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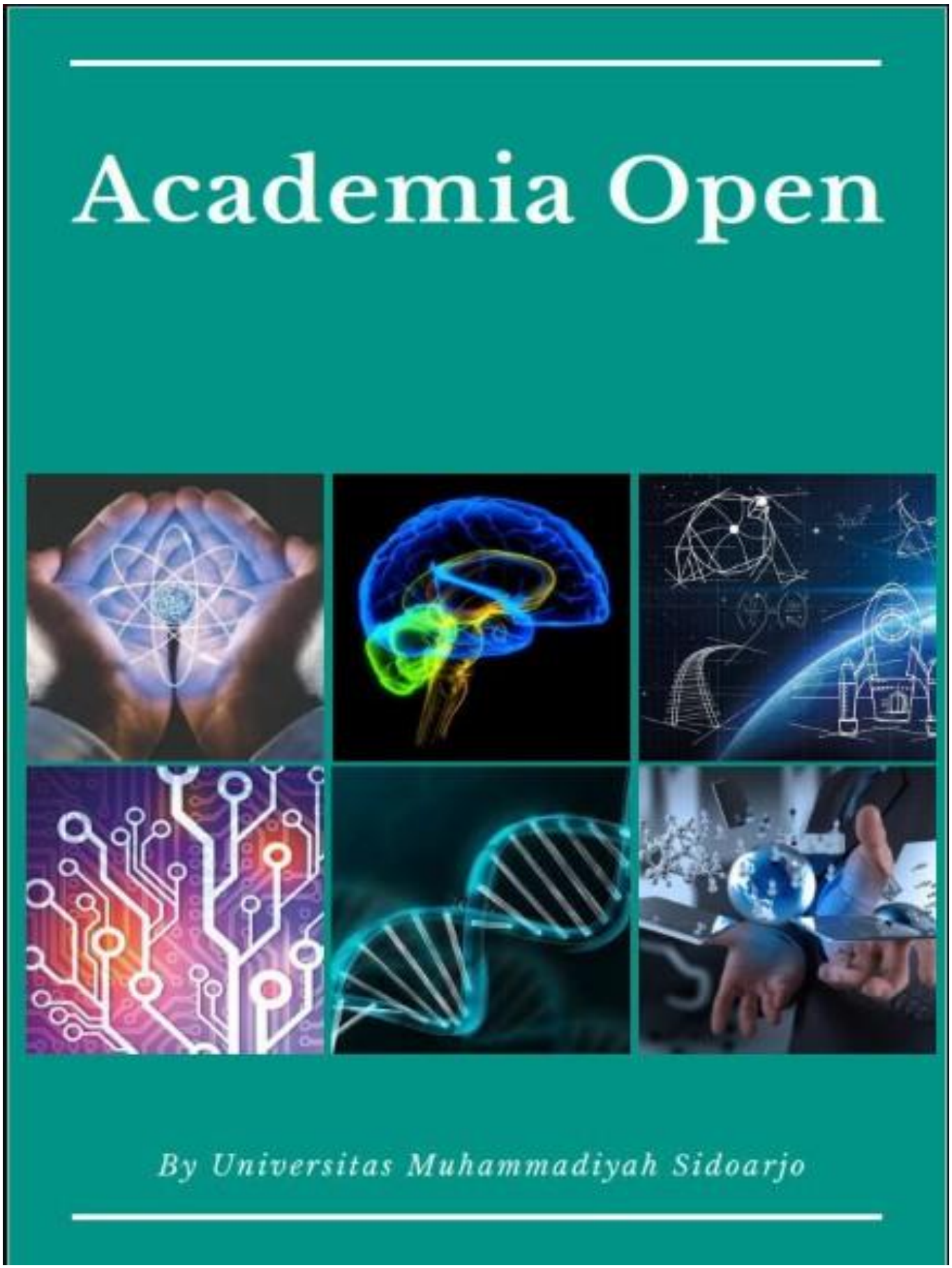

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Survey-Based Competitiveness Assessment of Restaurants and Cafés in Uzbekistan

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Abstract

General Background: Restaurants and cafés constitute an important component of the tourism value chain, contributing significantly to visitor expenditure and destination satisfaction.**Specific Background:** Despite the growth of food-service activities in Uzbekistan, systematic methods for measuring competitiveness at the establishment level remain limited. **Knowledge Gap:** Existing assessments provide insufficient integration of financial, service, digital, and human-resource dimensions into a single competitiveness measure for restaurants and cafés. **Aims:** This study develops and applies a structured survey instrument combined with a benchmark-normalization and weighted integral-index method to assess the competitiveness of restaurants and cafés serving tourism demand in Uzbekistan. **Results:** Using an illustrative sample of eight establishments across four Uzbek cities, the findings indicate that digital-ordering capability and customer satisfaction distinguish competitiveness more strongly than profitability alone. The results further show that casual-format cafés can achieve higher competitiveness scores than fine-dining restaurants when digital and customer-oriented indicators are strong. **Novelty:** The study introduces a survey-based competitiveness assessment framework that integrates profitability ratio, customer satisfaction, digital-ordering capability, and human-capital share into a single integral index while incorporating a sustainability-practice module for future development. **Implications:** The proposed framework provides a transparent benchmarking approach for food-service operators and industry associations and highlights the importance of format-stratified comparisons, broader competitiveness dimensions, and future incorporation of standardized sustainability indicators in restaurant and café evaluation.

Highlights:

• Digital-ordering capability and customer satisfaction distinguish competitive performance more strongly than profitability metrics.
• Casual-format establishments achieve leading rankings when customer-oriented and technology-related indicators are strong.
• The survey-based benchmarking framework combines financial, service, workforce, and digital dimensions into a unified assessment approach.

Keywords: Restaurant Competitiveness, Café Performance, Integral Competitiveness Index, Digital Ordering Capability, Tourism Food Service

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1. Introduction

Restaurants and cafés form an essential, if often under-measured, component of the tourism value chain: food and beverage expenditure typically represents a substantial share of total visitor spending, and the quality of dining experiences shapes overall destination satisfaction independently of accommodation quality. Uzbekistan's domestic tourism-spending base has grown from an estimated USD 4.91 trillion to USD 5.6 trillion in nominal terms over the period reviewed by sector estimates [1], with food and beverage services representing a growing share of that expenditure.

Despite this growth, systematic competitiveness measurement at the level of individual restaurants and cafés remains limited relative to the accommodation sector. This article addresses that gap by presenting a structured survey instrument for restaurants and cafés and applying the benchmark-normalization, weighted integral-index method developed for the "BoburCalculator" algorithm [2] to convert survey responses into a single integral competitiveness index per establishment.

The purpose of this article is fourfold: (1) to present a survey instrument tailored to restaurants and cafés, including a sustainability-practice module; (2) to map survey-derived indicators onto four operational criteria of an integral competitiveness index — profitability ratio, customer satisfaction, digital-ordering capability, and human-capital share; (3) to illustrate the method using an eight-establishment sample spanning fine-dining and casual formats across four cities; and (4) to discuss the policy and managerial implications of the results, including the limitations of pooling establishment formats within a single comparison group.

2. Literature Review

2.1. Food-Service Competitiveness

Hall and Sharples [3] situate food and beverage experience as a core, though frequently under-analyzed, component of destination competitiveness, distinct from but interacting with accommodation quality. Crouch and Ritchie's [4] supporting-factors framework, applied to hotels in a companion study, extends naturally to food-service establishments as another category of destination-level supporting infrastructure.

2.2. Digitalization and Sustainability in Food Service

Gretzel et al. [5] and Buhalis and Amaranggana [6] document the rapid diffusion of digital ordering, reservation, and delivery-platform technologies across hospitality and food service, technologies that increasingly differentiate competitive from non-competitive establishments independent of food quality. Mihalič [7] frames environmental and sustainability management as an emerging competitiveness dimension in its own right, motivating this study's inclusion of a sustainability-practice module in the survey instrument even though sustainability indicators are not yet incorporated into the weighted integral index.

2.3. Benchmarking

As in the companion hotel-sector study, Camp's benchmarking principle [8] and the composite-indicator construction literature [9,10] underlie the normalization-and-aggregation method applied here, with Saisana and Tarantola [11] providing the methodological caution regarding weighting-scheme sensitivity that is revisited in the Discussion.

Table 1. Selected literature informing the survey instrument and aggregation method.

Source	Focus	Method	Relevance to This Study
[3]	Food and beverage destination role	Conceptual	Sector framing
[4]	Destination competitiveness	Conceptual model	Supporting-factor logic
[5]	Smart tourism technology	Conceptual review	Digital-ordering rationale
[6]	Mobile/digital hospitality platforms	Conceptual	Digital criterion design
[7]	Environmental management	Conceptual	Sustainability module
[8]	Benchmarking principle	Best-in-class comparison	Normalization logic
[9,10]	Composite indicators	Aggregation methodology	Index-construction steps
[11]	Indicator robustness	Sensitivity analysis	Weighting caution

2.4. Food Tourism and Local Sourcing

Telfer and Wall [12] document the economic linkages between food tourism and local agricultural supply chains, a relationship that informs this study's sustainability module (Section 3.1). Kivela and Crotts [13] establish that culinary-experience quality independently shapes destination satisfaction, reinforcing food service's role as a competitiveness dimension distinct from accommodation. Bowie and Buttle's [14] operations-management framework for hospitality and food service informs the questionnaire's financial-performance and service-quality sections, while Jones and Lockwood [15] provide comparable operations-management guidance specific to multi-unit food-service operators. Sloan's [16] review of

sustainability practice in food service further supports the inclusion of the ecological-management module described in Section 3.1.

3. Methods

3.1. Questionnaire Design

The survey instrument comprises seven sections administered to restaurant and café owners or managers: (1) establishment profile — location, format (fine dining or casual café), seating capacity, year of establishment; (2) financial performance — self-reported revenue band, cost band, and resulting profitability ratio; (3) customer experience — guest-satisfaction proxy and complaint-handling practice; (4) digital capability — adoption of online ordering, reservation platforms, and delivery-partner integration; (5) human resources — staff count, share of staff with food-service or hospitality-specific training, and turnover; (6) sustainability and ecological management — waste-reduction practice, local-sourcing share, and energy-efficiency measures; and (7) open-ended commentary on perceived competitive advantages and constraints.

3.2. Mapping to the Integral-Index Method

Four survey-derived indicators populate the restaurant/café module: profitability ratio (PR), customer satisfaction (SAT), digital-ordering capability (DIG), and human-capital share (HR). Profitability ratio is computed as PRraw = (Revenue – Cost) / Revenue. Each raw indicator for establishment i is normalized against the sample maximum:

$$I_{i,norm} = I_{i,raw} / \max_j(I_{j,raw}) \quad (1)$$

and the integral competitiveness index is the weighted sum:

$$Integral(R)i = w1 \cdot PRi + w2 \cdot SATi + w3 \cdot DIGi + w4 \cdot HRi \quad (2)$$

with illustrative weights w = (0.3, 0.3, 0.2, 0.2), following the general normalization-and-aggregation formulation developed for the BoburCalculator algorithm [2]. The sustainability-and-ecological-management module (Section 6 of the questionnaire) is deliberately excluded from the weighted index at this stage and is discussed qualitatively in Section 4, pending development of standardized, comparably reported sustainability indicators across establishments.

3.3. Illustrative Sample

The instrument was administered to eight establishments (R1–R8) comprising a mix of fine-dining restaurants and casual cafés across Samarkand, Bukhara, Tashkent, and Khiva. As with the companion hotel-sector study, the sample is illustrative rather than representative, disclosed to demonstrate the computational mechanics of the method.

4. Results and Discussion

4.1. Raw and Normalized Indicators

Table 2. Raw indicator values, illustrative eight-establishment sample.

Est.	City / Format	Profit raw	PR raw	SAT raw	DIG/HR raw (%)
R1	Samarkand, Fine	Med	0.28	4.2	70/45
R2	Samarkand, Café	Low	0.19	3.9	60/30
R3	Bukhara, Fine	Med	0.30	4.4	65/50
R4	Bukhara, Café	Low	0.21	4.0	75/28
R5	Tashkent, Café	High	0.34	4.6	95/55
R6	Tashkent, Fine	Med	0.29	4.3	80/48
R7	Khiva, Fine	Low	0.20	3.8	55/32
R8	Khiva, Café	Low	0.18	3.7	50/25

Table 3. Normalized indicators, integral index, and ranking, illustrative eight-establishment sample.

Est.	City	PR norm	SAT norm	DIG/HR norm	Integral / Rank
R5	Tashkent	1.000	1.000	1.000/1.000	0.9962 / 1
R3	Bukhara	0.882	0.957	0.684/0.909	0.8742 / 2
R6	Tashkent	0.853	0.935	0.842/0.873	0.8676 / 3
R1	Samarkand	0.824	0.913	0.737/0.818	0.8333 / 4
R4	Bukhara	0.618	0.870	0.789/0.509	0.7211 / 5

R7	Khiva	0.588	0.826	0.579/0.582	0.6739 / 6
R2	Samarkand	0.559	0.848	0.632/0.545	0.6754 / 7
R8	Khiva	0.529	0.804	0.526/0.455	0.6233 / 8

4.2. Interpretation

R5, a casual café in Tashkent, ranks first by leading the sample on profitability, satisfaction, and digital-ordering capability simultaneously, despite the fine-dining format generally commanding higher per-cover revenue. This illustrates that digital-ordering capability and satisfaction can offset the structural revenue advantage of fine-dining formats, an outcome consistent with the digitalization literature [5,6] but one that warrants caution: the comparison pools two formats whose cost structures and customer bases differ materially, and the integral index does not adjust for these structural differences.

4.3. Macro-Level Context

Domestic tourism spending in Uzbekistan, of which food and beverage represents a substantial share, has been estimated to grow from approximately USD 4.91 trillion to USD 5.6 trillion in nominal terms over the period reviewed by sector estimates [1], underscoring the increasing economic weight of food-service competitiveness within the broader tourism economy.

4.4. Discussion and Policy Implications

Three considerations qualify the use of this method. First, comparing fine-dining and casual-café formats within a single normalization step, as done here for illustrative purposes, risks conflating format-driven differences with genuine competitiveness differences; format-stratified comparison groups are recommended for any operational application of the index. Second, the prominence of digital-ordering capability in differentiating the sample's rankings suggests that food-service associations seeking to raise sector-wide competitiveness might prioritize digital-adoption support programs, particularly for smaller establishments lagging on this indicator. Third, the qualitative sustainability findings — not yet incorporated into the weighted index — point toward a plausible fifth criterion once ecological-management indicators become standardized and comparably reported across establishments.

4.5. Limitations

This illustrative application is not a population-representative survey of Uzbekistan's restaurant and café sector; the eight-establishment sample was selected to demonstrate the computational mechanics of the method rather than to support generalizable claims about the sector as a whole. The four weighted criteria — profitability, satisfaction, digital capability, and human capital — do not exhaust the dimensions of food-service competitiveness; menu innovation, supply-chain resilience, and ambiance are plausible additional criteria omitted here for parsimony. Finally, pooling fine-dining and casual-café formats within a single normalization step, while useful for illustrating the method across a varied sample, means the reported ranking should not be read as a definitive cross-format competitiveness ranking.

5. Conclusions

This study presented a structured survey instrument and a benchmark-normalization, weighted integral-index method for assessing restaurant and café competitiveness, illustrated using an eight-establishment sample spanning fine-dining and casual formats across four Uzbek cities. The results show that digital-ordering capability and customer satisfaction differentiate establishments more sharply than profitability alone, and that casual-format establishments can outscore fine-dining competitors on the integral index when these indicators are strong.

The method offers food-service associations and individual operators a transparent way to benchmark competitiveness, complementing macro-level domestic-tourism-spending data. Format-stratified comparison groups, broader criteria coverage, and the eventual incorporation of standardized sustainability indicators represent priority directions for follow-up empirical work using larger, randomized samples.

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Conflict of Interest

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