

The Impact of Green Marketing Strategies Adoption on Enhancing Ecotourism: A Field Study of Travel Agencies in Skikda, Algeria

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Abstract:

This study aims to examine the impact of adopting green marketing strategies on enhancing ecotourism within travel agencies in Skikda, Algeria. A descriptive–analytical approach was adopted, using a structured questionnaire distributed to a purposive sample of 30 travel agencies. The study examines the impact of the seven dimensions of the green marketing mix (7Ps) on ecotourism, measured through its economic, social, and environmental dimensions.

The findings reveal that green marketing has a statistically significant and strong effect on ecotourism ($R^2 = 0.764$), indicating its crucial role in promoting ecotourism practices. Among the studied dimensions, green physical evidence and green pricing showed the strongest impact, while green product, promotion, and people showed relatively limited effects. The results also indicate that green marketing practices in Skikda are still partially implemented and lack strategic integration.

The study concludes that enhancing ecotourism requires a comprehensive and coordinated adoption of green marketing practices, supported by improved environmental awareness, innovation, and institutional support.

Keywords: Green Marketing, Ecotourism, Travel Agencies, Skikda.

Jel Classification Codes : M31 ; Q56 ; L83.

Résumé:

Cette étude vise à examiner l'impact de l'adoption de stratégies de marketing vert sur le développement de l'écotourisme au sein des agences de voyage de Skikda, en Algérie. Une approche descriptive et analytique a été adoptée, à l'aide d'un questionnaire structuré distribué à un échantillon raisonné de 30 agences de voyage.

Les résultats révèlent que le marketing vert a un effet statistiquement significatif et important sur l'écotourisme ($R^2 = 0,764$), ce qui indique son rôle crucial dans la promotion des pratiques d'écotourisme. Les dimensions des preuves physiques vertes et le prix vert ont montré l'impact le plus fort, tandis que le produit vert, la promotion et les personnes ont montré des effets relativement limités.

L'étude conclut que les pratiques de marketing vert à Skikda sont encore partiellement mises en œuvre et manquent d'intégration stratégique ; et le développement de l'écotourisme nécessite une approche intégrée de marketing vert, soutenue par une meilleure sensibilisation à l'environnement, l'innovation et un soutien institutionnel.

Mots clés: Marketing vert, Écotourisme, Agences de voyage, Skikda.

Jel Classification Codes : M31 ; Q56 ; L83.

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I. Introduction

In recent years, growing environmental concerns and the global shift towards sustainability have significantly reshaped the tourism industry, with ecotourism emerging as a strategic alternative that strikes a balance between economic development, environmental protection and social responsibility. In this context, green marketing has gained increasing importance as a managerial approach that integrates environmental considerations into marketing practices, enabling tourism organizations to enhance their competitiveness whilst contributing to sustainable development.

In Algeria, particularly in Skikda, the tourism sector benefits from rich natural resources, including coastal and forest ecosystems, which offer strong potential for the development of ecotourism. Therefore, the study aims to explore the impact of adopting green marketing strategies on the promotion of ecotourism in travel agencies in the province of Skikda- Algeria, focusing on the seven dimensions of the green marketing mix (7Ps) and their impact on the economic, social and environmental dimensions of ecotourism.

I.1 Research Problem: In light of the above, this study attempts to answer the following question: **Is there a statistically significant effect of green marketing on ecotourism at a significance level of ($\alpha \leq 0.05$) in travel agencies in Skikda?**

I.2 Research Hypotheses:

Main Hypothesis: «There is a statistically significant effect of green marketing on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province».

Sub-Hypotheses: From the main hypothesis, the following set of hypotheses are derived:

- There is a statistically significant effect of green product/service on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province;
- There is a statistically significant effect of green pricing on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province;
- There is a statistically significant effect of green place on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province;
- There is a statistically significant effect of green promoting on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province;
- There is a statistically significant effect of green people on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province;
- There is a statistically significant effect of green process on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province;

- There is a statistically significant effect of green Physical Evidence on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province.

I. 3 Research Objectives: The study aims to investigate the following aspects:

- Analyzing the level of adoption of green marketing practices in travel agencies;
- Measuring the level of ecotourism development across its dimensions;
- Examining the impact of green marketing on ecotourism, and identifying the most influential dimensions of the green marketing mix;
- Providing practical recommendations to enhance ecotourism in Skikda.

I. 4 Research Significance:

The study Contributes to enriching the literature on green marketing and ecotourism, particularly in the Algerian context. It also provides actionable insights for travel agencies and decision-makers to improve ecotourism practices and better exploit the environmental potential of Skikda.

I. 5 Literature Review

- **Setiadi, S., Widyastuti, S., Zulkifli, & Darmansyah. (2025)**, Towards Sustainable Tourism: Impact Evaluation of Green Marketing Strategies and Related Factors: A Systematic Literature Review, *International Journal of Science and Society*, 7(1): This study examines weak destination images in sustainable tourism due to limited integration of green marketing with social media. A systematic literature review of 200 articles was conducted, assessed using PRISMA and AMSTAR. Results show that green marketing strategies attract eco-conscious tourists and encourage sustainable behavior, while social media enhances environmental awareness and destination image. The study highlights the need for eco-friendly tourism products and recommends integrated digital campaigns to promote green tourism in emerging destinations. (Setiadi , Widyastuti , Zulkifli, & Darmansyah, 2025)
- **Fares Gater & Chafika Mehri (2025)**, "Environmental Marketing in the Algerian Tourism: Challenges and Opportunities through Multi-Sectoral Communication ", *European Economic Letters*, 15 (1): This study investigates the application of ecological marketing in the Algerian tourism sector to assess current practices, challenges, and opportunities for enhancing sustainability Using a qualitative approach with stakeholder interviews and literature analysis, it finds growing awareness of environmental issues but persistent infrastructure and knowledge gaps. The authors highlight the need to integrate ecological marketing into

tourism policies and recommend educational campaigns, policy incentives, and stakeholder collaboration to promote sustainable tourism. (Fares & Chafika , 2025)

- **Mimoune Nabila., Kerouche Mohamedelamin., Mairif Okba (2023), "** Green marketing: a necessity to support and develop ecotourism -Green Marketing Activities and fields in Al-ghouat, Alwadi state, as a touristic destination of ecotourism -, *Journal of Economic Papers*, 14(2): This study highlights the role of green marketing in promoting ecotourism in Wadi Ghattan. Using a descriptive approach, it identifies eco-friendly activities and community-focused strategies. Key areas include agricultural tourism, educational programs, and traditional green products. The authors recommend policy support and investment to enhance sustainable tourism development. (Mimoune , Kerouche , & Mairif, 2023)

The gap lies in the absence of an Algerian field study focusing on Skikda travel agencies, examining the impact of each dimension of the 7Ps marketing mix on the three dimensions of ecotourism: economic, social, and environmental. Our study adds methodological value through precise statistical analysis of relative effects and provides practical recommendations for strategic integration in the emerging local context.

II. Theoretical Concepts of the Study Variables

II. 1 Green Marketing: Concept and the 7Ps Framework

Green marketing involves integrating environmental considerations into marketing strategies and practices to minimize negative ecological impacts while delivering value to consumers and achieving organizational objectives; the concept dates back to 1976, when Hennion and Kinnear defined Ecological Marketing as marketing activities that contribute to environmental problems but can also provide remedies. Green marketing has evolved from a narrow focus on eco-friendly products to a broader strategic approach encompassing sustainability, stakeholder responsibility, and long-term value creation. In service sectors, particularly tourism, green marketing has gained importance due to rising environmental awareness among consumers and the need for organizations to align with sustainable development goals. It involves adopting environmentally responsible practices across all marketing activities, including service design, pricing strategies, communication, and delivery processes, aiming to reduce resource consumption, promote eco-friendly behavior, and enhance overall environmental performance. Travel agencies play a key role by integrating sustainability principles into their offerings and influencing tourists toward more responsible consumption patterns (Dangelico & Vocalelli, 2017, pp.1265–1268).

This approach is structured around seven key elements (7Ps): (Nguyen, et al., 2025)

- Product – eco-friendly products and services.
- Price – pricing strategies reflecting sustainability costs.
- Place – environmentally responsible distribution channels.
- Promotion – communications emphasizing ecological benefits.
- People – staff training in sustainable practices.
- Process – implementation of green operational procedures.
- Physical Evidence – presenting services and facilities in an eco-conscious manner.

III. 2 Ecotourism and the Role of Green Marketing in Its Development

Tourism is a major global industry, contributing nearly 10% of global GDP according to the World Tourism Organization. However, its rapid expansion has raised concerns about environmental and social impacts, leading to the emergence of ecotourism as a model that balances nature conservation with local community benefits.

The concept of ecotourism was first introduced in 1983 by Hector Ceballos-Lascurain, who associated it with the appreciation and enjoyment of nature. A widely accepted definition by The International Ecotourism Society (IET) in 1991 describes ecotourism as responsible travel to natural areas that conserves the environment and improves the well-being of local populations (Murad, Zeki, & Gülseren, October 2016)

Ecotourism integrates economic, social, and environmental objectives, making it a key component of sustainable development strategies in tourism destinations. It is therefore considered a strategic tool for sustainable local development, contributing to biodiversity conservation, job creation, poverty reduction, environmental awareness; promotion of local culture, and is aligned with the Sustainable Development Goals (UNITED NATIONS, 2025).

Core principles of ecotourism include environmental sustainability, social responsibility toward local communities, equitable economic benefits, and respect for cultural heritage.

Green marketing plays a fundamental role in supporting the development of ecotourism by aligning tourism services with environmental values and enhancing tourists' awareness of sustainability issues. Through effective communication and environmentally responsible practices, green marketing can influence tourist behavior, encouraging the adoption of eco-friendly consumption patterns. Moreover, the adoption of green marketing strategies contributes to improving the quality and credibility of ecotourism services, strengthening destination competitiveness, and ensuring the sustainable use of natural resources.

This is particularly relevant in regions with significant ecological potential, such as Skikda, where the integration of green marketing practices can facilitate the transition toward a more structured and sustainable tourism model.

III. Fieldwork

III. 1 Study Sample and Research Instrument

- **Study Methodology:** This study adopted a descriptive–analytical approach to examine the impact of green marketing practices on ecotourism. Enabling both a systematic description of the phenomenon and a statistical analysis of the relationships between the study variables.
- **Study Population and Sample:** The study population consisted of travel agencies operating in the province of Skikda. A purposive sampling technique was adopted to select agencies that are actively operating within the sector. The final sample comprised 30 travel agencies, with 1 managerial representative from each agency (agency manager or marketing officer). Respondents were selected based on their direct involvement in marketing decision-making and strategic practices, ensuring the relevance and reliability of the collected data.
- **Study instrument:** The primary data were collected through a structural questionnaire designed in accordance with the study objectives and literature on green marketing and ecotourism. The questionnaire is divided into three main sections :
 1. **personal and professional information;**
 2. **independent variable** (Green Tourism Marketing): structured around the seven dimensions of the green marketing mix (7Ps); 4 statements for each, while the seventh element was measured through 3 statements (27 items);
 3. **dependent variable** (Ecotourism): It was structured around three core dimensions: economic, social, and environmental; 4 statements for Each, except for the social dimension, which included 3 statements (11 items).

All measurement items were evaluated using a five-point Likert scale ranging from 1 to 5: Strongly Disagree (01), Disagree (02), Neutral (03), Agree (04), Strongly Agree (05).

III. 2 Validity and reliability of research variables

Cronbach's alpha coefficients were used to assess the reliability of the questionnaire, and the results were as shown in the following table:

Table (01): Reliability Test of the Research instrument- Cronbach's alpha coefficients

Section	Cronbach's alpha	Number of Statements
Green Marketing	0,878	27
Ecotourism	0,934	11
All Sections	0,928	38

Source: Prepared by the researcher using SPSS

The findings show a high level of reliability for the questionnaire items (> 0.7). The Green Marketing construct, measured through 27 statements, recorded a Cronbach's Alpha coefficient of 0.878, indicating good internal consistency. The Ecotourism construct, which is measured through 11 statements, showed a Cronbach's Alpha value of 0.934, indicating a very high level of reliability. Moreover, the overall reliability of the questionnaire, including all 38 items, reached a Cronbach's Alpha coefficient of 0.928, which proves that the instrument demonstrates strong internal consistency and is suitable for statistical analysis.

The structural validity of the research instrument was also tested, where internal consistency refers to the extent to which each statement in the questionnaire aligns with the dimension it belongs to, through calculating the Pearson correlation coefficients between each statement in the questionnaire sections and the total score of the corresponding section. Tables (02) and (03) demonstrate this:

Table (02): Measuring the validity of the internal consistency of Green Marketing Mix statements

Green Marketing Mix	statements	Correlation Coefficient	Significance Level	Green Marketing Mix	statements	Correlation Coefficient	Significance Level	Green Marketing Mix	statements	Correlation Coefficient	Significance Level
G.Produc	1	0,862**	0,000	G.Place	1	0,633**	0,000	G.people	1	0,924**	0,000
	2	0,812**	0,000		2	0,875**	0,000		2	0,674**	0,000
	3	0,774**	0,000		3	0,734**	0,000		3	0,623**	0,000
	4	0,705**	0,000		4	0,875**	0,000		4	0,924**	0,000
G.Price	1	0,844**	0,000	G.Promot	1	0,646**	0,000	G.Proces	1	0,882**	0,000
	2	0,546**	0,000		2	0,824**	0,000		2	0,919**	0,000
	3	0,634**	0,000		3	0,623**	0,000		3	0,837**	0,000
	4	0,844**	0,000		4	0,633**	0,000				
G.Physical Evidence	1	0,705**	0,000								
	2	0,775**	0,000								
	3	0,649**	0,000								
	4	0,768**	0,000								

Source: Prepared by the researcher using SPSS

The table shows that the correlation coefficient for Green Marketing Mix statements range from 0.546 to 0.924, all of which are statistically significant at the 0.01 level. these positive and significant correlations confirm that the statements are consistent with the dimensions they measure, indicating a good internal consistency and supporting the reliability of the G.M.M section.

Table (03): Measuring the validity of the internal consistency of Ecotourism statements

Ecotourism	statements	Correlation Coefficient	Significance Level
Economic dimension	1	0,862**	0,000
	2	0,812**	0,000
	3	0,774**	0,000
	4	0,705**	0,000
social dimension	1	0,844**	0,000
	2	0,546**	0,000
	3	0,634**	0,000
	4	0,844**	0,000
environmental dimension	1	0,633**	0,000
	2	0,875**	0,000
	3	0,734**	0,000
	4	0,875**	0,000

Source: Prepared by the researcher using SPSS

The results show that the correlation coefficient for the Ecotourism statements range from 0.546 to 0.875, all of which are statistically significant at the 0.01 level. these positive and significant correlations confirm that the statements are consistent with the dimensions they measure (economic, social and environmental), confirming a good internal consistency and supporting the reliability of the Ecotourism section.

III. 3 Data Analyses

In this section, the data collected from the questionnaire are presented and analyzed using SPSS statistical software, starting with the descriptive statistics of the respondents personal and professional characteristics, followed by the analysis of the questionnaire sections related to the study variables. This process aims to provide empirical results that contribute to testing previously proposed hypotheses, and achieving the objectives of the study.

III. 3.1 Descriptive Analysis of Personal Data

Table (04): Distribution of Study Sample Individual to Personal Data

Data	Category	Frequency	Percentage
Gender	Male	16	53,3%
	Female	14	46.7%
Age	Under 30	13	43.3%
	30-50	10	33.3%
	Over 50	7	23.3%
Education level	Secondary education or below	8	26.7%
	Bachelor's degree	10	33.3%
	Postgraduate studies	12	40%
Years experiences	1-2 Years	16	53.3%
	2-5 Years	8	26.7%
	Over 5 Years	6	20%

Source: Prepared by the researcher using SPSS

It is clear from the table that the majority of the sample are males representing 53,3% compared to 47% females. This indicates a relatively balanced gender distribution among respondents, reflecting a noticeable participation of women in managerial/marketing activities within travel agencies.

In terms of age distribution, the largest proportion of respondents belongs to the under 30 age category representing 43,3% of the sample; followed by the 30-50 age group (33.3%), while 23.3% are over 50 years old. This indicates that a large proportion of professionals in the travel agency sector are relatively young, which may facilitate the adoption of modern concepts such as green marketing and ecotourism.

The results show a relatively high educational level among respondents (Postgraduate degree holders: 40%, followed by bachelor's degree holders: 33.3%, while 26.7% have secondary education or below). This indicates that managers of travel agencies are well positioned to understand and implement modern marketing practices related to green marketing.

Regarding professional experience: 53.3% of respondents have 1–2 years of experience, 26.7% of them have 2–5 years, while 20% have more than 5 years of experience. This reflects the fact that a significant proportion of respondents are relatively new to the field, which may explain the agencies' tendency to adopt modern marketing methods such as Green Marketing.

Overall, these characteristics indicate that the study sample consists mainly of young and well-educated respondents, which may provide a suitable environment for adopting green marketing strategies and supporting the development of ecotourism.

III. 3.2 Descriptive Analysis of Green Marketing Mix Data

- **Green service:** Green Service statements can be summarized as follows:

Table (05): Analysis of Green service statements

Statement	Mean	Std. deviation	Agreement level	Rank
1	3,66	1,647	High	1
2	3,23	1,250	Medium	3
3	3,60	0,069	High	2
4	3,20	0,297	Medium	4
Total	3,42	1,044	High	

Source: Prepared by the researcher using SPSS

the results indicate that the overall arithmetic mean for the Green Service reached (3,42) with a standard deviation of (1,044), reflecting a moderate level of adoption of Ecotourism practices among travel agencies; with tendency toward higher levels. However, this level does not reflect a comprehensive strategic adoption, but rather partial and selective practices; Although some items scored at levels close to high (1.offering eco-tourism packages), the low relative average for other activities (4.organizing visits to nature reserves) reveals a gap between awareness of the concept and its actual implementation; and a gap between the availability of natural resources in Skikda and their effective transformation into structured ecotourism products, limiting the full contribution of green services to the development of eco-tourism.

- **Green Price:** Green Price statements can be summarized as follows:

Table (06): Analysis of Green Price statements

Statement	Mean	Std. deviation	Agreement level	Rank
1	3,23	1,330	Medium	1
2	2,96	1,245	Medium	3
3	3,00	1,339	Medium	2
4	3,23	1,330	Medium	1
Total	3, 10	0,943	Medium	

Source: Prepared by the researcher using SPSS

the results indicate that the overall arithmetic mean for the Green Price reached (3,10) with a standard deviation of (0,943), reflecting a reflecting a moderate agreement level.

This indicates that pricing strategies do not yet fully incorporate environmental value, as agencies tend to adopt traditional pricing approaches in a price-sensitive local market, where customers tend to make choices based on cost rather than added environmental value. Consequently, green pricing remains a supportive rather than a strategic tool, which reduces its effectiveness in promoting ecotourism.

- **Green Place:** Green Place statements can be summarized as follows:

Table (07): Analysis of Green Place statements

Statement	Mean	Std. deviation	Agreement level	Rank
1	3,13	1,525	Medium	3
2	3,23	1,330	Medium	1
3	3,20	1,297	Medium	2
4	3,23	1,330	Medium	1
Total	3, 20	1,061	Medium	

Source: Prepared by the researcher using SPSS

The overall distribution index recorded a mean of (3.20) with a standard deviation of (1,061), reflecting a moderate level of adoption of eco-friendly distribution channels. Although some practices are implemented (online booking, reducing paper documentation), they do not yet amount to a fully integrated green distribution system.

In the local context, many travel agencies still rely on: traditional channels, paper-based procedures, and limited integration with digital platforms; which limits the reduction of environmental impact and access to environmentally conscious market segments.

- **Green Promotion:** Green Promotion statements can be summarized as follows:

Table (08): Analysis of Green Promotion statements

Statement	Mean	Std. deviation	Agreement level	Rank
1	3,13	1,525	Medium	3
2	3,43	1,546	High	1
3	3,53	1,224	High	2
4	3,46	1,547	High	1
Total	3, 39	1,039	Medium	

Source: Prepared by the researcher using SPSS

The green promotion dimension recorded a mean score of 3.39 with a standard deviation of (1,039), suggesting a moderate to relatively high level of adoption.

This reflects a growing awareness of the importance of environmental communication in attracting customers. However, the fundamental problem is that promotional efforts are often more symbolic and persuasive than informative, lacking credibility backed by actual practices.

In the context of Skikda, promotional content still fails to sufficiently highlight local environmental assets and to clearly offer a well-defined ecotourism experience. This creates a gap between the promotional image and the reality of the service provided.

Therefore, there must be a shift toward content-based promotion, showcasing real experiences and documenting green practices rather than relying solely on slogans.

- **Green People:** Green People statements can be summarized as follows:

Table (09): Analysis of Green People statements

Statement	Mean	Std. deviation	Agreement level	Rank
1	3,33	1,124	Medium	3
2	3,30	1,087	Medium	4
3	3,40	1,101	High	2
4	3,66	1,184	High	1
Total	3, 42	0.815	High	

Source: Prepared by the researcher using SPSS

The green People dimension recorded a mean score of 3.42 with a standard deviation of (0,815), suggesting a moderate to relatively high level of adoption; reflecting a certain awareness among workers of the importance of green practices. However, this awareness is not always translated into consistent professional behavior, due to limited of specialized training in ecotourism and sustainability practices.

In the local context, People remain a crucial element, as the ecotourism experience relies heavily on human interaction and guiding tourists toward environmentally responsible behavior. Therefore, the environmental dimension must be integrated into the organizational culture, and employees must be encouraged to adopt green behaviors, alongside the development of specialized training programs.

- **Green Process:** Green Process statements can be summarized as follows:

Table (10): Analysis of Green Process statements

Statement	Mean	Std. deviation	Agreement level	Rank
1	3,26	1,720	Medium	3
2	3,90	1,322	High	2
3	3,96	1,159	High	1
Total	3, 71	1,234	High	

Source: Prepared by the researcher using SPSS

The green Process dimension recorded the highest mean score of 3.71 with a standard deviation of (1,234) suggesting a relatively high level of adoption. This indicates that agencies are making efforts to improve service delivery processes, particularly by streamlining booking procedures and providing accurate information. However, operational procedures have not yet been designed with environmental efficiency in mind, and the shift toward green marketing has not yet permeated internal operations.

These improvements directly contribute to enhancing the efficiency and sustainability of tourism services, thereby supporting the development of ecotourism.

- **Green Physical Evidence:** Green Physical Evidence statements can be summarized as follows:

Table (11): Analysis of Green Physical Evidence statements

Statement	Mean	Std. deviation	Agreement level	Rank
1	3,33	1,124	Medium	3
2	3,30	1,087	Medium	4
3	3,40	1,101	High	2
4	3,66	1,184	High	1
Total	3, 42	0.815	High	

Source: Prepared by the researcher using SPSS

The green Physical Evidence dimension recorded a mean score of 3.42 with a standard deviation of (0,815), suggesting a moderate to relatively high level of adoption. The table indicates that agencies have begun to incorporate ecofriendly dimensions into their physical and digital environments. However, these efforts remain insufficiently standardized, which undermines their role in enhancing the credibility of green marketing practices and the overall ecotourism experience.

III. 3.3 Descriptive Analysis of Ecotourism Data

The results related to the financial inclusion section can be presented as follows:

Table (12): Analysis of Ecotourism Statements

	Statement	Mean	Std. deviation	Agreement level	Rank
The Economic Dimension	1	3,90	1,268	High	1
	2	3,90	1,373	High	1
	3	3,40	1,203	High	3
	4	3,80	1,323	High	2
	Total	3, 90	1,085	High	
The Social Dimension	1	3,46	1,547	High	3
	2	3,86	1,195	High	1
	3	3,70	1,417	High	2
	Total	3,67	1,260	High	
The Environmental Dimension	1	3,93	1,172	High	2
	2	4,00	1,144	High	1
	3	3,66	1,446	High	4
	4	3,76	1,356	High	3
	Total	3, 84	1,024	High	

Source: Prepared by the researcher using SPSS

- **Economic Dimension:** The results indicate that the economic dimension recorded a high overall mean score of 3.90 with a standard deviation of 1.085, reflecting a high level of agreement among respondents, and the travel agencies' strong awareness of the economic importance of ecotourism, particularly regarding statements related to supporting cultural heritage,

engaging in partnerships that promote sustainable development, and contributing to government tourism programs. However, the findings also indicate that this commitment remains largely conceptual rather than practical, as the integration of sustainable economic practices into structured business models remains limited. Therefore, while the economic dimension appears strong, its actual contribution to long-term ecotourism development may not yet be fully realized;

- Social Dimension: recorded an overall mean score of 3.67 with a standard deviation of (1,260) suggesting a high level of agreement, and a positive trend among travel agencies toward the social aspects of ecotourism; such as hiring environmentally conscious staff and organizing activities that contribute to the protection of natural areas through community-oriented initiatives. However, this finding also reveals that social sustainability practices have not yet been systematically embedded in agency operations. Instead, they are implemented selectively and episodically, limiting their broader social impact. This indicates the need for a more structured integration of local communities into tourism activities to enhance the social benefits of ecotourism;
- Environmental Dimension: recorded an overall mean score of 3.84 with a standard deviation of (1,024) suggesting a high level of adoption, and a strong awareness of environmental responsibility among travel agencies, especially with regard to respecting environmental regulations, conserving natural resources, and promoting ecotourism practices. However, as with the other dimensions, this high level of awareness does not always translate into consistent environmental practices within a unified strategic framework. As a result, although the environmental dimension appears relatively well-developed, its effectiveness in supporting ecotourism depends on the transition from awareness to institutionalized and sustained practices.

III. 4 Test hypothesis and Discussion

Table (13): Regression Analysis Results for Hypothesis Testing

Statement	β	T	Sig	R	R^2	F	Interpretation
Main Hypothesis			0,000	0,874	0,764	10,178	The overall regression shows a highly significant effect of green marketing on sustainable tourism in travel agencies in Skikda (F= 10.178, Sig= 0.000). Green marketing explains 76.4% of the variance in ecotourism
H1	0,218	1,192	0,043	0,220	0,098	1,420	The effect is significant (sig< 0.05) but relatively small explaining 9.8% of the variation ($R^2= 9.8\%$),

							indicating that green product/S development contributes modestly to ecotourism
H2	0,619	3,603	0,001	0,563	0,317	12,982	Highly significant effect. Green pricing has a strong impact ($\beta = 0.619$, $T = 3.603$, $Sig = 0.001$), explaining 31.7% of the variation in ecotourism.
H3	0,479	2,969	0,006	0,489	0,239	8,814	Statistically significant ($sig < 0.01$, $\beta = 0.479$, $T = 2.969$) with moderate explanatory power ($R^2 = 23.9\%$), showing distribution practices partially support ecotourism.
H4	0,320	1,787	0,035	0,320	0,102	3,194	Significant effect ($\beta = 0.320$, $T = 1.787$, $Sig = 0.035$) but moderate ($R^2 = 10.2\%$), suggesting promotion contributes to ecotourism, yet limited by mostly symbolic marketing practices.
H5	0,355	1,741	0,013	0,313	0,098	3,030	Significant impact but limited ($R^2 = 9.8\%$). Human resources awareness positively affects ecotourism, although effectiveness depends on training and knowledge.
H6	0,506	2,293	0,030	0,398	0,158	5,257	Significant effect ($sig < 0.05$), moderate regression coefficient (β) acceptable explanatory power ($R^2 = 15.8\%$). Process improvements support ecotourism but require more systematic integration.
H7	0,615	5,665	0,000	0,731	0,534	32,089	Strongest effect among variables. Physical evidence significantly enhances sustainable tourism, explaining 53.4% of the variance.

Source: Prepared by the researcher using SPSS

- **Main Hypothesis:** «There is a statistically significant effect of green marketing on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province»: green marketing collectively represents a key determinant of environmentally sustainable practices among travel agencies in Skikda. So, the main hypothesis is **accepted**;
- **Hypothesis 1:** «There is a statistically significant effect of green product/service on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province»: Developing environmentally friendly products/services contributes positively albeit moderately, to sustainable tourism. It is limited by the possibility of agencies relying on traditional products or a lack of innovation in green products. So, H1 is **Partially Accepted**;
- **H2:** «There is a statistically significant effect of green pricing on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province»: Green Pricing strategies have a significant impact and play a major role in ecotourism practices. So, H2 is **Accepted**;
- **H3:** «There is a statistically significant effect of green Place on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province». It was confirmed that sustainable distribution practices significantly support the development of ecotourism in travel agencies in the region (such as choosing environmentally friendly distribution channels/reducing polluting transport, but it does not cover all possible environmental variables). This hypothesis is **Accepted**;
- **H4:** «There is a statistically significant effect of green promotion on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province»: green promotion contributes to ecotourism, but it is often limited by its symbolic nature or low customer awareness. This hypothesis is **partially accepted**;
- **H5:** «There is a statistically significant effect of green people on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province»: Although the relationship is statistically significant, the explanatory power is weak and the correlation coefficient is moderate ($\beta = 0.355$). Therefore, People contribute to ecotourism, but their impact remains limited due to a lack of training or environmental awareness. So, this hypothesis is **partially accepted**;
- **H6:** «There is a statistically significant effect of green Process on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province»; significant effect -moderate regression coefficient- acceptable explanatory

power: improving green processes enhances ecotourism, even though further integration is needed. H6 is **accepted**;

- **H7:** «There is a statistically significant effect of green Green Physical Evidence on ecotourism at the significance level ($\alpha \leq 0.05$) in travel agencies in Skikda Province»: The results show a highly significant relationship with a strong coefficient and the highest explanatory power among all variables ($R^2 = 0.534$), which demonstrates that Green physical evidence is the most influential factor in promoting ecotourism; so. This hypothesis is **accepted** and strongly supported.

The results of this study confirm that green marketing plays a significant role in promoting ecotourism among travel agencies in Skikda, as evidenced by the high explanatory power of the overall model ($R^2 = 0.764$). This aligns with numerous previous studies in the field of ecotourism, which indicate that adopting environmentally responsible marketing practices contributes to improved environmental performance and enhances customer perception of tourism services. (Leonidou, Katsikeas, & Morgan, 2013)

At the elemental level, the strong impact of the green physical evidence aligns with the literature highlighting the importance of tangible elements (eco-friendly facilities, visible sustainable practices) in influencing tourist trust and behavior. This can be explained locally by Skikda's status as a natural coastal region, where the visible environmental aspect (clean beaches, facilities, and respect for nature) plays a crucial role in evaluating the tourist experience. Similarly, the significant impact of green pricing confirms findings from the earlier studies suggesting that tourists are increasingly willing to accept pricing strategies that reflect environmental value. In the local context, this may indicate a gradual shift in consumer awareness, where clients begin to associate higher prices with better environmental responsibility, particularly among environmentally conscious segments.

In contrast, the green product, green promotion and human element dimensions showed only a partial effect, which is consistent with studies indicating that these dimensions are often underdeveloped in emerging tourism markets (Leonidou, Katsikeas, & Morgan, 2013). In Skikda, this can be explained by a limited innovation in the eco-tourism products, reliance on traditional promotional methods with limited environmental content, and insufficient staff training in eco-practices.

The moderate impact of both green place and green processes reflects some efforts towards sustainability, such as digitalization and reduced resource consumption; however, these remain unintegrated within a comprehensive green strategy; reflecting structural constraints at the local level, such as a weak

regulatory framework and a lack of institutional support for ecotourism development.

Overall, the results reveal a gap between the strategic importance of green marketing and its practical implementation in Skikda's travel agencies. While some dimensions (particularly the physical evidence and pricing) show clear effectiveness, others still need to be developed to achieve genuine integration in of green marketing approach, especially given the potential for ecotourism in the region.

IV. Conclusion

This study concluded that green marketing is a decisive factor in promoting ecotourism among travel agencies in the province of Skikda, with the results demonstrating a strong significant effect for the overall model, while the impact of the individual components of the green marketing mix varied. Both green physical evidence and green pricing emerged as the most influential dimensions, while the remaining dimensions showed varying effects that tended to be limited or moderate. The findings also indicated that the implementation of green marketing in Skikda's agencies remains in a transitional phase, characterized by a lack of integration and coordination between its various elements, which limits its effectiveness in supporting ecotourism. Although the region possesses significant natural potential, its exploitation remains below the required level within the framework of green marketing strategies. Consequently, the development of ecotourism in Skikda requires a shift from partial practices to the adoption of an integrated green marketing approach.

Based on the findings, the following recommendations can be proposed:

- Develop ecotourism products/ services: by designing tourism offers based on the organized and sustainable use of local local natural resources (beaches, forests).
- Integrate green pricing as a strategic tool: adopt transparent and value-based pricing strategies reflecting environmental value while considering the purchasing power of the local market;
- Invest in digital transformation to support green distribution channels ;
- Enhance the credibility of green promotion: shift from symbolic promotion to communication based on real and verifiable environmental practices;
- Develop human resources: strengthen training programs in ecotourism and green marketing to improve staff competencies;
- Promote digitalization and green operations, such as reducing paper use and adopting environmentally friendly digital systems;
- Improve green physical evidence, by investing in eco-friendly facilities and equipment to strengthen customer trust;

- Strengthen partnerships with local stakeholders: collaborate with local authorities and environmental associations to develop sustainable tourism offers.

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VI. Appendix A: Questionnaire Items

Section A: Green Tourism Marketing Scale (Independent Variable)

Dimension	Code	Statement
Green Product	GP1	The agency organizes eco-friendly tourism trips that support various leisure activities.
	GP2	The agency offers tourism services that meet environmentally conscious customer needs.
	GP3	The agency provides diverse destinations (cultural, recreational, heritage).
	GP4	The agency organizes visits to natural and marine reserves.
Green Price	GPR1	The agency sets appropriate prices for eco-tourism services.
	GPR2	Prices are reasonable compared to competitors.

	GPR3	The agency offers discounts for environmentally conscious customers.
	GPR4	Customers are willing to pay more for green tourism services.
Green Promotion	GPM1	The agency designs professional promotional campaigns for eco-tourism services.
	GPM2	The agency uses social media to promote its services.
	GPM3	The agency uses various advertising tools to reach customers.
	GPM4	The agency collaborates with influencers to promote eco-tourism.
Green Place	GPL1	The agency uses websites and social media for booking.
	GPL2	The agency adopts digital distribution channels.
	GPL3	The agency relies on branches or intermediaries.
	GPL4	The agency develops diversified distribution channels.
Green People	GPE1	The agency provides training on eco-tourism practices.
	GPE2	Employees' behavior positively influences customer satisfaction.
	GPE3	The agency recruits qualified staff with environmental awareness.
	GPE4	Customers respond positively to green tourism programs.
Green Physical Evidence	GPH1	The agency's appearance reflects an eco-friendly orientation.
	GPH2	Local eco-friendly products are displayed to customers.
	GPH3	The agency showcases previous eco-tourism experiences.
	GPH4	Office design reflects environmental practices (recycling, low paper use, etc.).
Green Process	GPRC1	The agency facilitates travel procedures for eco-tourists.
	GPRC2	The agency simplifies booking procedures.
	GPRC3	The agency provides accurate and sufficient information.

Section B : Sustainable Tourism Scale (Dependent Variable)

Dimension	Code	Item
Economic	ECO1	The agency supports cultural heritage and traditional values.
	ECO2	The agency establishes partnerships aligned with sustainability goals.
	ECO3	The agency contributes to national tourism strategies.
	ECO4	The agency supports local communities.
Social	SOC1	The agency employs environmentally conscious staff.
	SOC2	The agency organizes trips supporting environmental protection initiatives.
	SOC3	The agency collaborates with green tourism associations.
Environmental	ENV1	The agency develops staff through environmental experts.
	ENV2	Tourism activities are conducted without harming natural resources.
	ENV3	The agency complies with environmental laws and



		regulations.
	ENV4	The agency participates in environmental awareness initiatives.