The effect of viral marketing on promoting tourism services
Study of a sample of tourist agencies in Algeria.

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Abstract

This study aims to identify the effect of viral marketing, which was measured based on the following dimensions: (viral electronic advertising, electronic publishing methods, financial incentives and free offers, influential opinion leaders) on promoting tourism services.

The study consisted on the case of Algerian tourist agencies, adopting the questionnaire as a tool for collecting data from a sample of agencies managers in Algeria; the sample included 311 agencies, besides the collected samples, two agencies from the wilaya of Biskra had an additional interview.

After analyzing the data using version 25 of SPSS, the results showed that there is a correlation between the independent variable (viral marketing) and the dependent variable (promotion of tourism services) amounting to 47.8%, and that viral marketing has a positive impact in all its dimensions combined (except for material incentives and influential opinion leaders) on the promotion of services. Tourism is estimated at about 22%.

Keyword : viral marketing, dimensions of viral marketing, promotion of tourist

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✓ services, tourist agencies in Algeria

Introduction:

Viral marketing represents a modern and growing trend within the electronic philosophy of marketing. It is considered one of the innovative concepts in the field of marketing, extensively implemented through the Internet. Business organizations, particularly in advanced countries like the United States, have started adopting and implementing it by disseminating messages and information across the internet to network users. These messages urge them to purchase their products and also encourage them to forward the information to others in order to persuade them to engage with the organization in exchange for a specific reward or prize.In light of the advancements taking place in the tourism industry, viral marketing technology has become an urgent necessity and a fundamental requirement to enhance its contribution to marketing tourism services. It is also crucial for the development of the tourism sector.

1- Problem Statement:

The topic of viral marketing is relatively new in the field of marketing. It is a contemporary tool, technique, and application that relies on the use of the internet and its applications to acquire new customers and retain existing ones, with minimal time, effort, and costs. Viral marketing has become an inevitable necessity imposed by the current economic conditions for the development and growth of the tourism sector. Therefore, the following main problem is raised:

What is the impact of viral marketing on enhancing tourism services in travel agencies in Algeria?

Within this problem statement, we can identify a set of sub-questions formulated as follows:

1. *What is the current status of viral marketing implementation in the researched travel agencies for promoting tourism services?*

2. *What is the impact of using electronic publications in promoting tourism services in the researched travel agencies?*

3. *What is the impact of utilizing electronic advertising in promoting tourism services in the researched travel agencies?*

4. What is the effect of using material incentives in promoting tourism services in the researched travel agencies?

5. What is the influence of influential opinion leaders in promoting tourism services in the researched travel agencies?

2- Hypotheses

Based on the problem statement and the sub-questions, the following hypotheses have been formulated, as indicated by the proposed research model:

Main Hypothesis:

This main hypothesis tests the existence of an impact of viral marketing on promoting tourism services, and it can be formulated as follows:

- There is a significant effect of viral marketing on the promotion of tourism services in the researched travel agencies.

This main hypothesis is supported by four sub-hypotheses, as follows:

Sub-Hypothesis 1:

- H0: There is no significant impact of electronic publications on promoting tourism services in the researched travel agencies.

- H1: There is a significant impact of electronic publications on promoting tourism services in the researched travel agencies.

Sub-Hypothesis 2:

- H0: There is no significant impact of viral advertising on promoting tourism services in the researched travel agencies.

- H1: There is a significant impact of viral advertising on promoting tourism services in the researched travel agencies.

Sub-Hypothesis 3:

- H0: There is no significant impact of material incentives on promoting tourism services in the researched travel agencies.

- H1: There is a significant impact of material incentives on promoting tourism services in the researched travel agencies.

Sub-Hypothesis 4:

- H0: There is no significant impact of influential opinion leaders on promoting tourism services in the researched travel agencies.

- H1: There is a significant impact of influential opinion leaders on promoting tourism services in the researched travel agencies.

3- Study Objectives:

- To provide a comprehensive understanding of the concepts of viral marketing and promoting tourism services, as well as the dimensions associated with these variables.

- To explore and assess the current status and efforts of viral marketing (electronic publications, viral advertising, influential opinion leaders, material incentives) in Algerian travel agencies.

- To determine the impact and validity of the formulated hypotheses.

4- Study Methodology:

In order to gain insights into the research aspects, address the problem statement, and validate the hypotheses, the study adopts a descriptive and analytical methodology.

5- Previous Studies:

Several previous studies have been relied upon, including:

1. Amira Mohamed El Nady et al., "The Impact of Viral Marketing on the Purchase Decision of Tourism and Hospitality Services," Journal of Arab Tourism and Hospitality Studies, Volume 21, Issue 01, Suez Canal University, Egypt, 2021. The study aimed to investigate the impact of viral marketing on the purchase decision of tourism and hospitality services. Viral marketing encompasses marketing tools such as viral advertising campaigns, opinion leaders or "influencers," incentives, and electronic publications.

2. SalimaMekhlouf, FatihaMajahdi, "Awareness of Algerian Consumers in Using Viral Marketing Techniques as a Tool to Revitalize Tourism in Algeria - Analytical Field Study," Journal of Economic Studies, Volume 8, Issue 2, University of Agoua, March 2017. The study aimed to examine the awareness of Algerian consumers in using

viral marketing techniques (email, video, social media, forums, and blogs) to revitalize tourism in Algeria by acquiring and sharing information.

1. Viral Marketing: Researchers have varied in reaching a specific definition of viral marketing. Oliver sees it as a process of directing advertising messages online, building a customer base with low costs, and providing immediate gratification to customers that motivates them to spread the message and attract new customers[1]. Shon, on the other hand, considers it a strategy that leverages the internet to disseminate ideas, information, and explanations about a specific product and encourages customers to share the message among network users[2].

Accordingly, viral marketing can be generally defined as:

- A strategy that prepares a message to spread rapidly like a virus.

- A strategy that encourages individuals to pass on and market a message to others.

- A promotional technique that captures the interest of internet users.

- A marketing technique that relies on various social media platforms.

- A phenomenon centered around customer sharing of message content.

2. Instruments of Viral Marketing:

The importance of viral marketing tools lies in their ability to perform tasks quickly by creating viral loops. These loops rely on users sharing and reposting a marketing message on their own networks. This has prompted marketing companies in general, and tourism establishments in particular, to harness various viral marketing tools to promote their tourism products, taking advantage of their unique features and advantages to capture the attention of tourists.

-1 Electronic Publishing: Electronic publishing refers to the provision of information sources in an electronic and immediate manner by utilizing modern technologies in all the steps involved in publishing processes[3].

2-2 Viral Advertising: Viral advertising is defined as "a communication process that involves the dissemination and broadcasting of advertising messages, including

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[1] Oliver H, Bernd S, et al (2011), **Seeding Strategies for Viral Marketing: An Empirical Comparison**, Journal of Marketing, vol 75,n 6, P3.

[2] K.Sohn, et a (2013)l , **viral marketing more than buz**, journal of applied business and economic, vol 14, n 1 , p 22.

[3] Mehdi Rezika (2016), Electronic Publishing via the World Wide Web and its Role in Developing Scientific Research among Prospective Graduates of the Psychology Department - A Field Study at Tizi Ouzou University and Ouargla University (Algeria) - Journal of Humanities and Social Sciences, Mouloud Mammeri University, Tizi Ouzou, Algeria, Issue 27, p. 169.

through the internet, among the targeted audience to stimulate and persuade them to make purchasing decisions regarding the promoted products[4].

2-3 Material Incentives: Material incentives are fundamental principles of viral marketing that aim to motivate customers by offering positive rewards. These incentives can be tangible or intangible, such as expressing gratitude and appreciation to website visitors. They include free samples, various games, or gifts, in addition to coupons commonly used online.

2-4 Influential Opinion Leaders: Influential opinion leaders differ from intermediaries who convey information to customers. They are individuals who are scientifically and knowledgeably qualified and have credibility among customers to achieve a positive impact on a product through their influence on their followers. Through viral marketing and the use of social media networks to deliver viral messages, these opinion leaders can market products through their personal accounts[5].

3. Tourism Service Upgrading: Tourism service upgrading refers to the improvement of the quality of accommodation, transportation, or the category of the provided tourism service[6]. This definition is a concise linguistic concept for the term "upgrade of tourism sector."

It can also be said that tourism service upgrading represents "a set of measures primarily aimed at attracting new tourists or protecting existing customers and making them more loyal to the tourism establishment.[7]"

4. Applied Study:

To test the impact of viral marketing on the upgrading of tourism services, it is necessary to follow an appropriate methodology that allows for logical connection between the proposed theoretical framework and the conducted applied study.

4-1 Study Instrument: In the context of the field study and with the aim of testing the presumed relationship between the research variables (viral marketing on one hand

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4Al-Hilali, Jassim Ramadan (2013), Advertising, Public Relations, and Public Relations, Dar Al-Nafa'is for Publishing and Distribution, First Edition, Amman, Jordan, p. 77.

5Asugman (2005), The Impact of Opinion Leader on Consumer Decision Making Process, international journal of management & Business studies, kakatita university, Warangal, India, vol1,issue 3 , p61.

6HarisSrinvas, **Tourism Glossary Sustainable Tourism Info-sheet**, viewed in:

http://www.Gdrc.org/uem/eco-tour/t-glossary.html

7Hadeer Abdelkade (2010)r, Tourism Marketing and its Role in Enhancing Tourism Services - The Case of Algeria, Ph.D. thesis submitted as part of the requirements for the Doctorate degree in Management Sciences, Faculty of Economic, Commercial and Management Sciences, University of Algeria 3, p. 67.

and the upgrading of tourism services on the other hand), a questionnaire was chosen as a tool to measure the impact of using viral marketing in the upgrading of tourism services in travel agencies in Algeria. Several executive steps were taken to ensure its reliability, and in its preparation, reference was made to a range of questionnaires related to viral marketing and the upgrading of tourism services. The research questionnaire was divided into two main sections:

First section: Data specific to the researcher.

Second Section: Pertaining to the questionnaire's dimensions, consisting of two parts.The first part focuses on viral marketing and contains 27 statements distributed across four dimensions. The last part is dedicated to the promotion of e-services and contains 28 statements. The Likert pentagon scale was used to measure respondents' responses to the questionnaire items.

4-2 Study Population and Sample: The target research population consists of travel agency managers, with a total of 311 agencies. The questionnaires were distributed to them through field visits and electronic distribution. All questionnaires were collected and, after examination, none of them were excluded due to meeting the criteria for correct answers.

4-3 Statistical Analysis Tools: To answer the research questions and test its hypotheses, the Statistical Package for the Social Sciences (SPSS) software (Version 25) was used. This allowed for the generation of statistical results using a set of statistical tools. Which include:

A- *Frequencies and Percentages: This refers to the number of occurrences of a specific event, used to extract results that help us describe the general data of the study sample, which consists of travel agencies.*

B- *Mean: As a measure of central tendency, it is used to determine the average responses of the respondents (the study sample of travel agencies) for each dimension of the study variables, whether viral marketing or e-services promotion, and evaluate them.*

C- *Standard Deviation: As a measure of dispersion, it was utilized to detect the degree of variation in the sample respondents' answers from their arithmetic mean.*

D- *Kolmogorov-Smirnov Test: This test is employed to determine whether the data follows a normal distribution.*

E- *Correlation Coefficient "R": Used to determine the nature of the relationship between the independent variable (viral marketing with its dimensions) and the dependent variable (e-services promotion).*

F- *Simple Linear Regression Analysis: Used to measure the significant effect of the independent variable (viral marketing with its dimensions) on the dependent variable (e-services promotion).*

G- *Test-Retest Reliability Coefficient: Used to measure the reliability of the research instrument.*

H- *Cronbach's Alpha Coefficient: Used to determine the questionnaire's reliability and the extent to which it can be relied upon in the study.*

I- *One-Sample T Test: Used to determine whether the average ratings of the research sample (travel agencies) for the level of viral marketing and e-services promotion are negative or positive.*

J- *Stepwise Multiple Regression Analysis: Used to study the simultaneous impact of multiple independent variables (viral marketing dimensions) on the dependent variable (e-services promotion).*

4-4- Study of Instrument Reliability

Reliability of a measurement instrument refers to its ability to produce consistent results when the measurement process is repeated. There are several statistical methods to assess reliability, with Cronbach's Alpha being the most common. Cronbach's Alpha relies on internal consistency and provides an indication of how well the questions in the instrument correlate with each other. It is used to estimate the reliability of the study, with values ranging from zero to one. A value closer to one indicates higher reliability for the study.The following table presents the results of this coefficient:

Table 01: Cronbach alpha coefficient for the form "Viral marketing and promotion of tourism services"

Number of phrase	Cronbach alpha stability coefficient value
55	0.909

Source: Prepared by the researcher based on the outputs ofSPSS

According to the above table, the Cronbach's Alpha coefficient for the questionnaire is estimated at 0.909 for a total of 55 items. This highly statistically significant value confirms the internal consistency of all questionnaire items, indicating its suitability for use in the study and the reliance on its results in further research.

4-5- Presentation and Analysis of Study Results:

4-5-1 Viral Marketing Dimension: As illustrated in the following table:

Dimensions of viral marketing	Arithmeticmean	Standard deviation	Acceptance Level	Order
Viral online advertising	3.79	0.38	High	2
ElectronicPublishing Methods	3.16	0.54	medium	4
Financial motivation and free offers	3.57	0.42	medium	3
Influential opinion leaders	4,11	0,20	High	1

Source: Prepared by the researcher based on the outputs of SPSS

The table indicates the presence of viral marketing dimensions in the studied sample (tourism agencies in Algeria) at a "high" level. According to the researchers' opinions and the expressions used to describe viral marketing in the questionnaire, opinion leaders were identified as the strongest factor contributing to the presence of viral marketing in the studied agencies, with a mean of 4.11 and a standard deviation of 0.20. This mean was classified as "high" according to the scale adopted in the study,

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indicating that the researchers confirm the influential role of opinion leaders in promoting and advertising their tourism services. Viral electronic advertisements ranked second with a mean of 3.79 and a standard deviation of 0.38, also classified as "high" according to the study's scale. In the third position, we find material incentives and free offers with a mean of 3.57 and a standard deviation of 0.42, classified as "moderate" according to the study's scale. This suggests that the researchers occasionally acknowledge the potential of material incentives and free offers in promoting and advertising tourism services.

Finally, electronic publishing ranks fourth with a mean of 3.16 and a standard deviation of 0.54. This mean is classified as "moderate" according to the scale adopted, indicating that the researchers occasionally acknowledge the potential of electronic publishing in promoting and advertising tourism services.

4-5-2 Tourism Services Promotion Dimension: As indicated in the following table

Dimensions of upgrading tourism services	Arithmeticmean	Standard deviation	Acceptance Level	Order
Tourist Service	4.12	0.41	High	1
Touristprice	3.94	0.34	High	4
Tourist distribution	3.76	0.27	High	6
Tourism Promotion	3.88	0.25	High	5
Individuals	3.73	0.13	High	7
Operations	3.95	0.49	High	3
Physical environment	4.04	0.23	High	2

Source: Prepared by the researcher based on the outputs of the SPSS program

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The table indicates the presence of dimensions of tourism services promotion in the studied sample (tourism agencies in Algeria) at a "high" level. According to the researchers' opinions and the expressions used to describe tourism services promotion in the questionnaire, tourism service emerged as the strongest dimension representing the promotion of tourism services in the studied agencies, with a mean of 4.12 and a standard deviation of 0.41. This mean was classified as "high" according to the scale adopted in the study, indicating that the researchers confirm the availability of tourism service as a component of the traditional marketing mix in tourism. The physical environment ranked second with a mean of 4.04 and a standard deviation of 0.23. This mean was also classified as "high" according to the study's scale, meaning that the researchers emphasize the availability of the physical environment as an additional element of the tourism marketing mix. In the third position, we find processes with a mean of 3.95 and a standard deviation of 0.49.

This mean was classified as "high" according to the scale adopted in the study, indicating that the researchers confirm the availability of processes as an additional element of the tourism marketing mix. Price in the tourism context ranked fourth with a mean of 3.94 and a standard deviation of 0.34. This mean was also classified as "high" according to the study's scale, meaning that the researchers emphasize the availability of tourism price as a component of the traditional marketing mix. In the fifth position, we find tourism promotion with a mean of 3.88 and a standard deviation of 0.25. This mean was classified as "high" according to the scale adopted in the study, indicating that the researchers confirm the availability of tourism promotion as a component of the traditional marketing mix. Tourism distribution comes in the sixth position with a mean of 3.76 and a standard deviation of 0.27. This mean was also classified as "high" according to the study's scale, meaning that the researchers emphasize the availability of tourism distribution as a component of the traditional marketing mix.

Finally, individuals rank seventh with a mean of 3.73 and a standard deviation of 0.13. This mean was classified as "high" according to the adopted scale, indicating that the researchers confirm the availability of individuals as an additional element of the tourism marketing mix.

4-6-1 Hypothesis Testing and Interpretation of Results:

This hypothesis tests the extent of the impact of viral marketing on the promotion of tourism services, formulated as follows:

- H0: There is no significant effect of viral marketing on the promotion of tourism services in the studied tourism agencies.

- H1: There is a significant effect of viral marketing on the promotion of tourism services in the studied tourism agencies.

1. Model interpretability:

Table 04: Explanatory capacity of the model

prototype	Correlation coefficient R	Coefficient of determination R Square	Corrected coefficient of determination
The first	0.478	0.228	0.227

Source: Prepared by the researcher based on SPSS outputs.

From the previous table, there is a correlation relationship between the independent variable "viral marketing" and the dependent variable "promotion of tourism services," with a correlation coefficient of 47.8%. Referring to the determination coefficient, it is evident that the promotion of tourism services is influenced by 22.8% due to viral marketing. In other words, 22.8% of the variations in the promotion of tourism services can be attributed to the changes occurring in viral marketing, while the remaining percentage is attributed to other variables outside the model.

2. Overall Model Significance:

To test the overall significance of the linear relationship model between viral marketing as the predictor and the promotion of tourism services as the dependent variable, the model is considered acceptable for representing this relationship, as shown in the following table:

Table (05): Analysis of variance "ANOVA" for regression significance test

Morale level	Value (F)	Average squares	Sum of squares	Degree of freedom	prototype
0.00	22.64	226.58	906.35	4	Between groups
		10.00	3062.04	306	Outside groups
			3968.39	310	Total

Source: Prepared by the researcher based on the outputs of (SPSS)

Based on the results of the analysis of variance presented in the previous table, the significance level equals 0.000, which is less than the 5% significance level. Therefore, the regression model is significant. This means that at least one of the regression coefficients is different from zero. To determine which one is significant, partial significance of the model is tested using a T-test.

3. Partial Model Significance:

Table 06: Table of regression coefficients

SIG Morale Level	T test values	Standard coefficients Beta	Non-standard transactions		prototype
			Standard error	A	
0.00	47.738	-	2.016	96.225	Independent
0.00	7.146	0.377	0.088	0.629	Viral online advertising
0.00	4.787	0.263	0.066	0.317	ElectronicPublishingMeans
0.056	4.072	0.226	0.067	0.271	Financial motivation and free offers
0.07	5.220	0.285	0.047	0.243	Influentialopinion leaders

Source: Prepared by the researcher based on the outputs of the SPSS program

Based on the significance level in the previous table and the corresponding factors (viral marketing), it is evident that the constant term, representing the minimum

level of promotion of tourism services, is statistically significant at a level of 0.000, which is lower than the significance level of 0.05. As for the regression slopes (regression coefficients) for the predictors (viral advertising, electronic publications), they are statistically significant as the "sig" value is lower than the significance level. However, for the predictors of material incentives and influential opinion leaders, the regression coefficients are not significant, meaning that the significance level is greater than 0.05. It is also worth noting that the values of Beta coefficients are positive, indicating that viral marketing has a positive impact on the various dimensions collectively, except for material incentives and influential opinion leaders, which do not have a significant effect. The Beta values suggest that viral marketing accounts for 22.8% of the variation in the promotion of tourism services. Therefore, the multiple regression equation takes the following form:

Y= 96.255+0.629X1+0.317X2

Promotion of tourism services = 96.2255 + 0.629 (viral electronic advertising) + 0.317 (electronic publications)

Result: Acceptance of the main hypothesis, which states that "there is a significant impact of viral marketing on the promotion of tourism services in the studied travel agencies."

4-6-2 Testing Sub-Hypotheses

In this section, the sub-hypotheses for the main hypothesis will be tested:

First Sub-Hypothesis: Testing the first sub-hypothesis:

H0: There is no significant impact of viral electronic advertising on the promotion of tourism services in the studied travel agencies.

H1: There is a significant impact of viral electronic advertising on the promotion of tourism services in the studied travel agencies.

1. *Model Interpretability:*

2. *Table 07: Explanatory capacity of the model*

Estimation error	Corrected coefficient of determination	Coefficient of determination	Correlation coefficient R	Prototype
3.319	0.139	0.142	0.377	The first

3. *Source: Prepared by the researcher based on the outputs of SPSS*

Based on the table above, there is an acceptable correlation relationship between the first dimension of viral marketing (viral electronic advertising) and the promotion of tourism services, with a coefficient of determination of 37.7%. Referring to the determination coefficient, it is evident that the promotion of tourism services is influenced by 14.2% due to viral electronic advertising. In other words, 14.2% of the variations in the promotion of tourism services can be attributed to the changes occurring in viral electronic advertising, while the remaining percentage is attributed to other variables outside the model.

2. The Overall Significance of the linear Relationship Model

To test the overall significance of the linear relationship model between viral electronic advertising as the predictor and the promotion of tourism services as the dependent variable, the model is considered acceptable for representing this relationship, as shown in the following table:

Table (08): Analysis of variance "ANOVA" for the test of regression significance

SignificanceLevel(F)	Calculated value (F)	Average squares	Degrees of freedom	Sum of squares	prototype
*0.000	51.06	562.77	1	562.77	Between groups
		11.02	309	3405.62	Outside groups
			310	3968.39	Total
Statistically significant at significance level (α=0.05)					

Source: Prepared by the researcher based on the outputs of SPSS

Based on the results of the analysis of variance presented in the table above, the significance level equals 0.000, which is less than the 5% significance level. Therefore,

the regression model is significant. This means that at least one of the regression coefficients is different from zero. To determine which one is significant, partial significance of the model is tested using a t-test.

3. Partial Significance of the Model

Table 09: Partial Significance of the Model (Regression Coefficients)

SIG Morale Level	T test values	Standard coefficients Beta	Non-standard transactions		prototype
			Standard error	A	
0.00	47.738	-	2.016	96.225	Independent
0.00	7.146	0.377	0.088	0.629	Viral online advertising
Upgrade of tourism services: dependent variable					

Source: Prepared by the researcher based on the outputs of SPSS

Based on the significance level in the table above and the corresponding factor (viral electronic advertising), it is evident that the constant term, representing the minimum level of promotion of tourism services, is statistically significant at a level of 0.000, which is lower than the significance level of 0.05. The significance level is estimated to be 0.00. Additionally, from the table, we observe that the Beta coefficient is estimated to be 0.377, which is a positive value. This indicates that viral electronic advertising has a positive impact on the promotion of tourism services, suggesting a direct relationship. Therefore, the simple regression model equation can be defined as follows: Y= 96.225+0.629X1

> Promotion of tourism services = 96.225 + 0.629 (viral electronic advertising)

Result: Acceptance of the first sub-hypothesis, which states that "there is a significant impact of viral electronic advertising on the promotion of tourism services in the studied travel agencies."

Second Sub-Hypothesis: Testing the second sub-hypothesis:

H0: There is no significant impact of electronic publications on the promotion of tourism services in the studied travel agencies.

H1: There is a significant impact of electronic publications on the promotion of tourism services in the studied travel agencies.

1. *Model Interpretability:*

Table 10: Explanatory capacity of the model

Estimation error	Corrected coefficient of determination	Coefficient of determination	Correlation coefficient R	Prototype
3.457	0.066	0.069	0.263	ElectronicPublishing Methods

Source: Prepared by the researcher based on the outputs of SPSS

Based on the table above, there is a moderate correlation between the second dimension of viral marketing (electronic publications) and the promotion of tourism services, with a coefficient of determination of 26.3%. Referring to the determination coefficient, it is evident that the promotion of tourism services is influenced by 6.9% due to electronic publications. In other words, 6.9% of the variations in the promotion of tourism services can be attributed to the changes occurring in electronic publications, while the remaining percentage is attributed to other variables outside the model.

2. Overall Significance of the Model

To test the overall significance of the linear relationship model between electronic advertising as the predictor and the promotion of tourism services as the dependent variable, the model is considered acceptable for representing this relationship, as shown in the following table:

Table 11: Analysis of variance "ANOVA" for the test of regression significance

SignificanceLevel(F)	Calculated value (F)	Average squares	Degrees of	Sum of squares	source

*0.000	22.91	273.99	1	273.99	Between groups
			freedom		
		11.95	309	3694.4	Outside groups
			310	3968.39	Total
Statistically significant at the level of significance (**α**=0.05)					

Source: Prepared by the researcher based on the outputs of SPSS

Based on the results of the analysis of variance presented in the table above, the significance level equals 0.000, which is less than the 5% significance level. Therefore, the regression model is significant. This means that at least one of the regression coefficients is different from zero. To determine which one is significant, partial significance of the model is tested using a t-test.

2. Partial Significance of the Model:

Table (12): Partial significance of the model (regression coefficients)

SIG Morale Level	T test values	Standard coefficients	Non-standard transactions		prototype
		Beta	Standard error	A	
0.00	60.793	-	1.687	102.546	Independent
0.00	4.787	0.263	0.066	0.317	ElectronicPublishingMeans
Upgrade of tourism services: dependent variable					

Source: Prepared by the researcher based on the outputs of SPSS

Based on the significance level in the table above and the corresponding factor (electronic publications), it is evident that the constant term, representing the minimum level of promotion of tourism services, is statistically significant at a level

of 0.000, which is lower than the significance level of 0.05. The significance level is estimated to be 0.00. Additionally, from the table, we observe that the Beta coefficient is estimated to be 0.263, which is a positive value. This indicates that electronic publications have a positive impact on the promotion of tourism services, suggesting a direct relationship. Therefore, the simple regression model equation can be defined as follows: Y=102.546+0.317X2

Where the promotion of tourism services is statistically significantly influenced by electronic publications as follows:

> Promotion of tourism services = 102.546 + 0.317 (electronic publications)

Result: Acceptance of the second sub-hypothesis, which states that "there is a significant impact of electronic publications on the promotion of tourism services in the studied travel agencies."

Third Sub-Hypothesis: Testing the third sub-hypothesis:

H0: There is no significant impact of material incentives on the promotion of tourism services in the studied travel agencies.

H1: There is a significant impact of material incentives on the promotion of tourism services in the studied travel agencies.

   1. *Model Interpretability:*

Table 13: Explanatory capacity of the model

Estimation error	Corrected coefficient of determination	Coefficient of determination	Correlation coefficient R	prototype
3.491	0.048	0.051	0.226	The first

Source: Prepared by the researcher based on the outputs of SPSS

Based on the table above, there is a weak correlation between the third dimension of viral marketing (material incentives) and the promotion of tourism services, with a coefficient of determination of 22.6%. Referring to the determination coefficient, it is evident that the promotion of tourism services is influenced by 5.1% due to material incentives. In other words, 5.1% of the variations in the promotion of tourism

services can be attributed to the changes occurring in material incentives, while the remaining percentage is attributed to other variables outside the model.

2. The overall Significance of the Model

To test the overall significance of the linear relationship model between material incentives as the predictor and the promotion of tourism services as the dependent variable, the model is considered acceptable for representing this relationship, as shown in the following table:

Table 14: Analysis of Variance (ANOVA) for Regression Significance Test

SignificanceLevel(F)	Calculated value (F)	Average squares	Degrees of freedom	Sum of squares	source
*0.000	16.582	202.11	1	202.11	Between groups
		12.18	309	3766.28	Outside groups
			310	3968.39	Total
Statistically significant at the level of significance (α=0.05)					
Physical incentives: independent variable					
Upgrade of tourism services: dependent variable					

Source: Prepared by the researcher based on the outputs of SPSS

Based on the results of the analysis of variance presented in the table above, the significance level equals 0.000, which is less than the 5% significance level. Therefore, the regression model is significant. This means that at least one of the regression coefficients is different from zero. To determine which one is significant, partial significance of the model is tested using a t-test.

3. Partial Significance of the Model:

4. Table (14): Partial Significance of the Model (Regression Coefficients)

SIG Morale Level	T test values	Standard coefficients	Non-standard transactions		prototype
		Beta	Stand ard error	A	
0.00	95.497	-	1.209	115.421	independent
0.00	4.072	0.226	0.067	0.271	Financial motivation and free offers
Upgrade of tourism services: dependent variable					

Source: Prepared by the researcher based on the outputs of SPSS

Based on the significance level in the table above and the corresponding factor (material incentives), it is evident that the constant term, representing the minimum level of promotion of tourism services, is statistically significant at a level of 0.000, which is lower than the significance level of 0.05. The significance level is estimated to be 0.00. Additionally, from the table, we observe that the Beta coefficient is estimated to be 0.226, which is a positive value. This indicates that material incentives have a positive impact on the promotion of tourism services, suggesting a direct relationship. Therefore, the simple regression model equation can be defined as follows:

Y=115.421+0.271X3

The equation for the statistical relationship between the promotion of tourism services and material incentives is as follows:

Promotion of tourism services = 115.421 + 0.271 (material incentives)

Result: Acceptance of the third sub-hypothesis, which states that "there is a significant impact of material incentives on the promotion of tourism services in the studied travel agencies."

Fourth Sub-Hypothesis: Testing the fourth sub-hypothesis:

H0: There is no significant impact of influential opinion leaders on the promotion of tourism services in the studied agencies.

H1: There is a significant impact of influential opinion leaders on the promotion of tourism services in the studied agencies.

1. *Model Interpretability:*

Table 15: Explanatory capacity of the model

Estimation error	Corrected coefficient of determination	Coefficient of determination	Correlation coefficient R	prototype
3.435	0.078	0.081	0.285	The first

Source: Prepared by the researcher based on the outputs of SPSS

Based on the table above, there is a weak correlation between the fourth dimension of viral marketing (influential opinion leaders) and the promotion of tourism services, with a coefficient of determination of 28.5%. Referring to the determination coefficient, it is evident that the promotion of tourism services is influenced by 8.1% due to influential opinion leaders. In other words, 8.1% of the variations in the promotion of tourism services can be attributed to the changes occurring in influential opinion leaders, while the remaining percentage is attributed to other variables outside the model.

2. *The Overall Significance of the Model*

To test the overall significance of the linear relationship model between influential opinion leaders as the predictor and the promotion of tourism services as the dependent variable, the model is considered acceptable for representing this relationship, as shown in the following table:

Table 16: Analysis of ANOVA variance for regression significance test

SignificanceLevel(F)	Calculated value (F)	Average squares	Degrees of	Sum of squares	source

			freedom		
*0.000	27.25	321.61	1	321.61	Regression
		11.80	309	3646.7	Error
			310	3968.39	Total
Statistically significant at the level of significance (**α**=0.05)					
Influential opinion leaders: an independent variable					
Tourism Services Promotion: Dependent Variable					

Source: Prepared by the researcher based on the outputs of SPSS

Based on the results of the analysis of variance presented in the table above, the significance level equals 0.00, which is less than the 5% significance level. Therefore, the regression model is significant. This means that at least one of the regression coefficients is different from zero. To determine which one is significant, partial significance of the model is tested using a t-test.

3. Partial Significance of the Model:

Table (17): Partial Significance of the Model (Regression Coefficients)

SIG Morale Level	T test values	Stand ard coefficients Beta	Non-standard transactions		prototype
			Standa rd error	A	
0.00	66.317	-	1.546	102.557	Constants
0.00	5.220	0.285	0.047	0.243	Financial motivation and free offers
Upgrade of tourism services: dependent variable					

Source: Prepared by the researcher based on the outputs

Based on the significance level in the table above and the corresponding factor (influential opinion leaders), it is evident that the constant term, representing the minimum level of promotion of tourism services, is statistically significant at a level of 0.000, which is lower than the significance level of 0.05. The significance level is

estimated to be 0.00. Additionally, from the table, we observe that the Beta coefficient is estimated to be 0.285, which is a positive value. This indicates that influential opinion leaders have a positive impact on the promotion of tourism services, suggesting a direct relationship. Therefore, the simple regression model equation can be defined as follows:

$Y=102.557+0.243X4$

The equation for the statistical relationship between the promotion of tourism services and influential opinion leaders is as follows:

> Promotion of tourism services = 102.557 + 0.243 (influential opinion leaders)

Result: Acceptance of the fourth sub-hypothesis, which states that "there is a significant impact of influential opinion leaders on the promotion of tourism services in the studied agencies.

Summary:

This study addressed various aspects within the framework of viral marketing and the promotion of tourism services. It covered viral marketing in all its dimensions and also discussed the concept of promoting tourism services, along with the factors influencing both and the nature of their relationship. The following research question was posed: What is the impact of viral marketing on the promotion of tourism services in travel agencies in Algeria?

The applied aspect involved a case study of travel agencies in Algeria, through the distribution of a questionnaire to the managers of these agencies. Various statistical methods and techniques were used to analyze and process the questionnaire data, along with determining the researchers' direction through SPSS analysis to understand how viral marketing affects the promotion of tourism services in Algerian agencies.

Study Results:

- *Viral marketing has a positive (direct) impact on the promotion of tourism services across its various dimensions, except for material incentives and influential opinion leaders. The overall impact level is estimated at 22%.*

- *In terms of the separate effects of each dimension through simple linear regression, the results are as follows:*

- *The promotion of tourism services is positively influenced by viral advertisements, accounting for 14.2% of the variations in the promotion.*

- *The promotion of tourism services is positively influenced by electronic publications, accounting for 6.9% of the variations in the promotion.*

- *The promotion of tourism services is positively influenced by material incentives, accounting for 5.1% of the variations in the promotion.*

- *The promotion of tourism services is positively influenced by influential opinion leaders, accounting for 8.1% of the variations in the promotion.*

Suggestions:

- *The relevant stakeholders in the tourism industry should utilize modern technological means to introduce new tourism products and promote tourist attractions using viral marketing techniques, considering their wide reach.*

- *For viral marketing to play an effective role in promoting Algeria as a tourist destination, it is necessary to design websites with user-friendly features such as easy access, information sharing, and browsing convenience for tourists. Efforts should be made to attract as many interactions as possible.*

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