The 2025 master plan for tourism development in Algeria between reality and outlooks- Econometric study

المخطط التوجيهي للتهيئة السياحية في الجزائر 2025 بين الواقع والآفاق – دراسة قياسية–

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Abstract:

This research aims to study the Tourism Master Plan for 2025 and assess the extent to which it achieves the desired objectives.

The study concluded that the Tourism Master Plan for 2025 prospects face a significant deficit in achieving their desired goals especially regarding (the number of tourists, tourism revenues, tourism accommodation capacity). according to the estimated predictions in the models used, the results indicated that this plan would not achieve its set forth and desired goals.so, the future of Algeria's tourism sector needs other strategies to promote it.

Keywords: the 2025 master plan for tourism development; the number of tourists; the tourism revenues; the tourism accommodation capacity;

JEL Classification Codes : Z32, Z33, Z38.

Résumé :

Cette recherche vise à étudier le plan d'Aménagement touristique à l'horizon 2025 et à évaluer dans quelle mesure il atteint les objectifs souhaités. L'étude a conclu que les perspectives du plan d'Aménagement touristique pour 2025 sont confrontées à un déficit important dans la réalisation de leurs objectifs souhaités, notamment en ce qui concerne (le nombre de touristes, les recettes touristiques, la capacité d'hébergement touristique); selon les prévisions estimées dans les modèles utilisés, les résultats ont indiqué que ce plan n'atteindrait pas les objectifs souhaités, Par conséquent, l'avenir du secteur touristique algérien nécessite d'autres stratégies pour le promouvoir.

Mots clés : le plan directeur de développement touristique 2025 ; le nombre de touristes ; les recettes touristiques ; la capacité d'hébergement touristique

JEL classification : Z32, Z33, Z38.

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1. Introduction

The travel & tourism (T&T) industry plays a vital role in the global economy and community. In 2018, the initiative helped generate 10.4% of world GDP and a similar share of employment and has shown enormous resilience over the last decade. (Calderwood & Soshkin, 2019)**,** sotourism is one of the fastest-growing sectors of the world economy. Tourism is no longer a choice; it is imperative. It is an alternative resource to hydrocarbons as a depletable resource in this century. Algeria witnessed a decade-long civil war ending in 2002, and an antiquated transport infrastructure network has curtailed growth in the tourism sector, alongside negative perceptions abroad and a cumbersome visa regime; These challenges are reflected in the World Economic Forum's "Travel and Tourism Competitiveness Report 2017", which ranked Algeria 118th out of 136 countries, lagging far behind its Maghreb neighbors Morocco and Tunisia, which placed 65th and 87th, respectively (oxford business groups, 2019). However, with the stability in security that Algeria witnessed and the implementation of balanced and coherent strategic planning, they can ensure sustainable growth of tourism. This likely stems from its unique tourism product and proximity to Europe, the world's largest tourism market. The Ahaggar and the Tassili-n-Ajjer regions offer the tourist unparalleled desert landscapes of rugged volcanic mountains, profoundly eroded sandstone plateaux, massive gorges, sand seas, and almost every other conceivable form of desert landscape(Keenan, 2003). Algeria has a rich potential of over 200 undervalued thermal springs (d. E. S. D. d. A. T. e. d. T. S. Ministère de l'Aménagement du Territoire, 2008a). Algeria offers a remarkable variety of activities for travelers with a diverse land of thermal springs, mountains, historical sites, vast desert, and unspoiled Mediterranean coastline. However, with mountains, historical sites, vast desert, and unspoiled Mediterranean coastline, Algeria provides an amazing variety of activities for travelers. However,Algeria contains archaeological sites classified as world cultural heritage by UNESCO; Heritage and sustainable development appear today as two consensual concepts. The need to protect and transmit heritage through the promotion of sustainable cultural tourism is now a widely spread idea around the world(Soufiane et al., 2021) . Algeria is also considered one of the few countries globally that possess a diverse historical and cultural

heritage. Over Algeria, there was the greatness of successive civilizations, from the Amazigh to the Phoenician, then the Byzantine, the Romanian, and finally the Islamic ones who imposed themselves. We also find Al Qal'a of Beni Hammad, Djémila, M'Zab Valley, Timgad, Tipasa. Moreover, the words mentioned above left their marks, features, and effects, making Algeria possess a cultural asset that increased its beauty.However, Despite all these potentials, the tourist situation in Algeria is not optimistic.Therefore, Algeria has taken the initiative to boost its tourism sector by providing them with all facilities to increase the demand for tourism investment; Algeria is seeking to rebuild its tourism sector to be an effective sector that is betting on it in development processes and reach the desired economic goals. Therefore, it has tried to upgrade this sector and inject it into the global tourism market by adopting plans and strategies in the short and long term, which appear in the 2025 master plan for tourism development. This scheme, therefore, defines, until 2025, the vision and strategy for all stakeholders, sectors, and regions. From the above, we formulate the following questions: CanThe 2025 master plan for tourism development promote the Algerian tourism sector and achieve the goals it desires? How is the national strategy for 2025 being implemented to develop tourism further?

Research objectives:

In light of the research problem and its importance, we seek to achieve the following objectives:

- Assessing the 2025 master plan for tourism development.
- It will be interesting to see how the 2025 master plan for tourism development can promote the Algerian tourism sector and achieve the goals it desires.
- highlighting how the national strategy for 2025 is being implemented to develop tourism further.

Search hypotheses

Main Hypothesis: Tourism Master Plan for 2025 prospects faces a significant deficit in achieving its desired goals.

This hypothesis is based on the following sub-assumptions:

1. The Tourism Master Plan for 2025 prospects faces a significant deficit in achieving its desired goals related to the number of tourists;
2. The Tourism Master Plan for 2025 prospects faces a significant deficit in achieving its desired goals related to tourism revenues.

3. The Tourism Master Plan for 2025 prospects faces a significant deficit in achieving its desired goals related to tourism accommodation capacity.

Research methodology:

The analytical descriptive approach that describes the studied phenomenon has been used both quantitatively and qualitatively, by gathering and classifying information about the three physical horizons for the plan (number of tourists, tourism revenues, and tourism accommodation capacity), and comparing them with future models' predictions following the time change of these horizons by the end of 2025, to arrive at results that contribute to understanding the reality and outlooks.

2.2. The Conceptual Framework for the 2025 master plan for tourism development:

2.1 Tourism concept:

According to the World Tourism Organization: "Tourism is a social, cultural and economic phenomenon that involves people's movement to countries or places outside their usual environment for personal or professional or business purposes. These people are called visitors, and tourism relates to their activities, including tourism expenses (Abderrahim & Baroudi, 2019). According to (Boyer, 2003), the epistemology of tourism must be « oriented by its philosophy, history, and eschatology(Demen-Meyer, 2005). Therefore, tourism is defined as the mobility of individuals according to their plans; this mobility has a global framework because it is the planet's diversity that inspires them. (Clergeau et al., 2014).
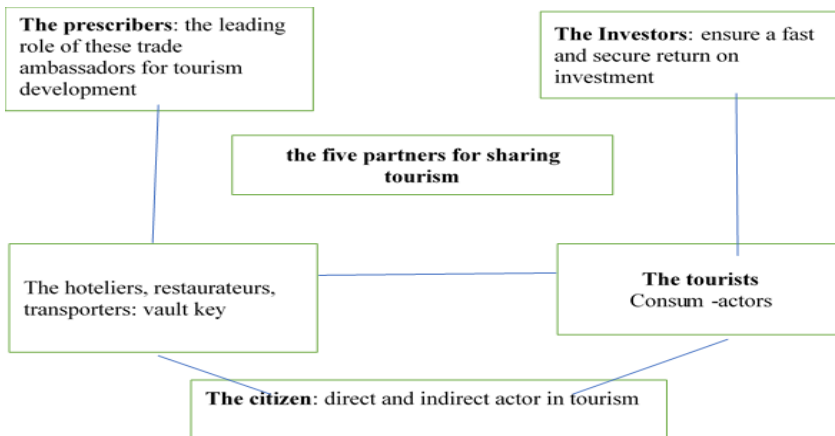
Furthermore, (Boyer, 2003), states « tourism is perceived as the subject of statistical estimates, it is a set of consumption of goods and services related to the movement of persons qualified as tourists(Demen-Meyer, 2005). From a technical standpoint, the most recent definition adopted by the World Trade Organization and the United Nations Statistical Commission (2000) is, in theory, a reference point for all member countries « the activities of persons during their travel and stays in places outside their usual environment for not more than one year, for leisure, business, or other reasons.» (Boyer, 2003). (Demen-Meyer, 2005); As a result of the WTO, institutions define tourism as any form of short-term travel

lasting longer than one night but less than one year. (Clergeau et al., 2014).

The 2025 Master Plan for Tourism Development of Algeria considers that tourism is neither a branch nor a business sector, it is a young industry, which combines the promotion of tourism and the environment. (d. E. S. D. d. A. T. e. d. T. S. Ministère de l'Aménagement du Territoire, 2008a). Tourism is therefore a chain whose proper articulation of components such as transport, information, accommodation and leisure is essential for its success.(d. E. S. D. d. A. T. e. d. T. S. Ministère de l'Aménagement du Territoire, 2008a)

The five priority target partner actors to be persuaded to ensure the portage and development of the new concept of setting up tourism in Algeria are shown in the figure**1** below:

Figure 1: Actors and partners

The prescribers: the leading role of these trade ambassadors for tourism development

The Investors: ensure a fast and secure return on investment

the five partners for sharing tourism

The hoteliers, restaurateurs, transporters: vault key

The tourists
Consum -actors

The citizen: direct and indirect actor in tourism

Source: (d. l. E. Ministère de l'Aménagement du Territoire, Schéma Directeur d'Aménagement Touristique et du Tourisme « SDAT 2025 » 2008)

Target populations to be convinced under the new concept:
Intending to ensure sustainability in the development of the five tracks of the new idea of Algerian tourism, the aim is to identify the target populations to be convinced of, which are five:(d. l. E. Ministère de l'Aménagement du Territoire, Schéma Directeur d'Aménagement Touristique et du Tourisme « SDAT 2025 » 2008)

- **Tourists:** Tourists who become Consum-actors than consumers who are very familiar with the products offered by competing destinations.
- **The prescribers :**(travel agency, carriers, guides, journalists, opinion leaders, merchant or non-merchant intermediaries).These commercial ambassadors need vital signs for improving the tourism organization.
- **Investors, promoters, developers** who legitimately want to guarantee a rapid and secure return on investment.
- **Hoteliers, restaurateurs, transporters**…
- **Citizens** need to be aware of the positive effects of tourism, warned about its perverse effect, always possible, informed that it could directly contribute to the emergence of sustainable and quality tourism.

Advantages and impacts of tourism:

Cities are in the whole competition, particularly concerning the economic aspect, they seek to prove their existence and their continued existence, for this they put their assets in the spotlight, faced with this reality and this observation, tourism is a significant source of economic development and notoriety thus drawing up an image of an attractive and competitive city. The new concept of sustainable tourism, which combines the four economic, social, cultural, and environmental components, represents a considerable boon for the ecodevelopment of the city. (ABADA & FOURA)

Today, tourism has become a key to the development of prosperity and well-being. Increasing numbers of destinations worldwide invest in tourism, turning it into an essential engine of socio-economic progress through job and business creation, export revenue, and infrastructure development; Despite occasional shocks, tourism has experienced almost uninterrupted growth. International tourism arrivals have thus risen from 25 million worldwide in 1950 to 278 million in 1980, 527 million in 1995, and 1.184 billion in 2015. Similarly, international tourism revenue from destinations around the world jumped from US$2 billion in 1950 to US$104 billion in 1980, US$415 billion in 1995, and US$1.246 trillion in 2015 (OMT). (Duthion & Mandou, 2016)

- sustainable tourism

The World Tourism Organization defines sustainable tourism as being the: "management of all resources so that economic, social and aesthetic necessities are met in respect of cultural and environmental

integrity of the host territories, their biodiversity and their way of living(Bouadam, 2011)

According to(UNWTO 2016),sustainable tourism is defined as tourism that takes complete account of its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities. (World bank group, 2017)

Generally, sustainable tourism should:(Bouadam, 2011)

➢ Make optimal use of environmental resources that remain an essential tourist asset without undermining the crucial ecological processes, natural resources, and biodiversity;
➢ Respect the socio-cultural authenticity of host communities, conserve their cultural capital and contribute to the understanding and intercultural tolerance;
➢ Ensure a viable economic activity in the long term, ensuring equitable socio-economic benefits for all stakeholders (stable employment opportunities and social services benefits for host communities) and thus reducing poverty.

According to the French Tourism Engineering Agency (AFIT), sustainable tourism refers to "any form of development, planning or tourism activity which respects and preserves in the long term natural, cultural and social resources, and contributes positively and equitable to the economic growth and the fulfillment of the individuals who live, work and stay in these spaces. "

2.2 The 2025 master plan for tourism developmentof Algeria concept: When the Horizon 2025 strategy was drawn up, it was acknowledged that existing hotels need to be assisted in attaining international standards, while new hotels needed to be built. Also, the country's unique qualities, such as the best ancient Roman sites outside Europe, therapeutic hot springs, the Sahara Desert, rock and mountain climbing opportunities, arts and crafts, among others, need to be promoted worldwide. Interested parties have also noted that personalized tourism in which travel, accommodation, activities, and excursions are tailor-made for visiting tourists is also essential. (Tourism Development Strategy Horizon 2025, 2021)

The 2025 Tourism Development Master Plan constitutes the strategic reference framework for Algeria's tourism policy. In his favor, the state displays its tourism strategy in the various short-term (2009), medium-term (2015), and long-term (d. E. S. D. d. A. T. e. d. T. S. Ministère de l'Aménagement du Territoire, 2008b)horizons within the sustainable development framework to make Algeria a receiving country - defines the instruments for its implementation and specifies the conditions for its feasibility.(d. E. S. D. d. A. T. e. d. T. S. Ministère de l'Aménagement du Territoire, 2008b)

The 2025 master plan for tourism development is a component of SNAT 2025, which, in a sustainable development framework, defines the triple balance of social equity, economic efficiency, and ecological sustainability across the country for the next 20 years(d. E. S. D. d. A. T. e. d. T. S. Ministère de l'Aménagement du Territoire, 2008b)

The 2025 master plan for tourism development is the mature outcome of a long research process, investigations, studies, expertise, and consultation. It results from a brainstorming and broad talk with national and local public and private stakeholders throughout the regional assistance and the resulting enrichment. The issue is the ownership of the 2025 master plan for tourism development at all stages (development, implementation, monitoring) by central and local tourism operators and operators at different levels (hotel managers, restaurants, tour operators, guides, operators, associations. (d. E. S. D. d. A. T. e. d. T. S. Ministère de l'Aménagement du Territoire, 2008a).

This master plan for tourism development is the result of a wide-ranging consultation and dissemination whose main objective is to be re-appropriated by all stakeholders and operators in tourism investors, developers, tour operators, guides, carriers, prescribers, hoteliers, restaurants, offices, associations, local authorities…(d. E. S. D. d. A. T. e. d. T. S. Ministère de l'Aménagement du Territoire, 2008a)

Sustainableimplementation of the 2025 master plan for tourismdevelopmentrequires four major actions: (d. E. S. D. d. A. T. e. d. T. S. Ministère de l'Aménagement du Territoire, 2008b)
- The reorganization of tourism activities within the framework of the new governance.
- Establish planning rules based on ecological and demographic burdens to ensure natural capital development sustainability.
- Management of tourism policy to achieve the objectives and adjust it gradually if necessary.
- Raising the citizen's awareness about tourism so that the whole society can grasp the issue and become involved in tourism Because tourism does not take place without the active participation of the community.

The 2025 master plan for tourism development is the culmination of a long research process, surveys, studies, expertise, and consultation. It is the result of extensive consultations conducted with national and local public and private actors. (Bouadam, 2011)

According to the Ministry of Regional Planning, Environment and Tourism defines the 2025 master plan for tourism development as an instrument that translates and shapes the entire territory, as for each of its parts, the strategic orientations of sustainable development of the environment. (Abderrahim & Baroudi, 2019)

2.3 The 2025 master plan for tourism development objectives :
a. The master plan for tourism development has as objectives:(Ministère du Tourisme et de l'artisanat et du travail familiale, 2021)
- Promote an alternative economy through participation in creating jobs and the improvement of principal balances.
- Stimulate other sectors such as construction through a ripple effect.
- Integrate sustainability into tourism development.
- Promote the natural, historical, religious, and cultural heritage.
- Enhance the image of the country.

b.The physical and monetary objectives of the first stage 2008-2015:
The scheme sets physical targets and is based on financial targets for the first stage 2008-2015. The business plan aims to meet international demand and has a national order of around eleven million national tourists in 2025.(d. l. E. Ministère de l'Aménagement du Territoire, Schéma Directeur d'Aménagement Touristique et du Tourisme « SDAT 2025 » 2008)

➢ **The physical objectives of the first step**
the number of merchant beds to create**:**
- By 2015, Algeria's objective is to host 2.5 million tourists. Therefore, it would need 75 000 excellent quality beds, in line with the same ratios as neighbors.
- The target for priority poles is about half of the planned new capacity:
- 40,000 beds at the international standard, including 30,000 high-end beds in the concise term and 10,000 additional beds in the medium term,
- 400 000 jobs were generated (direct and indirect), and 91 600 educational places were created.

➢ **The monetary objectives of the first stage:**
Algeria's business plan for tourism investment in public and private tourism is estimated at US$2.5 billion between 2008-2015.
The total public and private investment, equipment and immaterial infrastructure, landscape, communication can be estimated at US$

60000 per bed creates all accommodation included, US$ 55000 in material investments, and US$ 5,000 in intangible investments.

For the capacity of 40,000 beds projected in the seven poles of excellence, an overall investment of just over US$2.5 billion is planned for seven years by 2015, or US$350 million per year. The table **1** below shows the encrypted Business Plan lighting:

Table 1: Encrypted Business Plan lighting

	2007	2015	Multiplier
Number of tourists	1,7 million	2,5 million	x 1,47
Number of beds	84,869 to requalify	75,000 luxurybeds	159 869X1,8
Contribution to GDP	1.7% 3% (estimated)	1.7% 3% (estimated)	X 1,3
Revenue in million($)	215	1500 à 2000	X 7 à 9
Posts (units)	200 000	400 000 (direct and indirect)	x 2
Training (pedagogical places)	51.200	91.600	142.800

Source: (d. l. E. Ministère de l'Aménagement du Territoire, Schéma Directeur d'Aménagement Touristique et du Tourisme « SDAT 2025 » 2008)

3.Mechanisms to revive the Algerian tourist market according to what was stated in the plan:
3.1 The five Dynamics of the Tourism Development Master Plan are:(Ministère du Tourisme, 2021)
• Enhancing the destination Algeria to increase the attractiveness and competitiveness of Algeria;
• The development of centers and tourist villages of excellence through the rationalization of investment and development;
• The deployment of a Tourism Quality Plan (TQP) for the development of excellence in the national tourism offering, incorporating vocational education, education, and access to Information and Communication Technologies (ICT);
• The promotion of transversal and coherent action by linking the tourism chain and establishing a public-private partnership;
• The definition and implementation of an operational financing plan to support tourism activities and developers and attract national and international investors.
3.2. Priority projects of the first stage 2008-2015:
Priority projects that have been identified as part of the 2025 Master Plan for Tourism Development are either underway or understudy and advanced offer: (d. l. E. Ministère de l'Aménagement du Territoire, Schéma Directeur d'Aménagement Touristique et du Tourisme « SDAT 2025 » 2008)
• National tourism investment.

- In chain hotels: the number of beds in all categories is 29,386.
- There are around 20 top tourist villages (VTEs) and new integrated platforms dedicated to expanding tourism, designed to meet international and national demand.

3.3. The sevenPoles of Excellence (POTs) identified are: (d. l. E. Ministère de l'Aménagement du Territoire, Schéma Directeur d'Aménagement Touristique et du Tourisme « SDAT 2025 » 2008)

➢ The North-East Tourism Center of Excellence **(POT N.E):** Annaba, Tarf, Skikda, Guelma, Souk Ahras, Tébessa….
➢ The North-Center Tourism Center of Excellence **(POT N.C):** Alger, Tipasa, Boumerdès, Blida, Chlef, Ain Defal, Médéa, Bouira, TiziOuzou, Bejaia….
➢ The Northwest Excellence Tourist Pole **(POT N.O):** Mostaganem, Oran, Ain Temouchent, Tlemcen, Mascara, Sidi Bel Abbés et Relizane
➢ The Southeast Tourist Pole of Excellence **(POT S.E) ''Oasien„'':** Ghardaïa, Biskra, El Oued, Menéa…
➢ The Southwest Tourist Pole of Excellence **(POT S.O)'' Touat-Gourara»:** Les Routes des Ksour: Adrar, Timimoun et Bechar
➢ Grand Sud Tourism Center of Excellence **(POT G.S) – TassiliN'Ajjer :** Illizi, Djanet…
➢ Grand Sud Tourism Center of Excellence **(POT G.S)–Ahaggar:** Tamanrasset…

4. The horizon of 2025 master plan for tourism development in Algeria and its reality: an econometric study

4.1Horizons of the 2025 master plan for tourism development:

The horizons of the Algerian tourism sector under the master plan for tourism development for 2025 include many horizons, including physical ones and quality ones. The focus will be on three physical horizons for the plan and comparing them with future models' predictions following the time change of these horizons by the end of 2025.

➢ **Raising tourism revenues in hard currency:**

It is clear that the higher the number of tourists, the more tourism revenues will increase, because of their growing expenditures on various available tourism services, especially in hotels, restaurants, and transportation. According to the estimates of the Ministry of Tourism, tourism revenues are expected to reach 8800 million U.S. dollars with the 2025 horizon (Ministère du Tourisme et de l'artisanat et du travail familiale, 2021)

➢ **Improve the level of tourism accommodation services**:

This is represented in increasing the capacity of tourist accommodation in terms of the number of beds. According to the

Algerian Ministry of Tourism, the plan's goal is to achieve a housing capacity of 360000 beds for Horizon 2025.(Ministère du Tourisme et de l'artisanat et du travail familiale, 2021)

➢ **Increase in tourism human flows:**

The overall goal of the Algerian tourism plan is to reach 11 million tourists by 2025.

4.2 Estimating and evaluating the models of temporal variation effectof the Master plan's three physical objectives:

A.Estimating and evaluating the model of temporal variation effect on the number of tourists comingand predicting it by the end of 2025:

A.1 Estimation of the model: Through Annex 1, the growth of tourists, total number can be represented by the significance of the study years (1990-2017), where we obtain the diagram shown in figure 2below.

Figure2: The evolution of the number of tourists coming to Algeria for the years (1990-2017)
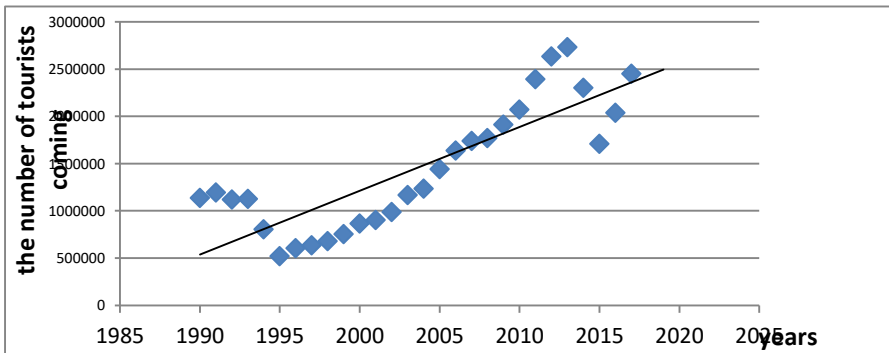
source: Data based on the data of Appendix 1

It is noted from Figure 2 that the number of tourists is affected and increased annually, which is what we note through the statistical data contained in Annex 1. This means that the number of tourists is a function in the successive years, i.e., we have a variable associated with specific periods, thus forming a time series. If we consider that the years of study represent the independent variable that we symbolize by ti, and the number of tourists that we aim to estimate is the dependent variable that we indicate by the symbol: X1i, where i = 1, 2… n, and n: is the number of limits, which represents the number of study years estimated at 28 years. [From 1990 to 2017].

The relationship between the two variables the function determines X1 and t: X1=f (t). The nature of this function is determined by drawing the scatter plot, where we note through the graph displayed that the points are almost on the exact straightness. We, therefore, have an incomplete linear correlation between the two variables, i.e., the relationship between the number of tourists and the years is a direct linear relationship. The number of tourists continues to rise as the years increased and progressed. Hence, the estimated mathematical form for the relationship between the two variables is X1i= **β0**+ β1 ti.

To estimate the secular trend of tourists arriving in Algeria, we estimate the parameters of this equation by relying on Annex 1 and using EVIEWS 10 outputs. This is explained by Annex 2.

From there, the equation estimated in the form of simple linear regression can be formulated as follows:

$$X1i=469115+67569{,}35 \, ti$$

…………..(1)

A.2 Statistical assessment of the estimated model:

To adopt equation 1 as a calculated and predictive model of the tourist's number expected in 2025, the quality of this model must be proven statistically regarding the estimation through the following statistical steps:

- **Partial significance test (significance of parameters):** Partial significance is expressed through the significance of the estimated parameters; we find:

- Constant (B0): through the estimated value of the constant element, we find that it reached 469,115, and its significant level reached 0,003, which is less than the considerable level of 5%. This indicates that the constant is significant and has statistical significance.

- Time variable (T): through the estimated model, the slope (β1) reached a value of 67,569.35, and the significant level was 0,000, which is less than the significant level of 5%. This indicates that the slope (β1) is statistically significant, i.e., the time affects the variable of arrivals number.

- **Overall significance test (model significance):** it means the significance of the model as a whole, i.e., the function formula that is supposed to take the linear form, hence the model follows Fisher distribution (F), where we find that its calculated value reached 59,259 and the significant level reached 0,000, which is less than the significant level 5%. This indicates that the model is entirely significant as the relationship between time and the number of tourists arriving takes the linear form.

- **Goodness-of-Fit Test:** the explanatory power of the model is tested by the R Square value(R^2), which is usually limited between 0 and 1. Through the estimation, we find that it reached 0,695. This means that the independent variable of time explains the dependent variable variations representing the number of tourist arrivals by 69,5 %, which is a substantial percentage.The remaining (30,5%) is due to other variables contributing to the number of tourist arrivals not included in the model.

We, therefore, say that the estimated model is statistically acceptable for assessing and predicting the number of tourists.

A.3. Predicting the number of tourists by the end of 2025:

Since this model is statistically acceptable, we can estimate the number of tourists arriving in Algeria for 2025 by placing ti = 36 as described in the estimated equation:

$$X1=469115+(67569,35*36) \quad ……….\ (2)$$

$$X1= 2901612 \quad ……………(3)$$

Accordingly, according to the model, the number of tourists by the end of 2025 is 2 901 612 tourists.

B. Estimating and evaluating the model of temporal variation effect ontourism revenues and predicting it by the end of 2025:

B.1. Estimation of the model: Through Annex 1, the development of tourism revenues can be represented by the significance of the study years (1990-2017), where we obtain the diagram shown in figure 3below:

Figure 3: Development of Algerian tourism revenues for the years (1990-2017)
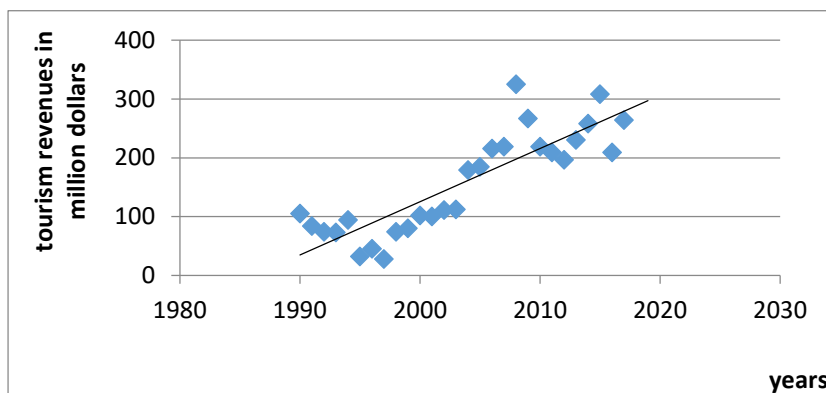
Source: Data based on the data of Appendix 1

Figure 3shows that tourism revenues are influenced and increased annually. We note this through the statistical data in Annex 1, which means that the number of tourists functions in successive years. Hence, we have a variable linked with specific periods, thus forming a time series. If we consider that the years of study represent the independent variable that we symbolize by ti, and the number of tourists that we aim to estimate is the dependent variable that we denote it by the symbol: X2i, where

i = 1, 2… n, and n: is the number of limits, which represents the number of study years estimated at 28 years. [From 1990 to 2017].

And, the relationship between the two variables determines X2 and t: X2=f (t). Also, the nature of this function is determined by drawing the scatter plot, where we note through the graph displayed that the points are almost on the exact straightness. We, therefore, have an incomplete linear correlation between the two variables, i.e., the relationship between the number of tourists and the years is a direct linear relationship. The number of tourists continues to rise as the years increased and progressed. Hence, the estimated mathematical form for the relationship between the two variables is X2i= **β0**+ β1 ti.

To estimate the secular trend of tourism revenues, we estimate the parameters of this equation by relying on Annex 1 and using EVIEWS 10 outputs. This is explained by Annex 3.

From there, the equation estimated in the form of simple linear regression can be formulated as follows:

$$X2i=26,009+9,037\ ti$$

…………(4)

B.2 Statistical assessment of the estimated model:

To adopt equation (4) as a calculated and predictive model of tourism revenues expected in 2025, the quality of this model must be proven statistically regarding the estimation through the following statistical steps:

• **Partial significance test (significance of parameters):** Partial significance is expressed through the significance of the estimated parameters; we find:

- Constant (B0): through the estimated value of the constant element, we find that it reached 26,009, and its significant level reached 1,154, which is greater than the moral level of 5%. This indicates that the constant is not significant and has no statistical significance.

- Time variable (T): through the estimated model, the slope ($\beta1$)reached a value of 9,037 and the moral level was 0,000, which is less than the moral level of 5%. This indicates that the slope ($\beta1$)is statistically significant, i.e., the time affects the variable of arrivals number.

• **Overall significance test (model significance):** it means the significance of the model as a whole, i.e., the function formula that is supposed to take the linear form, hence the model follows Fisher distribution (F), where we find that its calculated value reached 71,64 and the significant level reached 0,000, which is less than the significant level 0,05. This indicates that the model is entirely significant, as the relationship between the element of time and the number of tourists arriving takes the linear form.

• **Goodness-of-Fit Test**: the explanatory power of the model is tested by the R Squared (R^2), which is usually limited between 0 and 1. Through the estimation, we find that it reached 0,734. This means that the independent variable of time explains the dependent variable variations representing tourism revenues by 73,4%, a substantial percentage. The remaining rate (26,6%) is due to other variables that contribute to tourism revenues not included in the model.

We, therefore, say that the estimated model is statistically acceptable for assessing and predicting tourism revenues.

B.3. Predicting tourism revenues by the end of 2025:

Since this model is statistically acceptable, we can estimate Algerian tourism revenues for 2025 by placing ti = 36 as described in the estimated equation:

$$X2 = 26,009 + (9,037*36)$$ ……………(5)

$$X2 = 351,341$$ ……………..(6)

Accordingly, the value of Algerian tourism revenues for 2025 according to the model is 351,341 million dollars.

C.Estimating and evaluating the model of temporal variation effect on tourism accommodation capacity and predicting it by the end of 2025:

C.1. Estimation of the model:

Through Annex1, the development of tourism accommodation capacity can be represented by the significance of study years (1990-2017), where we obtain the diagram shown in figure 4below:

Figure 4: Development of tourism accommodation capacities for the years (1990-2017)
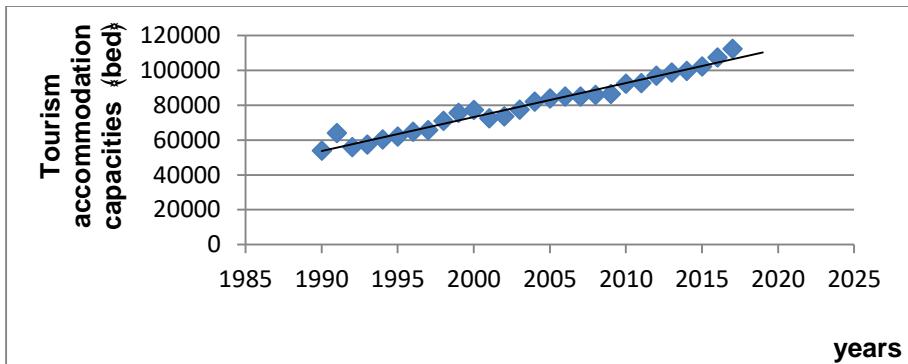
Source: Databased on the data of Appendix 1

Figure 4shows that tourism accommodation capacity is influenced and increased annually. This is demonstrated through the statistical data in Annex 1, which means that the number of tourists is a function in successive years. Hence, we have a variable associated with specific periods, which form a time series.

If we consider that the years of study represent the independent variable that we symbolize by ti, and the tourism accommodation capacity that we aim to estimate is the dependent variable that we denote it by the symbol: X3i, where

i = 1, 2… n, and n: is the number of limits, which represents the number of study years estimated at 28 years. [From 1990 to 2017].

And the relationship between the two variables X3 and t is determined by the function: X3=f (t). Also, the nature of this function is determined by drawing the scatter plot, where we note through the graph displayed that the points are almost on the exact straightness. We, therefore, have an incomplete linear correlation between the two variables, i.e., the relationship between the number of tourists and the years is a direct linear relationship. The number of tourists continues to rise as the years increased and progressed. Hence, the estimated mathematical form for the relationship between the two variables is $X3i = \beta_0 + \beta_1 t_i$.

To estimate the secular trend of tourism accommodation capacity, we estimate the parameters of this equation by using EVIEWS 10 program outputs. This is explained by Annex 4.

From there, the equation estimated in the form of simple linear regression can be formulated as follows:

$$X3i = 51767,95 + 1950,195\ t_i$$ …………..(7)

C.2. Statistical assessment of the estimated model:

To adopt equation (7) as a calculated and predictive model of tourism accommodation capacity expected in 2025, the quality of this model must be proven statistically regarding the estimation through the following statistical steps:

- **Partial significance test (significance of parameters):** Partial significance is expressed through the significance of the estimated parameters; we find:

- Constant (B0): through the estimated value of the constant element, we find that it reached 51767,95, and its significant level reached 1,154, which is less than the significant level of 5%. This indicates that the constant is significant and has statistical significance.

- Time variable (T): through the estimated model, the slope (β_1)reached a value of 9,037 and the significant level was 0,000, which is less than the significant level of 5%. This indicates that the

slope (β1)is significant and statistically significant, i.e., the time affects the variable of arrivals number.

Goodness-of-Fit Test: it means the significance of the model as a whole, i.e., the function formula that is supposed to take the linear form, hence the model follows Fisher distribution (F), where we find that its calculated value reached 800,57 and the significant level reached 0,000, which is less than the significant level 0,05. This indicates that the model is entirely significant, as the relationship between time and tourism accommodation capacity takes the linear form.

Overall significance test: the explanatory power of the model is tested by the R Squared (R^2), which is usually limited between 0 and 1. Through the estimation, we find that it reached 0,968. This means that the independent variable of time explains the dependent variable variations representing tourism accommodation capacity by 96,8 %, which is a substantial percentage.

The remaining percentage (03,2%) is attributed to various variables that contribute to tourism accommodation capacity but are not accounted for in the model.

As a result, we conclude that the estimated model is statistically acceptable for estimating and forecasting tourism accommodation capacity.

C.3. Predicting tourism accommodation capacity by the end of 2025:

Since this model is statistically acceptable, we can estimate tourism accommodation capacity for 2025 by placing ti = 36 as explained in the estimated equation:

$$X3 = 51767,95 + (1950,195 * 36)\ 36)$$ ……………. (8)

$$X3 = 121974,97$$ ……………. (9)

According to the model, tourism accommodation capacity for 2025 is 121 975 beds.

4. Results and Discussion

After a significant delay in the first half (the first stage: 2007-2015), the plan was expected to meet the goals outlined in the second half. From the table 2 below, we try to compare these goals with the predictions estimated in previous models.

Table 2: A comparison table between the purposes set forth and the estimated projections of Tourism for 2025:

	2007	**2017**	**End of 2025, according to model estimates**	**End of 2025, according to the goals of the plan**
Tourists number	1 740 000	2 450 785	2 901 612	11 million tourists
Tourism revenues in million ($)	219	264	351,341	8800
Tourism accommodation capacity (bed)	85 000	112 284	121 975	360000

Source: Data based on annex 1 and predictions of the previous models.
It is clear from the table 2 above:

• **For the number of tourists:** the goals listed and desired by the plan were aimed at reaching 11 million tourists, but according to the estimated forecasts of the model of temporal variation effect on the number of tourists, we find that the number of tourists reached only 2 901 612 tourists. This is a value that does not even cover 30% of the desired goals, which confirms the sub-hypothesis 1.

• **For tourism revenues:** The plan was aimed at reaching 8800 million dollars. According to estimated forecasts of the model of temporal variation effect on tourism revenues, it only amounted to 351.31 million dollars, about 4% of the goals, which confirms the sub-hypothesis 2.

• **For tourism accommodation capacity:** The master plan was aimed to reach 360000 beds by the end of 2025, but according to estimated forecasts of the model of temporal variation effect on tourism accommodation capacity, it only reached 121 975 beds, equivalent to 33,88 % of the goals, which confirms the sub-hypothesis 3.

What can be observed is that Tourism Master Plan for 2025 prospects faces a significant deficit in achieving its desired goals. Thus we accept the main hypotheses. Under the current circumstances in the country and according to the estimated predictions in previous models, the figures indicated that this plan would not reach its set forth and desired goals. Therefore, the future

of Algeria's tourism sector is unclear and needs measures, new prospects, and other strategies to promote it.

6. Mechanisms and measures to support the Master Plan to activate the tourism market in Algeria:

However, as we have noticed before, in light of the current circumstances, and according to the estimated forecasts in the previous models, this plan will not reach its goals, which are the subject of which we will try to present some solutions and ways that will support this plan to activate the tourism market in Algeria.

The ability of the national economy to benefit from tourism depends on the availability of investment aimed at developing the infrastructure needed for creating composite tourist products. Since the tourist product consists of different goods and services (accommodation, food, transportation facilities, entertainment, and safety, among others), tourism is significantly connected with various economic sectors, including transport, retailing, wholesaling, manufacturing, agriculture, arts and crafts and other services, The overall economic impact of tourism is based on the sum of the partial effects of the economic activities that tourism brings together and the synergistic effect resulting from the integration of different activities (Radić, 2019)

- **Activating the role of the private sector:**

To activate the role of the tourism sector in Algeria, the public sector must leave room for the private sector to contribute to planning and development so that the public sector shifts from the dominator of the development process to the regulator that works on economic stability by providing a set of mechanisms (National Agency for Tourism Development, 2018):

➤ **Providing a favorable and motivating climate for business:**
The most effective mechanism to activate the role of the private sector represents the need to provide the best conditions within which it is active, which is known as the business climate. This appropriate and stimulating business climate can be provided by:

- Providing the appropriate tax environment by providing tax exemptions and reducing tax rates.
- Activate public-private consultation.
- Develop the appropriate regulatory and legislative framework, whether related to laws or their application, by removing

bureaucratic obstacles that limit the effectiveness of the private sector while at the same time making it work within the framework of rules and respect for them.

-The need to provide essential services to investors in investment sites and create areas of tourism expansion due to the decrease in investment costs as the state bears these burdens to support and motivate investors.

➢ **Public-private partnership:**

Broad partnership, cooperation, and coordination between the public and private sectors are the most important mechanisms that successfully drive development.The private sector can only grow in many areas if it is on the same side as the public sector. Partnership eases spending constraints and budget deficits.

➢ **Providing funding for investments:**

The most challenging problem that hinders the growth of tourism investments in our country is the lack of adequate funding for these projects.

To arouse the interest of national and international investors, the government has set up a broad number of incentives and facilitators, such as access to land and project financing. In addition, project lenders benefit from personalized support from the ministry until the project operations commence(oxford business groups, 2019)

• **Improving local talent**

Investment in human resources is even more important than infrastructure, as the destination's competitiveness depends on it to a large extent. The training development program is based on: modernizing training facilities, both in terms of infrastructure and program content; realizing new, high-quality training institutions; strengthening the partnership between the sectors that are involved in training, such as higher education and vocational training; encouraging the private sector to invest in training; and strengthening international cooperation, to benefit from the experience and know-how of countries with more developed tourism sectors (oxford business groups, 2019)

• **Adoption of electronic marketing as a new style to market Algerian tourism products:**

Adopting a culture of e-tourism marketing is urgent when traditional marketing terms have changed in the digital economy and technology and the increasing use of electronic search engines. The important thing here is to focus on the creation of tourism professionals who are qualified to use modern information technologies in business and tourism services by: (Al-Rubaie, 2008)

➢ training in information technologies and systems, not limited to traditional reservation systems in force from the 1960s;

➢ Training on the use of the Internet to display targeted marketing messages and use them as search tools by users of these networks;

➢ Good training on how to build and manage tourist sites because they relate to the extent to which they achieve efficiency and effectiveness and consider the modern, flexible and interactive communication tools;

➢ Working relations with tourists through the Internet or modern technology tools to achieve greater loyalty to tourists and to ensure that they satisfy the needs of tourists;

➢ Developing the skills of selling tourism services through modern methods based on modern technology and IT systems tools.

➢ Facilitateelectronicpayment.

- **Promoting tourism awareness and culture among members of Algerian society by:**

➢ Instilling in all citizens the sense and sense of tourism since they were born in various educational stages by intensifying tourism awareness programs in all institutions and academic levels;

➢ Tourists who work in hotels, tour guides, police, and passports should be highly aware, responsible, and efficient in providing tourist services;

➢ To activate the role of civil society, such as tourism associations and organizations, in spreading the tourism culture of the Algerian individual and acquainting him with the tourist areas and sites in his country;

➢ Cultural awareness of the need for electronic transactions in the field of tourism**.**

7. Conclusion:

Algeria is making significant efforts to promote the tourism sector through the 2025 master plan for tourism development, aiming to make the tourism sector an alternative to the fuel sector. However,

the measures taken and development plans put in place remain weak.Among the recommendations that the research concluded are:

proposed measures and procedures related to development policies and plans by:

➢ The relevant authorities should review the established dimensions and objectives of the tourism master plan for Horizon 2025 and assess, evaluate and refine it.

➢ Develop a new business plan beyond 2025

➢ An attempt to establish a scheme ensuring inter-sectoral coherence.

stimulate tourism investment activity by:

➢ adapting financing methods according to the specificities of such investment by inventing unique financial products such as hotel loans;

➢ boost these investments by reducing their interest rates on loans;

➢ Providing facilities and an appropriate environment for investors;

➢ Provide more support for building and developing infrastructure to help promote the tourism sector.

➢ Activate the role of the involved parties in tourism investment by activating the state's position, implementing the principles of good governance on the one hand, and activating the part of the private sector by improving the business climate to encourage such investment on the other.

➢ Strengthen Saharan and thermal tourism.

Promote and improve tourism services by:

➢ Activating the role of tourism promotion and marketing and adopting electronic marketing as a new style for marketing Algerian tourism products;

➢ Promoting awareness and tourism culture among members of society by changing the concepts, behaviors, and mispractices towards tourists;

➢ Instilling a sense of tourism among all citizens since they were born in different stages of education and intensifying tourism awareness programs in all educational institutions and levels by all actors in tourism [from local groups, associations, and tourism organizations.

➢ Ensure the development of human resources in the tourism and hotel sector by promoting the construction of tourism and hotel

institutes and colleges and colleges and ensuring the quality of education to obtain qualified frameworks and workers;

➢ Ensure the development of human resources in the tourism and hotel sector by promoting the construction of tourism and hotel institutes and colleges and colleges and ensuring the quality of education to obtain qualified frameworks and workers;

➢ Strengthening the role of tourism agencies and removing them from their classic part of racing to organize Umrah and Hajj trips by intensifying their activities towards activating domestic and international tourism in Algeria;

➢ Give more attention to the traditional crafts sector as the first sector to complement the tourism sector.

➢ Taking advantage of the experience of leading countries in the tourism field.

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