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Informality's Edge: Digital Adaptation, Resilience, and the Dominance of Tourism SMEs in Morocco's Marginal Drylands destination, Case study of Errachidia

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***Abstract* — Tourism is a sector with undeniable dynamism. On a territorial and social level, it has demonstrated a remarkable capacity for integration and development, particularly in marginalized areas. Often neglected by development initiatives, these areas are attracting increasing numbers of tourists. The growth of tourism has fostered the integration of local populations. However, this integration relies on micro, small, and medium-sized enterprises (MSMEs), most of which operate in the informal sector, on the margins of the formal system to which they are nevertheless closely linked, navigating between the visible and the invisible. Through a case study of the Errachidia province, and using a methodology combining data analysis and a survey of a sample of formal and informal businesses, this study explores the heart of the informal tourism economy, demonstrates the importance of the informal sector in this territory, the strategies of the actors, and the barriers to integration.**

Keywords— Informal* Tourism*; SMEs; digital platforms, adaptive capacity;marginal Areas;Tourism Resilience; Errachidia; Morocco

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I. Introduction

The global tourism industry is a major economic driver, but its development is often concentrated in flagship destinations, leaving arid and marginalized areas facing disproportionate economic vulnerability. In these territories, which are unattractive to both local populations and investors, informal tourism enterprises (ITEs), supported by small and medium-sized enterprises (SMEs) and often deeply rooted in local culture and ecology, play a crucial, though often underestimated, role in poverty reduction and the preservation of local heritage. These enterprises are highly vulnerable to environmental (drought, climate change, etc.) and economic shocks due to limited resources and insufficient formal support. However, the proliferation of digital platforms (social networks, specialized booking sites, mobile applications, etc.) offers a transformative opportunity for these small players. This article examines the vital importance of tourism-based mid-sized and small businesses in arid and marginalized areas and analyzes their capacity for adaptation and growth through

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the strategic adoption of digital technologies, as well as the causes and motivations of investors and the barriers to integration into the formal economy.

II. Literature Review

Mainstream discourse emphasizes the essential role of micro, small, and medium-sized tourism enterprises (MSMEs) in local economic development [7; 10; 15; 6], particularly in rural and marginalized areas [8; 11; 1], by promoting local employment, minimizing economic leakage, and generating positive spillover effects for the community. In arid regions, these businesses often represent the primary means for local populations to leverage their unique natural and cultural heritage. Several researchers stress the crucial role of communities in wealth creation and highlight the challenges, obstacles, and opportunities related to tourism development in fragile and marginalized oases [3; 2, 4].

Furthermore, in these territories, which are unattractive to both investors and the local population, the informal economy thrives, filling the gap left by the lack of a formal sector that provides jobs, resources, and tourism opportunities. Therefore, the concept of adaptive capacity in the tourism sector is fundamental, especially in areas vulnerable to climate change. Recent work highlights the growing role of digital platforms as a low-cost, high-impact tool for strengthening resilience [1; 14; 12]. Digitalization facilitates market access and enables effective promotion, thus addressing the traditional challenges of limited visibility and fragmented promotion inherent to sparsely populated areas [14]. It also fosters the adaptation of hotel management by integrating it into the sharing economy [5]. Other research also implicitly acknowledges the blurred line between formal and informal activities, particularly when it comes to tax evasion or regulatory circumvention within broader economic structures [9; 13].

III. Methodology

Based on the case study of the Errachidia province, this study adopts a mixed-methods approach, drawing on three main data sources:

- **Case study:** The choice of a tourist territory, in this case Errachidia, on the edge of the desert, characterized by its marginality and its remoteness from the country's growth axes.
- **Official reports and documents:** Data from the Ministry of Tourism, the regional delegation, and the province are used to contextualize the study and to understand the legal and fiscal frameworks that both encourage and hinder formalization.
- **Survey data:** The primary analysis is based on a survey conducted with a sample of 50 micro, small, and medium-sized tourism enterprises (MSMEs) operating in Errachidia. This area illustrates the rapid transition from a nomadic lifestyle to small-scale tourism entrepreneurship, making it an ideal case study for the training and adaptation of MSMEs in an arid environment. The survey focuses on: (a) The typology of informal activities (b) The business strategy adopted (c) The motivations of the informal sector and the barriers to formalization
- **Web data:** A content analysis of 500 listings published on OTAs and booking platforms made it possible to identify trends in self-promotion and pricing strategies.

IV. Results:

Errachidia is a destination located in southeastern Morocco. It is an arid region on the edge of the desert, characterized by a weak economy and significant physical and demographic desertification. Despite this, it is renowned for its magnificent desert landscapes, which have made it a popular tourist destination. Although the Covid-19 pandemic abruptly halted tourism growth, the region has shown a strong recovery and gradual rebound. The number of arrivals increased from 31288 in 2020 to 110844 in 2024, while the number of overnights increased from 49,128 in 2021 to 136377 in 2024 (Fig. 1).

Tourism development in this area has certainly benefited from government efforts, but it is primarily due to private capital investment, thanks to investors who have built and strengthened the region's tourism offerings (hotels, travel agencies, transportation agencies, and providers of tourist and recreational activities). The classified accommodation sector is characterized by the predominance of small hotels, mostly family-run business created by local investors. These are characterized by their small capacity, averaging 10 to 20 rooms. This fragmentation of the accommodation offering demonstrates the significant private sector investment in

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these small businesses, enriching the commercial offering. Its distribution reflects both the progressive structuring of the local tourism sector and the evolving expectations of visitors seeking more authentic experiences. Small hotels dominate the region's tourism landscape, and their growth testifies to a gradual integration within the local community.

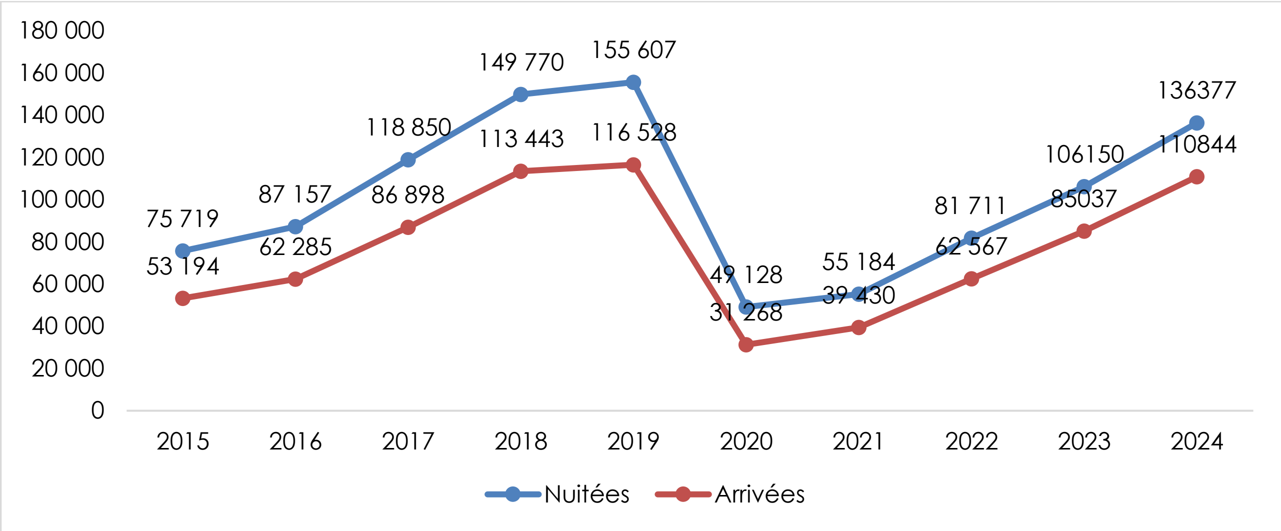

Fig. 1. Trends in tourist arrivals and overnight stays 2015-2024

While the region's tourism development has certainly benefited from government efforts, it is primarily due to private capital investment, thanks to small investors, mostly family-run businesses established by local investors, who have built and strengthened the existing infrastructure (hotels, travel agencies, transportation companies, and providers of tourist and leisure activities). Consequently, the classified accommodation sector is dominated by small hotels. These hotels are small, averaging 10 to 20 rooms. The vast majority of these investors diversify their activities by investing in accommodation, tourist transport agencies, and recreational activities. This diversification allows them to secure their income and consolidate their economic position.

TABLE 1: ACCOMMODATON CAPACITY IN ERRACHIDIA

Accommodation type	Number of units
Auberge	38
Camping	4
Gite	58
Hôtel	34
Maison d'hôtes	9
Résidence Hôtelière	3
Total	146

Investments by local micro, small, and medium-sized enterprises (MSMEs) began in the 1960s and 1970s with the creation of the first hotels [2]. Between 1975 and 1991, the number of accommodations remained low and stable, fluctuating between three and five units. The period from 1992 to 2007 saw significant growth, with the opening of 18 units in 2007. Currently, the region has 146 classified units with a capacity of 6,204 beds. Guesthouses are the most common type of accommodation, with 58 units and a capacity of 888 beds, representing 42% of the total supply. This is followed by hostels with 38 units and a capacity of 1,573 beds, also accounting for 32% of the supply. Nine guesthouses also contribute to this diverse offering, complementing the traditional options. There are also four campsites. In addition, the provincial tourism office has identified 210 bivouac sites in the Merzouga area and 10 in Rissani (3,635 tents) and a capacity of (7,372 beds). The region also boasts 10 travel agencies, 60 transportation agencies, and 61 car rental agencies [15], as

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well as 67 nature guides and 141 tour guides. In addition, there are 81 camel drivers, 25 quad bike rental companies, 20 buggy rental companies offering excursions in the dunes, attracting a clientele eager for thrills (Table.1).

TABLE 2: INFORMAL TOURISM SME'S IN MERZOUGA

Type of the informal business	Number of units
Accommodations	88 in Booking.com, and in Airbnb
Camps or Bivouacs	239 only 134 pay local tax and beverage tax
Restaurants, snacks	20
Fake-Guides	200
Transporter	100
Muleteers	-
Camel riders	20

However, this part of the iceberg doesn't reveal the true dynamics of tourism. The submerged part is much larger. Often difficult to grasp, it operates and creates value, but without any control or respect for the regulatory framework. For example, in Taous, there are 88 informal accommodations in booking and Airbnb, 20 restaurants, and fast-food outlets (Table 2). The majority of this offer is concentrated near the oust part of the Erg Chebbi (Fig.2). Fixed bivouacs, which are not a regulated activity, are entirely informal, even though there are also over 200 unlicensed guides, approximately 100 unlicensed transporters, and more than 20 camels were encountered. Surveys conducted with both formal and informal businesses proved invaluable during the researchers' fieldwork, which involved participant observation, documenting each service provider and inquiring about their licensing status.

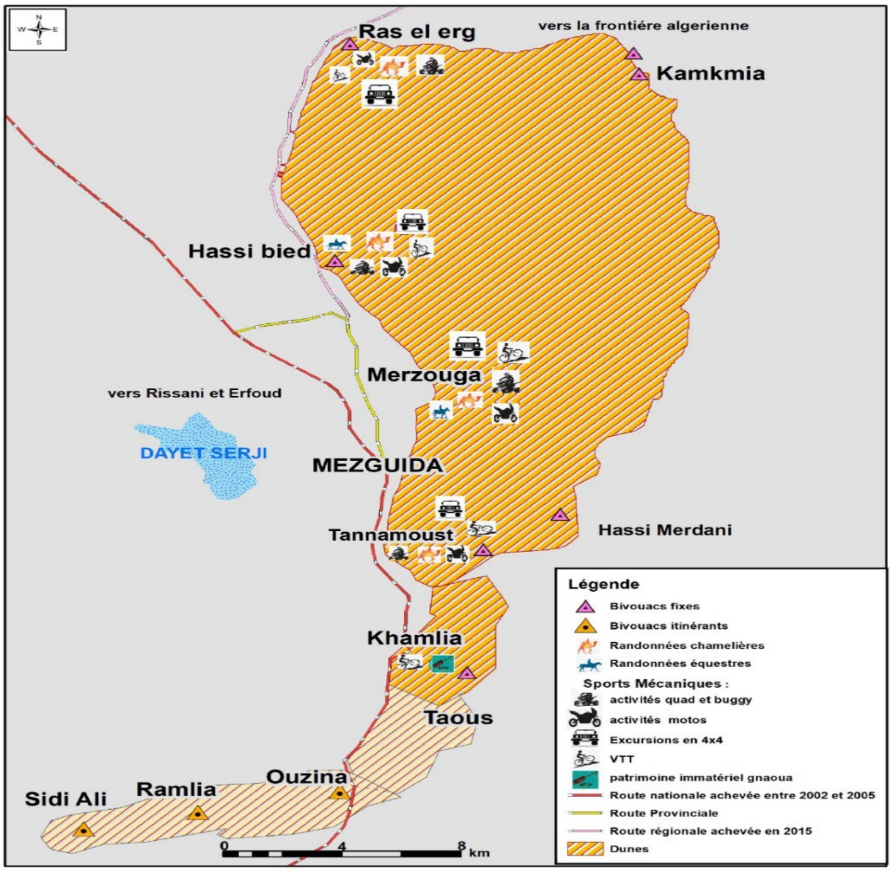

Fig.2 distribution on tourism offer and recreational activities in Merzouga

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Although informal, these businesses consider digital technology a significant driver of business development. Of 50 people surveyed, 70% associate digital technology with promotion and performance (increasing the number of clients and revenue). While no one uses a PMS (Property Management System), 68% have a website, 65% have a Facebook page, 45% an Instagram page, 84% use Booking.com to market their products, and 65% use GetYourGuide and 62% Airbnb (Fig. 3). The survey results reveal a significant correlation between digital development and the accelerated growth of the informal sector, according to respondents.

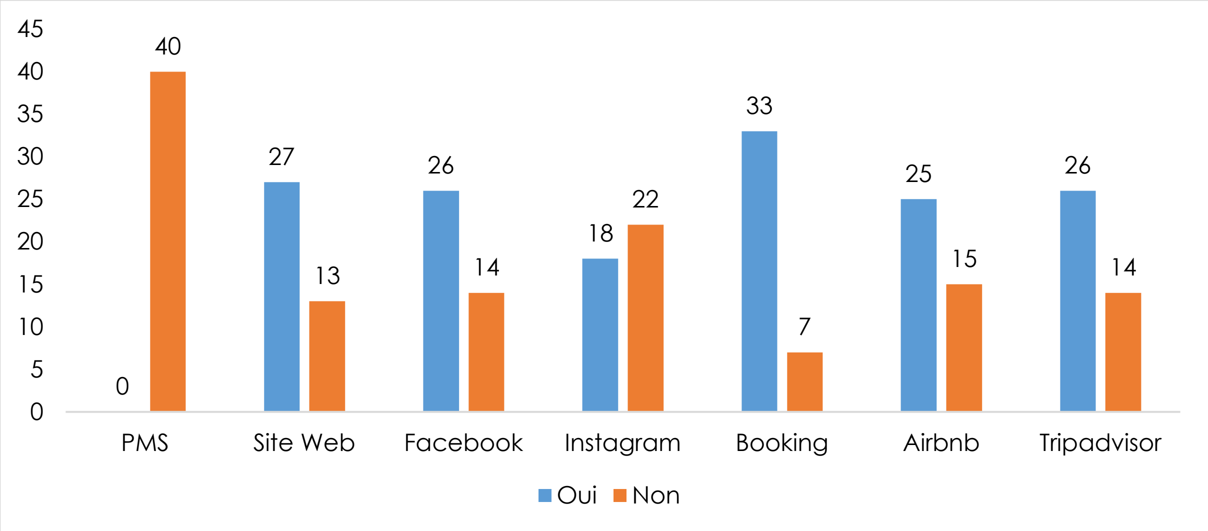

Fig.3 Use of digital tools among informal SME's in Errachidia

In short, there are 621 informal operators active in the region, representing 44.52% of all existing operators (by comparison, official data reports 821 formal small and medium-sized enterprises [15]). These informal operators, often family-run or community-based, account for approximately 37% of the accommodation supply and 100% of fixed campsites (a sector that is not regulated). These small informal operators utilize digital tools, including social media and direct communication via WhatsApp, to compensate for the lack of visibility due to their geographical isolation. They demonstrate a high capacity for adaptation thanks to digital flexibility, even in the face of external shocks (e.g., the COVID-19 pandemic). Businesses with a high score for digital platform usage experienced a 25% lower fluctuation in their off-season revenue. Digital platforms have enabled them to mitigate the negative economic effects observed in ecotourism areas during times of crisis.

V. Discussion

This case study illustrates a crucial structural reality in the marginalized arid zones of Morocco: the informal tourism sector plays a significant role, both digitally and functionally. This dominance is not solely explained by micro-entrepreneurs; it also results from complex interactions with established formal businesses .

Regarding the motivations for operating in the informal sector (Fig. 4), the reasons given by those interviewed were:

- Tax evasion: The primary motivation is to avoid high tax pressures (VAT, income tax, etc.) and social security contributions, which allows businesses in the informal sector to maintain low prices and higher profit margins in a price-sensitive market. This also applies to formal businesses, which resort to informal practices to declare lower revenues and thus pay less tax.
- Avoiding administrative complexity: Informal operations bypass the complex, time-consuming, and often opaque administrative bureaucracy required for registration and obtaining operating licenses.

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- Operational flexibility: Informal work offers maximum operational flexibility, allowing for immediate adaptation to changes in the environment or economic shocks without the risk of contractual penalties.
- Community trust: Businesses in the informal sector often rely on local networks of trust and oral tradition, which are more accessible and effective for small businesses than formal legal frameworks.

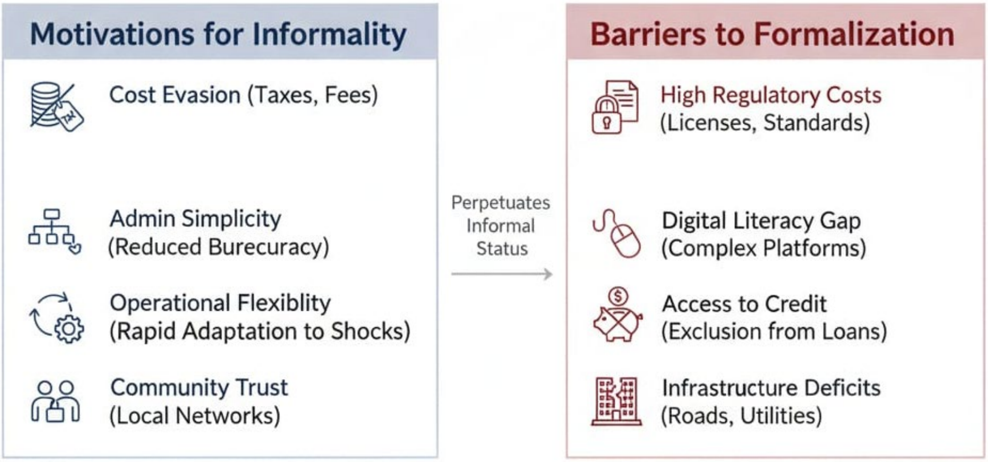

Fig. 4. Factors influencing informality in tourism sector in Errachidia

The barriers to formalization can be grouped into the following elements

- High regulatory costs: The costs associated with formal registration, licensing, compliance with strict tourism quality standards (e.g., fire safety, facility size), and ongoing tax obligations are often prohibitive for small businesses that rely on cash flow.
- Low management and digital skills: While operators seem to be good managers and demonstrate a high level of digital integration, the transition to formal economy requires an understanding of legal contracts, advanced digital and financial tools, and complex booking management, which represents a significant skills gap.
- Access to credit: Informal status prevents access to formal bank loans or government subsidies, trapping independent tourism businesses in a cycle of dependence on domestic or community capital.

The results also show the blurry line: Informality within the Formal Sector (Fraud). It is crucial to recognize that the distinction between formal and informal activities is often blurred. Even officially registered SMEs engage in informal practices, a phenomenon sometimes referred to as "disguised informality" or the "informalization of the formal." These practices include underreporting income, undeclared transactions (such as cash payments for services or wages), and informal hiring. Thus, even if an SME is registered, it may carry out certain activities (for example, specific tours, paying local guides, or welcoming clients without reservations) "under the radar" to avoid taxes. This type of fraudulent behavior allows formal entities to compete with genuinely informal entities on an unequal footing. The prevalence of such practices highlights the underlying motivations for circumventing formal constraints, even after an initial step toward formalization.

VI. CONCLUSION

Informal micro and small-to-medium-sized tourism operators in arid and marginalized areas, such as Errachidia in Morocco, are essential pillars of local socio-economic sustainability. The informal nature of their activities, often intertwined with informal practices, is driven by fundamental imperatives (cost, simplicity, and flexibility) and perpetuated by significant obstacles to formalization. Their capacity for adaptation and growth is considerably strengthened by digital platforms, which democratize market access and improve resilience to external shocks. This predominance of the informal sector and the insidious presence of

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informality within the formal sector highlight that digital platforms are not simply promotional tools, but mechanisms for formalizing market access while preserving the informal advantages of operational flexibility and low fixed costs, and potentially facilitating underreporting for some actors in the formal sector.

The transition to truly sustainable growth requires that public policies not only mandate formalization but also create a streamlined and accessible formal status, reducing administrative and fiscal barriers while ensuring basic security and digital skills training. Future research should examine the long-term socio-cultural impacts of platform adoption, the prevalence and economic effects of informality within the formal tourism sector, and the effectiveness of different policy models aimed at promoting inclusive digital entrepreneurship in territories like Errachidia.

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