

A. Rakhmetulina¹ , Zh. Rakhmetulina^{2*} ,

A. Omurzakov² , T. Abylaikhanova³

¹ Kazakh-American Free University, Ust-Kamenogorsk, Kazakhstan

² L.N. Gumilyov Eurasian National University, Astana, Kazakhstan

³ S. Amanzholov East Kazakhstan University, Ust-Kamenogorsk, Kazakhstan

*e-mail: rahmetulina_zh@mail.ru

STRUCTURAL BALANCE OF KAZAKHSTAN'S REGIONAL HOTEL BUSINESS

Hotel-business development in Kazakhstan is characterized not only by wide regional gaps but also by unequal combinations of infrastructure, demand, economic conversion, quality structure and labour use. A high aggregate score therefore does not necessarily indicate an internally coherent development pattern. This study assesses both the level and structural balance of the regional hotel business and uses the results to formulate differentiated policy priorities. The object of analysis is the hotel sector of 17 harmonized territorial units of Kazakhstan. The study uses official statistics for 2019–2024, min-max normalization, integrated assessment, structural comparison and matrix-based typology. The 2024 integrated level is calculated from 16 indicators grouped into five dimensions. A structural balance coefficient is additionally proposed as one minus the range of the five partial scores. Almaty and Astana record the highest aggregate levels, whereas the most balanced configurations are observed in Mangystau and Astana. Atyrau displays the largest internal gap, combining the maximum quality-structure proxy with the minimum recorded labour-use score. Four regional groups are identified from the joint distribution of level and balance. The dynamic integrated assessment increased in 16 of 17 territories between 2022 and 2024, although the pace of improvement varied considerably. The contribution of the study is the explicit separation of development scale from internal consistency among its components. The results can support differentiated regional measures aimed at removing bottlenecks, stimulating demand, improving infrastructure utilization or establishing the basic conditions of a viable hotel market.

Keywords: hotel business, regional development, structural balance, hospitality industry, Kazakhstan.

А. Рахметулина¹, Ж. Рахметулина^{2*},

А. Омурзаков², Т. Абылайханова³

¹Қазақстан-Американдық еркін университеті, Өскемен, Қазақстан

²А.Н. Гумилев атындағы Еуразия ұлттық университеті, Астана, Қазақстан

³С. Аманжолов атындағы Шығыс Қазақстан университеті, Өскемен, Қазақстан

*e-mail: rahmetulina_zh@mail.ru

Қазақстан өңірлеріндегі қонақүй бизнесінің құрылымдық теңгерімділігі

Қазақстандағы қонақүй бизнесінің дамуы өңірлер арасындағы елеулі сараланумен және инфрақұрылымдық әлеует, сұраныс, экономикалық нәтижелілік, қызмет көрсету сапасы мен еңбек ресурстарын пайдалану арасындағы арақатынастың әркелкілігімен сипатталады. Осыған байланысты дамудың жоғары жиынтық деңгейі оның құрылымдық компоненттерінің ішкі үйлесімділігін әрдайым көрсете бермейді. Зерттеудің мақсаты – Қазақстан өңірлеріндегі қонақүй бизнесінің даму деңгейі мен құрылымдық теңгерімділігін кешенді бағалау және осының негізінде сараланған өңірлік саясат бағыттарын айқындау.

Зерттеу объектісі ретінде Қазақстанның 17 үйлестірілген аумақтық бірлігіндегі қонақүй секторы қарастырылды. Зерттеудің ақпараттық базасын 2019–2024 жылдардағы ресми статистикалық деректер құрады. Зерттеуде нормалау, интегралдық бағалау, құрылымдық салыстыру және матрицалық типология әдістері қолданылды. 2024 жылғы қонақүй бизнесінің интегралдық даму деңгейі бес мазмұндық блокқа біріктірілген 16 көрсеткіш негізінде есептеді. Ішкі үйлесімділікті бағалау үшін бес жекелеген интегралдық бағалаудың размағын бірліктен шегеру арқылы анықталатын құрылымдық теңгерімділік коэффициенті ұсынылды.

Зерттеу нәтижелері Алматы мен Астананың қонақүй бизнесінің жалпы даму деңгейі бойынша жетекші орындарын сақтап отырғанын көрсетті, ал неғұрлым теңгерімді құрылым Маңғыстау

облысы мен Астанаға тән. Құрылымдық алшақтықтың ең жоғары деңгейі Атырау облысында анықталды: мұнда сапаның прокси-көрсеткіші мен тіркелген еңбек ресурстарын пайдалану қарқындылығы арасында айтарлықтай айырмашылық байқалады. Даму деңгейі мен құрылымдық теңгерімділікті бірлесіп бағалау негізінде өңірлердің төрт типологиялық тобы бөлінді. 2022 – 2024 жылдары 17 аумақтың 16-сында интегралдық динамикалық бағалау жақсарғанымен, оң өзгерістердің қарқыны айтарлықтай ерекшеленді.

Зерттеудің ғылыми маңыздылығы қонақүй бизнесінің өңірлік дамуының екі сипаттамасын – оның ауқымы мен ішкі құрылымдық үйлесімділігін – ажыратудан тұрады. Практикалық маңыздылығы анықталған типке байланысты өңірлік саясат шараларын саралау мүмкіндігімен айқындалады: құрылымдық тар орындарды жою, сұранысты ынталандыру, қолданыстағы инфрақұрылымды пайдалану тиімділігін арттыру немесе қонақүй нарығын дамыту үшін базалық жағдайлар қалыптастыру.

Түйін сөздер: қонақүй бизнесі, өңірлік даму, құрылымдық теңгерімділік, қонақжайлылық индустриясы, Қазақстан.

А. Рахметулина¹, Ж. Рахметулина^{2*},
А. Омурзаков², Т. Абылайханова³

¹Казахстанско-Американский свободный университет, Усть-Каменогорск, Казахстан

²Евразийский национальный университет имени Л.Н. Гумилёва, Астана, Казахстан

³Восточно-Казахстанский университет имени С. Аманжолова, Усть-Каменогорск, Казахстан

*e-mail: rahmetulina_zh@mail.ru

Структурная сбалансированность гостиничного бизнеса регионов Казахстана

Развитие гостиничного бизнеса в Казахстане отличается не только существенным разрывом между регионами, но и неодинаковым соотношением инфраструктуры, спроса, экономической отдачи, структуры качества и использования труда. Поэтому высокий совокупный результат не всегда означает внутренне согласованную модель развития. Цель исследования – оценить одновременно уровень и структурную сбалансированность гостиничного бизнеса регионов Казахстана и на этой основе определить дифференцированные направления региональной политики. Объектом исследования выступает гостиничный сектор 17 гармонизированных территориальных единиц страны. Используются официальные статистические данные за 2019–2024 гг., методы нормализации, интегрального оценивания, структурного сравнения и матричной типологизации. Интегральный уровень за 2024 г. рассчитан по 16 показателям, объединенным в пять блоков. Дополнительно предложен коэффициент структурной сбалансированности, равный единице минус размах пяти частных оценок. Результаты показывают, что Алматы и Астана сохраняют наивысший общий уровень, однако более сбалансированная конфигурация характерна для Мангистауской области и Астаны. В Атырауской области зафиксирован максимальный структурный разрыв между прокси качества и интенсивностью использования зарегистрированного труда. По сочетанию уровня и сбалансированности выделены четыре группы регионов. В 2022–2024 гг. интегральная динамическая оценка выросла в 16 из 17 территорий, но скорость улучшения существенно различалась. Научная ценность работы состоит в разграничении масштаба развития и внутренней согласованности его компонентов. Практическая значимость связана с возможностью выбирать адресные меры: устранение узких мест, наращивание спроса, повышение загрузки инфраструктуры либо формирование базовых условий гостиничного рынка.

Ключевые слова: гостиничный бизнес, региональное развитие, структурная сбалансированность, индустрия гостеприимства, Казахстан.

Introduction

The hotel business occupies a distinctive position in the service economy. It accommodates leisure and business travellers, supports domestic mobility and creates demand for transport, food services, retail and cultural activities. In regions with limited sectoral diversification, hospitality can also provide an entry point for small and medium-sized enterprise development. Yet growth in the number of accommodation establishments does not

reveal how effectively a territory uses the capacity it has created. Rooms may remain underutilized, higher visitor numbers may not generate comparable revenue, and a formally upgraded accommodation structure may coexist with labour constraints.

Regional heterogeneity is particularly visible in Kazakhstan. The largest cities concentrate business travel, major events, transport hubs and a substantial share of solvent demand. Tourism-oriented regions possess natural and cultural resources but often face seasonality, accessibility constraints and a gap

between potential and realized occupancy. In several territories, accommodation supply remains small and serves mainly local or transit demand. Consequently, the same support instrument cannot be expected to produce the same effect across all regions.

Most statistical comparisons focus on a single dimension: establishments, rooms, visitors or service volume. Such indicators are useful, but they do not describe the internal structure of development. A region with a high aggregate result may depend on one or two strong components while retaining a pronounced weakness elsewhere. Conversely, a territory with moderate values may display a more coherent combination of infrastructure, demand, quality structure and labour use. This distinction matters for policy: the first case calls for the removal of a specific bottleneck, whereas the second requires gradual scaling without disrupting an existing balance.

The research problem is that an integrated score summarizes the overall level of hotel-business development but does not show how closely its individual components are aligned. Rankings are useful for broad regional comparison, yet neighbouring positions may represent substantially different economic configurations. A high aggregate score also does not necessarily mean that accommodation capacity is effectively converted into stable demand and economic returns. The present study therefore complements the integrated assessment with a separate measure of structural balance.

The aim of the study is to assess simultaneously the level and structural balance of the regional hotel business in Kazakhstan and, on this basis, to identify differentiated management priorities. The object of the study is the regional hotel sector, while the subject is the relationship among its economic, infrastructure, market, observed quality-structure and labour-use dimensions. The analysis examines the proposition that a high integrated level of hotel-business development does not necessarily coincide with a high degree of internal structural balance.

The contribution of the study lies in distinguishing between the scale of regional hotel-business development and the internal consistency of its main dimensions. The proposed approach combines an integrated development level with a separate structural balance coefficient, allowing regions with similar aggregate positions but different internal configurations to be distinguished.

This provides a basis for identifying whether a region's main constraint is associated with insufficient scale, underutilized infrastructure, weak demand, an imbalanced quality structure or the intensity of recorded labour use. Joint consideration of the development level, structural balance and recent regional dynamics therefore offers a more differentiated diagnostic basis for regional hotel-business policy than a conventional ranking based solely on an aggregate score.

Literature review

The theoretical starting point is the multidimensional view of destination competitiveness. Dwyer and Kim (2003) connect performance with resources, infrastructure, management, demand and situational conditions. Enright and Newton (2004) argue for combining tourism-specific and broader business attributes, while Crouch (2011) shows that the relative importance of determinants is context-dependent. The common implication is that tourism and hospitality development cannot be represented reliably by a single supply or demand indicator.

Hotel research is usually conducted at the firm level. Tsai *et al.* (2009) synthesize determinants of hotel competitiveness, including strategy, operations, quality and human resources. Oh and Kim (2017) review the relationships among service quality, customer value and satisfaction. Buhalis and Leung (2018) conceptualize hospitality as an interconnected digital ecosystem in which reservations, data, partner services and communication operate as a network. These studies explain mechanisms within establishments, but they do not provide complete territorial comparisons based on official statistics.

Digital reputation and user-generated content form another major strand. Sparks and Browning (2011) demonstrate the effect of online reviews on trust and booking intentions; Nieto-García *et al.* (2017) link electronic word of mouth with willingness to pay; and Nicolau *et al.* (2024) examine daily review sentiment and hotel performance. Song *et al.* (2024) and Marandi *et al.* (2024) use large review datasets to identify competitive attributes and revisiting intentions. However, platform coverage is uneven across regions. Directly adding such data to a regional framework may bias the comparison towards large and digitally visible markets.

Regional research confirms that resources and infrastructure do not guarantee economic conversion. But (2024) documents competitiveness differences among Czech regions, Moreno-Izquierdo *et al.* (2024) examine the relationship among competitiveness, sustainability and development in Spain, and Pavluković *et al.* (2026) propose an application model for Serbia. Ekonomou and Halkos (2025) show that tourism competitiveness across OECD countries reflects different combinations of institutional and economic conditions. These findings support an analysis of configurations, not merely aggregate levels.

For Kazakhstan, Tleuberdinova *et al.* (2024) use stakeholder evidence to evaluate national destination competitiveness and identify service and employee constraints. Spankulova *et al.* (2026) examine dynamic relationships between hospitality development and regional inequality and stress the need for differentiated regional policy. These contributions clarify the national and socio-economic context but do not assess the internal proportionality of the hotel sector across 17 comparable territorial units.

Evidence from Central Asia and comparable post-Soviet economies reinforces the need for a territorial perspective. Sergeyeva *et al.* (2022), using nine regions along the Kazakhstan-Uzbekistan border, show that tourism potential varies with the spatial distribution of tourism infrastructure and settlement systems. For Uzbekistan, Toyirova *et al.* (2026) examine accommodation-sector competitiveness through the interaction of infrastructure, quality standards, destination positioning and sustainability-oriented management. Khelashvili and Okroshidze (2025) similarly demonstrate for Georgia that destination competitiveness depends on destination-specific competitive positioning rather than on a single universal characteristic. These studies are relevant to Kazakhstan because they describe settings with uneven spatial development and related institutional legacies while confirming the value of region-specific configurations.

Composite-indicator methodology can integrate heterogeneous evidence, but its use requires caution. Mazanec *et al.* (2007) question the movement from definition to explanation in tourism competitiveness. Mendola and Volo (2017) show that indicator selection, normalization and aggregation affect results. Salinas Fernández *et al.* (2020) demonstrate the benchmarking value of a

synthetic index, while Mendoza Tolosa and Campo Robledo (2017) show that regional composites become more informative when interpreted together with structural and territorial dynamics. The OECD/European Union/EC-JRC (2008) handbook likewise treats composite indicators as diagnostic tools rather than automatic proof of causal relationships.

Alternative approaches to structural balance differ in what they penalize. The present range-based coefficient follows a bottleneck logic: it is transparent and reacts directly to the largest gap between dimensions, but it does not use the positions of the three intermediate scores. Dispersion-based measures use all dimensions, while non-compensatory composite indices explicitly limit the possibility that a strong component fully offsets a weak one (Mazziotta & Pareto, 2016). Normalization choices can also affect relative positions, particularly when min-max scaling is anchored to sample extremes (Mazziotta & Pareto, 2022). Accordingly, the range-based coefficient is used as the primary measure of structural balance and is complemented by a five-dimension standard-deviation measure, while the integrated level is tested under alternative weighting and normalization schemes.

Quality and labour are especially difficult to measure with regional official statistics. Classification coverage or the share of high-comfort rooms is not equivalent to guest experience, which also depends on cleanliness, reliability, staff interaction and complaint handling. The bibliometric study by Olawuyi and Kleynhans (2025) confirms the multidimensional character of hospitality service quality. Similarly, services or visitors per recorded worker cannot fully represent human capital because hours, outsourcing, skills and job quality are not observed consistently. Xia *et al.* (2023) highlight employee experience and organizational context, while Xia *et al.* (2024) document the rapid expansion and fragmentation of the destination-competitiveness field.

Three complementary traditions therefore shape the literature: comprehensive destination models, establishment-level hotel research and composite-indicator methodology. Evidence from Kazakhstan, Central Asia and comparable post-Soviet destinations also points to substantial territorial heterogeneity, but it rarely separates the scale of hotel-sector development from the internal proportionality of its components. What remains

underdeveloped is a transparent tool that answers two questions at once: how high is a region's hotel-business development level, and how evenly are its main dimensions formed? The structural balance coefficient proposed here addresses this applied gap by providing a diagnostic measure of internal proportionality, while its robustness is evaluated against alternative aggregation, normalization and dispersion specifications

Methodology

The empirical base consists of official regional statistics for 2019-2024 (Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan). Seventeen harmonized territorial units are used to preserve comparability across administrative changes. Abay is combined with East Kazakhstan, Zhetysay with Almaty region, and Ulytau with Karagandy.

Shymkent and Turkestan remain separate because this territorial distinction is available throughout the period used for the dynamic assessment.

The complete cross-sectional assessment is conducted for 2024 and includes 16 official indicators grouped into five dimensions: Economic, Infrastructure, Market, Observed Quality Structure, and Labour Use. The Economic dimension covers accommodation-service volume and its ratios to population, rooms, and visitors. Infrastructure includes the number of accommodation establishments, rooms and beds relative to population, as well as average establishment size. The Market dimension reflects realized demand and utilization through visitors per population, room occupancy, length of stay, and the share of foreign visitors. Observed Quality Structure is represented by classification coverage and the share of higher-comfort rooms. Labour Use combines accommodation services and visitors per recorded worker.

Table 1
Dimensions of regional hotel-business development

Dimension	Content	Economic interpretation
Economic	Service volume and ratios per resident, room and visitor	Ability to convert demand and capacity into monetary outcomes
Infrastructure	Establishments, rooms and beds per population; average establishment size	Availability and structure of accommodation capacity
Market	Visitors, occupancy, length of stay and foreign demand	Realized demand and utilization intensity
Observed Quality structure	Classified establishments and higher-comfort rooms	Observed formal structure, not perceived service quality
Labour use	Services and visitors per recorded worker	Intensity of recorded labour-resource use

Note: compiled by the authors. The Observed Quality Structure dimension is a statistical proxy and does not measure guest satisfaction or perceived service quality

All 16 indicators used in the 2024 assessment are treated as stimulants, so a higher observed value corresponds to a higher normalized score. Because the indicators are expressed in different units of measurement, they are first transformed using min-max normalization:

$$x'_{rj} = \frac{x_{rj} - (x_{rj})_{\min}}{\max_r(x_{rj}) - \min_r(x_{rj})} \quad (1)$$

where x_{rj} is the observed value of indicator j for region r ; x'_{rj} is its normalized value; $\min_r(x_{rj})$ and $\max_r(x_{rj})$ are respectively the minimum and maximum values of indicator j across the 17

territorial units. The transformation places each indicator on a common scale from 0 to 1. A value of 0 denotes the lowest observed value in the 2024 regional sample, while a value of 1 denotes the highest observed value. These endpoints are therefore relative to the sample and should not be interpreted as absolute absence or absolute superiority of the corresponding characteristic.

For each of the five dimensions, a partial score is calculated as the arithmetic mean of the normalized indicators included in that dimension:

$$D_{rk} = \frac{1}{m_k} \sum_{j=1}^{m_k} x'_{rjk} \quad (2)$$

where D_{rk} is the partial score of region r for dimension k ; x'_{rjk} is the normalized value of indicator j belonging to dimension k ; and m_k is the number of indicators included in that dimension. Thus, each region obtains five partial scores corresponding to the Economic, Infrastructure, Market, Observed Quality Structure, and Labour Use dimensions.

The integrated development level is calculated as a weighted aggregate of the five partial scores:

$$L_r = \sum_{k=1}^5 w_k D_{rk} \quad (3)$$

where L_r is the integrated hotel-business development level of region r ; D_{rk} is the partial score for dimension k ; and w_k is the weight assigned to that dimension. In the baseline specification, equal weights are used:

$$w_1 = w_2 = w_3 = w_4 = w_5 = 0.20 \quad (4)$$

Equal weighting is used as a transparent baseline rather than as evidence that all five dimensions have identical causal importance. It avoids imposing subjective priorities when no externally validated weighting structure is available for the regional hotel business of Kazakhstan.

The stability of the integrated assessment is examined using alternative weighting and normalization procedures. First, the equal-weight specification is recalculated using entropy-derived and principal-component-based weights. Entropy weighting assigns different weights according to the cross-regional information dispersion of the five partial dimensions. The PCA specification uses the positive loadings of the first principal component calculated from the standardized block scores; these loadings are normalized so that the resulting five weights sum to one. The alternative weights and the corresponding regional results are reported together with the sensitivity results.

Second, normalization sensitivity is assessed by replacing min-max normalization with z-score standardization of the same 16 raw indicators:

$$z_{rj} = \frac{x_{rj} - \bar{x}_j}{\sigma_j} \quad (5)$$

where z_{rj} is the standardized value of indicator j for region r ; x_{rj} is the original indicator value; $\bar{x}_j$ is the cross-regional mean of indicator j ; and σ_j is its population standard deviation across the 17

territorial units. The standardized indicators are averaged within the same five dimensions and aggregated using the baseline equal weights of 0.20. Because the resulting z-score composite is not bounded between 0 and 1, it is used only as a sensitivity check of the regional ordering rather than as an alternative substantive scale of development.

The stability of the regional ranking under the alternative specifications is evaluated using Spearman's rank correlation coefficient and the maximum absolute change in regional rank. Spearman's coefficient measures the correspondence between the baseline regional ranking and the ranking obtained under each alternative specification. A coefficient closer to 1 indicates greater stability of the ordering.

Structural balance is assessed separately from the integrated development level. The purpose of this measure is not to determine how high the overall level of hotel-business development is, but to determine how closely the five dimensions are aligned within a particular region. For each region, the primary structural balance coefficient is calculated as:

$$B_r = 1 - (\max_k(D_{rk}) - \min_k(D_{rk})) \quad (6)$$

where B_r is the structural balance coefficient of region r ; D_{rk} represents one of the five partial dimension scores; $\max_k(D_{rk})$ is the highest partial score of that region; and $\min_k(D_{rk})$ is its lowest partial score. The difference between the maximum and minimum partial scores represents the range between the strongest and weakest dimensions of the regional profile. Because all five partial scores lie between 0 and 1, B_r also lies between 0 and 1. A value closer to 1 indicates a smaller difference between the strongest and weakest dimensions and therefore a more structurally balanced profile. A value closer to 0 indicates a larger internal gap. The coefficient is not interpreted as a measure of the absolute quality or efficiency of the regional hotel business. A region may have relatively similar partial scores at either a high or a low overall development level. For this reason, structural balance and integrated development level are analysed jointly.

Because the range-based coefficient is determined only by the highest and lowest partial scores, robustness is additionally assessed using the population standard deviation of all five partial scores:

$$SD_r = \left(\frac{1}{5} \sum_{k=1}^5 (D_{rk} - \bar{D}_r)^2 \right)^{\frac{1}{2}} \quad (7)$$

where SD_r is the standard deviation of the five partial dimension scores for region r ; D_{rk} is the score for dimension k ; and $\bar{D}_r$ is the arithmetic mean of the five partial scores for that region:

$$\bar{D}_r = \frac{1}{5} \sum_{k=1}^5 D_{rk} \quad (8)$$

Unlike the range-based coefficient, SD_r takes all five partial scores into account. Its interpretation is inverse to that of B_r : a lower value of SD_r indicates that the five dimension scores are more closely concentrated around their regional mean and therefore corresponds to greater structural balance.

For the robustness comparison, regions are ranked in descending order according to B_r , because higher B_r indicates greater balance, and in ascending order according to SD_r , because lower SD_r indicates greater balance. The consistency of the two balance rankings is assessed using Spearman's rank correlation coefficient and the maximum absolute change in rank. Regions are ranked in descending order by B_r and in ascending order by SD_r , so that a higher position under either ordering corresponds to greater structural balance.

The integrated level and the structural balance coefficient are then combined in a two-dimensional matrix. The dividing lines are the sample medians. For the 2024 cross-section, the median integrated development level is 0.252 and the median structural balance coefficient is 0.663. Four regional groups are distinguished: higher development level-higher structural balance; higher development level-lower structural balance; lower development level-higher structural balance; and lower development level-lower structural balance. A region is assigned to the higher-level group when its integrated score is equal to or above the sample median and to the higher-balance group when its B_r is equal to or above the corresponding median. The median values are empirical dividing points within the observed 2024 distribution; they are not normative targets or economically optimal thresholds.

As an additional robustness check, the matrix classification is repeated using SD_r instead of B_r . Because the interpretation of standard deviation is reversed, a region is classified as relatively more balanced under this specification when its SD_r is equal to or below the sample median of SD_r . The

number of regions retaining the same matrix quadrant under the two balance measures is used as an additional indicator of classification stability.

Management interpretation of the matrix follows a predefined diagnostic logic. For higher-level but lower-balance regions, attention is directed first to the weakest partial dimension. Higher-level and higher-balance regions are interpreted as having greater scope for controlled development while the remaining weaker dimensions continue to be monitored. Lower-level but higher-balance regions are interpreted primarily in terms of insufficient scale and realized demand, whereas lower-level and lower-balance regions require examination of several basic constraints before broad expansion is considered. These categories are used as diagnostic screening rules. They do not estimate causal policy effects, and specific interventions require additional region-level evidence.

Temporal movement is assessed separately for 2022-2024 using a comparable set of 15 indicators. The foreign-visitor share is excluded from the dynamic calculation because a consistent regional series is unavailable for 2022 and 2023. To ensure comparability over time, the indicators are normalized using the pooled three-year sample of 51 region-year observations rather than separately within each year. Thus, the minimum and maximum used in the dynamic normalization are determined across all regional observations for 2022-2024. This makes changes in the resulting scores interpretable relative to a common three-year scale. Earlier years are not included in the integrated trajectory because occupancy, capacity and length-of-stay indicators are not fully comparable over the entire 2019-2024 period.

The methodology has several limitations that should be considered when interpreting the results. First, the range-based balance coefficient focuses on the largest internal gap, while the standard-deviation measure captures overall dispersion; neither measure defines an economically optimal degree of structural balance. Second, min-max normalization is sample-relative and sensitive to extreme observations, which is why alternative z-score standardization is used as a robustness check. Third, regions located close to the sample medians may change matrix group under an alternative balance specification. Fourth, the Observed Quality Structure dimension reflects formal classification and room structure rather than guest satisfaction or perceived service quality. Fifth, the Labour Use dimension is based on services and visitors per

recorded worker and does not measure employee skills, hours worked, outsourcing or working conditions. Finally, the available regional statistics do not permit separate identification of the causal effects of institutional conditions, accessibility, seasonality or demographic structure. The matrix should therefore be interpreted as a diagnostic instrument for regional comparison rather than as an estimate of the causal effects of particular policy measures.

Results and discussion

Descriptive statistics reveal pronounced regional heterogeneity. In 2024, the coefficient of variation is 1.442 for accommodation-service volume, 1.071 for visitors and 1.074 for services per capita. Infrastructure dispersion is lower but remains substantial: the coefficient of variation is 0.733 for rooms and 0.787 for bed capacity, while room

occupancy has a coefficient of variation of 0.422. Thus, economic output and realized demand are more spatially concentrated than physical accommodation capacity, indicating that expansion of supply does not automatically produce proportional market outcomes.

The integrated assessment confirms the concentration of hotel-business activity in the largest urban and tourism centres. Almaty records the highest integrated level (0.734), followed by Astana (0.656), Akmola (0.461) and Mangystau (0.455). The lowest values are observed in North Kazakhstan (0.155) and Turkestan (0.147). The difference between the highest and lowest values is close to fivefold. However, the integrated level alone does not show whether the five dimensions develop proportionately. Table 2 therefore presents the integrated level together with the structural balance coefficient, the 2022-2024 change and the resulting matrix position for each territorial unit.

Table 2
Regional level, structural balance and change

Region	Level, 2024	Balance	Change, 2022-2024	Matrix type
Almaty city	0.734	0.395	+0.145	Higher level – lower balance
Astana city	0.656	0.704	+0.119	Higher level – higher balance
Akmola region	0.461	0.662	+0.066	Higher level – lower balance
Mangystau region	0.455	0.760	+0.129	Higher level – higher balance
Atyrau region	0.366	0.000	+0.029	Higher level – lower balance
East Kazakhstan + Abay regions	0.353	0.304	+0.048	Higher level – lower balance
Shymkent city	0.313	0.528	+0.040	Higher level – lower balance
West Kazakhstan region	0.255	0.727	-0.007	Higher level – higher balance
Almaty + Zhetysu regions	0.252	0.663	+0.064	Higher level – higher balance
Pavlodar region	0.234	0.731	+0.051	Lower level – higher balance
Aktobe region	0.210	0.689	+0.024	Lower level – higher balance
Karagandy + Ulytau regions	0.210	0.576	+0.061	Lower level – lower balance
Kostanay region	0.207	0.710	+0.011	Lower level – higher balance
Zhambyl region	0.206	0.624	+0.057	Lower level – lower balance
Kyzylorda region	0.184	0.604	+0.050	Lower level – lower balance
North Kazakhstan region	0.155	0.750	+0.010	Lower level – higher balance
Turkestan region	0.147	0.669	+0.036	Lower level – higher balance

Note: calculated by the authors from official statistics. Thresholds correspond to sample medians

The joint interpretation of level and balance reveals several distinct regional configurations. Mangystau has the highest structural balance coefficient (0.760), while its integrated level is 0.455. Astana combines the second-highest integrated level (0.656) with a balance coefficient of 0.704. West Kazakhstan has a substantially lower

integrated level (0.255) but a high balance value of 0.727. These cases show that structural coherence and overall development scale are related but not identical characteristics.

Almaty represents a different configuration. It has the highest integrated level (0.734), but its balance coefficient is 0.395. The city leads in the

Economic dimension and recorded Labour Use, whereas Infrastructure is substantially below its strongest components. The result indicates a high development scale accompanied by pronounced internal differentiation among the five dimensions.

The largest internal disparity is observed in Atyrau, where the structural balance coefficient equals 0.000. The Observed Quality Structure score reaches the sample maximum, while the Labour Use score reaches the sample minimum. These values indicate the strongest internal contrast among the five normalized dimensions in the 2024 regional sample. They describe a divergence between the formal accommodation structure and the recorded ratios of services and visitors per worker and should

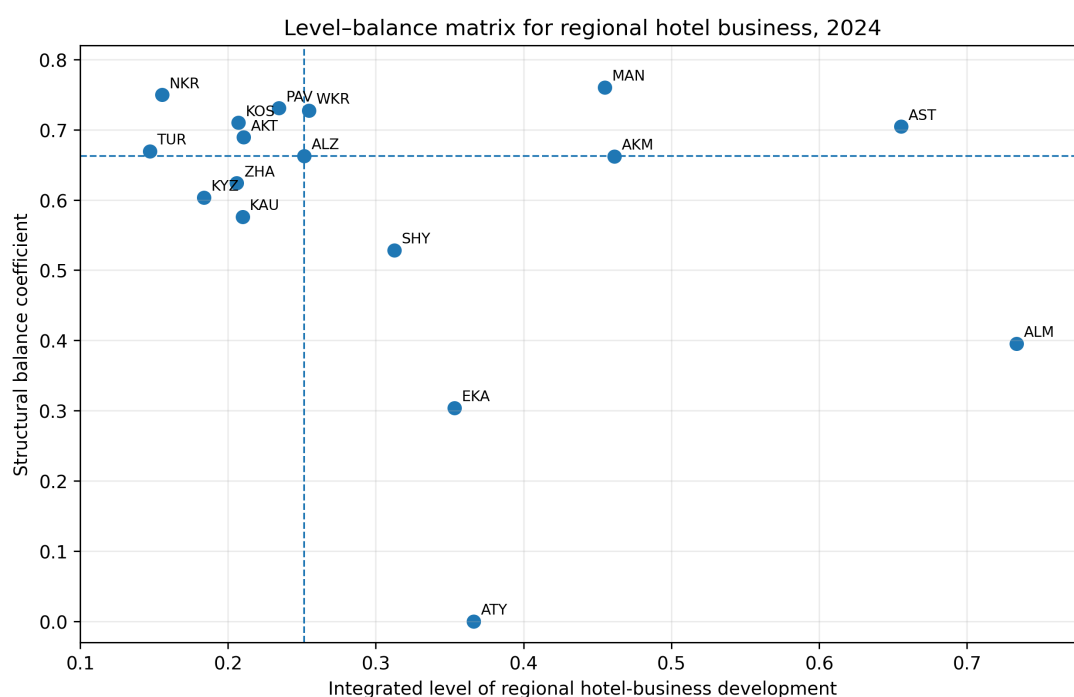
not be interpreted as measures of guest satisfaction or employee quality.

East Kazakhstan + Abay also displays a pronounced imbalance. Its Infrastructure score is 0.804, compared with 0.108 for the Economic dimension and 0.229 for the Market dimension. The resulting balance coefficient is 0.304. The profile therefore shows that relatively developed accommodation capacity is not accompanied by comparable economic and market outcomes.

Figure 1 visualizes the relationship between the integrated development level and structural balance. The sample medians divide the regional distribution into four groups: higher level – higher balance, higher level – lower balance, lower level – higher balance, and lower level – lower balance.

Figure 1

Matrix of Regional Hotel-Business Development and Structural Balance, 2024



Note: Compiled by the authors based on their calculations. Dashed lines indicate the sample medians: 0.252 for the integrated development level and 0.663 for structural balance. Region abbreviations correspond to the full regional names reported in Table 2.

The higher-level and higher-balance group comprises Astana, Mangystau, West Kazakhstan and Almaty + Zhetysu. Their common feature is that both the integrated development level and the structural balance coefficient are at or above the corresponding sample medians. The management

implication is to preserve the existing proportionality while monitoring the weakest partial dimension as further development proceeds.

The higher-level and lower-balance group includes Almaty, Akmola, Atyrau, East Kazakhstan + Abay and Shymkent. In these regions, the main

diagnostic signal is not the aggregate level itself but the distance between stronger and weaker dimensions. The weakest components differ by region: Infrastructure is relatively weak in Almaty and Shymkent; Labour Use is weak in Akmola and Atyrau; and the Economic and Market dimensions are weak relative to Infrastructure in East Kazakhstan + Abay. Accordingly, the priority is region-specific correction of the observed imbalance rather than uniform expansion across all dimensions.

Pavlodar, Aktobe, Kostanay, North Kazakhstan and Turkestan form the lower-level and higher-balance group. Their profiles are comparatively coherent, but the integrated level remains below the sample median. The primary issue is therefore the scale of hotel-business activity rather than a pronounced collapse of one component. Expansion should be assessed against the ability of the region to increase realized demand and utilization without creating a new structural imbalance.

Karagandy + Ulytau, Zhambyl and Kyzylorda belong to the lower-level and lower-balance group. These territories combine a relatively low integrated level with greater dispersion among the five dimensions. Their profiles indicate the need to identify the weakest components and sequence development priorities rather than expand all elements simultaneously.

The 2022-2024 trajectory is positive in 16 of the 17 territorial units. The largest increases are observed in Almaty (+0.145), Mangystau (+0.129) and Astana (+0.119). Akmola increases by 0.066 and Almaty + Zhetysay by 0.064. West Kazakhstan is the only territory with a small decline (-0.007). The overall trajectory is therefore positive, but spatial concentration remains substantial because several of the leading regions also record the largest increases.

The dynamic results add an important dimension to the 2024 matrix. Mangystau combines a relatively rapid increase with the highest structural balance coefficient. Almaty records the largest increase but remains structurally unbalanced. West Kazakhstan combines a high balance coefficient with a slight decline in the integrated level. These differences show that the matrix should be interpreted together with recent dynamics rather than as a fixed regional classification.

The findings are consistent with the multidimensional approach to destination competitiveness proposed by Dwyer and Kim (2003) and with evidence that the presence of infrastructure does not automatically translate into economic outcomes (But, 2024; Moreno-Izquierdo *et al.*, 2024). In contrast to a conventional ranking, the level-balance matrix distinguishes regions that may occupy similar positions on an aggregate scale but differ substantially in their internal structure. Relative to Spankulova *et al.* (2026), who examine the relationship between hospitality and regional inequality, the present analysis focuses specifically on the internal configuration of the regional hotel sector.

Several factors may help explain the observed differences. Metropolitan scale and the concentration of business, event and transport flows are consistent with the strong Economic and Market positions of Almaty and Astana. In recreation-oriented regions, seasonality can contribute to a gap between available accommodation capacity and annual utilization, as illustrated by the East Kazakhstan + Abay profile. Accessibility, infrastructure and destination-level management can also influence the conversion of regional tourism resources into visitor flows and accommodation-sector outcomes, which is consistent with Central Asian evidence reported by Sergeyeva *et al.* (2022) and Toyirova *et al.* (2026). Recorded labour-use ratios may additionally reflect differences in employment structure, outsourcing and formal statistical coverage. These factors are used to interpret the regional profiles; they are not estimated as separate causal effects in the present dataset.

The management interpretation is summarized in Table 3. The priorities are derived directly from the combination of development level, structural balance and the weakest partial dimensions. They therefore indicate the direction of regional diagnosis rather than a uniform set of policy instruments.

Structural balance is not an objective in isolation. A region may have similar values across all five dimensions and still remain at a relatively low development level. Conversely, specialization can generate a less even profile without necessarily indicating economic weakness. The balance coefficient is therefore interpreted together with the integrated level, the partial dimension scores and the recent trajectory.

Table 3
Regional types and management priorities

Type	Regions	Diagnostic priority from matrix
Higher level – higher balance	Astana; Mangystau; West Kazakhstan; Almaty-Zhetysu	Preserve structural coherence while monitoring the weakest dimension during further development
Higher level – lower balance	Almaty; Akmola; Atyrau; East Kazakhstan-Abay; Shymkent	Identify and correct the dominant internal imbalance before broad expansion
Lower level – higher balance	Pavlodar; Aktobe; Kostanay; North Kazakhstan; Turkestan	Increase the scale of realized hotel-business activity while preserving the existing balance among dimensions
Lower level – lower balance	Karagandy-Ulytau; Zhambyl; Kyzylorda	Sequence development priorities according to the weakest dimensions before expanding the overall scale

Note: compiled by the authors from the matrix typology and the five partial dimension scores

Sensitivity analysis confirms that the main regional ordering is stable under alternative methodological specifications. Under entropy weighting, Spearman's rank correlation with the equal-weight integrated index is 0.995 and the maximum rank shift is one position. PCA weighting produces a correlation of 0.988 and a maximum shift of two positions; the first principal component explains 58.1% of the variation in the five partial dimensions. Replacing min-max normalization with z-score standardization yields a correlation of 0.985,

leaves the top five regions unchanged and produces a maximum shift of three positions. The alternative standard-deviation measure of structural balance produces a rank correlation of 0.951 with the range-based balance ordering. Mangystau remains the most balanced and Atyrau the least balanced region, while 15 of 17 territorial units retain the same level-balance quadrant. Almaty + Zhetysu and Karagandy + Ulytau change the balance side of the median under the alternative measure. Table 4 summarizes these sensitivity results.

Table 4
Sensitivity and robustness checks, 2024

Robustness check	Result	Interpretation
Entropy weighting	$\rho = 0.995$; maximum rank shift = 1	Integrated-level ranking highly stable
PCA weighting	$\rho = 0.988$; maximum rank shift = 2; PC1 = 58.1%	Integrated-level ranking highly stable
Z-score normalization	$\rho = 0.985$; maximum rank shift = 3; top five unchanged	Integrated-level ranking highly stable
Standard-deviation balance	$\rho = 0.951$; maximum balance-rank shift = 4; 15 of 17 regions retained the same matrix quadrant	Core balance pattern stable; two median-threshold cases change group

Note: calculated by the authors from the same 17-region 2024 dataset. The standard-deviation check uses the same five partial dimension scores as the range-based balance coefficient; lower SD indicates greater balance.

Conclusion

The study demonstrates that regional differences in Kazakhstan's hotel business concern both the overall scale of development and the internal proportions among its main dimensions. The integrated assessment confirms the leading positions of Almaty and Astana, while the structural balance analysis reveals substantial differences in the configuration of regional hotel systems. Mangystau has the most balanced profile, combining relatively close values across the five dimensions, whereas

Atyrau shows the greatest internal disparity. East Kazakhstan-Abay represents a different type of imbalance, where a comparatively strong infrastructure base is accompanied by substantially weaker market and economic results. These findings confirm that a high level of hotel-business development does not necessarily correspond to a high degree of structural balance.

The proposed combination of the integrated development level and the structural balance coefficient provides a more informative assessment than a conventional regional ranking based on a

single composite score. It makes it possible to distinguish territories that may occupy similar positions in terms of overall development but differ considerably in the relationship between infrastructure, demand, economic outcomes, observed quality structure and recorded labour use. The robustness analysis confirms the stability of the main results. The regional ranking remains highly consistent under entropy weighting ($\rho = 0.995$), PCA weighting ($\rho = 0.988$), and z-score normalization ($\rho = 0.985$). The alternative balance assessment based on the standard deviation of all five partial scores produces a rank correlation of 0.951 with the baseline balance measure and preserves the matrix position of 15 of the 17 territorial units. Thus, the main regional patterns are not dependent on a single weighting, normalization or balance specification.

The scientific contribution of the study lies in the joint assessment of the level and structural balance of regional hotel-business development. The integrated indicator characterizes the overall position of a region, while the balance coefficient identifies the scale of internal disproportions between its strongest and weakest dimensions. Their combined use makes it possible to differentiate regional development profiles and to identify the dimensions that constrain a more coherent use of existing hotel-business potential. The results show that regional policy should therefore be differentiated: territories with strong but unbalanced profiles require correction of specific structural bottlenecks, balanced regions with a lower development level require expansion of effective demand and market activity, while regions combining a low level with structural imbalance require a more consistent development of basic sectoral conditions.

The practical significance of the results lies in the possibility of using the proposed level-balance matrix as a diagnostic instrument for regional hotel-business management. Regular updating of the partial indicators makes it possible to identify changes in regional positions, determine emerging

imbalances and concentrate management attention on the dimensions that most strongly constrain development. The positive dynamics observed in 16 of the 17 territorial units during 2022-2024 indicate general improvement in the regional hotel sector, although the persistence of substantial differences between territories confirms the need for differentiated rather than uniform development measures.

Further research can extend the proposed framework by incorporating seasonal occupancy, accommodation prices, profitability, working hours, employee skills, online reputation and guest-satisfaction indicators. The inclusion of accessibility, institutional and demographic characteristics would also allow the factors underlying regional structural differences to be examined in greater depth. Testing the balance coefficient with establishment-level data and comparing it with additional dispersion and non-compensatory measures would further strengthen the empirical validation of the proposed approach.

Conflict of Interest

The authors declare no conflict of interest.

Data Availability

The calculations use open data from the Bureau of National Statistics of Kazakhstan. The harmonized panel, dimension scores and sensitivity calculations underlying the weighting, normalization and balance checks are available from the corresponding author upon reasonable request.

Authors' Contributions

AR: Conceptualization, literature review, and writing – original draft;

ZhR: Methodology, supervision, validation, and writing – review and editing;

TA: Conceptualization, comparative analysis, and writing – review and editing;

AO: Data curation, formal analysis, and visualization. All authors read and approved the final manuscript.

References

- Buhalis, D., & Leung, R. (2018). Smart hospitality – interconnectivity and interoperability towards an ecosystem. *International Journal of Hospitality Management*, 71, 41-50. <https://doi.org/10.1016/j.ijhm.2017.11.011>
- Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. (2026). *Demographic statistics: Dynamic tables*. <https://stat.gov.kz/en/industries/social-statistics/demography/dynamic-tables/>
- Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. (2026). *Statistics of tourism: Dynamic tables*. <https://stat.gov.kz/en/industries/businessstatistics/stat-tourism/dynamic-tables/>

- But, T. (2024). An analysis of the tourism industry competitiveness of Czech regions. *Journal of Competitiveness*, 16(3), 1-25. <https://doi.org/10.7441/joc.2024.03.01>
- Crouch, G. I. (2011). Destination competitiveness: An analysis of determinant attributes. *Journal of Travel Research*, 50(1), 27-45. <https://doi.org/10.1177/0047287510362776>
- Dwyer, L., & Kim, C. (2003). Destination competitiveness: Determinants and indicators. *Current Issues in Tourism*, 6(5), 369-414. <https://doi.org/10.1080/13683500308667962>
- Ekonomou, G., & Halkos, G. (2025). Exploring the concept of tourism competitiveness across the OECD countries. *Current Issues in Tourism*, 28(19), 3148-3167. <https://doi.org/10.1080/13683500.2024.2388803>
- Enright, M. J., & Newton, J. (2004). Tourism destination competitiveness: A quantitative approach. *Tourism Management*, 25(6), 777-788. <https://doi.org/10.1016/j.tourman.2004.06.008>
- Khelashvili, I., & Okroshidze, L. (2025). Exploring the tourism competitiveness of a destination: A case study of Georgia. *Sustainability*, 17(8), 3342. <https://doi.org/10.3390/su17083342>
- Marandi, A., Tasavori, M., & Najmi, M. (2024). New insights into hotel customers' revisiting intentions, based on big data. *International Journal of Contemporary Hospitality Management*, 36(1), 292-311. <https://doi.org/10.1108/IJCHM-06-2022-0719>
- Mazanec, J. A., Wöber, K., & Zins, A. H. (2007). Tourism destination competitiveness: From definition to explanation? *Journal of Travel Research*, 46(1), 86-95. <https://doi.org/10.1177/0047287507302389>
- Mazziotta, M., & Pareto, A. (2016). On a generalized non-compensatory composite index for measuring socio-economic phenomena. *Social Indicators Research*, 127(3), 983-1003. <https://doi.org/10.1007/s11205-015-0998-2>
- Mazziotta, M., & Pareto, A. (2022). Normalization methods for spatio-temporal analysis of environmental performance: Revisiting the Min-Max method. *Environmetrics*, 33(5), e2730. <https://doi.org/10.1002/env.2730>
- Mendola, D., & Volo, S. (2017). Building composite indicators in tourism studies: Measurements and applications in tourism destination competitiveness. *Tourism Management*, 59, 541-553. <https://doi.org/10.1016/j.tourman.2016.08.011>
- Mendoza Tolosa, H. A., & Campo Robledo, J. (2017). Localización y especialización productiva regional en Colombia. *Revista Finanzas y Política Económica*, 9(1), 113-134. <https://doi.org/10.14718/revfinanzpolitecon.2017.9.1.7>
- Moreno-Izquierdo, L., Perles-Ribes, J. F., Ramón-Rodríguez, A., & Rucci, A. C. (2024). Competitiveness, sustainability, and development in tourism: A relationship analysis for the case of Spanish regions. *Journal of Policy Research in Tourism, Leisure and Events*, 16(3), 392-411. <https://doi.org/10.1080/19407963.2024.2332620>
- Nicolau, J. L., Xiang, Z., & Wang, D. (2024). Daily online review sentiment and hotel performance. *International Journal of Contemporary Hospitality Management*, 36(3), 790-811. <https://doi.org/10.1108/IJCHM-05-2022-0594>
- Nieto-García, M., Muñoz-Gallego, P. A., & González-Benito, Ó. (2017). Tourists' willingness to pay for an accommodation: The effect of eWOM and internal reference price. *International Journal of Hospitality Management*, 62, 67-77. <https://doi.org/10.1016/j.ijhm.2016.12.006>
- OECD/European Union/EC-JRC. (2008). Handbook on constructing composite indicators: Methodology and user guide. *OECD Publishing*. <https://doi.org/10.1787/9789264043466-en>
- Oh, H., & Kim, K. (2017). Customer satisfaction, service quality, and customer value: Years 2000-2015. *International Journal of Contemporary Hospitality Management*, 29(1), 2-29. <https://doi.org/10.1108/IJCHM-10-2015-0594>
- Olawuyi, O. S., & Kleynhans, C. (2025). A bibliometric analysis of service quality in the hospitality industry (2014-2024). *Administrative Sciences*, 15(6), 215. <https://doi.org/10.3390/admsci15060215>
- Pavluković, V., Kovačić, S., Pavlović, D., Stankov, U., Cimbalević, M., Panić, A., Radojević, T., & Pivac, T. (2026). Tourism destination competitiveness: An application model for Serbia. *Journal of Vacation Marketing*, 32(1), 257-275. <https://doi.org/10.1177/13567667241261396>
- Salinas Fernández, J. A., Serdeira Azevedo, P., Martín Martín, J. M., & Rodríguez Martín, J. A. (2020). Determinants of tourism destination competitiveness in the countries most visited by international tourists: Proposal of a synthetic index. *Tourism Management Perspectives*, 33, 100582. <https://doi.org/10.1016/j.tmp.2019.100582>
- Sergeyeva, A., Abdullina, A., Nazarov, M., Turdimambetov, I., Maxmudov, M., & Yanchuk, S. (2022). Development of cross-border tourism in accordance with the principles of sustainable development on the Kazakhstan-Uzbekistan border. *Sustainability*, 14(19), 12734. <https://doi.org/10.3390/su141912734>
- Song, B., Xia, H., Law, R., Muskat, B., & Li, G. (2024). Discovery of smart hotels' competitiveness based on online reviews. *International Journal of Hospitality Management*, 123, 103926. <https://doi.org/10.1016/j.ijhm.2024.103926>
- Spankulova, L. S., Kabdrakhmanova, S. S., & Kerimbayev, A. R. (2026). Assessment of dynamic relationships between the development of the hospitality industry and regional inequality. *Journal of Economic Research & Business Administration*, 156(2), 17-31. <https://doi.org/10.26577/be156220262>
- Sparks, B. A., & Browning, V. (2011). The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management*, 32(6), 1310-1323. <https://doi.org/10.1016/j.tourman.2010.12.011>
- Tleuberdinova, A., Salauatova, D., & Pratt, S. (2024). Assessing tourism destination competitiveness: The case of Kazakhstan. *Journal of Policy Research in Tourism, Leisure and Events*, 16(2), 265-283. <https://doi.org/10.1080/19407963.2022.2027954>
- Toyrova, S. A., Radjabov, O., Davronov, I. O., & Yuldashev, K. (2026). Enhancing competitiveness in accommodation management: Sustainability-led strategies for tourism and event destinations. *Frontiers in Sports and Active Living*, 8, 1802932. <https://doi.org/10.3389/fspor.2026.1802932>
- Tsai, H., Song, H., & Wong, K. K. F. (2009). Tourism and hotel competitiveness research. *Journal of Travel & Tourism Marketing*, 26(5-6), 522-546. <https://doi.org/10.1080/10548400903163079>
- Xia, H., Muskat, B., Vu, H. Q., Law, R., & Li, G. (2023). Leveraging employee online reviews for improving hotel competitiveness in the great resignation. *International Journal of Hospitality Management*, 113, 103529. <https://doi.org/10.1016/j.ijhm.2023.103529>

Xia, H., Muskat, B., Karl, M., Li, G., & Law, R. (2024). Destination competitiveness research over the past three decades: A computational literature review using topic modelling. *Journal of Travel & Tourism Marketing*, 41(5), 726-742. <https://doi.org/10.1080/10548408.2024.2332278>

Information about the authors:

Aigerim Rakhmetulina – PhD, lecturer in the Business Department at the Kazakh-American Free University (Ust-Kamenogorsk, Kazakhstan, e-mail: rakhmetulina@gmail.com).

Zhibek Rakhmetulina (corresponding author) – Candidate of Economic Sciences, professor in the Economics and Entrepreneurship Department at the L.N. Gumilyov Eurasian National University (Astana, Kazakhstan, e-mail: rahmetulina_zh@mail.ru).

Azamat Omurzakov – PhD Student at the L.N. Gumilyov Eurasian National University (Astana, Kazakhstan, e-mail: omurzakov.azamat@gmail.com).

Tana Abylaikhanova – PhD, Associate Professor of the Department of Economics, Management, and Finance, S. Amanzholov East Kazakhstan University (Ust-Kamenogorsk, Kazakhstan, e-mail: tablaihanova@mail.ru).

Авторлар туралы мәлімет:

Айгерим Рахметулина – PhD докторы, Қазақ-Америка еркін университетінің бизнес кафедрасының оқытушысы (Өскемен, Қазақстан, e-mail: rakhmetulina@gmail.com).

Жибек Рахметулина (корреспонденттік автор) – экономика ғылымдарының кандидаты, Л.Н. Гумилев атындағы Еуразия ұлттық университетінің экономика және кәсіпкерлік кафедрасының профессоры (Астана, Қазақстан, e-mail: rahmetulina_zh@mail.ru).

Азамат Өмірзақов – Л.Н. Гумилев атындағы Еуразия ұлттық университетінің экономика бағдарламасы бойынша PhD докторанты (Астана, Қазақстан, e-mail: omurzakov.azamat@gmail.com).

Тана Абылайханова – PhD докторы, С. Аманжолов атындағы Шығыс Қазақстан университетінің экономика, менеджмент және қаржы кафедрасының қауымдастырылған профессоры (Өскемен, Қазақстан, e-mail: tablaihanova@mail.ru).

Сведения об авторах:

Айгерим Рахметулина – доктор PhD, преподаватель кафедры бизнеса Казахстанско-Американского свободного университета (Усть-Каменогорск, Казахстан, e-mail: rakhmetulina@gmail.com).

Жибек Рахметулина (корреспондент-автор) – кандидат экономических наук, профессор кафедры экономики и предпринимательства Евразийского национального университета имени Л.Н. Гумилева (Астана, Казахстан, e-mail: rahmetulina_zh@mail.ru).

Азамат Омурзаков – PhD-докторант по образовательной программе «Экономика», Евразийский национальный университет имени Л.Н. Гумилева (Астана, Казахстан, e-mail: omurzakov.azamat@gmail.com).

Тана Абылайханова – доктор PhD, ассоциированный профессор кафедры экономики, менеджмента и финансов Восточно-Казахстанского университета имени С. Аманжолова (Усть-Каменогорск, Казахстан, e-mail: tablaihanova@mail.ru).

Received: 8 August 2026
Accepted: 20 September 2026