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Article

The Role of LQ Analysis in Shaping Regional Marketing Strategies: A Case Study of Bukhara Region, Uzbekistan

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Abstract: This article explores the economic specialization of districts in the Bukhara region of Uzbekistan through the application of Location Quotient (LQ) analysis. Using official statistical data 2024, the study calculates LQ indicators for five key sectors: industry, agriculture, services, investment, and employment. The results reveal significant spatial and sectoral disparities across the region, with Bukhara City and G'ijduvon emerging as core economic hubs, while districts like Kogon City and Olot show signs of underdevelopment. Based on the LQ findings, the paper proposes a framework for developing district-specific regional marketing strategies, emphasizing the importance of economic identity in place branding. The study also discusses limitations related to the static nature of LQ and proposes directions for future research, including integration with SWOT and shift-share analysis. This work contributes to the growing field of evidence-based territorial planning and offers practical tools for policy-makers aiming to enhance regional competitiveness and cohesion.

Keywords: Location Quotient (LQ), regional marketing, Bukhara region, economic specialization, territorial development, place branding, spatial analysis, Uzbekistan, district-level strategy, regional planning.

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1. Introduction

Regional marketing has emerged as a critical mechanism for fostering competitive advantages and sustainable growth at the sub-national level in contemporary economic development [1]. This strategic approach encompasses the promotion of a region's unique economic assets, capabilities, and competitive advantages to attract investment, talent, and businesses [2], [3].

The proliferation of data-driven decision-making processes has amplified the significance of regional marketing in economic development. Contemporary research emphasises the critical role of quantitative assessment tools, particularly Location Quotient (LQ) analysis, in identifying regional economic specialisations [4], [5]. This analytical approach enables policymakers to make informed decisions about resource allocation, investment priorities, and strategic positioning within competitive regional landscapes.

Uzbekistan's regional economic policies have undergone significant transformation, reflecting the country's commitment to market-oriented reforms and regional diversification strategies. Bukhara region represents a compelling case study due to its historical significance, diverse economic base, and strategic location within Central Asia's emerging economic corridors.

Despite the recognised importance of regional marketing, there remains a significant gap in systematic quantitative tools for regional marketing planning. Traditional

approaches often rely on qualitative assessments, which may not adequately capture the dynamic nature of contemporary economic landscapes [6].

The underutilisation of location-based specialisation data in Uzbekistan's regional development planning represents a particular challenge for effective territorial marketing. The absence of district-level analytical frameworks further compounds these challenges, as regional marketing strategies require granular understanding of local economic specialisations and competitive advantages.

This research aims to assess economic specialisation across districts of Bukhara region using Location Quotient analysis, contributing to more effective regional marketing strategies based on empirical evidence. The primary objectives include: (1) conducting comprehensive LQ analysis across all districts of Bukhara region, identifying key areas of economic specialisation; (2) developing practical recommendations for regional marketing strategies based on empirical findings; and (3) establishing a replicable methodological framework for other regions within Uzbekistan [7], [8].

The research addresses two fundamental questions: What are the key areas of specialisation in Bukhara's districts, and how do these specialisations vary across the region's economic landscape? How can LQ metrics be effectively integrated into regional marketing policy-making processes to enhance Bukhara region's strategic positioning within national and international economic networks?

This research contributes through the application of Location Quotient analysis within a marketing context at district-level granularity, representing a methodological innovation bridging regional economics and territorial marketing domains [9], [10]. The introduction of a comprehensive framework connecting LQ analytical results to strategic regional branding initiatives addresses the gap between quantitative economic analysis and strategic marketing implementation, providing a systematic approach for translating empirical findings into actionable marketing strategies.

2. Materials and Methods

This study employs a quantitative case study methodology to assess economic specialization patterns across Bukhara region's districts. The research adopts a comparative and diagnostic approach using statistical indicators, specifically Location Quotient (LQ) analysis, to identify regional economic specializations and competitive advantages. This methodological framework enables systematic comparison of economic structures across different territorial units while providing diagnostic insights into sectoral concentration patterns.

The quantitative approach ensures objectivity and replicability of findings, addressing the need for evidence-based regional marketing strategies. The case study design allows for in-depth analysis of Bukhara region's specific economic characteristics while maintaining the potential for broader theoretical generalization to similar regional contexts.

The study utilizes official statistical data from the State Committee of the Republic of Uzbekistan on Statistics, ensuring reliability and standardization of information sources. Primary data sources include comprehensive economic indicators covering the period 2024, providing sufficient temporal scope for identifying stable specialization patterns while capturing recent economic developments.

Supplementary data from Bukhara regional department statistics enhance the granularity of analysis at the district level. This multi-source approach ensures data triangulation and validates findings through cross-verification of statistical indicators across different administrative reporting systems.

The Location Quotient is calculated using the standard formula:

$$LQ = (Xij / Xj) \div (XiT / XT)$$

Where:

Xij = output of sector i in district j

Xj = total output in district j

XiT = total output of sector i in the region

XT = total regional output

This methodology measures the relative concentration of specific economic sectors in individual districts compared to the regional average, providing quantitative assessment of local specialization patterns [9].

The analysis encompasses six key economic sectors: agriculture, industry, services, small business, investment, and employment. This comprehensive sectoral coverage ensures holistic assessment of economic specialization patterns across different aspects of regional economic activity.

The study covers all 13 districts and cities of Bukhara region, providing complete territorial coverage and enabling comprehensive comparative analysis. This includes both urban centers and rural districts, capturing the full spectrum of economic diversity within the region.

Economic specialization levels are classified using established LQ thresholds:

High specialization: LQ > 1.25, indicating significant sectoral concentration exceeding regional averages by 25% or more

Average specialization: 0.75 < LQ ≤ 1.25, representing balanced sectoral presence relative to regional patterns

Low specialization: LQ ≤ 0.75, signifying below-average sectoral concentration requiring development attention

These criteria follow standard regional economic analysis practices and enable meaningful interpretation of specialization patterns for strategic planning purposes (Bendavid-Va).

3. Results and Discussion

Results

The Location Quotient (LQ) analysis conducted for the Bukhara region reveals significant differentiation in sectoral specialization across its districts. Using LQ indicators calculated for six key sectors—industry (sanoat), agriculture (qishloq xo‘jaligi), services (xizmatlar), investment and employment — we identified areas of high specialization (LQ > 1.25), average presence (0.75 < LQ ≤ 1.25), and low representation (LQ ≤ 0.75)

Table 1. Location Quotient (LQ) indicators by sector and district in Bukhara region

City, District	LQ_industry	LQ_agriculture	LQ_services	LQ_investment	LQ_employment
Buxoro City	2.18	0.11	6.56	0.95	1.06
Kogon City	0.67	0.05	0.62	0.04	0.23
Olot	0.45	0.65	0.54	0.30	0.35
Buxoro	0.60	1.03	0.87	0.52	0.61
Vobkent	0.61	0.86	1.05	0.13	0.54
G‘ijduvon	1.35	1.12	1.99	1.07	1.07
Kogon	1.12	0.67	0.55	0.25	0.30
Qorako‘l	0.55	0.89	0.72	1.78	0.59
Qorovulbozor	8.72	0.27	0.33	0.53	0.14
Peshko‘	0.50	0.93	0.87	0.78	0.42
Romitan	1.01	1.03	0.91	0.47	0.52
Jondor	0.78	1.23	0.88	0.08	0.54
Shofirkon	0.50	0.85	0.74	0.11	0.63

According to the data, Bukhara City stands out with extremely high LQ values in services (6.56) and industry (2.18), positioning it as the central economic hub of the region. G‘ijduvon district also demonstrates above-average specialization across all three main sectors, particularly in services (1.99) and industry (1.35), see Table 1. In contrast, Kogon City and Olot show consistently low specialization in all categories, with LQ values below 0.75 in most sectors, signaling economic underdevelopment or structural imbalance [11], [12].

Several districts exhibit moderate specialization in agriculture, notably G‘ijduvon (1.12) and Bukhara district (1.03), suggesting strong agri-industrial potential. However,

no district exceeds the 1.25 threshold in agriculture, indicating the absence of a dominant agricultural center within the region in comparative terms [13].

A clear spatial pattern emerges from the LQ data:

Bukhara City functions as a service and industrial core, showing dominance in high-value-added sectors and employment.

G‘ijduvon, with balanced LQ scores, appears as a secondary growth node, likely benefiting from infrastructure connectivity and diversification.

Qorovulbozor exhibits exceptional industrial concentration (LQ = 8.72), which, while indicative of strength, raises concerns about sectoral overreliance.

Vobkent and Peshko‘ show moderate specialization in agriculture and services but lack industrial depth.

Kogon City and Olot demonstrate low LQ across sectors, indicating economic vulnerability and the need for targeted development strategies.

This spatial layout supports the theory of polarized development, where economic activities cluster in select urban centers while peripheral districts remain structurally narrow in their economic base.

From the calculated LQ values, we can derive several policy-relevant insights:

Bukhara City should be prioritized for further service sector expansion, creative industries, IT parks, and business tourism, leveraging its extreme service LQ (6.56).

G‘ijduvon has potential to become an integrated agro-industrial and commercial corridor, particularly if infrastructure improvements link it to major transport and trade routes.

Qorovulbozor’s industrial dominance suggests a mono-sectoral economy, which may benefit from vertical integration and diversification into service sectors to ensure economic stability.

Districts like Vobkent and Peshko‘ may be supported through agriculture-based cluster development, enhancing processing and market access.

Kogon City and Olot need direct investment incentives, education programs, and SME promotion, as their LQ indicators show underperformance in employment, investment, and small business activity.

To further illustrate these findings, here are select district profiles based on LQ analysis:

Bukhara City:

1. Industry LQ: 2.18
2. Services LQ: 6.56
3. Investment LQ: 0.95
4. Employment LQ: 1.06

Interpretation: A dominant core with capacity for innovation and service export.

G‘ijduvon:

1. Industry LQ: 1.35
2. Services LQ: 1.99
3. Agriculture LQ: 1.12

Interpretation: A balanced multi-sectoral economy with regional potential.

Qorovulbozor:

1. Industry LQ: 8.72
2. Services LQ: 0.33
3. Employment LQ: 0.14

Interpretation: Hyper-concentrated industrial zone, but socially and structurally fragile.

Kogon City:

All sectors LQ < 0.7

Interpretation: Underperforming, requires diversification and policy attention.

The data uncovers a number of noteworthy anomalies and structural gaps:

Extreme concentration in Qorovulbozor suggests dependency on a few enterprises, making the local economy vulnerable to external shocks or closures.

Disparity in employment LQ indicates uneven labor distribution: while Bukhara City shows surplus labor absorption, peripheral districts are losing or underutilizing their workforce potential [14], [15].

Low investment LQ across most districts, with only G'ijduvon (1.07) and Qorako'l (1.78) exceeding 1.25, highlights capital allocation issues and possibly institutional or infrastructural barriers.

Weak specialization in small business and digital sectors across the board indicates that Uzbekistan's digital transformation agenda has not yet taken root at the regional level. Most districts have values under 0.5, with only Bukhara City showing moderate SME specialization (LQ = 1.83).

Some districts like Vobkent and Qorako'l have near-average scores in many sectors, which could imply economic stagnation without focused intervention.

Underlying causes may include legacy investment policies, lack of transport and communications infrastructure, uneven education and skills training, and policy misalignment at the regional planning level.

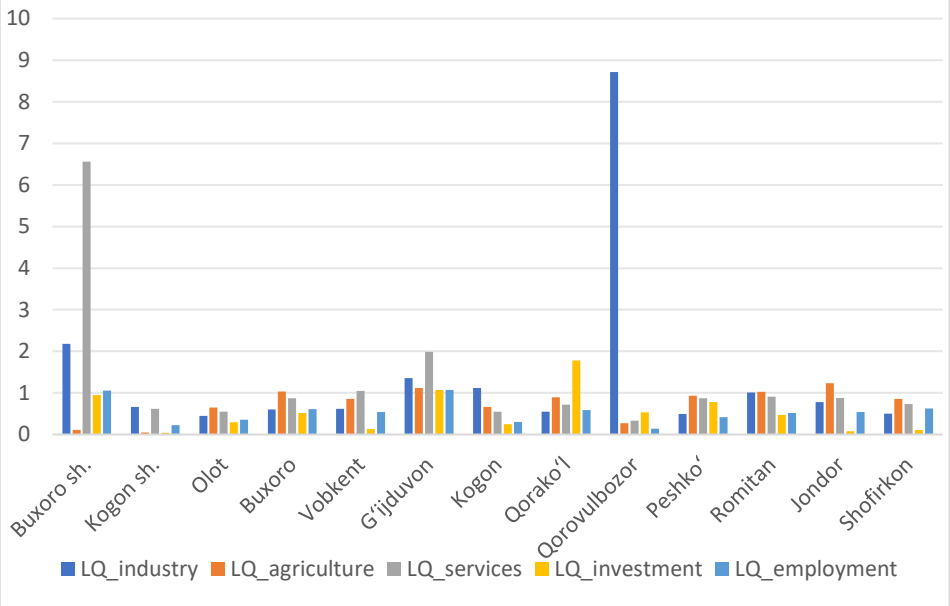

Figure 1. Location Quotients by Sector in Districts of Bukhara Region

A bar chart in Figure 1 was generated to visualize the comparative LQ scores for industry, agriculture, and services across all districts. High specialization zones are marked above the 1.25 threshold. The spatial patterning supports a development strategy based on differentiated roles:

Core cities → hubs of industry and services

Agricultural periphery → value-added agro-processing and logistics

Underperforming areas → targeted investment and entrepreneurship stimulus

The LQ-based diagnostic of the Bukhara region's districts reveals clear differentiation in economic functions, enabling data-driven strategic planning. The analysis highlights both sectoral leaders and lagging areas, providing a foundation for tailored regional marketing strategies. Moving forward, such analyses should be integrated into Uzbekistan's territorial development programs, ensuring that local identities and economic strengths guide policy and investment.

Discussion

The findings from the LQ analysis offer substantial implications for the development of a differentiated regional marketing strategy within the Bukhara region. One of the primary insights is the need for tailored place branding, where each district leverages its sectoral strengths to construct a coherent and distinctive economic identity.

For instance, Bukhara City, with its high specialization in services and industry, can be branded as a regional innovation and business hub, focusing on tourism, creative

services, and light manufacturing. Its strong employment and small business indicators further reinforce its capacity to support entrepreneurial ecosystems and attract human capital.

In contrast, G‘ijduvon demonstrates multi-sectoral strength, including moderate-to-high specialization in agriculture, services, and industry. This diversified profile provides an opportunity to market it as a gateway for agri-processing, logistics, and commercial services, especially if connected to broader regional transport networks and value chains.

Districts such as Peshko‘ and Qorako‘l, with moderate agricultural LQ but weak performance in services and investment, may benefit from cluster-based development focused on the agricultural value chain. By strengthening backward and forward linkages—such as input supply, storage, packaging, and distribution—these districts can enhance productivity, increase local employment, and create export potential.

At the same time, underperforming districts like Kogon City and Olot require a different strategic approach. Rather than branding based on economic specialization—which is currently absent—they should focus on latent potential, for example, positioning themselves as affordable zones for SME incubation or testing grounds for pilot infrastructure and e-commerce projects. Government incentives, public-private partnerships, and social enterprise models may be essential in these settings to stimulate specialization and attract targeted investment.

Despite the valuable insights generated, the study is subject to several limitations. First, it is constrained by data availability and granularity. Official statistics at the district level in Uzbekistan, while improving, may still lack accuracy, timeliness, or disaggregation across sub-sectors, particularly in emerging fields like digital services or green economy sectors.

Second, the LQ model is inherently static, providing a snapshot of sectoral concentration at a single point in time. It does not account for dynamic changes such as emerging industries, shifts in comparative advantage, or inter-district spillover effects. Nor does it reflect sectoral productivity or value-added per employee, both of which are critical to understanding real economic competitiveness.

The LQ approach does not incorporate qualitative factors such as governance quality, institutional capacity, or infrastructure readiness, which often determine whether sectoral specialization translates into sustainable development.

To deepen the insights generated, future studies should consider integrating LQ analysis with complementary strategic tools, such as SWOT analysis, to evaluate internal strengths and external opportunities for each district. This would enable policymakers to prioritize interventions not only based on current specialization but also on readiness and potential for transformation.

Moreover, shift-share analysis can help identify whether sectoral growth in a district is driven by regional trends or by unique local advantages. This dynamic understanding would be invaluable for sector-specific investment prioritization, allowing regional planners to direct resources toward industries with high local multipliers or innovation capacity.

Finally, future research may incorporate spatial econometrics and GIS-based visualization, enabling policymakers to examine spatial clusters, infrastructure gaps, and economic flows between districts. Such integration will further strengthen regional marketing strategy design and help bridge the gap between analytical diagnostics and implementation.

4. Conclusion

This study employed Location Quotient (LQ) analysis to systematically assess the sectoral specialization of districts within the Bukhara region, offering a data-driven foundation for territorial marketing and policy formulation. The findings revealed marked heterogeneity in economic structures, with districts such as Bukhara City and G‘ijduvon demonstrating clear sectoral dominance—services and industry in the former, and a balanced mix in the latter. Conversely, peripheral districts like Kogon City, Olot, and Qorovulbozor showed limited diversification or heavy reliance on a single sector.

The LQ approach proved effective in identifying strategic economic strengths, helping delineate the relative comparative advantages of each district. Importantly, the analysis highlighted not only areas of existing specialization but also zones of underutilized potential, signaling where regional interventions could yield the greatest development impact.

The results suggest that there is a clear opportunity to formulate specialization-driven marketing policies, aligning regional branding and investment efforts with actual economic structures. By doing so, local governments and development agencies can move from generic development models to tailored, evidence-based planning.

Integration of LQ diagnostics into regional planning documents—particularly development strategies, zoning plans, and investment roadmaps—can facilitate more rational allocation of resources and infrastructure development.

Utilizing LQ results for district-level branding will support the creation of place identities based on economic function, enabling more effective promotion of districts in both domestic and international contexts.

Encouraging inter-district cooperation based on complementary specializations can lead to the emergence of functional economic corridors or clusters.

In conclusion, LQ analysis serves as a powerful tool for regional development strategy design. By illuminating the unique economic profiles of each district, it enables policy-makers in Uzbekistan and similar transitioning economies to pursue more targeted, efficient, and inclusive territorial development, enhancing both competitiveness and cohesion across regions.

REFERENCES

[1] M. E. Porter, "Location, competition, and economic development: Local clusters in a global economy," Economic Development Quarterly, vol. 14, no. 1, pp. 15–34, 2000.

[2] P. Kotler, D. H. Haider, and I. Rein, Marketing Places: Attracting Investment, Industry, and Tourism to Cities, States, and Regions. New York, NY, USA: Free Press, 2002.

[3] S. Anholt, Competitive Identity: The New Brand Management for Nations, Cities and Regions. Basingstoke, UK: Palgrave Macmillan, 2007.

[4] A. M. Isserman, "The location quotient approach to estimating regional economic impacts," Journal of the American Institute of Planners, vol. 43, no. 1, pp. 33–41, 1977.

[5] M. M. Miller, L. J. Gibson, and N. G. Wright, "Location quotient: A basic tool for economic development analysis," Economic Development Review, vol. 9, no. 2, pp. 65–68, 1991.

[6] R. Martin, "Rebalancing the spatial economy: The challenge for regional theory," Territory, Politics, Governance, vol. 3, no. 3, pp. 235–272, 2015.

[7] R. K. Yin, Case Study Research and Applications: Design and Methods, 6th ed. Thousand Oaks, CA, USA: Sage Publications, 2018.

[8] R. E. Stake, The Art of Case Study Research. Thousand Oaks, CA, USA: Sage Publications, 1995.

[9] A. T. Flegg and C. D. Webber, "Regional size, regional specialization and the FLQ formula," Regional Studies, vol. 34, no. 6, pp. 563–569, 2000.

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[10] J. Dunning, Multinational Enterprises and the Global Economy. Wokingham, UK: Addison-Wesley, 1993.

[11] B. Johansson, C. Karlsson, and R. R. Stough, Theories of Endogenous Regional Growth: Lessons for Regional Policies. Berlin, Germany: Springer, 2001.

[12] A. Scott, "Global city-regions: Trends, theory, policy," Oxford University Press, 2001.

[13] P. Cheshire and E. G. Duranton, "Urban economic growth and policy," in Handbook of Regional and Urban Economics, vol. 4, J. V. Henderson and J. F. Thisse, Eds. Amsterdam, Netherlands: Elsevier, 2004, pp. 2713–2778.

[14] S. Pike, A. Rodríguez-Pose, and J. Tomaney, Local and Regional Development. London, UK: Routledge, 2017.

[15] E. Malecki, "Technology and regional development: The role of innovation," Economic Geography, vol. 64, no. 4, pp. 345–365, 1988.