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CHALLENGES IN CULTURAL TOURISM: SPATIAL CONCENTRATION AND PRESSURE ON HERITAGE SITES. EVIDENCE FROM OFFICIAL CULTURE AND TOURISM STATISTICS OF UZBEKISTAN

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Abstrac: Heritage tourism is travel for heritage museums monuments festivals, and continious traditions. It is increasing rapidly. But benefits and pressures are focused on a small number of locations. The paper presents a simple model in which actors, heritage assets transport tourism infrastructure, events, and marketing produce concentration of tourists in some regions and sites. Which then influence results like monument conditions, visitor experiences, local residents' attitudes, and dispersion of local benefits. Heritage and destination management can lessen damage. Model elements are identified for specific locations, where official data do not measure crowding, damage to heritage, or flows of visitors between locations. And then fills gaps with data for museum visits, tourist trips, accommodation, and tourist enterprises by location, which explain in simple models of a dozen regions. Museum visits reached 5.47 million in 2025 (+14.5%) and inbound tourist trips increased 46.8%. Four regionsTashkent city Samarkand Bukhara, and Khorezmhave 82.0% of museum visits and 30.7% of the population. The article concludes with suggestions for improved data and for more equitable distribution of cultural tourism.

Keywords: Cultural tourism Heritage tourism Spatial concentration Overtourism Museums Uzbekistan Secondary data *Article history:* Received [date] Accepted [date]

1. Introduction

Cultural tourism involves the journey to another destination to explore its culture: from its monuments museums art food music, festivals, and more. It is one of the most longstanding and the most widespread forms of tourism in the world (Richards, 2018; UNWTO, 2018). Modern travellers can easily access renowned heritage cites thanks to affordable flights, simplified visa procedures and social media.

Two recurring issues are identified in the research. The first is concentration: visitors do not distribute evenly, but instead gather in a few well-known cities and, within those cities, at a limited number of famous monuments (Russo, 2002; McKercher & du Cros, 2002). The second issue is pressure: when large numbers of people arrive at the same location simultaneously, monuments deteriorate, the visitor experience declines, and local residents may develop negative attitudes toward tourism (Doxey, 1975; Koens et al., 2018). Since around 2017, this situation has been referred to as overtourism (Milano et al., 2019). Most research focuses on European cities like Venice, Barcelona, or Amsterdam. There is limited information about the Silk Road cities in Central Asia.

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Uzbekistan presents an interesting example. Tourism is expanding rapidly: official statistics report 11.7 million foreign trips in 2025, which is 46.8% higher than in 2024 (National Statistics Committee of the Republic of Uzbekistan, 2026a). The country's international image relies almost entirely on its cultural heritage, in particular Samarkand, Bukhara, and Khiva, all of which are included on the UNESCO World Heritage List. Museum attendance reached 5.47 million in 2025, an increase of 14.5% compared to the previous year (National Statistics Committee of the Republic of Uzbekistan, 2026b).

There is a data problem. The National Statistics Committee (stat. Uz) does not give the number of foreign tourists going to each monument, where they go and when they go there, how many of them there are and what state they are in. So this paper can't directly measure crowding or damage. It constructs a basic model in line with the literature. To measure where concentration and pressure could occur, it then uses official figures on museum attendances, tourism trips, stays in tourist accommodation and tourist firms by region as proxies. The proxies don't establish that problems exist.

This paper offers a simple model, three propositions, a set of straightforward indicators, which are constructed solely from publicly available data, and guidance for site managers, regional authorities and statisticians.

2. Literature review and research model

2.1 What is cultural tourism?

Richards (1996) described cultural tourism as traveling to cultural environments outside one's own place of residence to learn and gain understanding. McKercher and du Cros (2002) recognized that cultural tourism brings together two very different sectors with different goals: tourism, which aims to attract visitors, and heritage management, which focuses on protecting irreplaceable resources. Timothy (2011) used the more specific term heritage tourism to refer to travel to sites of historical significance. Consider distinguish between culture as a primary motivation and as a secondary activity; for example, someone visiting family who spends an hour in a museum and someone who travels in particular to visit the Registan have very different motives, but statistics often conflate them.

2.2 Why visitors concentrate

People visit for many reasons. Known sites are identifiable and markets are easier to develop. Tour operators advertise short packages based on a small number of "must-see" sites. Hotel rooms, guides, and transport are provided for the visitors, because of this both supply and demand tend to be optimised. Russo (2002) observed the "vicious circle of heritage cities": more day visitors produce more "rubbish" amenities in the centre, which drives out residents, and reduces the quality of the visitor experience. Butler (1980) observed a similar cycle of growth, maximum capacity and decline if a destination is unmanaged. The crucial point here, for this paper, is that the characteristics that lead to success are also the things that make a site crowded.

2.3 Pressure on sites and on people

Heritage sites. Monuments, streets, and museums have a physical capacity. Too many tourists damage the site and its environment, spoil its atmosphere, and reduce the quality of the experience (Garrod &

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Fyall, 2000). Ticket receipts can be used to maintain the site, but there is a risk that the site may not recover.

Local/areas. Doxey (1975) identified the potential for residents' attitudes to change from euphoria to irritation to antagonism as growth of tourism sped up. Koens et al. (2018) found city problems were due to the merging of a number of different pressures crowding increasing costs and the growth of short term rentals, not necessarily tourism. Conversely there is a regional dimension to concentration, with much of the money and employment generated by overnight visits to a small number of cities, and other areas with attractions not benefiting (Richards, 2018). Milano et al. (2019) considered that the evidence was still limited outside of Europe, requiring more detailed local data.

2.4 Research model

After the literature review comes a simple line of logic (Fig. 1): heritage drivers iconic heritage improvements access events marketing and concentrators of tourists to relatively few locations and regions (P1); and if concentration is faster than capacity and management then impacts are magnified: greater degradation of monuments, a poor experience, less community support, an unbalanced income distribution (P2). Good heritage and destination management might actually reduce impacts: see case studies of timed tickets and capacity limits, new regional circuits, improved visitor data, the income-ploughing-back-into-preservation, and the enabling of local community engagement (P3). These propositions form the research agenda; testing is beyond this paper.

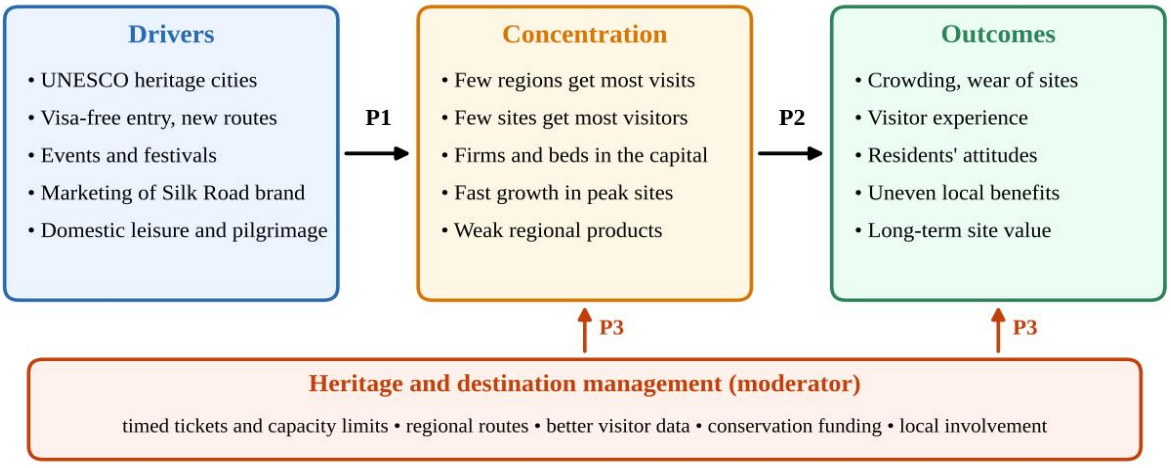


Fig. 1. Conceptual model of cultural tourism: drivers, concentration and outcomes, moderated by heritage and destination management. P1–P3 are the propositions in Section 2.4.

3. Data

3.1 Sources and what is missing

The empirical part is only secondary data. It includes four publications. Tourism and recreation 2025 press release, trips by purpose and accommodation, and tourist organizations by region (National Statistics Committee of the Republic of Uzbekistan, 2026a). Main indicators of culture and art 2025

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press release, museums, and theaters and their visits by region. Museums visits 2024 publication (National Statistics Committee of the Republic of Uzbekistan, 2025). And museums visits 2025 and five most visited museums press releases by the Cultural Heritage Agency (Cultural Heritage Agency of the Republic of Uzbekistan, 2026a, 2026b). All are public and are connected in the references.

None of them measures cultural tourism directly. Trips are recorded by purpose, but culture is not one of the purposes: cultural visits are hidden inside "leisure and recreation", "visiting relatives" and, for domestic trips, "visiting religious places". Museum visits are counted per visit, not per person, and they mix residents, school groups and foreign tourists. The two official sources also count museums differently. Stat. Uz reports 137 museums including branches and 5,474.9 thousand visits in 2025; the Cultural Heritage Agency reports 114 state museums and 6.1 million visits. So all ratios below are only a guide.

3.2 Visits, trips and capacity

Table 1 presents data on museums and museum visits over a five-year period. In 2024, visits declined a lot, then increased in 2025 to 5,474.9 thousand, which remains 3.5% lower than the 2022 figure. In 2025, there were 1,445 museum visits per 10,000 residents. Out of 11,679.6 thousand inbound trips 1 922.1 thousand (16.5%) were for leisure and recreation, while 67.3% were to visit relatives (2026a). Within the country, 25.8 million trips (18.7%) were for leisure, and 12.4 million (9.0%) were to visit religious sites and shrines.

Table 1. Museums and museum visits, 2021–2025

Indicator	2021	2022	2023	2024	2025
Museums, incl. branches	127	134	140	138	137
Visits (thousand)	5,100.0	5,673.8	5,711.2	4,782.6	5,474.9
Visits per 10,000 residents	1,461	1,592	1,568	1,287	1,445
Change in visits (%)	–	+11.3	+0.7	−16.3	+14.5

Note. Source: National Statistics Committee of the Republic of Uzbekistan (2026b); changes calculated by the author.

Table 2 combines the regional figures for 2025. Stat. Uz lists visits by raw number and per 10,000 inhabitants, allowing the size of the population of each region (37.9 million in total) to be derived from the two figures. Tourist enterprises and accommodation sites are from the tourism release. At the national level, there are 3,644 accommodation sites 4 356.1 thousand persons accommodated and 869 tourist enterprises.

4. Methodology

The analysis is descriptive. Visits to museums are compared by time, and relative to trips and accommodation growth. Regional shares and ratios reveal where the cultural visits and tourism services are being focally concentrated. The results are interpreted against the hypotheses from 2.4. No

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statistical tests are performed since all figures are totals and there is no sample, nor were any primary data assembled. All derived figures were taken by the author from published data.

The measures are simple. The concentration index is the share of the nation's visits that take place in a region divided by that region's share of the total population. The index exceeds 1 if the region receives more visits than would be implied by its share of the population. The HerfindahlHirschman index is the sum of the regional shares of visits squared, all multiplied by 10,000; that is 714 if each of the 14 regions had an equal share, and 10,000 if all visits were concentrated in one region. The visits per accommodated person is simply the number of visits to the region divided by the number of persons the region accommodates; the higher the value, the more heavily visited the heritage is, about guests the region gives overnight.

Four limits count. The figures cover places, not visitors. Visits are usually counted each time a site is entered, so one visitor might be counted more than once. The two official sources also use different museum lists. And museum visits are only one dimension of cultural tourism: bazaars mosques mausoleums outside museums, crafts, and festivals aren't included.

5. Results and discussion

5.1 Growth of demand

Cultural tourism is also expanding, but more slowly than travel: the number of museum visits increased by 14.5% in 2025, the number of inbound tourist visits increased by 46.8% (Fig. 2). Accommodation capacity grew even more slowly, the number of rooms increased by 3.6% and the number of accommodated persons by only 2.2%, but bed places increased by 14.7% (2026a). The number of foreign leisure trips (1,922.1 thousand) is about 35% of the number of visits to museums, which implies that lots of visitors to museums are either residents of the country, school classes, or relatives of residents rather than foreign cultural tourists; as Stat. Uz, in 2024, 1.4 million visitors were foreigners (out of a total of 4.8 million), or about 29%; the Cultural Heritage Agency reported about 2 million visitors (out of a total of more than 6 million), or about 33% (2026b) (National Statistics Committee of the Republic of Uzbekistan, 2025).

What implication does that have for concentration and pressure? First, that there is scope for growth: most foreigners currently visit for family reasons, and each additional leisure tourist probably visits the main attractions. Second, if demand continues to grow at a rate higher than the supply of accomodation and services, then pressure will rise in the already most congested areas (P2).

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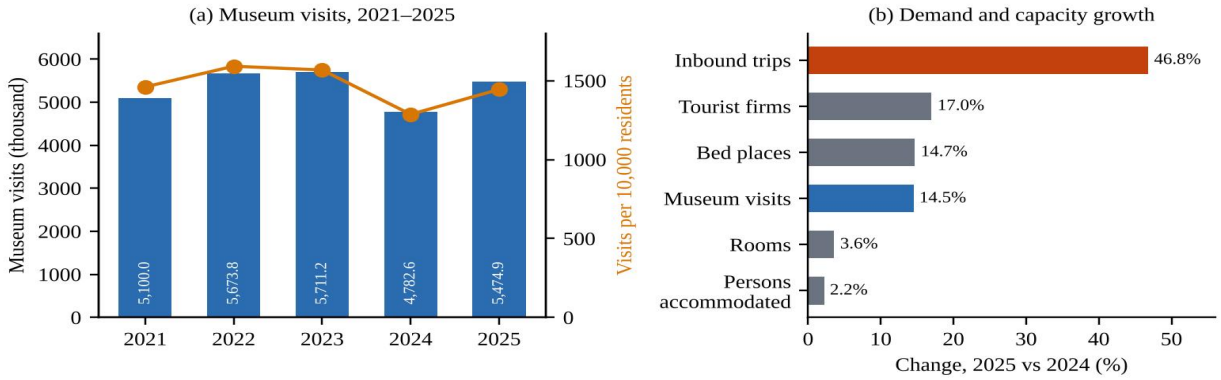


Fig. 2. Demand for cultural visits and tourism capacity. (a) Museum visits and visits per 10,000 residents, 2021–2025. (b) Change in 2025 compared with 2024. Source: author's presentation of stat.uz data (National Statistics Committee of the Republic of Uzbekistan, 2026a, 2026b).

5.2 Concentration in regions

Cultural visits are highly concentrated. Tashkent city accounts for 33.9% of all museum visits with only 8.3% of the population; Samarkand (21.6%), Bukhara (16.1%), and Khorezm (10.4%) are also major urban tourist centers (see Table 2). Together, these four core regions account for 82.0% of museum visits, 67.0% of persons accommodated, 82.2% of tourist firms, and 87.5% of tourist vouchers sold, but only 30.7% of the population (see Fig. 3b). The HHI for museum visits is 2 036 almost three times the value for equal shares.

Table 2. Museum visits, population and tourism services by region, 2025

Region	Museums	Visits (th.)	Share of visits (%)	Share of pop. (%)	Concent. index	Accom. persons (th.)	Visits per accom. person	Tourist firms
Tashkent city	35	1,856.6	33.9	8.3	4.09	1,524.6	1.22	448
Bukhara	18	879.5	16.1	5.5	2.91	388.4	2.26	64
Khorezm	18	570.5	10.4	5.4	1.93	262.7	2.17	29
Samarkand	14	1,183.1	21.6	11.5	1.89	746.1	1.59	173
Kashkadarya	3	265.3	4.8	9.7	0.50	108.8	2.44	13
Karakalpakstan	6	129.8	2.4	5.4	0.44	58.4	2.22	8
Fergana	12	197.8	3.6	11.0	0.33	194.5	1.02	30
Navoi	5	39.5	0.7	2.9	0.25	97.9	0.40	26

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Region	Museums	Visits (th.)	Share of visits (%)	Share of pop. (%)	Concent. index	Accom. persons (th.)	Visits per accom. person	Tourist firms
Namangan	2	100.8	1.8	8.3	0.22	124.5	0.81	9
Andijan	7	101.0	1.8	9.2	0.20	102.6	0.98	12
Surkhandarya	2	77.9	1.4	7.8	0.18	125.7	0.62	13
Tashkent region	5	45.8	0.8	8.3	0.10	463.8	0.10	23
Jizzakh	8	22.5	0.4	4.1	0.10	114.9	0.20	18
Syrdarya	2	4.8	0.1	2.5	0.04	43.2	0.11	3
National	**137**	**5,474.9**	**100.0**	**100.0**	**1.00**	**4,356.1**	**1.26**	**869**

Note. Population calculated by the author from visits and visits per 10,000 residents. Concentration index = share of visits / share of population. Source: author's calculations based on stat.uz data (National Statistics Committee of the Republic of Uzbekistan, 2026a, 2026b).

The pressure indicator indicates somewhat differently. Tashkent city has the highest number of visits and the largest number of hotel rooms; the number of visits per accommodated person is yet 1.22, close to the national average of 1.26. In Bukhara (2.26) and Khorezm (2.17), it is much higher. These are very small historic cities with a very high concentration of visits in themiddle of the old towns to be precise, in Bukhara's historic centre and Khiva's Ichan-Qala. Per Russo (2002), this is where the described vicious circle is most probable. Other very popular areas are Kashkadarya (2.44) and Karakalpakstan (2.22), but with much fewer visits than the first group; in these areas, this ratio indicates lack of accommodation rather than pressure. The accommodation-historic heritage link is even stronger in Khorezm: 29 tourist companies (3.3% of the national total) served 548.7 thousand persons, that is, 27.7% of all persons served by tourist companies (2026a).

But the holdings on some real heritage sites are under-visited. Kashkadarya, where UNESCO has designated the World Heritage of the historic centre of Shahrisabz, has a concentration index of 0.50 but only 13 firms; Fergana, Namangan, and Andijan (home of the craft centres of the Fergana Valley) had indices in the range 0.20-0.33; Syrdarya recorded only 4.8 thou. Visitors to its museums during the whole year; the Tashkent region (on the roads to the mountains and the lake) drew 463.8 thou. Visitors, the third most visited in the country, but only 45.8 thou. To its museums: they come for the mountains, for the landscape, not for the culture (see Fig. 3a).

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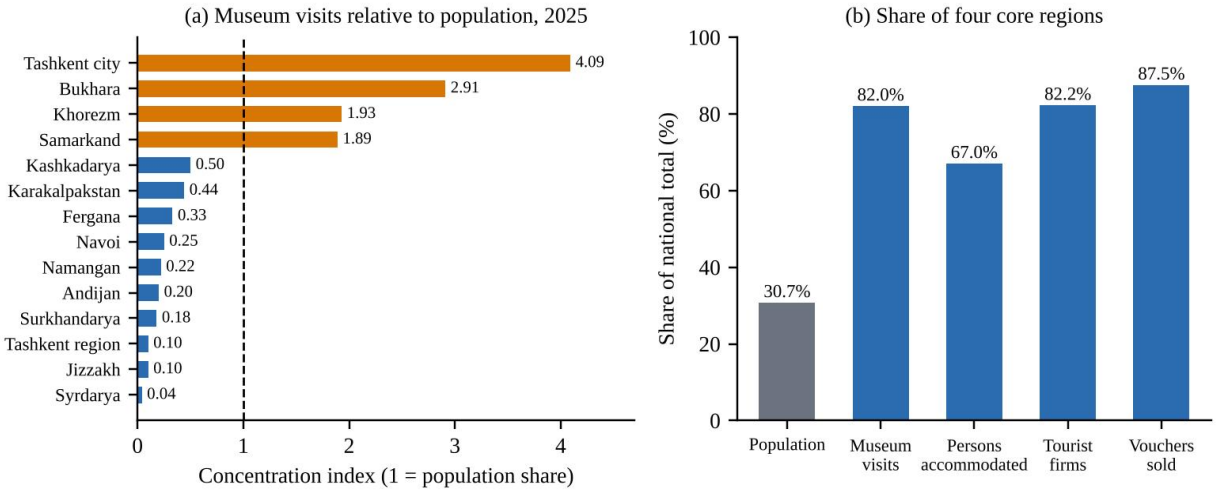


Fig. 3. Regional concentration of cultural tourism, 2025. (a) Concentration index of museum visits; the dashed line marks equal shares of visits and population. (b) Shares of the four core regions (Tashkent city, Samarkand, Bukhara, Khorezm) in national totals. Source: author's calculations based on stat.uz data.

5.3 Concentration on a few sites

There is no indicator of crowding, for example visitors per hour or per square metre, in the statistics. They reveal the excessive focus of visits on only a few sites. In 2025, the five most visited museums of the agency were the Samarkand State Museum-Reserve (1 145 595 visits), the Registan ensemble (1 136 069), the Bukhara State Museum-Reserve (851,714), the Ichan-Qala State Museum-Reserve (476,592), and the Shahrisabz State Museum-Reserve (185,604) (2026b). These museums received altogether 3.80 million visits (about 62% of the 6.1 million allotted to the agency). The visits to the Registan in 2025 increased by 25.1% compared to 2024 and those to the Bukhara Museum-Reserve by 74.1% (National Statistics Committee of the Republic of Uzbekistan, 2025).

Two things stand out. Growth appears to be greatest at sites that are already the busiest, which is what P1 predicts. Also, there is a discrepancy between the official figures: the combined total for the two Samarkand sites is 2.28 million visits, nearly twice the sum reported in the statistics for the Bz site (1,183.1 thousand for all Samarkand region museums). The discrepancy is probably due to the use of two different lists of museums and different calculation methods, but it means that site managers and statisticians do not have a common way of measuring visitor numbers, and without this ability, capacity limits cannot be planned.

5.4 Synthesis

All of these point to three facts first, there's a growing demand for cultural tourism, but the growth of international markets is outstripping the flow of museum visits and hotel arrivals, and is putting increasing strain on each monument. Second, the volume of visitors and their everyday needs is concentrated in just four regions, and even in those the demand is concentrated in a very small number of monuments, with the historic towns of Bukhara and Khiva a disproportionate burden of visitors for

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their size. And third, other areas with potential of high tourism value are under-supplied with tourists Kashkadarya and Fergana, and the management of culture and destinations (P3) will be essential. But the statistics tell us nothing about whether they are already underperforming, or whether visitors avoid the crowds, or residents' attitudes. That is the information to be gained from survey and site visits.

6. Conclusion

A simple model of cultural tourism as drivers of polarization and impact and heritage and destination management buffers of negative impacts was created. The background was provided by government statistics relying on Uzbekistan for historical background: the visits to museums were 5.47 mln in 2025 (+14.5%) the inbound trips increased 46.8%; four regions contribute 82.0% of visits to museums with 30.7% of population, while five sites account for almost 62% of visits to the state museums.

Implications. The most important for statistics would be: to make "culture and heritage" a purpose of travel; to publish site visits by month and site and by whether by a foreign or resident visitor; to define one set of museums for the whole country and one way of counting visits with stat. Uz and the Cultural Heritage Agency. For site managers, take up the options of timed tickets, a daily maximum at the busiest monuments, and follow-up of the physical status of sites; and to devote some of the ticket income to conservation. For regional policy, new routes of culture would diversify visitors and income (not just for tourism as such), e.g. Shahrisabz and Qarshi in Kashkadarya, the craft centres of the Fergana Valley, and the ancient fortresses of Karakalpakstan.

Limitations. This study is descriptive and relies on proxies. It does not assess crowding or damage, nor does it test the propositions. Museum visits represent only one aspect of cultural tourism, and the two official sources provide differing data.

Future research. The number of visitors per hour at the monuments, surveys of tourists and residents in Samarkand, Bukhara, and Khiva and comparisons with other key Silk Road sites in Central Asia would seem to test the hypotheses.

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