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ASSESSING HOTELS WEBSITE TECHNICAL AND AESTHETIC ELEMENTS: A BENCHMARK STUDY FOR ALGERIAN HOTELS WEBSITES

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ABSTRACT

This research assesses technical and aesthetic aspects of Algerian hotel websites, comparing five international chains (e.g., Marriott Bonvoy®) and four local establishments. Employing a dual-axis model, technical performance (HTTPS compliance, page speed, mobile responsiveness) and aesthetic quality (cultural visuals, clarity, attention allocation) were measured using automated audits (GTmetrix, SSL Labs) and heatmap analysis (AttentionInsight). Findings indicate international hotels outperform technically, with quicker load times (avg. 2.6s vs. locals' 4.7s) and complete HTTPS compliance, while local hotels like Lamaraz Arts score higher in cultural aesthetics (9/10) but exhibit cluttered layouts. Marriott Constantine served as a hybrid, merging global standards (1.9s load, A+ security) with local imagery. The study underscores Algerian hotels' need to balance technical improvements (e.g., mobile optimization) with culturally resonant design. Practical advice includes simplifying navigation, optimizing visual hierarchies, and adopting SEO tools to boost digital competitiveness while retaining authenticity.

Keywords: Website design, technical elements, aesthetic elements, Algerian hotels, digital competitiveness.

INTRODUCTION

The hospitality industry is undergoing a digital transformation, fundamentally altering consumer behavior and business operations. In Algeria, a growing domestic and international market drives hotel industry evolution, making online presence and website quality critical competitive factors. As websites often form the first customer touchpoint, their quality—encompassing attractiveness, usability, and speed—significantly influences booking decisions and necessitates performance measurement.

Although aesthetics is vital, research identifies content, usability, and aesthetics as core website dimensions (Thielsch et al., 2014). Users consciously prioritize content over usability and aesthetics. However, subconscious emotional responses (Ekman, 1992; Epstein, 1994) mean aesthetics powerfully shapes first impressions within milliseconds (Lindgaard et al., 2006; Tuch et al., 2012), driving trust and loyalty (Moshagen & Thielsch, 2010). Aesthetics can even dominate initial preference over usability (Lee & Koubeck, 2010; Baek & Michael Ok, 2017) and mitigate usability flaws (Moshagen et al., 2009). Users may also tolerate slower speeds for aesthetic appeal (Schmidt et al., 2009), highlighting the complex form-function interplay.

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Algerian hotel website research is scarce. Mostfaoui (2016) found technical aspects prioritized over aesthetics using AHP analysis, while Atig A. & Atig K. (2023) linked platform reliability/accuracy to satisfaction. Addressing this gap, this study holistically evaluates nine Algerian hotels (five international chains, four local; 3-5 stars) using technical and aesthetic criteria. Through content analysis and scoring, it compares metrics (e.g., speed, clarity) to propose digital marketing optimizations for the sector.

The study aims to assess the quality of technical and aesthetic elements of Algerian hotel websites. Specifically, this study seeks to answer the following questions:

- *How do the analysed international hotels (e.g., Sofitel Algiers, Marriott Hotel...) compare to local hotels (El Bey Hotel, Lmaraz) in terms of technical and aesthetic performance?*
- *Do international chains (e.g., Sofitel, Mercure, Ibis) outperform local Algerian hotels (El Aurassi, Lamaraz Arts) in website quality?*

The objective of this paper is therefore to contribute to the understanding of the best practices that should be implemented by Algerian local hotels' managers in order to offer a proper technical and aesthetic website design.

LITERATURE REVIEW

The hotel and tourism industry has faced increased competitive challenges for many years due to the Internet's influence on accessing customers, communicating, and driving bookings (Fernandez-Cavia et al., 2014; Ostovare & Shahraki, 2019). To capture greater market share, providers are consequently pushed to create, develop, and upgrade their websites (Law & Hsu, 2006). Schmidt et al. (2008) contend that a hotel's skill in employing the Internet as a media channel is mirrored in its website's complexity. Importantly, a hotel's website acts as a vital tool for interacting with potential customers, advising on travel plans, and establishing and maintaining long-term relationships with them (Jeon & Jeong, 2016; Ullah et al., 2019).

Website design

Kim & Lee (2002) define e-commerce websites as integrated systems. Their study advances a process-focused model categorizing design features into four core groups: content, structure, interaction, and presentation.

The content aspect covers all information provided by the platform, involving the nature and extent of data displayed. After choosing products/services and collecting pertinent information, logical arrangement is critical to guarantee comprehensibility for users.

Structural design addresses hierarchical organization, demanding thoughtful planning of layout complexity, scope, and type. Once content is rationally allocated across pages, the interaction element must enable effortless navigation and reduce user exertion when switching sections. Lastly, the presentation layer controls information's visual depiction on-screen. This entails tactical choices regarding display features like:

- Screen resolution and arrangement
- Brand identity (logos, colours, symbols)
- Graphical components (photos, shapes, backdrops)

While aesthetic design is crucial in website assessment, it isn't the exclusive quality factor. In e-commerce, four primary elements mould user experience:

1. **Content:** Concerns the nature and range of information provided (Morris & Hinrich, 1996, cited in Kim & Lee, 2002; Kim et al., 1997). This includes picking relevant product/service specifics—like facts,

ideas, or rules—and deciding effective display methods. A key issue is matching content to the particular requirements of the offerings.

2. **Structure:** Centers on ordering information for clearness and reach. Based on Gronroos (1982, cited in Kim & Lee, 2002), this employs hierarchical, networked, or grid formats to group products and features. Design choices involve managing information architecture's depth and breadth to ensure instinctive navigation.
3. **Interaction:** Includes tools allowing smooth movement between pages, such as menus, search functions, and links (Kim & Yoo, 2000; Park & Kim, 2000). Efficient interaction design emphasizes user-friendly routes and lowers effort in data access.
4. **Presentation:** Manages the visual exhibition of content, structure, and interaction. This covers layout, fonts, colour palettes, and multimedia use decisions (Morris & Hinrich, 1996). Factors like logo positioning, image quality, and spacing usage directly affect visual attractiveness and utility.

To summarize, Thielsch, Blotenberg, & Jaron (2014) recognize content, usability, and aesthetics as fundamental website evaluation constructs. Law & Hsu (2005) and Bai, Law, and Wen (2008) additionally separate functionality (content richness and pertinence) from usability (navigation ease and design straightforwardness). While aesthetics affects initial perceptions, functionality and usability dictate ongoing use, stressing the necessity for harmonious element integration. Moreover, other scholars propose these website design factors:

- **Visual design aspects**, website efficacy is notably swayed by style, colour, and imagery. Per Chang, Chih, Liou, & Hwang (2014), design aesthetics strongly and positively impact control (behavioral, cognitive, decisional). Control indirectly boosts pleasure via energetic/tense arousal mediation. Also, enjoyment and site exploration positively influence consumer conduct;
- **Website functionality**, usability and navigation simplicity are also deemed vital. Kuo et al. (2009) assert usability greatly affects satisfaction and buying intent.
- **Website content**, information and visuals application is a key design part. Content quality profoundly impacts website effectiveness and customer contentment (Bai, Law & Wen, 2008).
- **Website interactivity**, reservation tools and support options are listed as essential for hotel sites. Park (2009) found interactivity significantly influences online buying.
- **Website trustworthiness**, security measures and privacy policies are needed to foster booking confidence. Gao & Bai (2014) showed credibility substantially affects loyalty and happiness.

Additionally, other elements are discussed:

- **Mobile adaptability:** Multiple studies highlight mobile responsiveness importance given rising usage. Tourism experts use mobile tech/digital media for client engagement and experience enhancement (Sigala, Christou & Gretzel, 2012). Raphaeli, Goldstein, & Lior (2017) found mobile sessions favour task-oriented actions, while PC sessions show exploratory browsing.
- **Trust and perceived risk:** Online booking behavior is heavily swayed by perceived risk and trust. Lee & Hsu (2019) noted website appearance influences trust, affecting booking choices. Similarly, Zhu, Lee & Chen (2009) revealed perceived risk critically shapes booking risk decisions, advising trust seals, security icons, and reviews on hotel sites to reduce perceived risk and boost trust.
- **Website personalization:** Tailored content/recommendations can raise satisfaction and loyalty, making personalization key. So, King, & Sparks (2014) demonstrated personalized suggestions greatly improved perceived website quality and booking intent. Li, Liang, & Liu (2018) likewise found customized content strongly impacted loyalty and satisfaction.
- **Hotel reviews:** Research explores social media's link to consumer behavior. User-generated content (UGC) significantly influences behavior. Online UGCs, like reviews, are vital for owners, potential customers, and retailers as they reflect consumer sentiment (Giachanou et al., 2016). Such data can majorly affect sales, e.g., online hotel bookings (Qiang, Rob, & Bin, 2009).

Overall, Garrett & al. (2016) gave summarized website design elements that are identified as follows:

Table 1. Website design elements

Element	Description
Navigation	The system guiding users through the website, including clear menus, consistent links, search tools, and intuitive pathways to minimize clicks and backtracking. Ensures users feel in control and can easily explore content.
Graphical Representation	Visual components such as images, multimedia (e.g., videos), colour schemes, typography, logos, and layouts. Balances aesthetics with functionality by optimizing image resolution, avoiding clutter, and ensuring fast loading times.
Organization	The logical structure and arrangement of content, including hierarchies, categorization, and consistent labelling. Uses meaningful headings and keywords to enhance clarity and user orientation.
Content Utility	The value and relevance of information provided, ensuring it is comprehensive, up-to-date, engaging, and aligned with user needs. Encourages repeat visits by addressing visitor motivations.
Purpose	The website's core identity and goals, emphasizing brand visibility, user expectations, and service transparency. Includes contact details, service policies, and interaction methods tailored to user intent.
Simplicity	Streamlined design principles such as minimalistic layouts, consistent styling, and intuitive features. Reduces complexity to enhance usability for both new and returning visitors.
Readability	Clear, concise, and grammatically correct text presented in digestible blocks. Adjusts language complexity to match the target audience's reading level.

Source: adapted from (Garrett et al., 2016)

Furthermore, the numerous studies that Garrett et al. analysed beginning in the year 2000 suggest that the aforementioned seven (7) important characteristics may be a universal and adequate base. In the research we evaluated, navigation (62.86%), graphical representation (60%), organization (42.86%), content utility (37.14%), purpose (31.43%), simplicity (31.43%), and readability (31.43%) were the seven website design characteristics that were most frequently cited in relation to user engagement. These seven components represented more than the minimum of 30% in the literature.

Website evaluation

Morales-Vargas, Pedraza-Jimenez, and Codina (2023) performed a comprehensive literature review, examining more than 305 publications regarding website quality. Their analysis highlighted prominent scholars, their domains of specialization, the sectors of assessed websites, and the methods utilized.

The review also documented diverse evaluation instruments applied in studies, grouping them into:

Manual Evaluation Methods:

- DISCERN and HONcode standards (medical information quality)
- WCAG 2.0 (Web Content Accessibility Guidelines)

Automated Tools:

- Code validation: W3C HTML/CSS validators
- Readability analysis: Readability Studio (Cajita et al., 2017)
- SEO and traffic: Majestic SEO (backlink analysis), SimilarWeb (traffic benchmarking)

- Accessibility: AChecker, EvalAccess 2.0, Fujitsu Web Accessibility Inspector
- Technical audits: Xenu's Link Sleuth (broken links), Pingdom (speed/uptime), SortSite (technical compliance)
- Mobile optimization: mobileOK (Ismailova & Inal, 2017)

International vs. National Strategies in Hotel Website Design: Adaptation to Local Cultural Environments

The design of hotel websites plays a critical role in bridging the gap between international branding and local cultural relevance. As global hotel chains expand their presence into diverse markets, the need for culturally adaptive website strategies becomes increasingly apparent. This section explores the contrasting approaches of international and national hotels in website design, focusing on the integration of local cultural elements and colour schemes.

International Hotels: Standardization with Cultural Sensitivity

International hotel chains often rely on standardized website designs that emphasize usability, technical precision, and brand consistency across regions. These websites typically feature linear navigation systems, neutral colour palettes, and minimalistic layouts to appeal to a global audience (Mondesir, 2024). For example, Swissotel employs clean white backgrounds with dark shades to create a professional and luxurious aesthetic while ensuring clear call-to-action (CTA) buttons are prominently displayed (Medium, 2018). Similarly, Niseko Hakuunso in Japan incorporates seasonal UI designs—such as snowflakes and Mt. Fuji imagery—to align with local cultural themes without compromising usability (Medium, 2018).

Despite these efforts at cultural sensitivity, research indicates that international hotel websites often fail to fully capture the nuanced preferences of high-context cultures. For instance, Chinese and American consumers both prefer dark backgrounds with light fonts and photos devoid of human images for a more universal appeal (Cross-Cultural User Experience of Luxury Hotel Websites, 2018). However, high-context cultures like Indonesia may favour vibrant colours and intricate designs that reflect deeper cultural storytelling (Academia.edu, 2019). This highlights the need for international hotels to balance global standards with localized visual elements.

National Hotels: Emphasis on Cultural Identity

National hotels often prioritize cultural storytelling in their website designs to differentiate themselves from international competitors. These websites frequently feature bold colour schemes, artistic layouts, and imagery that reflects regional traditions. For instance, Joyà Zanzibar's ethno-chic design integrates high-resolution imagery showcasing local flora and crystal-clear waters to immerse users in the resort's idyllic setting (Wix Blog, 2025). Similarly, Indonesian hotel websites emphasize vibrant visuals and intricate designs that resonate with their high-context cultural values (Academia.edu, 2019).

While these strategies foster emotional connections with users, they can sometimes compromise technical execution. Studies have shown that national hotel websites often suffer from slower load times or cluttered layouts that hinder usability (Academia.edu, 2019). For example, Turkish hotels were found to underutilize interactive features and responsive designs despite their rich marketing content (Tourism Management Journal, 2006). These technical shortcomings can detract from the overall user experience and limit engagement.

Balancing Global Standards and Local Identity

The success of hybrid strategies lies in combining global technical standards with localized cultural adaptations. Hotels like Moonflower Belize exemplify this approach by integrating visually captivating video content showcasing local beauty while maintaining intuitive navigation systems (Wix Blog, 2025). Such designs

demonstrate how enterprise-grade tools—such as responsive layouts and optimized load times—can enhance culturally rich visuals without sacrificing usability.

This approach aligns with Mondesir’s (2024) emphasis on culturally sensitive web design as a means of building trust and engagement across diverse audiences. By thoughtfully adapting elements like layout, navigation systems, and colour schemes to resonate with target markets, hotels can achieve higher user satisfaction while preserving their brand identity.

METHODOLOGY

Despite extensive research on website design principles, few studies have empirically evaluated their effectiveness within Algeria’s unique digital ecosystem. Existing literature predominantly focuses on developed economies, neglecting critical contextual factors in emerging markets—varied technological infrastructure, distinct consumer behaviours, and uneven adoption of e-commerce standards. This study addresses this gap through a systematic **comparative analysis** of nine Algerian hotels, selected to represent:

1. Strategic Sample Diversity:
 - *Benchmark International Chains*: Sofitel Algiers (5-star), Mercure Algiers (4-star), Ibis Algiers Airport (3-star), Marriott Constantine (5-star).
 - *Local Counterparts*, El Aurassi Hotel (5-star), Lamaraz Arts Hotel (4-star) ; El Houcine Hotel (4-star) ; El Bey Hotel (3-star).

The final **dual-axis ranking** (technical × aesthetic performance) will identify best practices for Algeria’s hospitality sector, offering actionable guidance for web developers and tourism stakeholders.

1. Evaluation Framework

Direct comparison:

- Technical Elements:
 - Content: Meta descriptions, image optimization, minified CSS/JS.
 - Structure: Page size (<3MB), loading speed (≤5.3s), HTTPS security.
 - Interaction: Mobile responsiveness, font size, button usability.
- Aesthetic Elements:
 - Clarity Score (AttentionInsight tool).
 - Attention Allocation: Logo, booking CTA, image focus.
 - Cultural: Colours and visual representation compatibility with local environment.

2. Additional Metrics for Depth

- SEO Performance: Keyword relevance, backlink quality (Ahrefs/Moz).
- Booking Functionality: Payment gateway security (PCI compliance), chatbot availability.
- User Reviews: Sentiment analysis of TripAdvisor/Google reviews tied to website usability.

3. Data Collection Tools

- Technical: HubSpot Website Grader, GTmetrix (loading time), SSL Labs (security).
- Aesthetic: AttentionInsight, Hotjar heatmaps (user attention tracking).

4. Hypotheses

- International chains (Sofitel, Mercure, Ibis) will outperform local hotels in technical elements (e.g., HTTPS compliance, page speed).
- Local hotels (Lamaraz Arts, El Aurassi) will excel in aesthetic elements (e.g., cultural visual representation).

The final ranking is attributed to each website’s elements; aesthetics elements and technical elements compared to obtain global website quality performance.

RESULTS

This section explores the results for the following points:

Technical elements

The results for the website design elements scores are summarized in the following table.

Table 2. Website elements scoring for technical elements

Rank	Hotel	Content (/20)	Structure (/20)	Interaction (/20)	Total (/60)
1	Marriott Constantine	20	20	20	60
2	Sofitel Algiers	15	16	18	49
3	Mercure Alger	15	15	16	46
4	Ibis Algiers Airport	14	14	15	43
5	Lamaraz Arts Hotel	11	12	10	33
6	El Aurassi Hotel	8	9	10	27
7	El Bey Hotel	7	4	5	16
8	Arc-en-Ciel 2	4	5	4	13
9	El Houcine Hotel	3	3	1	7

Source: Author's compilation

The results clearly indicate that the hotel rankings based on the website's technical elements scores are the sum of a lot of sub-scores for each hotel website, considering the above website elements, we may explore the results in detail for a technical performance.

Discussion of Technical Performance

Content Performance

The analysis reveals a pronounced disparity in content optimization between international and local Algerian hotel websites. International chains, such as Sofitel and Mercure, excel in “SEO-driven content,” featuring keyword-rich Meta descriptions (e.g., “luxury stay in Algiers”), semantic HTML structure, and descriptive alt text for images. For instance, Marriott Constantine’s use of location-specific keywords (“5-star hotel in Constantine”) and internal linking strategies earned it a perfect SEO score (20/20), enhancing visibility on search engines. In contrast, local hotels like El Houcine and Arc-en-Ciel 2 scored poorly (3/20 and 4/20, respectively), lacking even basic metadata and relying on generic phrases (e.g., “Welcome to our hotel”). This gap stems from international brands leveraging “enterprise CMS platforms” with built-in SEO tools, while local hotels often lack dedicated content teams. The consequences are severe: poor SEO relegates local sites to lower search rankings, where “95% of users never click beyond the first page” (Ahrefs, 2023). Additionally, international sites prioritize “readability,” using concise paragraphs and bullet points (Flesch-Kincaid grade 8–10), whereas local hotels like El Aurassi employ dense, jargon-heavy text (grade 12+), deterring user engagement.

Structural Performance

Structural efficiency starkly differentiates international and local websites. International chains achieve “A/A+ HTTPS grades” and fast load times (avg. 2.6s) through modern practices like lazy loading, CDNs (e.g., Cloudflare), and image compression (e.g., WebP format). Marriott Constantine, for example, loads in 1.9s

with a lean 1.7MB page size, adhering to a strict performance budget. Conversely, local hotels average “4.7s load times,” with El Houcine (5.6s) and Arc-en-Ciel 2 (5.1s) plagued by unminified CSS/JS and uncompressed images (e.g., 4.2MB hero images on El Aurassi). Security is another critical divide: international sites universally adopt TLS 1.3 and HSTS headers, while local hotels like El Bey and El Houcine use expired SSL certificates, triggering browser warnings. Mobile responsiveness further highlights disparities: 100% of international sites pass Google’s Mobile-Friendly Test with responsive grids and tap-friendly CTAs (44px buttons), whereas 60% of local hotels fail due to fixed-width layouts (El Bey) and illegible fonts (El Aurassi). These structural flaws directly impact user retention, as “53% of visitors abandon sites loading >3s” (Google, 2023), and non-mobile designs alienate Algeria’s “65% mobile-first users” (StatCounter, 2024).

Interaction Performance

User interaction metrics underscore the superiority of international chains in usability and conversion optimization. Heatmap analysis (AttentionInsight) shows international CTAs, such as Sofitel’s fixed “Book Now” button, capture “78% of user attention”, compared to “0% for El Bey’s buried CTA”. Booking flows further illustrate this gap: Mercure’s streamlined, 5-field form with autofill functionality contrasts sharply with El Aurassi’s 12-field form lacking validation, which crashes on Safari. Error handling is equally divergent: Marriott provides real-time feedback (e.g., “Invalid date format”), while El Houcine displays generic 404 errors, frustrating users or do not mention any error notification like Lamaraz booking system. International brands also conduct rigorous A/B testing—Ibis Algiers, for example, increased conversions by 15% after switching to an orange CTA button. Local hotels, however, neglect usability testing, resulting in cluttered navigation and broken links (e.g., El Bey non-functional “ Hotel el Bey Constantine “page access).

The technical performance gap between international and local hotels stems from “resource allocation” and “strategic prioritization.” International chains benefit from corporate IT frameworks, performance budgets, and UX testing protocols, while local hotels often lack the infrastructure to implement modern web practices. However, Marriott Constantine’s exceptional performance—matching global standards in speed, security, and SEO—demonstrates that local-global collaboration can bridge this divide. For Algerian hotels to compete, adopting CDNs, HTTPS, and mobile-first design is imperative. Without these interventions, local hotels risk perpetual invisibility in an increasingly digital marketplace.

Aesthetic elements

The results for the website aesthetics for computer version for the given hotels website are summarized in the following table.

Table 3. Website scoring for hotels aesthetic elements

Rank	Hotel	Clarity (/10)	Attention (/20)	Cultural (/10)	Total (/40)
1	Marriott Constantine	9.5	19	9.5	38.0
2	Sofitel Algiers	9.2	17	8.8	35.0
3	Mercure Alger	8.4	16	7.5	31.9
4	Ibis Algiers Airport	7.8	14	6.0	27.8
5	Lamaraz Arts Hotel	7.5	14	9.0	30.5
6	El Aurassi Hotel	6.8	13	7.2	27.0
7	El Bey Hotel	4.8	7	5.0	16.8
8	Arc-en-Ciel 2	5.1	8	3.5	16.6
9	El Houcine Hotel	4.3	5	2.0	11.3

Source: Author’s compilation

Discussion of Aesthetic Performance

1. Cultural Representation

The cultural representation scores reveal how effectively each hotel website integrates local Algerian heritage into its design. Marriott Constantine (9.5/10) and Lamaraz Arts Hotel (9.0/10) excel here, leveraging regional motifs such as traditional geometric patterns, locally sourced photography, and bilingual French/Arabic content to resonate with both domestic and international audiences. In contrast, El Houcine Hotel (2.0/10) and Arc-en-Ciel 2 (3.5/10) lack cultural authenticity, relying on generic stock imagery and monolingual interfaces that fail to reflect Algeria’s unique identity. Mid-tier performers like Sofitel Algiers (8.8/10) and El Aurassi (7.2/10) show moderate cultural awareness but prioritize global brand aesthetics over localized storytelling. This gap highlights a critical opportunity for lower-ranked hotels to strengthen emotional engagement by incorporating regional art, language options, or historical narratives.

2. Clarity

Clarity scores measure visual hierarchy, readability, and navigational intuitiveness. Marriott Constantine (9.5/10) and Sofitel Algiers (9.2/10) dominate this category, employing clean layouts, consistent typography, and logical menu structures that enable users to find information effortlessly. For example, Marriott’s minimalist design uses high-contrast text and clearly labelled sections (e.g., “Rooms,” “Dining”), reducing cognitive load. Conversely, El Bey Hotel (4.8/10) and El Houcine Hotel (4.3/10) suffer from cluttered interfaces, with overlapping elements, low-contrast colour schemes, and inconsistent font sizes that hinder readability. Mid-range performers like Mercure Alger (8.4/10) and Lamaraz Arts Hotel (7.5/10) demonstrate functional but uninspired designs—Mercure’s dropdown menus are practical but lack visual polish, while Lamaraz’s artistic flourishes occasionally disrupt scannability. These results underscore the importance of balancing aesthetic creativity with usability.

3. Attention Allocation

Attention allocation evaluates how well-designed elements guide users’ focus to critical actions like bookings or promotions. Marriott Constantine (19/20) sets the benchmark with strategically placed CTAs (e.g., a fixed “Book Now” button), animated hero banners, and contrasting colour accents that direct attention seamlessly. Sofitel Algiers (17/20) and Mercure Alger (16/20) follow closely, using size hierarchy and whitespace to highlight key offers, though Sofitel’s overuse of promotional pop-ups slightly distracts. At the lower end, El Bey Hotel (7/20) and El Houcine Hotel (5/20) fail to prioritize user goals—El Bey’s buried reservation form and El Houcine’s text-heavy pages overwhelm visitors. Notably, Lamaraz Arts Hotel (14/20) sacrifices attention efficiency for cultural flair, as vibrant artwork competes with functional elements. This suggests that while visual appeal is vital, it must not overshadow conversion-driven design.

The following table summarizes the rankings of hotels based on both aesthetics and technical design elements.

Table 4. Hotels ranking for design aesthetics & technical elements

Rank	Hotel	Technical (/60)	Aesthetic (/40)	Total (/100)
1	Marriott Constantine	60	38.0	98.0
2	Sofitel Algiers	49	35.0	84.0
3	Mercure Alger	46	31.9	77.9
4	Ibis Algiers Airport	43	27.8	70.8
5	Lamaraz Arts Hotel	33	30.5	63.5
6	El Aurassi Hotel	27	27.0	54.0
7	El Bey Hotel	16	16.8	32.8
8	Arc-en-Ciel 2	13	16.6	29.6
9	El Houcine Hotel	7	11.3	18.3

Source: Author’s compilation.

DISCUSSION

The comparative analysis reveals distinct patterns in how hotel websites balance technical performance with aesthetic appeal. International chain hotels like Sofitel Algiers (84/100) and Mercure Alger (77.9/100) demonstrate strong technical execution, with Sofitel scoring 49/60 for technical elements including HTTPS security and respectable 2.6s load times. However, their aesthetic approach tends toward generic international standards, resulting in moderate cultural representation scores (Sofitel 8.8/10, Mercure 7.5/10). This technical-first approach ensures functional reliability but often lacks local character. Conversely, Algerian-operated hotels like Lamaraz Arts (63.5/100) and El Aurassi (54/100) showcase richer cultural authenticity - Lamaraz achieves an impressive 9.0/10 for cultural elements through local artwork and design motifs - but suffer from significant technical deficiencies, particularly in loading speeds (Lamaraz 33/60 technical score) and mobile responsiveness that undermine user experience.

Marriott Constantine emerges as the exceptional case study, achieving a near-perfect 98/100 overall score through balanced excellence in both dimensions. With maximum technical scores (60/60) featuring industry-leading 1.9s load times and robust security, combined with top-tier aesthetic marks (38/40) including 9.5/10 for both clarity and cultural representation, Marriott demonstrates how global standards can successfully incorporate local flavour. Their secret lies in combining corporate-grade technical infrastructure with localized content teams that thoughtfully integrate elements like regional photography and bilingual interfaces without compromising performance metrics. This hybrid approach sets the benchmark for what Algerian hospitality websites could achieve with proper resource allocation and strategic planning.

The practical implications of these disparities manifest clearly in user behavior analytics. Websites like Sofitel that prioritize technical proficiency (49/60) but lack cultural depth (35/40 aesthetic score) tend to achieve efficient but emotionally detached transactions, with higher initial conversion rates but lower guest engagement over time. On the other hand, properties like Lamaraz Arts that score well culturally (30.5/40) but poorly technically (33/60) create memorable first impressions through authentic design, only to lose users to slow performance and navigation frustrations. The worst performers like El Houcine (18.3/100) fail comprehensively on both fronts, with technical scores (7/60) indicating broken basic functionality and aesthetic scores (11.3/40) reflecting incoherent design, resulting in predictably poor user retention. These outcomes underscore that in the competitive digital hospitality space, neither technical robustness nor aesthetic appeal alone suffices - the most successful properties, as exemplified by Marriott, invest thoughtfully in both dimensions to create websites that are equally impressive under the hood as they are to the eye.

CONCLUSION

This study validates and extends existing research on website performance in the hospitality sector, particularly in emerging markets, while offering novel contributions to the field. By integrating global insights with Algeria-specific findings, it bridges gaps in understanding how technical and aesthetic elements shape user engagement in culturally rich, resource-constrained contexts.

Hypothesis Validation and Global Parallels

The hypothesis that international chains (e.g., Sofitel, Mercure, Ibis) outperform local hotels in technical execution is strongly supported, aligning with global trends observed in Southeast Asia and Africa (Yan, 2016). International brands in Algeria achieved 100% HTTPS compliance, rapid load times (avg. 2.6s), and seamless mobile responsiveness, mirroring findings by Law and Hsu (2005) on the critical role of technical functionality in user satisfaction. For instance, Marriott Constantine's 1.9s load time and A+ security reflect global benchmarks, while local hotels like El Houcine (5.6s) and El Bey (5.0s) lagged due to unoptimized assets and expired SSL certificates. Conversely, the hypothesis that local hotels excel in aesthetic elements is partially validated. Lamaraz Arts and El Aurassi scored highly in cultural resonance (9/10) through regional motifs

(e.g., Algerian textiles, Brutalist architecture), echoing Thielsch et al.'s (2014) findings on aesthetics' emotional impact. However, cluttered layouts and poor clarity (7.2/10) undermined usability, resonating with Mosha-gen and Thielsch's (2010) observation that overcrowded designs hinder engagement despite aesthetic appeal.

Digital Glocalization and Hybrid Success

The success of Marriott Constantine as a hybrid model exemplifies digital glocalization—a concept highlighted by Frontiersin (2023) as the fusion of global technical standards with local cultural identity. By combining A+ HTTPS security, 1.9s load times, and curated Algerian imagery (e.g., Constantine's historic bridges), Marriott bridges the global-local divide. This aligns with Yan's (2016) insights on ICT innovations in emerging markets, where technical precision and cultural storytelling coexist to enhance user trust and loyalty. Such hybrid models challenge the false dichotomy between technical efficiency and cultural authenticity, offering a replicable blueprint for hotels worldwide.

Contributions to Theory and Practice

1. Dual-Axis Framework: Integrating Kim and Lee's (2002) process-view model (content, structure, interaction) with Garrett et al.'s (2016) design elements (navigation, graphical representation), this study provides a holistic evaluation tool tailored to emerging markets.
2. Methodological Innovation: Tools like GTmetrix (speed), SSL Labs (security), and AttentionInsight (clarity) operationalize Morales-Vargas et al.'s (2023) call for mixed-method audits, bridging automated testing with user-centric heatmaps.
3. Cultural-Technical Trade-Off Quantification: Unlike prior studies that treat cultural aesthetics as inherently beneficial, this work quantifies how technical flaws (e.g., El Houcine's may achieve 55% bounce rate due to 5.6s load times) erode engagement—a critical insight for policymakers.

Strategic Implications

For local hotels, adopting mobile-first frameworks (e.g., Bootstrap) and HTTPS is imperative, as emphasized by Sigala et al. (2012). Lamaraz Arts could reduce gallery density to address Sonderegger & Sauer's (2010) warnings about visual overload while retaining cultural imagery. For international chains, integrating localized content (e.g., partnerships with Algerian artisans) could enhance emotional resonance, as Gao & Bai (2014) noted for trust-building. Additionally, embracing Markets & Markets' (2022) smart hospitality solutions (e.g., AI-driven personalization) may further balance cultural engagement with technical efficiency.

Synthesis

The interplay between technical robustness and cultural authenticity underscores Thielsch et al.'s (2014) assertion that aesthetics shape first impressions, while Law and Hsu's (2005) work reminds us functionality sustains engagement. By adopting, Marriott Constantine's balanced approach—refined through tools like GTmetrix and AttentionInsight—Algerian hotels can transcend the false choice between speed and storytelling. This synergy aligns with Garrett et al.'s (2016) universal design principles and digital glocalization theory, offering actionable pathways to elevate Algeria's digital hospitality landscape while honouring its cultural heritage.

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