

Transport Marketing Strategies: Bridging High-Speed Rail and Territorial Economic Intelligence.

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Abstract

The rapid expansion of high-speed rail (HSR) networks worldwide has exposed critical gaps in last-mile connectivity between stations and passengers' final destinations. This study investigates how transport marketing strategies can synergize macro-level HSR systems (comparing France's TGV and Morocco's Al Boraq) with micro-level user experiences through the lens of Territorial Economic Intelligence (TEI). Grounded in an interpretivist paradigm, our research employs mixed methods, including comparative case studies, passenger surveys, and ethnographic observations at transit hubs, and discourse analysis of traveler feedback. Key findings reveal that while HSR operators excel at intercity service branding, they often overlook last-mile accessibility challenges, leading to passenger frustration due to fragmented information, physical barriers, and inequitable service distribution. The study proposes a novel "HSR+TEI" framework to align infrastructure planning with passenger-centric marketing, offering practical tools for cities to do so while advancing theoretical debates on spatial justice in mobility systems. Limitations include the Franco–Moroccan focus, suggesting future research avenues in Global South contexts and AI-driven personalization of last-mile solutions.

Keywords: High-speed rail marketing, last-mile connectivity, Territorial Economic Intelligence, Spatial justice.

Introduction

Over the past decade, transport marketing has evolved into a strategic tool to address changing mobility needs, sustainability, and territorial cohesion. As Beirão & Sarsfield Cabral (2007) emphasize, understanding passenger preferences is crucial to designing effective and competitive public transport services. This is especially relevant in intercity and urban contexts, where service quality, integration, and user satisfaction shape modal choice and system performance.

HSR systems (e.g., France's TGV, Morocco's Al Boraq) exemplify innovative transport marketing, enhancing brand identity, fostering user loyalty, and promoting multimodal integration. In contrast, urban transport faces challenges like congestion, spatial disparities, and growing demands for accessibility. TEI has arisen as a key strategy—notably in cities such as Rabat—merging data analytics, stakeholder engagement, and spatial planning to adapt mobility solutions to local socio-economic needs. Despite shared challenges, HSR and urban transport marketing strategies are rarely compared or integrated, revealing a research gap. While both systems prioritize user-centric and context-adapted solutions, potential synergies remain underexplored. This study addresses the central question :

How can integrating HSR marketing strategies and TEI enhance urban transport systems through context-specific, user-centered synergies?

Three sub-questions guide the analysis:

- How do HSR marketing strategies differ between mature (e.g., France) and emerging (e.g., Morocco) markets, and what lessons can urban transport adopt?
- How does TEI reshape urban transport strategies via user analytics and spatial insights?
- Where do complementarities between HSR and urban transport marketing lie, and how can they be operationalized?

The main objective of this research is to analyze how transport marketing strategies can be better integrated with territorial economic intelligence (TEI) to enhance user-centered mobility systems and improve last-mile connectivity. More specifically, the study aims to:

- Compare HSR marketing strategies in mature and emerging markets;
- Examine the role of TEI in optimizing urban mobility systems;
- Identify operational synergies between intercity and urban transport systems.

To address these objectives, the study is structured as follows: first, a literature review presents theoretical foundations and comparative insight; second, a methodological framework outlines the research design and epistemological positioning; third, analytical tools and empirical

findings are presented; finally, the discussion highlights key implications and recommendations for integrated mobility systems.

1. LITERATURE REVIEW: A comprehensive analysis of transport marketing strategies

1.1.Theoretical foundations in transport marketing

The field of transport marketing has undergone significant theoretical evolution in recent decades, transitioning from conventional service delivery models to more sophisticated frameworks that account for the complex relationships between infrastructure systems, user behavior patterns, and regional development objectives. :

1.2.High-Speed Rail Marketing Strategies: A Comparative Analysis

A comparative examination of High-speed Rail marketing strategies reveals significant differences between mature and emerging markets. In developed systems like those in Europe and Japan, operators employ sophisticated marketing approaches across several key areas. Brand architecture strategies feature multi-tiered service offerings (such as SNCF's InOui and Ouigo brands), co-branding partnerships with tourism organizations (exemplified by Japan's JR Rail Pass), and lifestyle positioning that extends beyond basic transportation functionality. Pricing strategies incorporate advanced yield management systems, dynamic pricing algorithms, and segmented fare structures catering to business, leisure, and senior traveler segments. Sustainability marketing initiatives include carbon footprint calculators, green loyalty programs, and eco-certification of services, while digital integration efforts focus on developing seamless multi-modal journey planners, AI-powered personalization features, and predictive maintenance communication systems.

Developing HSR systems in regions like Morocco and Southeast Asia face unique challenges, requiring culturally adapted services, affordable pricing through subsidies, and alternative revenue models. Their marketing strategies are shaped by institutional learning, involving technology transfer, phased implementation, and hybrid governance combining global practices with local contexts.

1.3.TEI in Urban Mobility: From Theory to Practice

The implementation of Territorial Economic Intelligence in urban mobility contexts demonstrates considerable variation across different regions. Data infrastructure development ranges from comprehensive sensor networks and IoT deployment strategies to open Data policies and third-party data partnerships. Analytical capabilities continue to advance with the application of machine learning for demand prediction, network optimization algorithms, and

anomaly detection systems. Governance models are evolving to include public-private data trusts, citizen data cooperatives, and regulatory sandboxes that encourage innovation while managing risk.

Several case examples illustrate these applications. Lyon has implemented an integrated fare system using TEI principles to enable demand-based pricing. Singapore's dynamic road pricing system is continuously informed by real-time TEI Data, while Rabat has developed participatory planning processes that combine TEI analytics with traditional community consultation methods.

2. CRITICAL FRAMEWORK DEVELOPMENT

Building on the existing literature, we propose an integrated conceptual framework that addresses current limitations while charting a path for future research and practice. The framework establishes critical linkages between macro-level HSR strategies and micro-level urban mobility systems through brand alignment across scales, coordinated pricing structures, and unified customer relationship management approaches. It operationalizes TEI across multiple decision-making levels, from strategic long-term planning to tactical service adjustments and operational real-time optimization. The framework also incorporates essential temporal dimensions ranging from short-term adaptive responses to medium-term policy cycles and long-term infrastructure horizons.

This comprehensive approach addresses key limitations in current literature by providing actionable pathways for strategy integration, recognizing the dynamic nature of transport ecosystems, and balancing technological potential with institutional realities. The framework's methodological implications suggest the need for prospective research approaches, longitudinal study designs, and increased interdisciplinary collaboration to fully capture the complexity of contemporary transport marketing challenges and opportunities.

3. METHODOLOGY

3.1. Epistemological positioning and research approach

This research adopts an interpretivist epistemological stance, which assumes that reality is socially constructed and best understood through actors' subjective experiences. This positioning is particularly relevant for analysing mobility behaviours, user perceptions, and territorial dynamics.

The study follows an abductive reasoning approach, combining inductive insights from empirical data (user surveys, observations) with deductive references from existing theoretical

frameworks (transport marketing and TEI). This hybrid reasoning enables the development of context-sensitive interpretations while enriching theory.

The choice of a qualitative-dominant mixed-methods approach is motivated by the complexity of the research object, which involves both measurable phenomena (usage patterns) and intangible dimensions (user experience, perception, territorial equity).

3.2. Research Design

To conduct this research, we adopted an interpretivist epistemological stance and employed a qualitative approach.

3.3. Data Sources

- **Primary Data: Customer Survey:** conducted via Google Forms and disseminated through social media platforms, Al Boraq users (N=40).
- **Secondary Data:** Academic literature on HSR and urban mobility, and Internal reports from SNCF and ONCF.

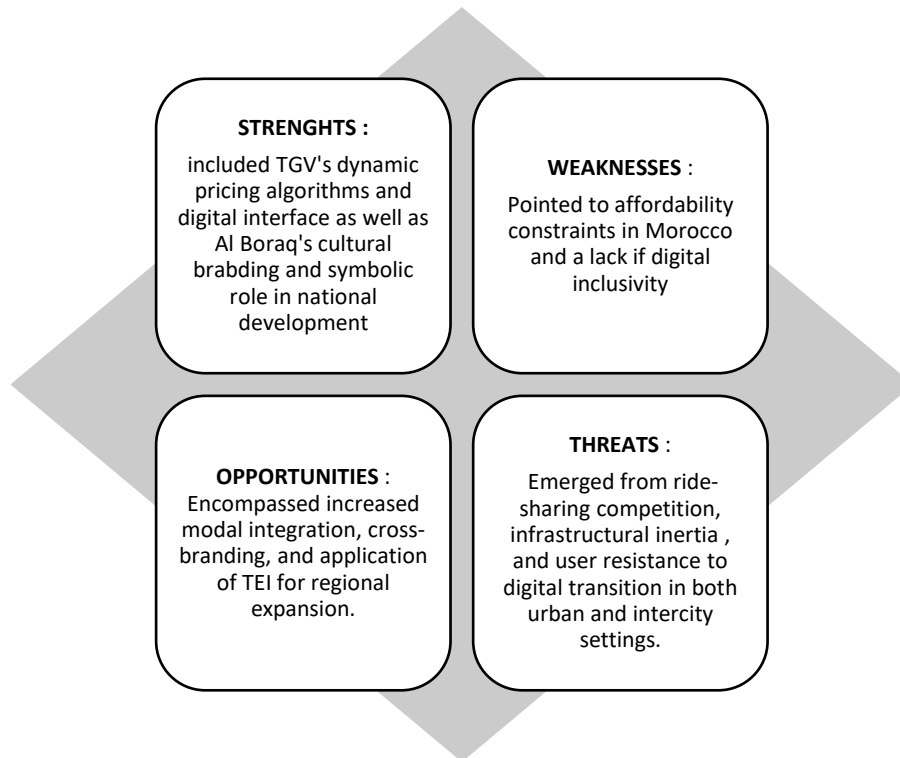
4. ANALYTICAL TOOLS AND RESULTS :

To operationalize the comparative and integrative analysis of High-Speed Rail (HSR) marketing strategies and urban mobility governed by Territorial Economic Intelligence (TEI), three complementary analytical tools were employed: the SWOT Matrix and the Territorial Diagnostic Framework. Each serves a distinct yet interrelated purpose in evaluating performance, coherence, and alignment with user expectations and territorial dynamics.

4.1. SWOT matrix: Intermodal marketing strategies

The SWOT matrix enables a structured comparison of marketing approaches adopted by TGV and Al Boraq, as well as their potential applicability to urban transport contexts. It highlights internal strategic assets (e.g., brand architecture, pricing innovation) and external conditions (e.g., competition from airlines or informal transit modes). In applying this framework:

Figure N°1: SWOT MATRIX: Comparison of marketing strategies adopted by TGV and Al Boraq



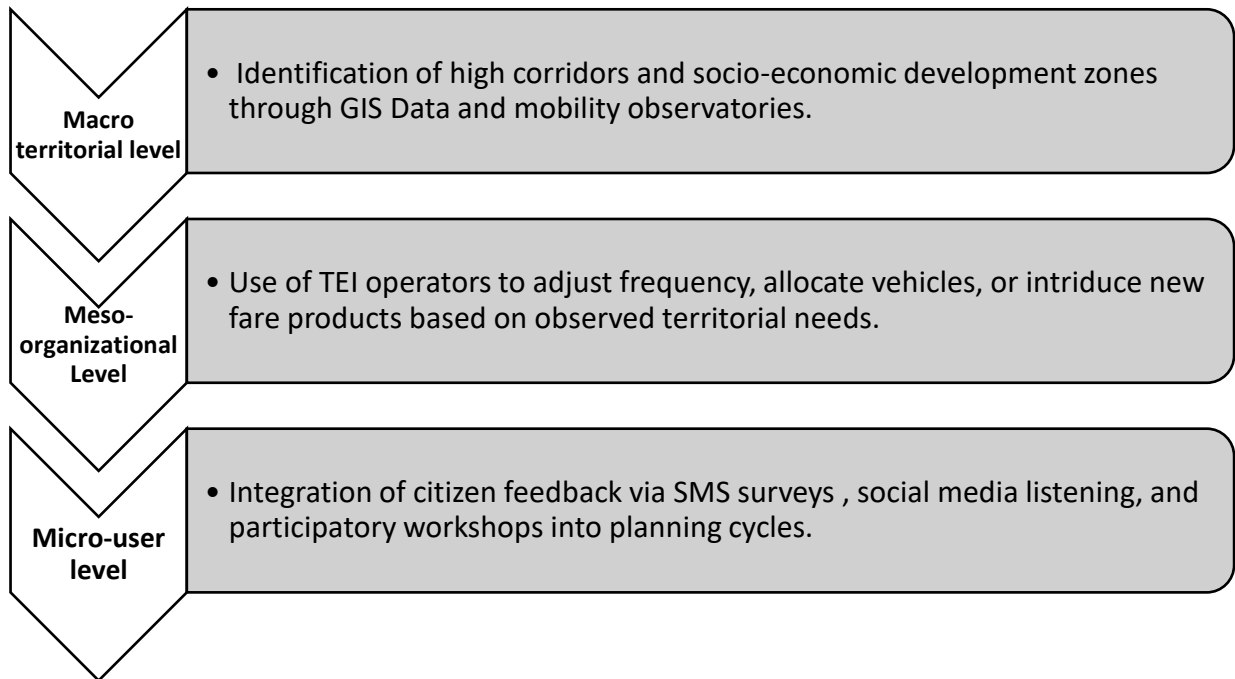
Source: Autor.

The SWOT analysis thus served as a lens to assess strategic fit and adaptability of intermodal marketing practices in diverse territorial environments.

4.2.Territorial Diagnostic Framework: linking TEI to Service Redesign

The territorial diagnostic framework builds on the TEI paradigm by linking strategic intelligence outputs (mobility patterns, socio-demographic segmentation, satisfaction metrics) to service redesign processes. Inspired by Chabault (2011) and operationalized in the Rabat case, the framework encompasses three levels:

Figure N°2: Linking TEI to Service Redesign (Case of Rabat)



Source: Autor.

This tool reinforces the feedback loop between territorial intelligence and operational decisions, positioning transport marketing not only as a promotional function, but also as a mechanism for inclusive and adaptive urban governance.

4.3. Qualitative analysis of Al Boraq User Experience: insights from a 42-respondent survey

As outlined in the methodology section, a survey was conducted via Google Forms and disseminated through social media platforms to gather perceptions and experiences of Al Boraq users. This approach aimed to collect qualitative data directly from passengers, adopting a user-centered perspective. The survey yielded 42 responses, representing a diverse sample in terms of user profiles, travel frequency, and trip contexts. The following analysis organizes these responses around key thematic axes:

Table N°1: Thematic Analysis of Al Boraq User Survey (N=42)

Thematic Axis	Key Findings	Insights / Implications
Mobility Behaviors	57.1% use Al Boraq at least monthly; 26.2% are weekly users 54.8% travel for professional purposes; 28.6% family; 14.3% academic Main routes: Casablanca–Rabat (28.6%), Rabat–Tangier (21.4%)	Indicates strong and regular ridership concentrated on major economic corridors, highlighting the strategic role of HSR in professional mobility
Last-Mile Experience	45.2% report unsatisfactory connections; only 26.2% find them seamless Issues: lack of taxis/buses, poor signage, absence of fare integration, and unified digital systems	Reveals critical gaps in intermodality and last-mile connectivity, affecting overall travel experience
Accessibility and Inclusion	54.8% perceive Al Boraq as expensive 38.1% reports inadequate adaptation for elderly/mobility-impaired users 33.3% identifies digital-only booking as a barrier	Highlights social and economic inequalities in access, emphasizing the need for inclusive mobility strategies
Brand Identity and Digital Integration	73.8% associate Al Boraq with modernity and national progress 40.5% find the app unintuitive; 35.7% report a lack of physical support services Inconsistencies across digital and physical platforms	Shows strong symbolic branding but weaknesses in user experience and digital ecosystem coherence
Territorial Challenges	42.9% believe peripheral areas are poorly served Over one-third perceive weak or no integration with urban networks. Need for better coordination between ONCF and local actors	Points to spatial inequalities and governance fragmentation, limiting territorial cohesion

Source: Autor.

5. DISCUSSION AND RECOMMENDATIONS

5.1. Converging Challenges: Systemic Constraints and User Disparities

- **Territorial Disconnect and Modal Fragmentation:** Findings from the SWOT Matrix and Territorial Diagnostic Framework converge on a key systemic weakness: the discontinuity between high-speed rail services and local urban mobility networks. While Al Boraq excels

in interurban speed and reliability, 45.2% of surveyed users described poor connectivity at arrival stations.

The absence of synchronized schedules, lack of intermodal fare systems, and fragmented physical infrastructure (signage, terminals) undermine the end-to-end travel experience.

Recommendation: Develop multimodal transport hubs at Al Boraq stations that integrate tramways, buses, and taxis through unified ticketing and real-time information platforms. Institutionalize co-governance structures between ONCF, municipalities, and urban operators to enable joint planning.

➤ **Affordability versus Inclusivity:** Al Boraq is perceived as a modern, premium service, but 54.8% of users report that pricing remains inaccessible to lower-income groups.

This perception is reinforced by the lack of tiered fare options, especially for students, seniors, or informal workers. At the urban level, Rabat faces a similar dilemma—balancing cost recovery and equity amid growing suburbanization and income disparities.

Recommendation: Introduce TEI-informed fare modulation, including off-peak pricing, loyalty programs, and income-sensitive subsidies. Adopt yield management techniques from HSR (e.g., TGV InOui vs. Ouigo) to manage demand while maintaining financial sustainability.

➤ **The Digital Divide and Information Asymmetry:** Despite Al Boraq's high-tech image, 40.5% of respondents find the mobile application unintuitive, and 33.3% cite difficulties for non-digital users. The Territorial Diagnostic Framework reveals a gap between digital infrastructure maturity and user digital literacy, especially among older populations. In Rabat, similar fragmentation exists between apps for tramway, bus, and taxi systems.

Recommendation: Design a unified, multilingual digital platform for trip planning, payments, and service updates across intercity and urban modes. Pair this with non-digital access points (e.g., physical kiosks, SMS-based info systems) to bridge the digital divide.

5.2.Strategic Convergences: Shared Solutions for Integrated Mobility

➤ **From Branding to Territorial Narratives:** Al Boraq benefits from strong national branding—73.8% of users associate it with progress and modernity. However, the urban mobility ecosystem lacks symbolic coherence. Rabat's tramway, though technologically advanced, does not embody a unified narrative or identity.

Recommendation: Replicate HSR branding strategies by developing territorial mobility narratives that reflect local identity, environmental commitment, and social inclusion. Use co-branding strategies (e.g., Al Boraq + Rabat Tramway) to enhance visibility and symbolic alignment.

➤ **Dynamic Pricing as a Tool for Demand Management:** TGV's dynamic pricing model is a key strategic asset, allowing responsiveness to fluctuating demand and user profiles. This contrasts with Morocco's static fare structures. The SWOT analysis and TEI framework jointly highlight the need for adaptive pricing models to promote both efficiency and equity.

Recommendation: Pilot dynamic pricing schemes in urban contexts, including congestion charges, off-peak discounts, and usage-based incentives. Leverage TEI data (e.g., occupancy rates, socio-demographic maps) to calibrate tariff schemes in real time.

➤ **Toward a Unified Digital Ecosystem:** User Journey Mapping indicates that urban and intercity services operate in parallel but not in integration. The lack of data interoperability, digital service coordination, and cross-mode tracking limits both operational intelligence and user trust.

Recommendation: Build a territorial digital ecosystem linking ONCF, tramway, and bus systems, and ride-sharing platforms. Employ predictive analytics (e.g., peak load forecasting, behavioral segmentation) to personalize user services and improve flow management.

5.3. Policy Implications and Forward-Looking Recommendations

The analysis of Al Boraq through the combined lens of SWOT, TEI diagnostics, and user-based qualitative inquiry underscores a fundamental transition in transport planning: from infrastructure provision to integrated service design. In both urban and intercity contexts, the following cross-cutting priorities emerge:

- **Institutional Integration:** Establish inter-agency planning units at regional levels to ensure strategic alignment across transport modes and territorial policies.
- **User-Centered Design:** Systematically integrate user feedback (e.g., via participatory surveys, social media analytics) into planning, design, and marketing decisions.
- **Data Governance:** Develop open-data frameworks to enable real-time, cross-modal operational intelligence and support innovation in mobility services.
- **Territorial Equity:** Address peripheral under-service by aligning investments in HSR with spatial planning and inclusive urban development strategies.

CONCLUSION

This study examined the intersection of HSR marketing strategies (France's TGV, Morocco's Al Boraq) and Territorial Economic Intelligence (TEI) in urban mobility, revealing both synergies and gaps. While HSR excels in intercity branding and tech innovation, challenges persist in last-mile connectivity, affordability, and digital inclusion. The proposed "HSR+TEI" framework addresses these through multimodal integration, dynamic pricing, and unified digital platforms.

➤ **Limitations and Future Research:**

- **Stakeholder Engagement:** Structured interviews with SNCF/ONCF officials and urban planners
- **Field Studies:** On-site observations at key hubs (Paris-Lyon, Rabat-Agdal, Casablanca)
- **Global Expansion:** Comparative analysis in emerging HSR markets (Senegal, India)
- **Data-Driven Insights:** AI-powered passenger behavior modeling and real-time TEI analytics

These steps will strengthen policy recommendations for equitable, sustainable mobility systems. The study advocates for integrated approaches combining marketing strategy, territorial intelligence, and participatory governance to shape future transport ecosystems.

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