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Bridging the Realization Gap in Algeria's Thermal Tourism: An Inquiry into Institutional Governance and Porter's Diamond Model

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Abstract:

Despite a formidable 282-spring endowment, Algeria's thermal tourism faces a profound "realization gap". This study investigates structural barriers hindering its transition to a high-value international wellness destination. Employing a descriptive-analytical design with 2024–2025 empirical data and Porter's Diamond Model, the research identifies a 65% "investment inertia" and a 10:1 "yield paradox" favoring transitory day-visitors.

Furthermore, a 22% accreditation rate underscores a critical "quality gap". To catalyze recovery, the study recommends targeted fiscal incentives for bed expansion, a task force to resolve administrative bottlenecks, and mandatory quality standards within Tourism Expansion Zones. Strategically repositioning assets as "accredited wellness retreats" is essential for capturing high-margin global segments.

Keywords: Thermal Tourism; Realization Gap; Porter's Diamond Model; Investment Inertia; Yield Management.

Jel Classification Codes : Z32, Z33, L83, O11, D02.

1. INTRODUCTION

In the contemporary global tourism landscape, the transition from volume-driven to value-driven models has become a strategic necessity for destinations seeking long-term resilience. Within this paradigm, geothermal resources represent a formidable "natural endowment", however, according to Porter's Diamond Model, such "basic factors" remain passive resources unless they are systematically converted into "advanced factors" through institutional intervention and specialized infrastructure. While emerging economies often possess significant comparative advantages in thermal assets, they frequently encounter a "Realization gap", a profound structural misalignment where high-level policy intent fails to translate into tangible, high-productivity assets.

Against this backdrop of structural and market constraints, the primary research question is: To what extent does the current misalignment between infrastructural investment and quality management systems hinder the transition of the Algerian thermal sector from a low-yield domestic recreational hub to a high-value international wellness destination?

Synthesizing the critical nexus between Algeria's formidable geothermal endowment and its persistent infrastructural and market constraints, this research articulates the following hypothesis to evaluate the systemic determinants of the prevailing developmental misalignment:

Algeria's thermal sector competitiveness is stymied by structural misalignments between vast natural endowments and insufficient institutionalized quality and investment.

This study is significant as it provides a data-driven diagnostic of the "yield gap" and "investment inertia" in a major emerging Mediterranean market. By synthesizing 2024-2025 empirical data, it offers a novel framework for policy-makers to bypass the stagnation stages of the Tourist Area Life Cycle (TALC) and leverage quality management as a lever for global competitiveness.

The principal objectives are:

- To critically evaluate the infrastructural landscape and identify bottlenecks in the investment pipeline;

- To analyze market segmentation and consumption patterns to delineate the "Critical Yield Gap";
- To propose strategic imperatives for transforming raw geothermal resources into high-value, accredited wellness clusters.

This research adopts a descriptive-analytical design based on a quantitative empirical approach. It utilizes secondary data analysis from the 2025 Ministry of Tourism reports, juxtaposing institutional supply metrics against demand-side segmentation to evaluate the sector's "Realization rate".

To contextualize the structural and institutional constraints stymying Algeria's thermal tourism recovery, it is imperative to examine the burgeoning scholarly discourse regarding the multifaceted interplay between consumer motivational drivers, digital governance frameworks, and the institutional determinants of sectoral productivity across diverse global landscapes, as follows:

1) The inquiry conducted by (Brandão et al., 2021) offers a granular examination of the psychological and sociodemographic drivers underpinning thermal tourism in Portugal, highlighting relaxation and physical well-being as the primary motivational catalysts. Whilst (Brandão et al., 2021) focus on the micro-level behavioral patterns of the consumer, our study shifts the analytical lens towards the macro-structural misalignments that hinder the systemic Realization of such demand within the Algerian context. Both studies converge on the strategic necessity of aligning destination offerings with high-value market segments to ensure long-term sustainability. However, whereas (Brandão et al., 2021) interpret travel characteristics as a reflection of personal motivations, our research interprets the Algerian "yield paradox" —characterized by a 10:1 ratio of day visitors to residents— as a structural failure of the institutional supply-side to professionalize the geothermal pipeline. Consequently, while the former elucidates "why" tourists seek thermal sites, our work scrutinizes the "institutional inertia" that prevents these sites from evolving into globally competitive wellness clusters;

2) In a comprehensive systematic review, (Çakar, 2023) advocates for an ICT-led (Information and Communications Technology) destination governance model to enhance stakeholder coordination and participatory decision-making. There is a clear thematic resonance between (Çakar, 2023)'s emphasis on "smart governance" and our deployment of Porter's Diamond Model to evaluate Algeria's institutional "superstructure". Both studies identify the absence of effective coordination as a primary inhibitor of sectoral development. However, the point of departure lies in the proposed levers for sectoral transformation, while (Çakar, 2023) envisions digital transformation and e-governance as the primary drivers of stakeholder interaction, our research argues that in emerging markets like Algeria, the "quality gap" is primarily an institutional and structural issue. Our results suggest that "accreditation inertia" and the lack of Quality Management Systems (QMS) represent more fundamental bottlenecks than technological deficits, necessitating a focus on formal certification and the resolution of administrative "pipeline friction" before digital integration can be fully leveraged;

3) The research by (Nguyen, 2022) provides a compelling parallel to our study by utilizing Institutional Theory to examine tourism firm performance within the developing economy of Vietnam. (Nguyen, 2022) proposes a U-shaped relationship between governance implementation and performance, suggesting that initial "institutional conflicts" may temporarily increase transaction costs and diminish competitiveness. This aligns conceptually with our diagnostic of "investment inertia" in Algeria, where 65% of projects remain stalled due to administrative and institutional hurdles. Both studies underscore the critical role of local governance in mitigating "market failures" and protecting resource endowments. Nevertheless, a nuanced distinction emerges in the focus of the governance force, while (Nguyen, 2022) scrutinizes "environmental governance" as a catalyst for sustainable performance, our research focuses on "thermal infrastructure governance" and the "Realization gap". While (Nguyen, 2022) highlights the sensitivity of foreign tourists to environmental quality, our work demonstrates that the lack of accredited wellness frameworks in Algeria serves as the primary

barrier to capturing the high-yield "Rest and Relaxation" international segment.

In light of the burgeoning literature reviewed, it is evident that whilst scholarly discourse has made significant strides in categorizing thermal motivations (Brandão et al., 2021) and advocating for digital governance frameworks (Çakar, 2023), a critical conceptual void remains regarding the systemic "Realization gap" in emerging geothermal markets. Current research predominantly oscillates between micro-level consumer behavior and general institutional theory, yet fails to provide a rigorous diagnostic of why formidable natural endowments often remain passive "basic factors" that fail to coalesce into high-value wellness clusters. This study, therefore, identifies a twofold research gap: first, the lack of an integrated framework that links "investment inertia" to the strategic reluctance of private operators to adopt Quality Management Systems (QMS) in volume-driven markets, and second, the absence of empirical inquiries into the "yield paradox", where high-footfall recreational models actively stymie the transition towards high-margin medical tourism. By synthesizing Porter's Diamond Model with Institutional Economics to scrutinize Algeria's 2024 empirical landscape, this research offers a novel contribution that transcends descriptive case studies. It positions the professionalization of the thermal pipeline not merely as an administrative goal, but as a strategic imperative to bypass the stagnation stages of the Tourist Area Life Cycle (TALC), thereby providing a transformative scaffolding for capturing the international "Rest and Relaxation" segment that remains untapped in existing scholarship.

The remainder of this inquiry is systematically organised to facilitate a multi-dimensional diagnostic of Algeria's thermal ecosystem. Following this introduction, Section 2 establishes the essential theoretical scaffolding, synthesising Porter's Diamond Model with the principles of Institutional Economics to unpack the macro-structural 'realisation gap' from a supply-side perspective. Transitioning from physical capacity to economic utility, Section 3 shifts the analytical lens towards demand-side dynamics,

scrutinising the 'yield paradox' and the strategic role of Quality Management Systems (QMS) as levers for value optimisation. Section 4 delineates the descriptive-analytical methodology, ensuring the empirical rigour of the research through the synthesis of 2024 institutional metrics. This leads to Section 5, which provides a critical triangulation of the results, juxtaposing empirical results against the broader scholarly discourse to validate the structural misalignment hypothesis, and culminates in a synthesis of strategic imperatives, offering a transformative framework designed to bypass sectoral stagnation and catalyse a high-value international recovery.

2. The Supply-Side Perspective: Competitive Advantage and Structural Realization

Building upon the preceding diagnosis of the macro-structural friction within Algeria's tourism landscape, this section transitions from a descriptive overview to a rigorous analytical inquiry into the supply-side mechanics of the industry. Whilst the existence of a formidable natural endowment provides an inherent comparative advantage, the systemic conversion of such "basic factors" into "advanced factors" —a prerequisite for global competitiveness within Porter's Diamond Model— is frequently stymied by a profound structural misalignment. To understand the genesis of the "Realization gap" identified earlier, it is imperative to scrutinize the symbiotic interplay between natural assets and institutional governance. Consequently, the following discourse employs the dual lenses of Porter's theoretical framework and Institutional Economics to unpack the socio-economic inertia hindering the professionalization of the thermal pipeline. This theoretical scaffolding is essential for evaluating how Algeria can transcend passive resource extraction to cultivate a high-value, knowledge-intensive wellness ecosystem that is resilient to the stagnation stages of the tourist area life cycle.

2.1 Porter's Diamond Model and Factor Conditions in Thermal Tourism

Porter's Diamond Model is a strategic framework for competitive advantage, emphasizing the conversion of natural 'basic factors' into

specialized 'advanced factors' through systematic institutional intervention to ensure sustained global competitiveness

Within the theoretical framework of Porter's Diamond Model, factor conditions in thermal tourism are fundamentally bifurcated between inherited natural endowments and created specialized assets. Geothermal springs, while providing a primary comparative advantage, represent merely "basic factors" passive resources that remain insufficient for sustained international competitiveness without a systematic shift in their socio-economic valuation (Gazoni & Silva, 2022, pp. 2459–2460). The sources underscore that such a structural transformation is never automatic, it necessitates deliberate institutional intervention through the "superstructure" to orchestrate the transition from traditional, haphazard usage to a professionalized hydrotherapy industry (Fu et al., 2021, p. 1). This evolution requires the strategic deployment of "advanced factors", which encompass specialized medical knowledge, sophisticated "tourism services and equipment," and rigorous regulatory standards that safeguard the "quality of the tourist experience" (Gazoni & Silva, 2022, p. 2462).

In the context of emerging economies, expanding accommodation capacity alone is insufficient, rather, comprehensive planning must integrate these natural assets into modern value chains to avoid the stagnation typical of the later stages of the tourist area life cycle (Butler, 2025, p. 601). Consequently, national competitive advantage in this niche segment is predicated upon a "virtuous process of continuous transformation", where institutional governance actively converts raw "natural endowments" into high-value, knowledge-intensive clusters, thereby ensuring that the industry transcends simple extraction to become a resilient pillar of economic diversification (Gazoni & Silva, 2022, p. 2463).

2.2 Institutional Economics and the 'Realization Gap' in Infrastructure

From the perspective of institutional economics, the persistent 'Realization gap' in emerging economies represents a profound structural misalignment where high-level policy intent fails to translate into tangible assets, primarily due to what may be defined as 'investment inertia' (Pinto

et al., 2025, p. 1). This inertia is not merely a byproduct of fiscal scarcity but is deeply rooted in a deficiency of ‘public sector capacities’ and the presence of ‘institutional hurdles’ that obstruct the efficiency of the ‘investment pipeline’ (Pinto et al., 2025, pp. 10–11). Theoretically, projects remain stalled because the reallocation of resources from low-productivity to high-productivity sectors is stymied by ‘underdeveloped infrastructure’ and ‘regulatory inefficiencies’ that prevent the integration of basic endowments into sophisticated value chains (Pinto et al., 2025, pp. 2–3). The sources underscore that even in nations with moderate ‘structural conditions’, a lack of ‘institutional effectiveness’ can lead to a fragmented development trajectory, where the expansion of physical capacity does not consistently generate the expected ‘productivity gains’ or broader economic transformation (Boutafenouchet et al., 2026, p. 165). Furthermore, this stalled pipeline is often exacerbated by governance structures that fail to mitigate the ‘resource curse’ or synchronize ‘urban planning’ with industrial support, thereby trapping economies in a cycle of limited dynamism (Pinto et al., 2025, p. 3). Consequently, national competitive advantage within this framework is predicated upon a strategic shift from passive project interest to a robust, institutionally-governed pipeline that overcomes systemic ‘poverty traps’ through integrated planning and the professionalization of sectoral management (Boutafenouchet et al., 2026, p. 165).

3. The Demand-Side Perspective: Market Segmentation and Value Optimization

Whilst the preceding analysis has elucidated the structural rigidities and institutional inertia stymying the supply-side evolution of Algeria’s thermal sector, a destination’s competitive trajectory is equally dictated by the nuanced dynamics of market consumption. A robust infrastructural pipeline, however sophisticated, remains a dormant economic asset unless it is synchronized with high-value demand patterns that transcend the limitations of the prevailing volume-driven paradigm. Consequently, this section transitions from the study of physical and institutional "capacity" to an inquiry into "utility" and "yield". It scrutinizes the pervasive "low-yield"

model —characterized by a stark dominance of transitory excursionists— which arguably reinforces the "accreditation inertia" previously identified. By juxtaposing current market segmentation against the strategic necessity for value optimization, the following discourse evaluates how the implementation of Quality Management Systems (QMS) and professionalized yield management can serve as the primary levers to bridge the "quality gap" and capture the high-margin international "Rest and Relaxation" segment.

3.1 Tourism Yield Management: From Volume-Driven to Value-Driven Models

To mitigate the structural underperformance of the thermal sector, it is imperative to theorize the 'Yield Gap' as a fundamental misalignment between volume-driven mass excursionist flows and value-driven wellness residencies. Whilst high footfall from day visitors reinforces a recreational paradigm that often strains infrastructure with marginal economic spillover, high-value wellness tourists —characterized by extended durations of stay and higher consumption ratios— are essential for capturing significant overnight expenditure. Transitioning towards a 'high-yield' model necessitates an institutional shift that prioritizes specialized, accredited wellness services over passive resource extraction (Brandão et al., 2021, pp. 3–4). Such a strategic reorientation not only maximizes the local economic impact through enhanced multiplier effects but also bypasses the stagnation risks of volume-driven models by cultivating a resilient, high-margin international wellness ecosystem (Brandão et al., 2021, pp. 3–4).

Ultimately, closing the yield gap is predicated upon repositioning the destination from a passive site of mass consumption to a professionalized hub of specialized wellness services, thereby ensuring that the industry generates sustainable local wealth rather than merely managing the logistics of high-volume, low-margin flows (Chebli et al., 2021, p. 79).

3.2 Quality Management Systems (QMS) as a Lever for Global Competitiveness

The implementation of Quality Management Systems (QMS) within a tourism destination's ecosystem serves as a sophisticated strategic mechanism for bridging the gap between raw resource endowments and high-value global market integration. Utilizing quality-benefit models, it becomes evident that the systemic resistance among private operators toward formal accreditation —such as a Tourism Quality Plan— is often a rational economic response to the prevailing low-yield domestic market (Madani et al., 2020, p. 2). However, from an institutional economics perspective, such resistance overlooks the role of standardized service quality as a vital signal to the international 'Rest and Relaxation' segment. This high-yield foreign arrival cohort is acutely sensitive to service quality attributes (González Damián & Macías Ramírez, 2020, p. 67) and the mitigation of perceived risk, which is often exacerbated by the distance decay effect and the lack of institutionalized trust (Rosselló-Nadal & Santana-Gallego, 2024, p. 2). Consequently, the professionalization of service delivery through a robust QMS is a prerequisite for global competitiveness, it transforms the destination from a site of passive, low-margin domestic consumption into a resilient, accredited hub capable of capturing international flows (McKercher & Wong, 2021, p. 1). Ultimately, closing this 'quality gap' is essential for bypassing the stagnation stages of the Tourist Area Life Cycle (TALC), ensuring that the local industry can leverage international standards to catalyze long-term structural transformation and economic diversification (McKercher & Wong, 2021, p. 4).

4. Methods and Materials

To ensure a robust and rigorous analysis of Algeria's thermal tourism sector, this study adopts a descriptive-analytical research design approach. The methodology is structured to bridge the gap between theoretical geothermal potential and the socio-economic realities of the current market.

a. Data Acquisition and Source Reliability

The primary data utilized in this study are derived from the latest official statistical releases (2024–2025) provided by the Ministry of

Tourism and Handicrafts. Specifically, the analysis synthesizes data from the 'Tourism Sector Dashboard' and the 'Frontier Tourist Flow Reports'. These sources provide high-fidelity indicators regarding:

- **Infrastructural Assets:** A comprehensive census of 282 thermal springs and 32 operational stations;
- **Investment Pipeline:** Detailed tracking of 61 total projects, categorized by their developmental status (Active, Under Construction, Stalled, or Approved);
- **Market Dynamics:** Inbound tourism flows comprising over 3.5 million arrivals and specific consumption patterns within inland thermal institutions.

b. Analytical Framework and Data Visualization

The data were processed using a secondary data analysis (SDA) technique, focusing on two critical economic dimensions:

1st. **Supply-Side Realization Analysis:** To identify structural bottlenecks, the study quantifies the "Realization rate" of investments, juxtaposing active facilities against stalled projects (as illustrated in Figure 1);

2nd. **Demand-Side Segmentation:** To evaluate the sector's economic yield, a comparative analysis was performed on visitor types, specifically calculating the ratio between "same-day visitors" and "resident spa guests" to delineate the Critical Yield Gap (as illustrated in Figure 2).

c. Methodological Rigor and Scope

The focus on the most recent 2024 metrics ensure that the findings reflect the current post-recovery trajectory of the Algerian tourism economy. By integrating institutional quality metrics (the Tourism Quality Plan) with consumer behavior data, the methodology provides a holistic diagnostic tool for policy-making in the thermal tourism ecosystem.

4.1 The Infrastructural Landscape and Investment Trajectory

Algeria's thermal tourism sector is anchored in a profound geological endowment, possessing 282 identified thermal springs as of

2024 (وزارة السياحة والصناعة التقليدية، بلا تاريخ). This natural competitive advantage has necessitated a structural framework to transition from traditional usage to professionalized medical and leisure hydrotherapy.

4.1.1 Institutional Composition and Current Assets

As of late 2024, the operational infrastructure comprises 32 active thermal stations, exhibiting a notable private-sector dominance with 24 private establishments compared to 8 public stations (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025، صفحة 46). Furthermore, the sector includes four seawater therapy centers (Thalassotherapy), equally split between public and private ownership (وزارة السياحة والصناعة التقليدية، بلا تاريخ).

Despite this operational base, the data reveals a significant investment gap. While there are 21 projects currently under construction, another 22 projects are stalled, and 18 approved projects have yet to commence (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025، صفحة 46). This indicates that while institutional interest exists, structural or bureaucratic impediments may be hindering the "Realization rate" of the investment pipeline.

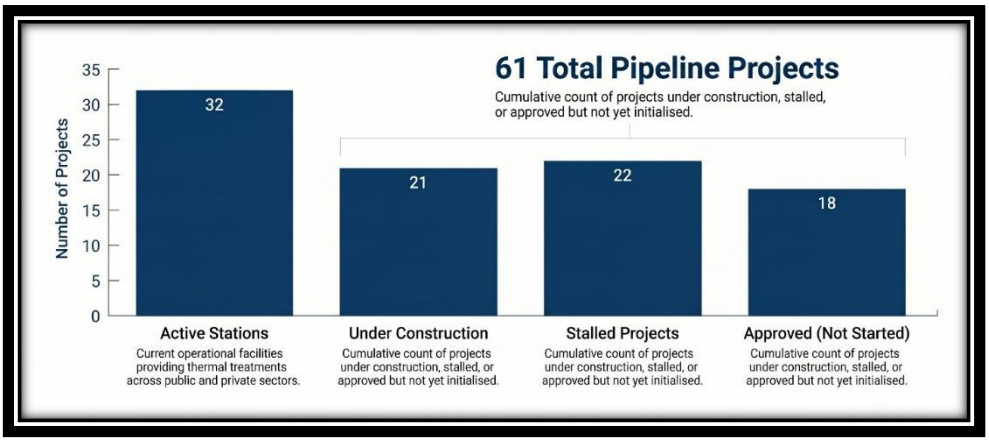
Table 1. Structural Status and Investment Pipeline of the Thermal Tourism Sector (2024)

Project	Active stations	Under construction	Stalled projects	Approved (not started)
Number	32	21	22	18

Source: Established by author based on (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025).

To critically evaluate the alignment between Algeria's vast geothermal potential and its current institutional capacity, it is imperative to scrutinize the state of the investment pipeline. The following figure provides a granular breakdown of the sectoral infrastructure, highlighting a palpable friction between established operational assets and a significant volume of stalled or nascent projects, thereby illustrating the challenges surrounding the 'Realization rate' of thermal investments:

Fig.1. Structural Status and Investment Pipeline of the Thermal Tourism Sector (2024)



Source : Established by author based on (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025).

The striking disparity in the Tourism Quality Plan participation, where only seven out of 32 thermal stations have achieved accreditation, highlights a significant institutional and economic gap within the Algerian private sector. While private thermal stations represent the majority of active establishments (24 out of 32), their strategic reluctance to adopt formalized quality standards can be interpreted through a cost-benefit economic rationale linked to current demand patterns. Statistics reveal a market overwhelmingly dominated by domestic "day visitors" —nearly 2.8 million individuals— compared to a relatively small segment of 266,115 resident spa guests (curists). For private operators, the substantial capital expenditure required to meet international quality benchmarks may offer diminishing returns when the primary consumer base prioritizes local accessibility and traditional pricing over high-value, medically certified wellness experiences. Furthermore, the presence of 22 stalled projects and 18 non-started investments suggests an environment of institutional inertia that may discourage active private firms from committing to long-term service upgrades. Consequently, this "Quality Gap" reflects a structural focus on low-yield recreational volume rather than a transition toward an

internationally competitive, high-yield medical tourism model, which remains a prerequisite for Algeria to capture the "Rest and Relaxation" segment of the 2.4 million foreign arrivals recorded in 2024.

4.1.2 Strategic Spatial Planning (ZET)

To foster sustainable growth, the Algerian State has designated 249 Tourism Expansion Zones (ZET), covering a vast area of over 57 million hectares (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025، صفحة 1). These zones serve as the primary vehicle for attracting foreign and domestic capital, particularly for projects that integrate thermal stations with modern hotel infrastructures. In 2024 alone, 70 new tourism projects were approved, expected to yield 101,742 jobs and a capacity of 255,850 beds upon completion (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025، صفحة 1).

4.2 Demand Analysis and Market Segmentation

The 2024 statistical results demonstrate a robust recovery and growth in tourist inflows, which directly impacts the demand for thermal services.

4.2.1 Macro-Flow Analysis

Algeria recorded a total of 3,548,405 arrivals in 2024, representing a 7.77% growth compared to the previous year (تدفق السواح عبر الحدود الجزائرية سنة 2024، 2025، صفحة 1). A critical insight for thermal economists is the motivation of foreign arrivals: 2,435,617 foreigners (nearly 70% of total arrivals) visited specifically for "Rest and Relaxation" (تدفق السواح عبر الحدود الجزائرية سنة 2024، 2025، صفحة 1). This segment represents the primary target market for thermal and wellness tourism.

4.2.2 Thermal-Specific Consumption Patterns

Inland thermal institutions welcomed a total of 3,065,252 visitors in 2024. The segmentation of these visitors reveals a highly specific market behavior (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025، صفحة 1):

- **Day Visitors:** A significant majority, 2,799,137 individuals, were "same-day" visitors;
- **Resident Spa Guests (Curists):** Only 266,115 visitors stayed as full-term spa guests.

This high ratio of day visitors to residents (approximately 10:1) suggests that thermal sites currently function as domestic recreational hubs rather than international medical-tourism destinations. This indicates a "low-yield" economic model where high footfall does not necessarily translate into high-value overnight expenditure.

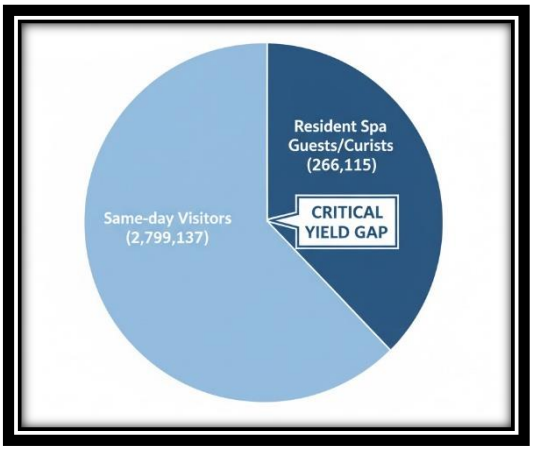
Table 2. Segmentation of Thermal Consumption Patterns

Day Visitors	Resident Spa Guests (Curists)
2,799,137	266,115

Source : Established by author based on (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025).

Whilst aggregate visitor inflows indicate a robust recovery in demand, a deeper diagnostic of market behavior reveals a profound structural imbalance in consumption patterns. The subsequent illustration delineates the disparity between transitory 'same-day' visitors and high-value resident guests, underscoring the prevailing 'low-yield' economic model that currently characterizes the domestic thermal market and its impact on overnight expenditure:

Fig.2. Segmentation of Thermal Consumption Patterns



Source : Established by author based on (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025).

The data shows a geographic concentration of thermal activity. Biskra emerged as a leading hub, attracting 114,477 total visitors, closely followed by Tlemcen with 169,505 visitors (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025، صفحة 48). These regions leverage their historic "Hammam" culture to attract mass domestic flows, particularly during the shoulder seasons.

Having critically appraised the multifaceted nexus between Algeria's formidable geological endowment and its prevailing infrastructural and market constraints, the following section synthesizes the empirical evidence into a set of strategic imperatives designed to facilitate the transition towards a high-value, sustainable thermal tourism ecosystem:

- The data suggests that while Algeria successfully attracts over 3 million visitors to thermal sites, the economic impact is diluted by the dominance of day visitors. Policy should focus on upgrading accommodations within thermal stations to convert day visitors into long-stay "wellness tourists."
- With 22 projects stalled (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025، صفحة 46), there is a critical need for a "Project Recovery Program" to identify fiscal or administrative bottlenecks preventing these assets from entering the market.
- Given that 2.4 million foreigners seek relaxation (تدفق السواح عبر الحدود الجزائرية سنة 2024، 2025، صفحة 1), thermal sites should be marketed as "wellness retreats" rather than purely medical clinics to appeal to this international demographic.

Currently, only 7 thermal stations have formally joined the "Tourism Quality Plan" (جدول القيادة لقطاع السياحة والصناعة التقليدية لسنة 2024، 2025، صفحة 77). Standardizing service quality across the remaining 25 stations is essential for international competitiveness.

5. Conclusion

The primary objective of this study was to critically examine the structural and market dynamics of Algeria's thermal tourism sector, specifically addressing the misalignment between its formidable geological potential and its current economic output. By synthesizing Porter's Diamond Model with the principles of institutional economics, the research successfully delineated the "Realization gap" that hinders the sector's transition from a domestic recreational base to a high-value international wellness hub.

The statistical analysis provides robust evidence to accept the research hypothesis. The study demonstrated that Algeria's competitiveness is indeed stymied by a profound structural misalignment. This is quantitatively corroborated by two critical indicators: first, the 'investment inertia' evidenced by 22 stalled projects and 18 non-started investments despite a base of 282 identifying springs. Second, the 'Low-Yield Consumption Paradox', where a staggering 10:1 ratio exists between day visitors (2.8 million) and resident guests (266,115), confirming that current infrastructures function as passive recreational sites rather than high-productivity wellness clusters. Consequently, the lack of institutionalized quality (with only 7 out of 32 stations accredited) serves as the primary barrier to capturing the high-value international "Rest and Relaxation" segment.

Triangulating the theoretical constructs of institutional inertia and competitive advantage with recent sectoral metrics, the following section delineates the key results that encapsulate the structural and economic reality of the Algerian thermal landscape:

- Algeria possesses a vast but underutilized resource base of 282 springs, currently functioning as "basic factors" rather than "advanced competitive factors";
- A significant "pipeline friction" exists, with nearly 65% of approved projects (stalled or not started) failing to reach operational status;

- Market demand is overwhelmingly dominated by domestic day visitors, leading to a "scale effect" that strains infrastructure without maximizing overnight expenditure;
- A critical "Quality Gap" persists, as only 22% of operational stations have integrated the Tourism Quality Plan, primarily due to perceived diminishing returns in a volume-driven market;
- Despite 2.4 million foreign arrivals seeking relaxation, the sector lacks the accredited medical-tourism framework required to attract this high-yield cohort;

These five results collectively confirm that Algeria is currently stuck in the "initial negative phase" of the institutional U-shaped curve identified by (Nguyen, 2022). The sector lacks the "smart governance" and "network coordination" advocated by (Çakar, 2023), which are necessary to align Algeria's "natural endowment" with the "psychological and physical well-being" motivations described by (Brandão et al., 2021). To bridge this "Realization gap", the transition must move from a passive, volume-driven domestic model to a professionalized, accredited wellness ecosystem.

Building upon the preceding empirical diagnostic of the structural and market misalignments within the sector, the following section delineates a suite of strategic imperatives designed to surmount existing inertia and catalyze the transition towards a high-value, sustainable thermal tourism ecosystem:

- ❖ Implement fiscal incentives for thermal stations to expand bed capacity and premium services, aimed at converting "day visitors" into "long-stay wellness tourists";
- ❖ Establish a specialized task force to resolve administrative and fiscal bottlenecks for the 22 stalled projects to increase the sector's "Realization rate";
- ❖ Require all new projects within the 249 Tourism Expansion Zones (ZET) to adhere to international QMS standards as a prerequisite for approval;

- ❖ Reposition the 282 thermal sites as "accredited wellness retreats" in international marketing campaigns to appeal to the 70% of foreign arrivals seeking relaxation;
- ❖ Encourage collaboration between the 8 public and 24 private stations to standardize medical-hydrotherapy protocols and share the costs of global quality certification.

Whilst this study provides a comprehensive macro-diagnostic based on 2024 institutional data, it is not without limitations. The research primarily relies on secondary data analysis, which, while robust for structural diagnostics, may not fully capture the nuanced "service quality perception" of individual curists. Geographically, the analysis highlights Biskra and Tlemcen as leading hubs, but further research is required to evaluate the economic viability of the remaining undeveloped sites among the 282 springs.

Whilst the present study establishes a substantive baseline for understanding the structural 'Realization gap' and 'yield paradox' in emerging thermal markets, it simultaneously identifies several critical frontiers for subsequent research to further refine the nexus between strategic policy intervention and long-term sectoral productivity, as follows:

- ✓ **Theoretically:** Future studies should explore the Digital Transformation (Tourism 4.0) of thermal services and its impact on operational efficiency and guest satisfaction in emerging markets;
- ✓ **Practically:** There is a critical need for longitudinal primary research (surveys and interviews) focusing on the "Willingness to Pay" (WTP) among the 2.4 million foreign arrivals for medically certified thermal treatments in Algeria;
- ✓ **Sustainably:** Investigating the ecological carrying capacity of the 249 ZET zones to ensure that infrastructural expansion does not degrade the natural geothermal aquifers.

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