

The Tale of Two Troys: A Comparative Sentiment Analysis of Visitor Experiences in the Ancient City and the Museum

Sevim Sezi Karayazi^{1*}, Necla Ece Oncul², Tugcenur Metin-Parlak¹

¹Canakkale Onsekiz Mart University, Faculty of Architecture and Design, Department of Architecture

²Canakkale Onsekiz Mart University, Faculty of Architecture and Design, Department of Landscape Architecture

INTRODUCTION & AIM

In the contemporary heritage paradigm, the visitor experience is divided between the **tangible authenticity** of archaeological remains and the **curated digital narratives** of modern museums. It is particularly evident in Çanakkale, Türkiye, which hosts both the UNESCO World Heritage Site of Troy and the award-winning Troya Museum. Cultural tourism is rapidly shifting towards experience-based consumption (Richards, 2018), yet **traditional monitoring methods**, including periodic surveys and ticket sales, **fail to capture** the qualitative, unprompted perceptions of the digital-native visitor. To address this gap, **passive crowdsourcing** through social media has emerged as a **real-time alternative** for monitoring visitor preferences and spatial behaviors (Ghermandi & Sinclair, 2019).

This study aims to reveal the **digital image** of Troy by analyzing **User-Generated Content (UGC)**. The research proposes a **data-driven experience model** that supports the ongoing development and sustainability of the region's broader destination identity.

METHOD

The research adopts a **digital footprint approach** to capture visitor narratives (Girardin et al., 2008). To achieve this, the study utilizes **TripAdvisor** as the primary data source, selected specifically for the rich textual depth and widespread use among international and domestic tourists. A **dataset** comprising around 250 English and Turkish reviews was harvested for both the "Ancient City of Troy" and the "Troya Museum" to ensure comparative validity. As it can be seen in Figure 1, the unstructured textual data is processed through a **computational pipeline** that includes tokenization, stop-word removal, and text normalization to prepare it for computational evaluation.

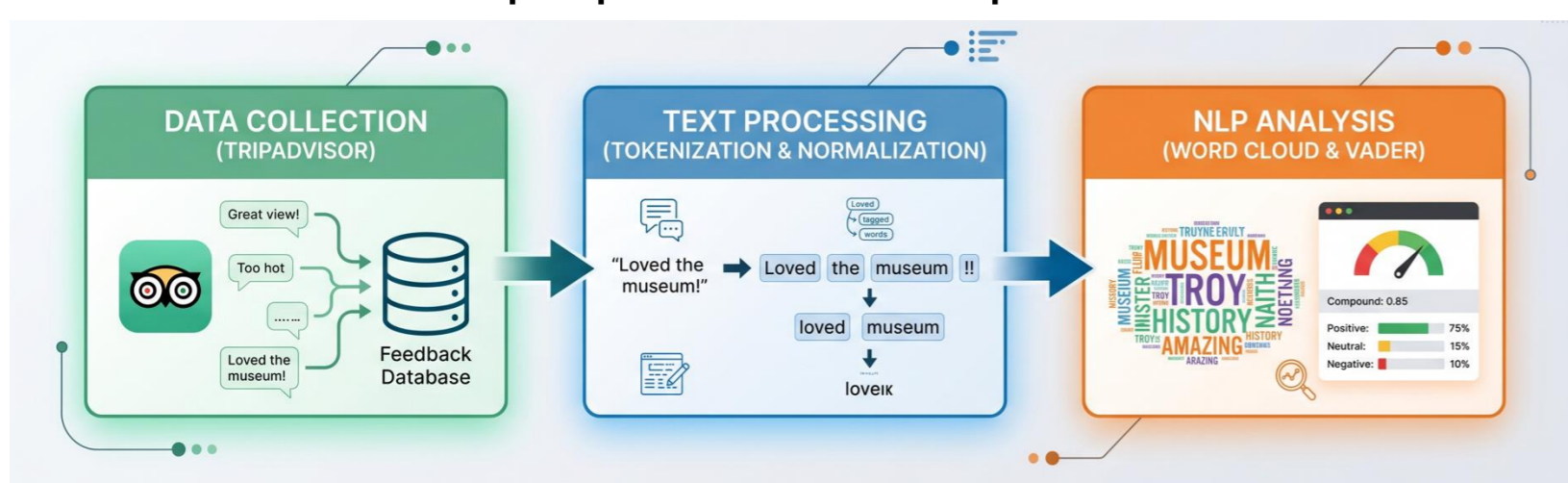


Figure 1. Data process flowchart

The core analysis combines two distinct **Natural Language Processing (NLP)** frameworks. First, **Word Cloud** visualization is employed to map the frequency distribution of dominant keywords that provides an immediate graphical representation of the most salient themes associated with each location (Karayazi et al., 2022). Second, **VADER Sentiment Analysis** is applied to quantify the satisfaction polarities identifying the intensity of positive, neutral, and negative emotions embedded within the visitor reviews (Hutto & Gilbert, 2014). Together, these methods allow for quantitative comparison of the qualitative experiences at both heritage sites.

RESULTS & DISCUSSION

The comparative NLP analysis reveals a **divergence in the semantic and emotional digital footprints** of the two sites. Word Cloud visualizations in Figure 2 indicate that user narratives surrounding the Troya Museum includes terms such as "architecture", "informative", "artifacts", and "modern", reflecting a highly curated, cognitive experience that aligns with expectations of contemporary exhibition design (Metin Parlak & Celebi Seker, 2026). Conversely, the Ancient City's textual footprint highlights terms such as "imagination", "history", "walking", and "heat" emphasizing a physical encounter shaped heavily by **environmental factors** (Oncul et al., 2023).

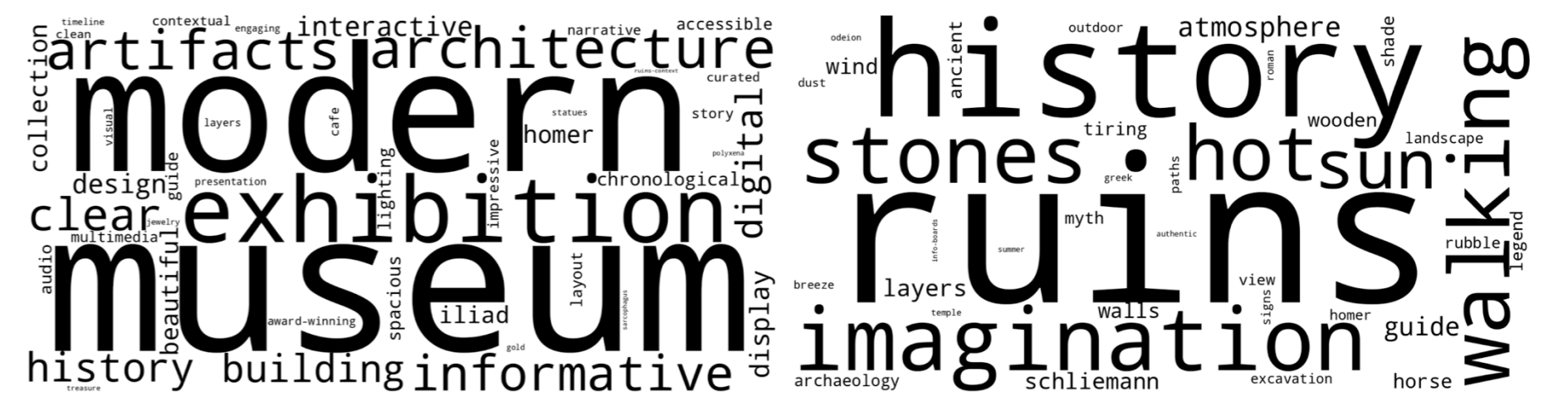


Figure 2. Word cloud visualization (Left: Museum - Right: Ancient City)

VADER Sentiment Analysis further quantifies this divide. While the Museum exhibits a densely clustered, **high-positive polarity** driven by satisfaction with facilities and narrative clarity, the archaeological site displays a broader variance in sentiment (Figure 3). At the ancient city, deep **historical awe** is frequently recorded, yet it is occasionally offset by lower sentiment scores relating to climatic discomfort and a perceived lack of on-site interpretative guidance.

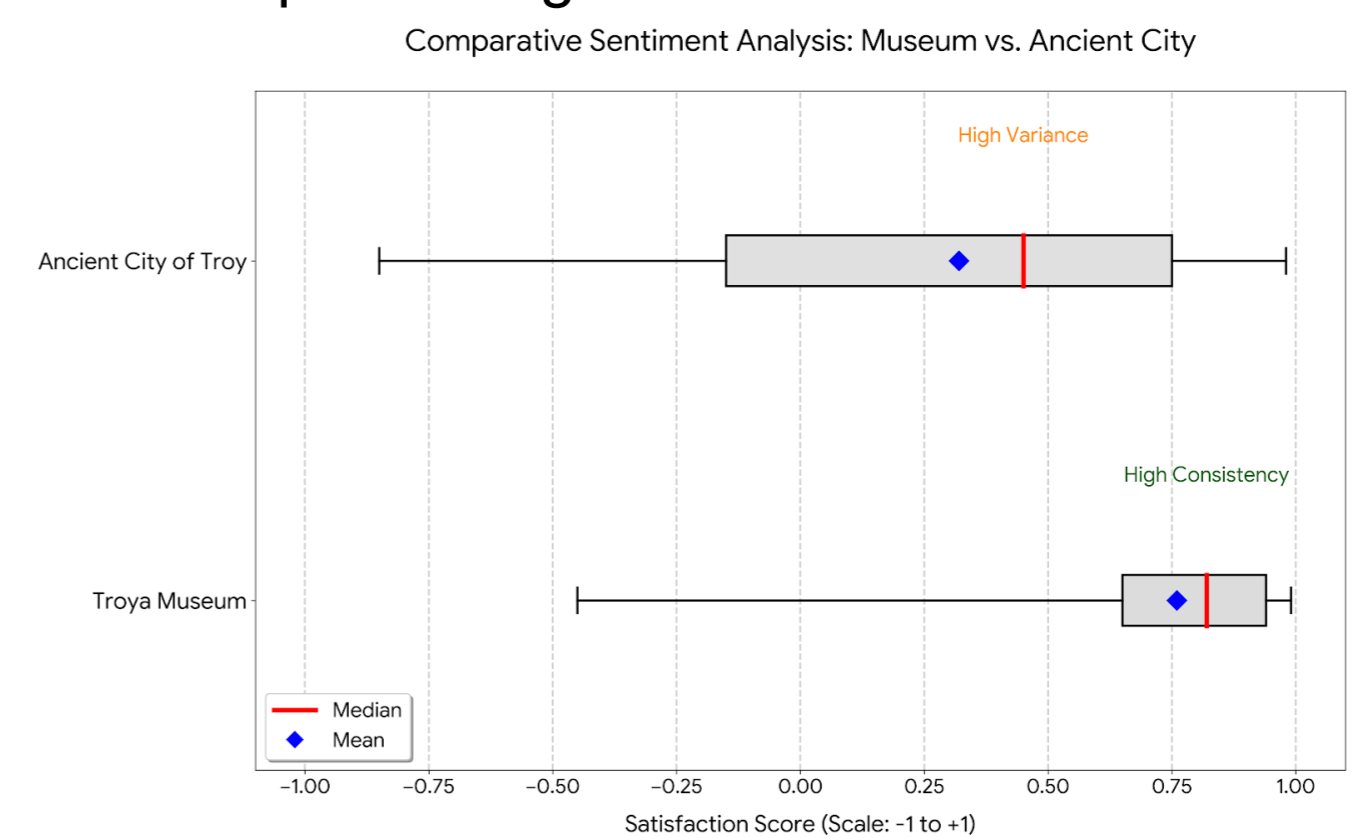


Figure 3. VADER Sentiment Chart

The semantic and sentiment divide highlights the **dichotomy** between the curated narrative of the Troya Museum and the tangible authenticity of the archaeological site. The museum successfully satisfies the digital-native visitor's need for architectural quality, clear storytelling, and climatic comfort, resulting in a densely clustered, high-positive polarity. Conversely, navigating the ruins requires significant physical endurance and spatial imagination, making the visitor experience highly susceptible to **environmental friction**, such as extreme heat and walking distances. This stark contrast confirms that relying solely on traditional metrics, such as ticket sales, **masks the different realities** of the visitors.

CONCLUSION

To synthesize these fragmented encounters into a cohesive destination identity, this research proposes a data-driven **Integrated Experience Model** for Çanakkale. By monitoring digital footprints via passive crowdsourcing, decision-makers can transition from static preservation to **dynamic visitor management**.

FUTURE WORK / REFERENCES

Future research can expand upon this foundational text-mining approach by transitioning from digital narratives to **physical spatial behavior modeling**, analyzing how these sentiment clusters correlate with **actual movement patterns** across the historic landscape.

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