</sup> criteria for the structural model fit (for the main hypothesis). Source: Author.

Variable	R <sup>2</sup>	Q <sup>2</sup>
Tourism industry	0.25	0.11

Table 3. R<sup>2</sup> and Q<sup>2</sup> criteria for the structural model fit (for the Sub-hypotheses). Source: Author.

Variable	R <sup>2</sup>	Q <sup>2</sup>
Tourism industry	0.32	0.14

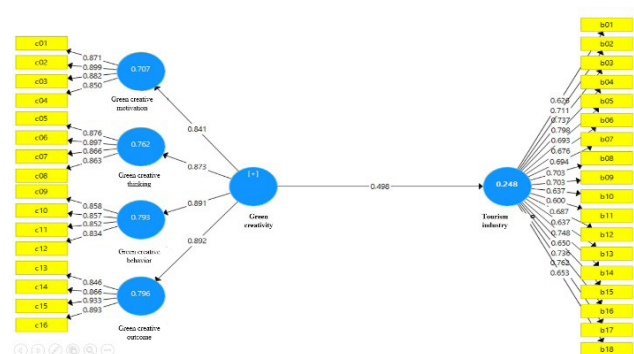


Fig. 3. Factor loading coefficients and path coefficients for the main hypothesis of the research. Source: Author.

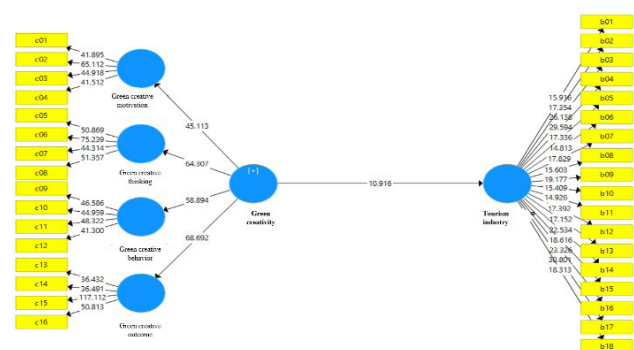


Fig. 4. T-values for the main hypothesis of the research. Source: Author.

$$GOF = \sqrt{\text{Communalities} \times \bar{R}^2}$$

$$GOF = \sqrt{0.71 \times 0.25} = 0.42 \text{ (Main hypothesis)}$$

$$GOF = \sqrt{0.70 \times 0.32} = 0.47 \text{ (Sub-hypotheses)}$$

### Summary of Hypothesis Test Results

In Tables 4 & 5, the summary of the results of the hypothesis test is presented. According to the t-value which is higher than 1.96 at the 95% confidence level, according to Table 4, green creativity has a positive and significant effect on the development of the tourism industry. According to the t-value, which is higher than 1.96 at the 95% confidence level, and according to Table 5, green creative motivation has a positive and significant effect on the development of the tourism industry. But as can be seen, since the t-value is smaller than 1.96 at the 95% confidence level, green creative thinking, green creative behavior, and green creative outcome do not have a positive and significant effect on the development of the tourism industry.

### Conclusion and Suggestion

The findings of the research confirm that green creativity has a positive and significant effect on the development of the tourism industry. Also, based on these findings, among the dimensions of green creativity, green creative motivation also has a positive and significant role in the development of the tourism industry. Therefore, if

firms and organizations active in the tourism industry (such as travel and tourism agencies and tours, hotels, and hospitality establishments, etc.), increase green creativity among their employees and then produce and provide green products and services and provide them to their customers (tourists), while they can attract more customers to them (especially customers who are in favor of protecting the environment), in the end, they can help the development and prosperity of the tourism industry in the region. Also, in this case, the occurrence of negative effects caused by the development of tourism (such as environmental pollution or damage to the local culture and heritage of the region) will be prevented to a great extent. In addition, these firms and organizations should try to strengthen the green creative motivation among their employees with various methods, because the strengthening of the motivation leads to the creation of new ideas for the production and presentation of new green products and services in the field of tourism and also acts as a stimulus for other employees of the organization. Based on the comparison with previous studies, it can be said that the results and findings of the present study are more similar to the results of Luu's study (Luu, 2020) because in that research, cultivating the green creativity of employees was necessary to create sustainable tourism services. But since the current issue has not been investigated in the domestic context, the results of this

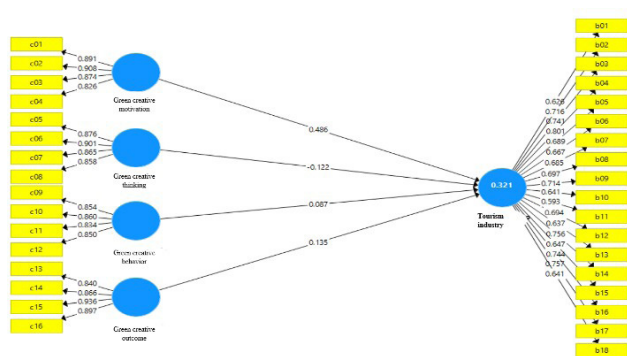


Fig. 5. Factor loading coefficients and path coefficients for the sub-hypotheses of research. Source: Author.

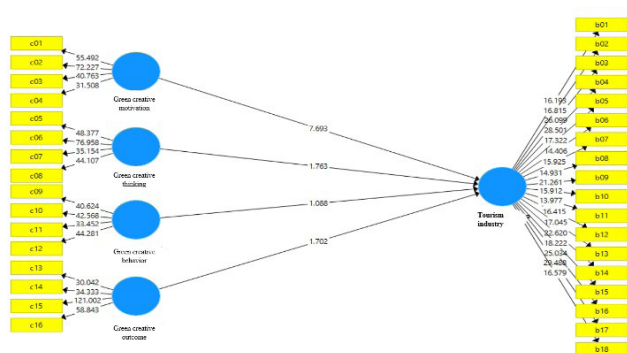


Fig. 6. T-values for the sub-hypotheses of research. Source: Author.

Table 4. The main hypothesis test result. Source: Author.

Main hypothesis	Path coefficient	t-value	Result
Green creativity ↓ Tourism industry	0.498	10.916	confirmation

Table 5. The sub-hypotheses test results. Source: Author.

Sub-hypothesis	Path coefficient	t-value	Result
Green creative motivation ↓ Tourism industry	0.486	7.693	Confirmation
Green creative thinking ↓ Tourism industry	-0.122	1.763	Rejection
Green creative behavior ↓ Tourism industry	0.87	1.088	Rejection
Green creative outcome ↓ Tourism industry	0.135	1.702	Rejection



research provide the basis for expanding the issue. Based on the results of this research, practical suggestions for tourism firms are presented as follows:

- The requirement to strengthen green creativity among the organization's employees to help the development of the tourism industry.
- Increasing the amount of green creative motivation in the employees of tourism firms through external stimuli (for example financial and non-financial incentives) to increase their participation in the creative process of developing green products.

- Teaching new skills to employees and encouraging them to get more information about green products and services in tourism companies.

- Producing green products in the field of tourism (for example recyclable and renewable products and packaging), providing green services, green processes (procedures), etc., and advertising for them to inform and attract customers (tourists) to the firm.
- Promoting the culture of environmental protection and respect for the nature and local culture of the region among the employees of tourism firms and their customers (tourists).

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