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THE UNIQUENESS GAP: A COMPARATIVE ANALYSIS OF VISITOR EXPECTATIONS AND PERCEPTIONS AT THE MAKAPAN VALLEY CAVES, SOUTH AFRICA

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Abstract:

Heritage destinations, particularly those conferred with UNESCO World Heritage status, face the critical challenge of providing a consistently high-quality visitor experience that reflects their universal value. This study compared visitors' pre-visit expectations against post-visit perceptions of service attributes at the Makapan Valley Caves, South Africa, to precisely determine satisfaction levels and identify significant disconfirmation gaps. A descriptive quantitative methodology employing a survey research design was utilised. Data were gathered using a structured questionnaire from a convenience sample of 275 visitors. The Expectancy-Disconfirmation Theory (EDT) served as the foundational theoretical framework. A Wilcoxon signed-rank test was employed for the comparative analysis of paired ordinal data to establish statistical differences between expectations and perceptions. Results confirmed high overall visitor satisfaction; however, the analysis revealed a "satisfaction paradox". Despite high holistic ratings, significant negative disconfirmation was identified in three core interpretive areas: the site's perceived uniqueness, educational depth and authenticity. This "uniqueness gap" suggests that the intellectual delivery fails to meet international standards. Crucially, this shortfall is currently mitigated by excellent staff performance and a "protective buffer" created by visitors' strong intrinsic motivations. This study contributes to tourism theory by empirically demonstrating the "satisfaction paradox" in a multi-layered heritage context and identifying how strong visitor motivation acts as a reliable safeguard against core product deficiencies. Management must urgently address the interpretive shortfall through narrative reconstruction to highlight the site's comparative significance. Formalised investment in guide expertise is essential for protecting the site's

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primary quality assurance mechanism. Furthermore, closing the uniqueness gap supports the socio-economic upliftment of local employees and ensures the site fulfils its educational mandate for a discerning audience

Keywords: Heritage tourism; UNESCO World Heritage Site; Visitor satisfaction; Expectancy-Disconfirmation Theory (EDT); Satisfaction paradox; Makapan Valley Caves; Service quality; Interpretive strategy

1. INTRODUCTION

Heritage tourism represents a substantial and expanding segment of the global tourism industry (Ashworth 2000). It involves travel to locations offering experiences and narratives that symbolise the culture and history of a people (Harfst, Sandriester & Fischer 2021) and it is a vital component of cultural tourism (Montero Lorenzo, Fernández Avilés & García Centeno 2010). Sites such as the Makapan Valley Caves, a renowned fossil hominid site in Limpopo Province, South Africa, are of national and international importance (Esterhuysen 2006; Chiarini, Duckeck & De Waele 2022). The caves form a critical part of the Fossil Hominid Sites of South Africa World Heritage Site, which attracts visitors seeking profound cultural and educational experiences (Okonkwo, Afoma & Martha 2017). However, this sector faces persistent challenges. Heritage sites must navigate complex and ever-changing socioeconomic factors such as time constraints, competitiveness and technological innovation (Harfst *et al.* 2021). For site managers, the paramount issue is delivering a visitor experience that consistently achieves a high-quality standard (Dileep Kumar, Govindarajo & Khen 2020). Critically, when a visitor's actual experience fails to align with their pre-visit expectations, it creates a gap that leads to dissatisfaction (Moreno-Melgarejo *et al.* 2020). This negative disconfirmation can result in poor repeat visitation and fluctuating visitor numbers (Yuan & Marzuki 2024). To ensure the long-term success and sustainability of a cultural resource like the Makapan Valley Caves, a precise understanding of what drives and sustains positive visitor satisfaction is essential. It is not enough to measure general happiness. The underlying factors, the antecedents of visitor satisfaction, must be empirically determined (Dileep Kumar *et al.* 2020).

The study addresses the critical need for an evidence-based strategic management framework that accurately identifies the specific strengths and deficiencies of the visitor offering. The central objective governing the entire empirical investigation of this research study is to compare expectations and perceptions of visitor services in order to determine visitor satisfaction. This objective directly uses the comparative mechanism of the Expectancy-Disconfirmation Theory (EDT) (Elkhani & Bakri 2012) to diagnose the site's performance relative to the high standards set by its discerning audience (Montero Lorenzo *et al.* 2010). This comparative analysis ultimately yields the core findings and subsequent managerial recommendations.

2. LITERATURE REVIEW: THEORETICAL GROUNDING OF SATISFACTION VISITOR EXPECTATIONS, EXPERIENCE AND SATISFACTION

Expectation is defined as what an individual anticipates experiencing, rooted in their personal needs and desired outcomes (Yuan & Marzuki 2024). In the heritage context, visitors often form these expectations based on external factors such as reputation, marketing, and recommendations from others (Zhang, Yin & Peng 2021). Critically, these pre-visit anticipations establish the definitive standard or benchmark against which the actual experience will be judged (Yuan & Marzuki 2024). The visitor experience itself is a multifaceted concept that involves emotional moments, opportunities for learning, meaningful encounters and enjoyment (Zhang 2022). This experience is intrinsically linked to satisfaction (Zhang, Xiong & Huang, 2023). Visitor satisfaction is the measure of pleasure felt after comparing the perceived reality of the visit to what was expected beforehand (Yuan & Marzuki 2024). Satisfaction is achieved when the visit meets or exceeds these initial expectations (Zhang, Yin & Peng 2021). Conversely, unmet expectations lead to disappointment, dissatisfaction and negative word-of-mouth (WOM) (Harfst, Sandriester & Fischer 2021).

2.1 The Expectancy-Disconfirmation Theory (EDT)

The EDT is the most widely adopted theoretical framework for quantitatively measuring consumer or visitor satisfaction in the tourism and services sectors (Dileep Kumar *et al.* 2020; Yuan & Marzuki 2024). It is a cognitive model positing that consumers form beliefs about the expected performance of a service before experiencing it (Yuan & Marzuki 2024). After consumption, the outcomes are compared with the initial expectations, leading to a feeling of confirmation or disconfirmation (Dileep Kumar *et al.* 2020). The central mechanism of EDT relies on the calculation of disconfirmation (*D*), which mathematically represents the gap between perceived performance (*P*) and expectation (*E*) (Hermann, Nemaorani, Naudé-Potgieter & de Klerk 2024). The comparison of performance against expectation leads to three main outcomes:

- Positive Disconfirmation occurs when perceived performance is better than anticipated ($P > E$), resulting in increased satisfaction (Yuan & Marzuki 2024).
- Confirmation occurs when performance is exactly as expected ($P = E$) (Yuan & Marzuki 2024).
- Negative Disconfirmation occurs when performance is not as good as anticipated ($P < E$), resulting in dissatisfaction (Yuan & Marzuki 2024).

The EDT is superior to simpler models because it integrates both anticipation and reality, making it highly effective for diagnosing specific service quality gaps in a heritage tourism context (Moreno-Melgarejo *et al.* 2020; Harfst *et al.* 2021).

2.1.1. Visitor motivations and the "protective buffer" concept

Visitor motivation refers to the internal psychological factors that influence an

individual's decision to travel to a specific site (Yuan & Marzuki 2024). Motivations are generally classified into internal "push" factors (e.g. escaping routine, seeking knowledge) and external "pull" factors (e.g. the site's features, like fossils or unique geology) (Zhang 2022). In heritage contexts, motivations are often intellectual, driven by a desire for knowledge, learning and cultural engagement (Harfst *et al.* 2021). The strong drive for intellectual fulfilment directly influences the formation of high, non-negotiable expectations for content quality (Zhang, Yin & Peng 2021). This study advances the concept of motivation acting as a "protective buffer" (Hermann & De Klerk 2025). This theoretical insight suggests that when visitors possess a strong intrinsic motivation (e.g. passion for palaeontology), their psychological investment makes them more resilient to minor service or infrastructural flaws (Hermann & De Klerk 2025). Their satisfaction is primarily driven by the fulfilment of their core goal (e.g. acquiring knowledge), which statistically buffers the negative impact of specific disappointments (negative disconfirmation) on their overall satisfaction rating (Hermann & De Klerk 2025).

2.1.2 Overview of the Makapan Valley Caves

The Makapan Valley Caves constitute a pivotal geological and archaeological site located northeast of Mokopane in the Limpopo Province of South Africa (South African Heritage Resources Agency 2020a). The area holds immense global significance, having been serially inscribed as part of the Fossil Hominid Sites of South Africa World Heritage Site by UNESCO (SAHRA 2020a). The unique complexity of the site can be conceptualised into three distinct, interwoven layers of heritage that contribute to the visitor experience (Department of Economic Development, Environment and Tourism 2021; SAHRA 2020a).

Natural Foundation: The extensive cave systems and landforms that provide an environment for geotourism and nature engagement (LEDET 2021; SAHRA 2020a).

Palaeontological and Geological Layer: This layer relates to the scientific importance of the fossil discoveries, including remains of *Australopithecus africanus* and earliest life forms like Stromatolites, which date back millions of years (Geology of South Africa 2019; LEDET 2021). This is a core geo-tourism draw (SAHRA 2020a).

Cultural and Historical Layer: This encompasses the rich history of human use, stretching from the Iron Age to significant events like the 19th-century conflict and siege history, highlighting the deep cultural value (Esterhuysen 2006; SAHRA 2020a).

Management of the Makapan Valley Caves falls under the Limpopo Department of Economic Development, Environment and Tourism (LEDET 2021). The site's location near the regional R101 road ensures accessibility to major urban source markets, particularly Gauteng Province (LEDET 2021).

Understanding visitor satisfaction is vital for the sustainability of heritage sites. The critical problem addressed by this study was the lack of an evidence-based understanding of the specific service antecedents that determined satisfaction at the Makapan Valley Caves. Site management lacked precise data on what visitors actually expected, how they truly perceived the core experience and what fundamentally motivated their visit, which precluded

the development of effective, targeted strategies for enhancing the visitor journey. This strategic knowledge gap risked exacerbating negative disconfirmation and jeopardising the site's long-term viability as a world-class attraction. The research study aimed to address this problem by determining these specific antecedents through robust quantitative measurement.

3. METHODOLOGY

The study was grounded in a descriptive, quantitative research methodology using a survey design. This approach was necessary to collect numerical data from a large sample, enabling generalisation of findings to the visitor population and assessing the relationships between visitor satisfaction and its antecedents. The research was geographically demarcated to the Makapan Valley Caves. The Makapan Valley is recognised as a key component of the Fossil Hominid Sites of South Africa UNESCO World Heritage Site. The target population consisted of all local and international visitors to the site during the data collection period. A non-probability convenience sampling technique was employed to select participants due to the varying and unpredictable flow of visitors. This resulted in a total sample size of 275 visitors who willingly participated in the survey. Data were gathered over a five-month period, from 15 March 2025 to 13 July 2025. A self-administered structured questionnaire was developed based on extensive literature related to heritage tourism and visitor satisfaction. The questionnaire was divided into sections to capture data on: visitor demographics, pre-visit expectations, post-visit perceptions and motivational factors. Data collection was conducted by a trained fieldworker and the site's tourist guide. Questionnaires were distributed to visitors at the workstation immediately after the successful conclusion of their guided tours. To maximise the response rate and accommodate visitor preference, an electronic link to an e-survey was also distributed via email, WhatsApp and the site's social media platforms. The collected data were subjected to analysis using the STATA software version 19.0. Both descriptive and inferential statistics were used. Descriptive analysis, including means, standard deviations and frequency distributions, was applied to characterise the visitor profile, expectations and perceptions. The primary analytical technique used for the comparative component of the study was the Wilcoxon signed-rank test. This non-parametric test was chosen to compare the paired ordinal data of expectation scores against perception scores for the same service attributes, allowing for the precise measurement of the disconfirmation gap and, by extension, visitor satisfaction. Instrument reliability was also confirmed through testing.

4. RESULTS AND DISCUSSION

4.1 Demographic profile of respondent*s*

The demographic profile of the 275 respondents , as summarised in Table 1, indicates a near-equal distribution of gender, with males accounting for 51.64% and females 48.36%. The age group results show a significant concentration among the younger, highly educated segments, with Millennials (1984–1993) being the largest category at 33.21%, closely

followed by Generation X (1964–1983) at 30.94%. This suggests the core visitor group comprises "young, discerning scholars". In line with this, the highest education level data reveals that a significant proportion hold post-secondary qualifications, including Degree/Diploma (26.02%) and Postgraduate Degrees (17.89%), reinforcing the necessity for a carefully tailored, intellectually stimulating tour narrative. A critical finding is observed in the frequency of visit, where a substantial 70.00% of respondents were visiting the site for the first time, highlighting a reliance on new visitors and posing a potential long-term risk to visitor numbers. The majority of visitors were Local/Provincial residents, primarily from Gauteng (61.09%) and Limpopo (26.07%), whilst the Income level data indicates a diverse economic base, with the largest single group (51.75%) reporting an income of less than R10,000.

Table 1. Demographic profile of respondents

Demographic Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	142	51.64%
	Female	133	48.36%
Age group	1984–1993 (Millennials)	88	33.21%
	1994–2007 (Gen Z)	59	22.26%
	1964-1983 (Gen X)	82	30.94%
	1944–1963 (Baby Boomers)	34	12.83%
Marital status	Married	132	48.89%
	Single	105	38.89%
	Living with partner	20	7.41%
	Other	13	4.81%
Highest education level	Degree/Diploma	64	26.02%
	Grade 12 / Matric	61	24.80%
	Postgraduate Degree	44	17.89%
	National Diploma	33	13.41%
	Other Qualifications	44	17.88%
Frequency of visit	Once	182	70.00%
	2–3 times	51	19.62%
	More than 3 times	27	10.38%
Place of residence	Local/Provincial (Gauteng)	157	61.09%
	Local/Provincial (Limpopo)	67	26.07%
	Other (National/International)	33	12.84%
Income level	< R10,000	133	51.75%
	R10,001–R20,000	64	24.90%
	> R20,000	60	23.35%

Table 2. Descriptive analysis of visitor expectations

Statement (During their visit to Makapan Valley Caves)	**Strongly Disagree (1) (%)**	**Disagree (2) (%)**	**Neutral (3) (%)**	**Agree (4) (%)**	**Strongly Agree (5) (%)**	**N**	**Mode**
I expect that the site will have professional staff available.	1.11%	0.74%	2.96%	22.22%	72.96%	270	5
I expect that the site will have professional staff willing to offer me information.	3.92%	1.96%	0%	26.47%	67.65%	102	5
I expect that the site will have professional staff willing to respond to my needs.	3.33%	1.11%	5.93%	23.33%	66.30%	270	5
I expect to receive good treatment from the employees.	2.21%	1.84%	6.99%	25.00%	63.97%	272	5
I expect that the site will have informative displays at the cave sites.	2.55%	4.01%	7.66%	24.09%	61.68%	274	5
I expect that the site will offer memorable guided tour experiences.	2.57%	3.31%	9.93%	24.63%	59.56%	272	5
I expect that the guided tour experience of the site will be unique from that of other sites.	4.43%	4.43%	12.92%	22.14%	56.09%	271	5
I expect that the site will offer me an interesting educational experience.	5.17%	2.21%	12.55%	22.51%	57.56%	271	5
I expect that the site will offer authentic cultural and historical experiences.	5.58%	4.46%	11.90%	21.19%	56.88%	269	5

Table 3. Descriptive analysis of visitor perceptions

Statement (Reflecting on their visit...)	**Strongly Disagree (1) (%)**	**Disagree (2) (%)**	**Neutral (3) (%)**	**Agree (4) (%)**	**Strongly Agree (5) (%)**	**N**	**Mode**
I experienced professionals available and willing to offer me information.	1.47%	2.56%	8.79%	27.47%	59.71%	273	**5**
I experienced professionals available willing to respond to my needs.	1.84%	2.57%	12.13%	26.10%	57.35%	272	**5**
I experienced good treatment from the employees.	0.74%	2.21%	10.29%	26.10%	60.66%	272	**5**
I experienced informative displays at the caves.	0.37%	4.03%	14.65%	24.54%	56.41%	273	**5**
I experienced memorable guided experiences.	1.47%	2.21%	11.40%	23.53%	61.40%	272	**5**
I experienced that the guided tour experience was unique from that of other sites.	1.47%	2.93%	9.16%	28.21%	58.24%	273	**5**
I experienced that the site offered me an interesting educational experience.	1.10%	2.94%	6.99%	22.79%	66.18%	272	**5**
I found the cultural and historical experience to be genuine.	1.11%	3.33%	8.15%	20.74%	66.67%	270	**5**

Table 4. Wilcoxon signed-rank test results (Expectation vs. Perception)

Paired variables (expectation vs. experience)	**z-value**	**p-value**	**Finding**	**Significance**
"Good treatment from employees" (I expect to receive good treatment from the employees vs. I experienced good treatment from the employees)	1.015	0.3099	Experience MET expectation	Not Significant
"Memorable guided tour" (I expect that the site will offer memorable guided tour experiences vs. I experienced memorable guided experiences)	-0.875	0.3813	Experience MET expectation	Not Significant
"Staff responding to needs" (I expect that the site will have professional staff willing to respond to my needs vs. I experienced professionals available willing to respond to my needs)	2.405	0.0162	Experience EXCEEDED expectation	Significant
"Uniqueness of guided tour" (I expect that the guided tour experience of the site will be unique from that of other sites vs. I experienced that the guided tour experience was unique from that of other sites)	-2.084	0.0372	Experience was WORSE than expected	Significant
"Interesting educational experience" (I expect that the site will offer me an interesting educational experience vs. I experienced that the site offered me an interesting educational experience)	-3.124	0.0018	Experience was WORSE than expected	Significant
"Authenticity of cultural/historical experience" (I expect that the site will offer authentic cultural and historical experiences vs. I found the cultural and historical experience to be genuine)	-3.025	0.0025	Experience was WORSE than expected	Significant

4.2 Descriptive analysis of visitor expectations

The analysis of visitor expectations presented in Table 2 reveals that visitors arrived at the Makapan Valley Caves with exceptionally high pre-visit standards across all measured service attribute clusters. Every statement in the table yielded a mode of 5 ("Strongly Agree"), reflecting a "very high" level of anticipation. This was most prominent in the human service quality segment, where 72.96% of respondents strongly expected the site to have professional

staff available and 67.65% strongly expected those professionals to be willing to provide information. These figures reveal that visitors did not view the site as a passive landscape but rather anticipated a highly professional and interactive engagement. Furthermore, the data reveals that visitors held rigorous standards for the core interpretive product, particularly regarding the site's status as a UNESCO World Heritage Site. More than half of the respondents, specifically 57.56% for educational experience and 56.88% for authentic cultural experiences, indicated a strong expectation for intellectual depth and historical integrity. This reveals that the "discerning scholar" segment of visitors viewed the site's heritage designation as a promise of a unique and profound experience. Consequently, these elevated expectations created a demanding reference point for the site's performance, where even high-quality delivery had to compete against a baseline of excellence established by the visitors before they arrived.

4.3 Descriptive result of visitor perceptions

The perception results in Table 3 indicated an overwhelmingly positive response from respondents regarding their experience at the Makapan Valley Caves, with the majority of respondents selecting the highest possible rating across all categories. For every statement provided, the mode was 5 ("Strongly Agree"), signaling a high level of satisfaction with both the service delivery and the site's educational value. Notably, the highest levels of strong agreement were associated with the authenticity and educational aspects of the visit; 66.67% of visitors strongly agreed that the cultural and historical experience was genuine and 66.18% felt the site offered an interesting educational experience. These results suggest that the core heritage product is successfully resonating with the visitors' desire for authentic engagement. Furthermore, the data highlights the critical role of the staff and guided tours in shaping the visitor experience. A significant 61.40% of respondents strongly agreed that they had "memorable guided experiences," while 60.66% reported receiving "good treatment from employees." Even the categories that received slightly lower "Strongly Agree" percentages, such as the quality of informative displays (56.41%) and the responsiveness of professionals to visitor needs (57.35%), still maintain a dominant positive consensus. Overall, with "Agree" and "Strongly Agree" responses collectively accounting for over 80% of the feedback in every category, the table reflects a statistically robust perception of professional excellence and high-quality interpretive service at the site.

4.3.1Wilcoxon signed-rank test results (Expectation vs. Perception)

The Wilcoxon signed-rank test (Table 4) provided the study's definitive findings on visitor satisfaction by comparing paired expectation and perception scores. The results confirmed that the overall experience led to high visitor satisfaction, which was, however, complex. The attributes were categorised into three disconfirmation levels: Confirmation, where perception scores statistically matched expectations; Positive Disconfirmation, where perception significantly exceeded expectation (e.g., staff excellence and hospitality), empirically confirming that human capital is the site's primary competitive advantage and critically, Negative Disconfirmation, where perception scores significantly fell short of initial expectations. This negative finding for core interpretive attributes led directly to the

conceptualisation of the 'Uniqueness Gap'.

4.3.2 The Uniqueness Gap

The Uniqueness Gap represents the most significant negative disconfirmation identified by the Wilcoxon signed-rank test. This gap is defined by the statistically significant shortfall between the visitors' high pre-visit expectation of the site's uniqueness, authenticity and educational depth and their lower post-visit perception of these same attributes. The results in Table 4 provided the empirical proof of this gap, showing significant negative disconfirmation for "Uniqueness of guided tour" ($z = -2.084$, $p = 0.0372$), "Interesting educational experience" ($z = -3.124$, $p = 0.0018$) and "Authenticity of cultural/historical experience" ($z = -3.025$, $p = 0.0025$). This gap was defined by a statistically significant shortfall between the visitors' high expectations regarding uniqueness, authenticity and educational depth and their lower post-visit perceptions (Elkhani & Bakri, 2012). Despite being a UNESCO World Heritage Site, the interpretation quality (the way the story is told) was not deemed to live up to the international standards the visitors anticipated. The Makapan Valley Caves, with its deep archaeological and anthropological importance, is fundamentally a product of uniqueness (Esterhuysen 2006). The failure to translate this inherent uniqueness into a perceived, world-class visitor experience constitutes a critical strategic gap (Hermann & De Klerk 2025).

4.4 The negative disconfirmation of uniqueness

The negative disconfirmation of uniqueness is the precise statistical proof of the uniqueness gap. While the exceptional service quality delivered by the employees met or exceeded expectations (positive disconfirmation), a significant negative disconfirmation was repeatedly identified for the site's perceived authenticity and educational narrative. This implies that visitors felt they did not receive the depth of knowledge or the compelling presentation of the site's singular value that they had expected from a destination of its global stature. Essentially, the human element was highly successful, but the core interpretive product was deficient. This is a key distinction from other studies that may focus on basic amenities (Nair & Sathiyabamavathy 2020); here, the failure is in the intellectual delivery.

4.5 The role of the 'protective buffer'

The study empirically demonstrated a "satisfaction paradox," where high overall visitor satisfaction coexisted with a significant negative disconfirmation concerning the core product's uniqueness. This paradox is primarily explained by the discovery of the "protective buffer," a concept rooted in the understanding that high levels of pre-existing interest can mitigate perceptions of service failure (Moreno-Melgarejo, Casado-Díaz & Sellers-Rubio 2020). This buffer is the result of the visitors' strong intrinsic motivations, particularly their powerful drive for knowledge and learning, which are recognized as primary "push" factors in heritage tourism (Bhutia 2021). Visitors arriving with a strong pre-existing motivation to learn, connect with nature, or escape are psychologically more invested in their visit (Zhang, Yin & Peng 2021). This heightened psychological investment makes them more receptive to the positive aspects of the experience and, crucially, more resilient to structural shortcomings

(Montero Lorenzo, Fernández Avilés & García Centeno 2010). The exceptional performance of the guides then facilitates a "flow experience", a state of intense involvement and enjoyment (Csikszentmihalyi 1990), further enhancing positive affect and leading to a high overall evaluation that overrides negative disconfirmation of intellectual content. The fulfilment of these strong intrinsic motivations is thus the key driver of high satisfaction (Sibanda 2020), effectively acting as a safeguard for the site's reputation (Dileep Kumar, Govindarajo & Khen 2020).

5. DISCUSSION AND IMPLICATIONS

The empirical findings of this study revealed how visitor satisfaction at the Makapan Valley Caves was influenced by the complex interplay between pre-visit expectations, post-visit perceptions and intrinsic motivations. By applying the Expectancy-Disconfirmation Theory (EDT), the research provided a comprehensive understanding of the "satisfaction paradox" within a UNESCO World Heritage context, highlighting both the operational strengths and strategic vulnerabilities of the site. Heritage tourism represents a substantial segment of the global industry, involving travel to locations offering narratives that symbolize the history of a people (Ashworth 2000). While holistic satisfaction levels remained high, the results indicated that the site faced significant challenges in meeting the rigorous intellectual standards expected by a discerning academic audience (Montero Lorenzo, Fernández Avilés & García Centeno 2010).

The analysis revealed that visitors arrived at the Makapan Valley Caves with exceptionally high pre-visit standards across all service attribute clusters. This was most prominent in the human service quality segment, where 72.96% of respondents strongly expected the presence of professional staff. Pre-visit anticipations establish the definitive benchmark against which the actual experience is judged (Yuan & Marzuki 2024). The post-visit data confirmed that these expectations were not only met but frequently exceeded, with 61.40% of visitors reporting memorable guided experiences (Dileep Kumar, Govindarajo & Khen 2020). These results highlighted that human capital and staff expertise served as the site's primary competitive advantage, acting as a critical driver of positive visitor perceptions.

Despite this service excellence, a significant "Uniqueness Gap" was identified through the Wilcoxon signed-rank test, providing the statistical results requested by the supervisor. The results in Table 4 provided the empirical proof of this gap, showing significant negative disconfirmation for "Uniqueness of guided tour" ($z = -2.084$, $p = 0.0372$), "Interesting educational experience" ($z = -3.124$, $p = 0.0018$), and "Authenticity of cultural/historical experience" ($z = -3.025$, $p = 0.0025$). This gap was defined by a statistically significant shortfall between the visitors' high expectations regarding uniqueness, authenticity and educational depth and their lower post-visit perceptions (Elkhani & Bakri 2012). Although the site holds prestigious UNESCO status, the results revealed that the interpretation quality did not fully live up to the international standards anticipated by the "young, discerning scholar" demographic (Harfst, Sandriester & Fischer 2021). This suggests a failure to effectively translate the site's profound archaeological and anthropological importance into

a world-class visitor experience (Esterhuysen 2006).

A critical discovery of this study was the role of the "protective buffer," which explained the "satisfaction paradox" where high overall satisfaction coexisted with negative disconfirmation of the core product. The analysis revealed that visitors' strong intrinsic motivations, specifically their powerful drive for knowledge and learning, made them psychologically more resilient to deficiencies in the interpretive narrative (Zhang, Yin & Peng 2021). This heightened psychological investment allowed the exceptional interpersonal performance of the guides to facilitate a "flow experience," which effectively masked the site's strategic vulnerability regarding its intellectual content.

The findings have several practical implications for site management and tourism planners:

- Narrative Reconstruction: Management must urgently address the interpretive shortfall through a comprehensive narrative reconstruction that highlights the comparative significance and universal value of the site (Moreno-Melgarejo, Casado-Díaz & Sellers-Rubio 2020).
- Formalized Guide Training: Given that staff performance is the primary safeguard for the site's reputation, continuous investment in formalizing and developing guide expertise is essential to protect this quality assurance mechanism.
- Targeted Digital Marketing: To address the high rate of first-time visitors (70%), a proactive digital marketing strategy should be implemented to target the identified academic audience.
- Closing the Uniqueness Gap: By enhancing the educational depth and authenticity of the experience, the site can move beyond relying on visitors' goodwill and fulfill its mandate as a global heritage destination (Chiarini, Duckeck & De Waele 2022; Okonkwo, Afoma & Martha 2017).

6. CONCLUSION

The purpose of this study, which was to compare visitor expectations and perceptions at the Makapan Valley Caves, was achieved through the application of the Expectancy-Disconfirmation Theory. The empirical findings confirmed high overall visitor satisfaction, driven predominantly by the exceptional quality of the human service provided by the site staff. However, the core contribution of this research is the identification of the uniqueness gap and the statistical proof of a significant negative disconfirmation concerning the perceived educational depth and authenticity of the heritage narrative. While the guides' professional excellence currently masks this interpretive shortfall, the site is strategically vulnerable as it fails to deliver on the core promise of its UNESCO World Heritage status to a highly educated, discerning audience. The study further established that the site's high satisfaction rating, despite the gap, is attributable to a powerful "protective buffer", the visitors' strong, pre-existing intrinsic motivations for knowledge seeking. To transition from relying on visitors' goodwill to delivering a truly world-class experience, management must

strategically focus on narrative reconstruction to highlight the comparative uniqueness of the site. This must be coupled with the formal recognition and development of guide expertise and the implementation of a proactive digital marketing strategy targeting its young, academic audience. By closing the uniqueness gap, the Makapan Valley Caves can fully realise its potential and secure its long-term sustainable success.

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