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The Digital Economy and Its Role in Enhancing the Competitiveness of Tourist Agencies in Algeria –A Study of a Sample of Tourist Agencies in Eastern Algeria –

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Summary: This study explores the interplay between the digital economy and competitiveness among tourist agencies in Algeria, employing the SPSS model to analyze the data. The findings indicate a correlation coefficient nearing unity between the digital economy and agency competitiveness, signifying a robust, positive linkage. This relationship suggests that the flourishing digital economy directly correlates with enhanced competitiveness within the tourism sector for that the study included 63 agencies in Algeria . Notably, the demographic most engaged in tourism, aged between 25 and 35 years, coincides with the highest users of digital tools, underscoring the critical role that digital economy tools play in boosting the operational success of tourist agencies in Algeria. This motivates agencies to embrace such technologies to augment their market presence and profitability.

Keywords: Digital Economy, Online Advertising, Competitiveness, Tourist Agencies.

Jel Classification Codes : L83; O33.

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I- Introduction :

The tourism sector is a cornerstone of economic development, serving both as a significant employment generator and a vital source of foreign exchange. Often heralded as the 'clean industry', tourism has seen its competitive dynamics transformed by shifts in work paradigms and lifestyle standards. This competition not only spans nations vying to attract diverse customer segments but also permeates the operations of tourist agencies and hotels. These entities strive to enhance their market share by offering sophisticated, high-quality tourist packages through well-strategized distribution channels and robust promotional efforts, aimed at extending the duration of tourists' stays.

Among the myriad promotional tools available, the digital economy emerges as a particularly potent and accessible medium for disseminating information. It facilitates direct interactions between clients and tourist agencies and is instrumental in drawing tourists to destinations, enriching their knowledge about the offerings, and shaping tourist behavior to align with the strategic marketing goals of tourist organizations. By providing vital information and services, the digital economy supports the public's travel and tourism rights while simplifying the enjoyment of vacation and leisure pursuits.

Research Question:

This research delves into the critical role of the digital economy in bolstering the competitiveness of tourist agencies across three eastern provinces in Algeria.

The main problematique:

How the digital economy has emerged as a critical tool in the increasingly competitive tourism industry, transforming the way tourism organizations market themselves, interact with potential tourists, and achieve their strategic goals. ?

Study Hypotheses:

- **First Main Hypothesis**: There is a statistically significant effect of the digital economy on tourist agencies in the studied sample.
- **Second Main Hypothesis**: There is a statistically significant effect of the digital economy on the competitiveness of tourist agencies in the studied sample.
- **Third Main Hypothesis**: There is a statistically significant effect of the educational level variable on the digital economy for tourist agencies in the studied sample.

I.1 Previous Studies:

- Dr. Salman Mohammad Al-Dirawi (2021) focused on understanding the requirements and dimensions of the digital economy within the tourism sector of the southern Palestinian provinces and their correlation with the development of the sector. Employing a descriptive-analytical approach and utilizing surveys for data collection, the study revealed a significant enthusiasm among hotels to align with the digital economy, evidenced by a relative importance scoring of 79.1%. It was found that the digital economy's dimensions have a substantial positive impact on the growth of the tourism sector, with 82.2% of the developmental changes in Palestinian tourism attributed to these digital dimensions. The remaining 17.8% of changes were linked to other extraneous factors.
- Mohsen Ihab Belhaimer Ibrahim (2023) aimed to explore the interconnection between tourism and digital communication in Algeria, alongside the various strategies employed. Despite the Algerian government's concerted efforts to enhance IT and communication infrastructures to support digital transformation in tourism, the study indicates that the objectives remain largely unmet.
- Rafik Ibrahim and Ramadan Tamarkhan (2024) conducted research to evaluate the influence of the digital economy on the advancement of tourist companies in Erbil during 2024. This study, adopting both descriptive and analytical approaches, relied on surveys distributed among employees and managers of tourism and travel companies to gather data. The findings suggest that the impact of the digital economy, considered as an independent variable, on the development of tourist companies was not statistically significant, indicating that the role of digital tools such as software and smart applications in enhancing company growth is not yet conclusive.

I.2 Conceptual Framework for Tourism and Tourist Agencies

I.2.1 The Conceptual Framework of the Digital Economy:

The digital economy is characterized by several definitions that provide a comprehensive understanding of its scope and impact:

A. **Organization for Economic Co-operation and Development (OECD) Definition**: The digital economy is defined as encompassing "All economic activities that rely on digital inputs, including technologies, infrastructure, digital services, and data. These activities are significantly supported and enhanced by digital inputs across all sectors including producers, consumers, and the government." (Al-Hasani & Al-A'zami, 2022, p. 4)

B. **Alternative Perspective**: It is further defined as the economy that engages with digital information, digital customers, businesses, and technology. Specifically, it encompasses the internet-based economy, sometimes referred to as the web economy, which utilizes digital technologies such as remote telecommunications technology, and digital products including databases and software. (Najm, 2004, p. 88)

I.2.2 Digital Marketing Tools:

The digital marketing sphere utilizes a series of fundamental tools that are essential for promoting digital businesses effectively: (Babson College & The University of Texas-Austin, 2009, p. 210)

A. **Website**: A website acts as a critical marketing tool that facilitates reaching a vast number of online consumers. Websites allow for detailed presentation of a product's features and benefits, essentially serving as an advertisement. They fulfill key marketing objectives such as information dissemination, consumer persuasion, and reminding consumers of current product offerings.

B. **Search Engines**: These are instrumental in helping customers locate their desired products through widespread internet platforms. The array of search engine options available enables customers to efficiently achieve their search goals. (Al-Alich & Al-Tayeb Al-Kala, 2018, pp. 154-155)

C. **Online Advertising**: This modern advertising avenue offers distinct advantages. Consumers can access detailed product information conveniently without the constraints of time or travel expenses. Organizations increasingly harness the power of electronic marketing information systems to manage their advertising campaigns, placing banner ads on their own or third-party websites. (Kotler, Keller, Manceau, & Dubois, 2009, p. 309) These ads, often displayed on popular sites, include concise product data, and organizations may also engage in sponsorship advertising by hosting their ads on selected sites in return for financial or moral benefits. (French & Smith, 2013, pp. 1356-1367)

D. **Email Marketing**: Email remains an essential tool for business communication and marketing within the digital domain. Effective utilization of email for marketing involves several strategies:

- Organizations may use free email services to place their name on mailing lists, which allows for automated communication with a broad audience in exchange for a fee.
- Through email, an organization maintains constant contact with its clientele including current customers, potential buyers, suppliers, and distributors, facilitating ongoing interactions and meeting their diverse needs. (Booms & Bitner, 1981, pp. 47-52)
- Email marketing strategies also include encouraging existing customers to refer new customers by sending messages to friends directly from the site. (Al-Sabbagh, 2016, pp. 29-30-31)
- Additionally, organizations can enhance user engagement by offering services on their websites that allow users to easily find and connect with their friends through email.

I.3 The Conceptual Framework for the Operation of Tourist Agencies:

This section delineates the operational framework of tourist agencies, focusing on their structure, functions, and the broader processes involved in managing tourism operations, all within the operational purview of these agencies.

I.3.1 Definition of Travel and Tourism Agencies:

Travel and tourism agencies are commercial entities that engage continuously in tourism-related activities. Their services include the direct or indirect provision of travel arrangements,

accommodations for individuals or groups, and a variety of services connected to these main offerings. (Directorate of Tourism, Souk Ahras Province, 2019)

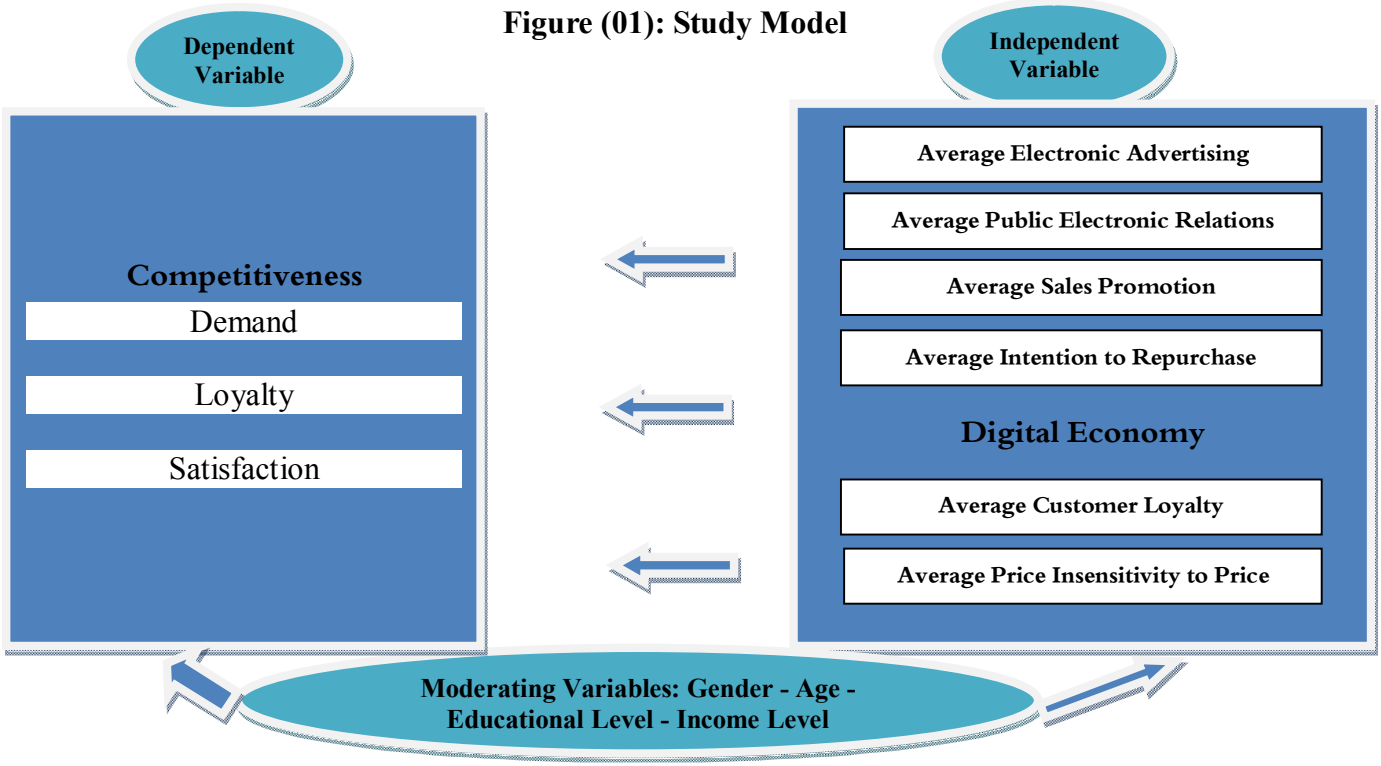
I.3.2 Main Activities of Travel and Tourism Agencies:

- Agencies prepare an annual work plan that outlines the key tourist activities planned for the year.
- Creating a supportive environment, they initiate actions aimed at fostering an environment that promotes the sustainable development of local tourist activities.
- Agencies are involved in marketing diverse and high-quality tourism packages to attract a broad spectrum of tourists.
- Implementing and assessing the effectiveness of promotional and development programs for tourist sites such as spas, forests, and historical areas.
- Gathering, analyzing, and providing IT and statistical data to support the sector's statistical monitoring mechanisms.
- Integrating tourism activities into territorial and urban planning frameworks to facilitate tourism expansion and ensure the implementation of tourism activities.
- Ensuring that the needs of tourists are met by providing services that enhance comfort, relaxation, and entertainment.
- Overseeing health and safety measures related to tourism activities and managing support operations through investment funds dedicated to promoting the quality of tourism services.
- Animating and managing external services, intermediary spaces, and active community movements in local tourism.
- Engaging with relevant sectors to aid in the preparation and execution of training programs, skill upgrades, knowledge renewal, and the enhancement of human resources in tourism.
- Contributing to the preparation of annual and multi-year development plans for local tourism.
- Preparing quarterly and annual statistical reports on tourism activities to track progress and inform future initiatives. (Directorate of Tourism, Souk Ahras Province, 2019)

II– Methods and Materials:

II.1 Study Model and Variables: The core focus of this study is to explore the dimensions of the digital economy and their impact on the competitiveness of tourist agencies. The study's model, which integrates various variables to investigate this relationship, is depicted as follows:

Figure (01): Study Model



Source: Prepared by the researchers

II.2 Study Population: The population under study comprises tourist agencies located within three provinces: Annaba, Guelma, and Souk Ahras in Eastern Algeria. Due to the challenges involved in surveying the entire population, a statistically representative sample was selected to ensure the validity and reliability of the study results.

II.3 Study Sample: For this research, a random sample of 63 tourist agencies from Eastern Algeria was chosen. Surveys were administered to agency managers to gauge the digital economy's influence on enhancing the competitiveness of tourist agencies, addressing the core research question: "What is the extent of the digital economy's impact on enhancing the competitiveness of tourist agencies?"

II.4 Processing and Analysis of the General Characteristics of the Study Sample:

The demographic characteristics of the study sample are detailed as follows:

A. **Distribution of the Study Sample by Gender Variable**:

Table (01): Distribution of the Study Sample by Gender.

Variable		Frequency	Percentage
Gender	Male	49	77.77%
	Female	14	22.22%
Total		63	100%

Source: Prepared by the researchers based on SPSS21 outputs.

The distribution shows a significant gender disparity within the sample, with males representing 77.77% and females 22.22%.

B. **Distribution of the Study Sample According to Age Variable**:

Table (02): Distribution of the Study Sample by Age Variable.

Variable		Frequency	Percentage
Age	Under 25 years	2	3.10%
	25 to 35 years	25	39.68%
	36 to 45 years	23	36.50%
	46 to 55 years	5	7.93%
	Over 55 years	8	12.69%
Total		63	100%

Source: Prepared by the researchers based on SPSS21 outputs.

This table illustrates that the most represented age group in the sample is 25 to 35 years, holding 39.68% of the total, whereas the least represented is the under 25 years category, at 3.10%.

C. **Distribution of the Study Sample According to Educational Qualification Variable**:

Table (03): Distribution of the Study Sample by Educational Qualification.

Variable		Frequency	Percentage
Educational Qualification	Less than Baccalaureate	3	4.46%
	Baccalaureate	18	28.57%
	Licence	19	30.15%
	Master	15	23.80%
	Postgraduate Studies	8	12.69%
Total		63	100%

Source: Prepared by the researchers based on SPSS21 outputs.

From this distribution, the 'Licence' qualification emerges as the most common educational level among the sample, representing 30.15%, while the 'Less than Baccalaureate' category is the least common, at 4.46%.

II.5 Validity and Reliability Test of the Questionnaire Using Cronbach's Alpha:

Table (04): Validity and Reliability Test of the Questionnaire Using Cronbach's Alpha.

Number	Cronbach's Alpha
63	0.944

Source: Prepared by the researchers based on SPSS21 outputs.

From Table (04), it is noted that the reliability coefficients for all study variables are high compared to the minimum acceptable limit of 60% for the tool to be considered acceptable and

capable of measuring the variables. The value of Cronbach's alpha was 0.932, indicating a high and acceptable reliability for the purposes of the study. Referring to the validity coefficient, it shows that the scale measures what it was designed to measure, calculated by taking the square root of the reliability coefficient.

Construct Validity = $\sqrt{0.944} = 0.971$

The construct validity value is high, indicating that the scale is suitable for the study.

II.6 Studying the Correlation Between the Digital Economy and the Competitiveness of Tourist Agencies.

First Axis: X (Digital Economy)

Second Axis: Y (Tourist Agencies' Competitiveness)

Table (05): Correlation Coefficient Between the Axes of Project Scheduling.

Axes	Correlation Coefficient
X (Digital Economy)	0.961
Y (Tourist Agencies' Competitiveness)	

Source: Prepared by the researchers based on SPSS21 outputs.

From Table (05), it is observed that the correlation coefficient between the digital economy and the competitiveness of tourist agencies is estimated at 0.961, which is close to one, with a significance level greater than 0.01. Thus, it can be said that there is a highly positive direct relationship between them, meaning that as the digital economy increases, so does the competitiveness of tourist agencies in the tourism business sector.

II.7 Statistical Analysis of the Sample Responses for the Digital Economy in Tourist Agencies:

Table (06): Sample Responses for the First Axis:

Number	Axes	Mean	Standard Deviation	Response Level
	First Axis			
1	Average Online Advertising	3.6806	1.1570	High
2	Average Online Public Relations	3.3270	1.2150	Medium
3	Average Sales Promotion	3.7106	1.0310	High
4	Average Intent to Re-engage	3.9841	1.1887	High
5	Average Customer Loyalty	3.0188	1.2402	Medium
6	Average Insensitivity to Price and Complaint Behavior	3.2776	1.2537	Medium
Total		3.4997	1.1809	Medium

Source: Prepared by the researchers based on SPSS21 outputs.

From Table (06), the main variables for the independent variable (digital economy) were in a favorable direction, with a mean value of 3.4997, indicating that the sample responses were in agreement. The mean variance was acceptable at 1.1809, showing that the responses did not vary significantly from the mean, indicating the application of most digital economy variables in the studied sample.

Table (07): Sample Responses for the Axis of Competitiveness of Tourist Agencies:

Number	Axes	Mean	Standard Deviation	Response Level
	Second Axis			
1	Business Turnover	4.0120	0.1570	High
2	Customer Satisfaction	3.7870	1.1215	Medium
3	Agencies' Ability to Penetrate New Markets	3.6501	1.0322	High
4	Market Image of Agencies	3.8891	1.1007	High
5	Insensitivity to Price and Complaint Behavior	4.0188	1.2002	Medium
Total		3.8714	0.9223	Medium

Source: Prepared by the researchers based on SPSS21 outputs.

Statistical analysis of Table 07 reveals that the competitiveness metrics, serving as the dependent variable in this study, demonstrated positive results with an average score of 3.8714. The calculated variance of 0.9223 falls within acceptable parameters, suggesting consistent responses clustered around the mean value. This consistency indicates that the majority of tourism agencies examined in the research exhibit strong competitive characteristics.

III- Results and discussion :

III.1 First Main Hypothesis:

- **Null Hypothesis (H0):** There is no statistically significant effect of the digital economy variable at the significance level (α=0.05).
- **Alternative Hypothesis (H1):** There is a statistically significant effect of the digital economy variable at the significance level (α=0.05).

Table (08): Testing the First Main Hypothesis.

Sig	T	t	N	Standard Deviation	Mean	Variable
0.000	619.729	24.894	53	0.950	3.20	Digital Economy

Source: Prepared by the researchers based on SPSS21 outputs.

The statistical analysis of Table 08 demonstrates a p-value of 0.000, which falls well below the established significance threshold of α=0.05. This finding provides strong statistical evidence of the digital economy's meaningful impact on the studied sample. Consequently, we must reject the null hypothesis of no effect and accept the alternative hypothesis that confirms a significant relationship between the digital economy and the measured outcomes.

III.2 Second Main Hypothesis:

- **Null Hypothesis (H0):** There is no statistically significant effect of the digital economy on the competitiveness of agencies at the significance level (α=0.05).
- **Alternative Hypothesis (H1):** There is a statistically significant effect of the digital economy on the competitiveness of agencies at the significance level (α=0.05).

Table (09): Linear Relationship between Digital Promotion and Competitiveness.

Sig	T	t	R^2	R	Hypothesis
0.000	619.724	24.824	0.924	0.961	Competitiveness of Tourist Agencies

Source: Prepared by the researchers based on SPSS21 outputs.

The statistical examination of Table 09 demonstrates a robust linear correlation, with digital promotion accounting for 92.4% of the variability in tourist agency competitiveness, as evidenced by the exceptionally high coefficient of determination (R^2). The calculated F-statistic exceeds its critical threshold value (t), while the p-value registers below the predetermined significance level of α=0.05. These findings collectively affirm that digital promotion exerts a statistically significant and substantial influence on the competitive positioning of tourist agencies in the marketplace.

III.3 Third Main Hypothesis:

- **Null Hypothesis (H0):** There is no statistically significant effect of the income level variable on the digital economy at the significance level (α=0.05).
- **Alternative Hypothesis (H1):** There is a statistically significant effect of the income level variable on the digital economy at the significance level (α=0.05).

Table (10): Testing the Third Main Hypothesis.

Hypothesis	The dependent variable (Y) is the competitiveness of tourist agencies		
	T	F	Sig
There is a statistically significant effect of the income variable on the digital economy.	4.120	122.362	0.000

Source: Prepared by the researchers based on SPSS21 outputs.

The results in Table (10) show that the p-value is 0.000, well below the α=0.05 threshold. Contrary to the initial assumption, this indicates that the effect of the income level variable on the digital economy is statistically significant, thereby leading us to accept the alternative hypothesis and reject the null hypothesis.

IV- Conclusion:

Through meticulous field and theoretical analysis, this study has yielded significant findings:

IV- 1 Theoretical Findings:

- Digital marketing has expanded far beyond its original boundaries and is no longer exclusive to specialized practitioners. It has now become integrated across numerous industries, affecting a diverse spectrum of people and organizations on a daily basis.
- Researchers have developed a thorough comprehension of digital economy processes and developmental phases. This knowledge enables the strategic formulation of website promotional strategies designed to increase visitor engagement and improve institutional site accessibility, ultimately building a loyal audience that can be consistently engaged.
- The research emphasizes the critical importance of the service dimension within the digital economy framework, which proves essential for developing successful promotional initiatives on digital platforms.

IV- 2 Field Study Results:

1. The study reveals a pronounced gender disparity in the tourism sector, with male participants significantly outnumbering females.
2. The most active age group in the tourism sector is 25 to 35 years, accounting for 39.68% of the sample. In contrast, the least active age group is those under 25 years, representing only 3.10%.
3. The reliability coefficients for all study variables were found to be high, exceeding the minimum acceptable limit of 67%. Cronbach's alpha was estimated at 0.932, indicating a high level of reliability for the study instruments.
4. There is a highly positive direct correlation between the digital economy and the competitiveness of tourist agencies, with a correlation coefficient estimated at 0.961. This suggests that the growth of the digital economy is closely linked to enhanced competitiveness in the tourism sector.
5. The study sample showed a consistent response to the digital promotion variable, with an average mean of 3.4997 and a mean variance of 1.1809. This uniformity indicates a strong application of digital promotion strategies across the surveyed agencies.
6. Responses concerning the competitiveness of agencies were consistent, with an average mean estimated at 3.8714 and a mean variance of 0.9223. This demonstrates a high level of competitiveness across the majority of the agencies studied.

Recommendations: based the previous Theoretical results and the results of the study , we extract the following recommendations :

1. Address gender disparity in the tourism sector by implementing initiatives to increase female participation, as the study reveals significant male dominance.
2. Focus recruitment and training efforts on engaging younger demographics (particularly those under 25), who are currently underrepresented in the tourism workforce.
3. Leverage the established link between digital economy adoption and competitiveness (correlation coefficient of 0.961) by prioritizing digital transformation initiatives within tourism agencies.
4. Develop comprehensive digital promotion strategies, building on the already positive implementation (mean of 3.4997) to further enhance competitive advantage.
5. Establish industry benchmarks based on the high competitiveness metrics (mean of 3.8714) to help underperforming agencies identify areas for improvement.
6. Utilize the established understanding of digital economy processes to design effective website promotional policies that build stable, engaged audiences.
7. Emphasize the service component within digital initiatives, as research highlights this as critical for successful promotional campaigns.
8. Consider age-specific digital marketing approaches, with particular attention to the preferences of the dominant 25-35 year age group (39.68% of the sample).

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