# An Analysis of Overtourism Policies in Cities by Combining Quantitative and Qualitative Criteria

Overtourism has emerged as a global concern because of its worldwide negative impacts on society, culture, nature, and the environment. Local authorities have been implementing policies to solve the negative consequences to some extent. However, links between overtourism and the policy have rarely been investigated. This study categorised the policies into types and levels based on qualitative information and ranked overtourism as ordinal with quantitative information. By investigating the data for selected cities, the correlation between policy strictness and overtourism degree was analysed. The findings indicate that the combination of quantitative and qualitative indicators might be a useful tool to compare overtourism degrees on a relative basis. Some typical types of reactions of destinations to the overtourism problem, which might be a determinant of destination tourism development, were found.

Keywords | **overtourism, qualitative analysis, quantitative analysis, overtourism policy**

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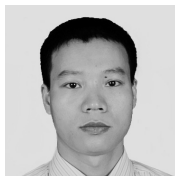
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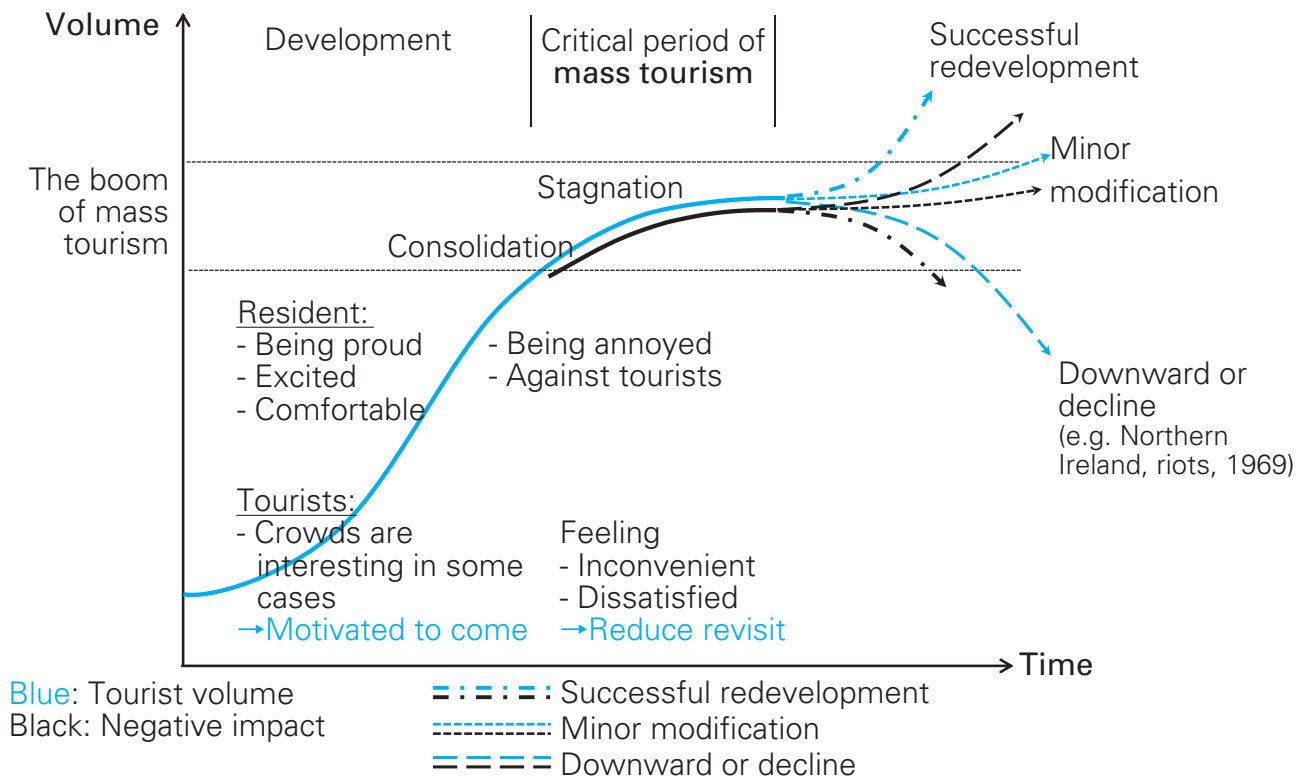
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1——Introduction

Overtourism has emerged as a global concern. The overtourism phenomena have been recognised across continents, for example, in the United States[1], Europe[2–4], Oceania[5], and Asia[6,7]. The negative impacts of overtourism have been observed in all aspects of destinations, for example, societal disturbance to residents caused by too much noise, littering, and inappropriate behaviours[8,9]; the overly crowded condition endangers culture, nature, and the environment[4,10,11]; even in some cities, under the overtourism pressure, the local demography and identity have been lost, for example, in Venice[12] and Dubrovnik[13].

The attendees at the G20 tourism ministers' meeting[14] in Kutchan, Hokkaido, expressed concerns about the global organisation to address overtourism. The main theme of the meeting was "Shifting towards more sustainable tourism and maximising its contribution to the Sustainable Development Goals (SDGs)." The Chairman (Kazuyoshi Akaba) of the meeting said, "We must study measures to address friction between tourists and locals and to protect the environment"[15]. Overtourism mitigation is a critical task contributing to SDGs.

Butler (1980)[16] introduced the concept of a tourist area cycle evolution; in the concept, he described that the development of a tourist area often experiences several stages (Figure—1). At the stage when the tourist volume approaches the local carrying capacity because of the massification of tourism, the development of tourism at the destination tends to stagnate. At this stage, the destination, for example, communities, nature, and culture, tends to be more sensitive to the increase in tourist volume and inappropriate behaviours. If the destination successfully implements the policy, tourism may successfully redevelop; otherwise, it may be down-warded or decline because of the increase in negative impacts.

Some international organisations have developed and recommended a system of criteria for sustainable tourism destinations, such as GSTC or GSTC-D[17–19] and ETIS[20]. Some countries, e.g., Japan, have adopted those sustainable tourism criteria with some local customisations for their promoting sustainable tourism industry[21]. Notwithstanding, those systems are

Volume

Development | Critical period of **mass tourism** | Successful redevelopment

The boom of mass tourism

Stagnation

Consolidation

Minor modification

Resident:
- Being proud
- Excited
- Comfortable
- Being annoyed
- Against tourists

Tourists:
- Crowds are interesting in some cases
→Motivated to come

Feeling
- Inconvenient
- Dissatisfied
→Reduce revisit

Downward or decline
(e.g. Northern Ireland, riots, 1969)

Time

Blue: Tourist volume
Black: Negative impact

═ ∶ ═ ∶ ═ ∶ Successful redevelopment
═══════════ Minor modification
═ ═ ═ ═ Downward or decline

(adapted and adjusted based on Butler, 1980, The Concept of a Tourist Area Cycle of Evolution: Implications for Management of Resources)

■**Figure—1   Overtourism and destination development**

important in promoting sustainable tourism by primarily proposing indicators that recommend tourism destinations to apply for the sustainable development purpose in general; they do not recommend models or evaluation methods to assess the tourism industry at destinations. Overtourism is a special situation; thereby, both tourists and residents feel there are too many tourists or too much adverse impacts[22]. Because overtourism is much related to the 'feelling' of tourists and residents, the quantitative criteria are not enough. This study offers an analytical approach to combine both quantitative (density, intensity of tourists, occupancy rate, day-night trips ratio) and qualitative criteria (opinion of local experts) to evaluate overtouirsm at 28 cities worldwide.

To date, several studies have investigated overtourism policy implementations. The study of MLIT in Japan (2018)[23] focused on six international and four domestic areas. The study investigated the tourism situations by using an email-based survey, a site survey, and an informal survey through the internet. The information on the negative phenomena perceived by local destination management organisations (DMOs) to be caused by tourism and local strategies were aggregated. Another study, by UNWTO (2019)[24], reviewed the policies implemented

or under discussion in 14 European cities, three Asian cities, and one US city. The study presented the overtourism situation and management in 19 cities, which relied on the 11 strategies and 68 measures proposed by UNWTO (2018)[25]. Weber et al. (2017)[26] focused on the impacts of tourism on economic, political, environmental, social, and cultural aspects of 11 destinations under the pressure of tourism.

The commonalities of the aforementioned studies are as follows: They emphasised the necessity to manage social-economic drivers of tourism and ensure benefits to destinations (e.g., local communities, environment, economy) and tourists to ensure the sustainable development of tourism in the cities. Also necessary is cooperation across sectors and measures considering the wider city-policy structure. Although the overtourism in each city was well described, the evaluation or comparison of overtourism situations, policy implementations, and the extent to which the policies were implemented according to the degree of overtourism had not been documented well.

The objectives of this study were as follows: first, the overtourism degree (or level) in some cities was investigated and evaluated on a relative basis based on the composite indicator, which was formed by relying on both quantitative and qualitative criteria. Second,

overtourism policies in those cities were investigated and qualitatively ranked as ordinal to compare that result with the degree of overtourism. The remainder of the paper is organised as follows: In section 2, the methodologies, which include the data collection method and analysis method, are presented. The results of the analysis are introduced. The discussions and conclusions are in the final section.

2 — Study design and methods

2.1 Study design

The survey was designed as non-random. Fifty cities that reported overtourism were identified based on newspapers, academic fora, UNWTO reports, and academic papers. The survey had two parts: (i) The first part was an email-based survey conducted to obtain two types of information: qualitative information on overtourism (opinion of local experts on the degree of excessive tourist, see box 2 in Figure—2), and information of policy which are implementing or under preparation (box 3 in Figure—2). (ii) The second part was data collection to obtain two types of information: The quantitative statistical data (box 1 in Figure—2) and information of policy implementing or under preparation (see box 4 in Figure—2). Because the policy information was not always fully provided by the interviewees, the policy information collection was required to obtain the necessary information for judgment fully.

The interviewees were chosen to obtain reliable information on the degree of excessive tourist and policies implemented in the cities. The interviewees were either local tourism officers, who directly worked in tourism authorities (e.g., local tourism DMOs, local tourism bureaus, local tourism departments) or local tourism researchers who have published tourism research. The contact details of the local experts were identified through the websites of local tourism authorities and local research institutions.

The questionnaire for the e-mail-based survey included two parts. The first part, to collect the information about the degree of excessive tourist, was designed as a five-point Likert scale, which supposes as a great discriminant[27]. In this study, the level of an excess of tourists was used as an indicator of
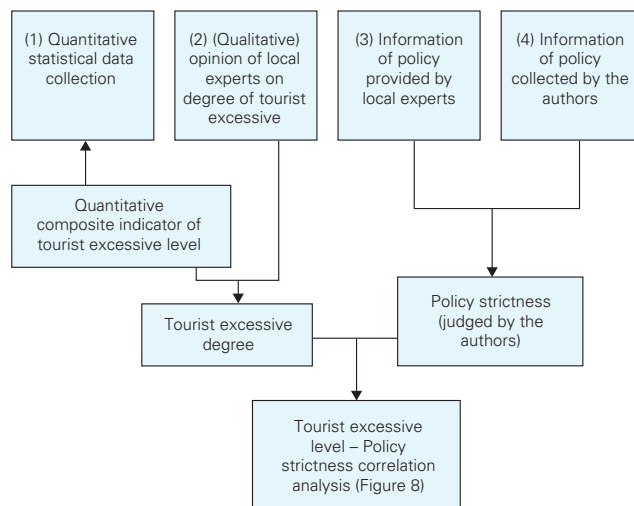

■Figure—2 Data collection and survey design

overtourism level. The interviewees were asked about their general perceptions of the level of excess tourists during the tourism seasons in some typical tourist areas, such as tourist spots, local transport systems, restaurants, and shops and recreational areas (referred to as tourism locations). The second part, to collect the information of policy implementation or under discussion, was designed as an opened-end question. The interviewees were encouraged to fill in the opened-end question in the designated form with as much detail as possible of overtourism policies (Table—1). In some cases, the interviewees provided the URLs to access the policy information. In these cases, as aforementioned, the policy information collection was conducted through the official websites of local tourism authorities.

Both policy information provided by local experts and collected by the authors gathered together for strictness judgment. The policy strictness was categorised into three levels by a judgment of the authors based on how strong the policy impact tourists. In particular, low strictness level was defined including policies that focus on educating tourists to change their behaviours (e.g., education, propaganda); medium strictness level was defined including policies such as tourist taxation, dispersion; and high strictness level included policies that strongly force tourists to change their behaviours, such as restriction of tourist arrivals, fine inappropriate behaviours of tourists.

The results of the e-mail-based survey contained respondents of 28 cities worldwide (Figure—3): 12 in Europe, one in Thailand, one in China, seven in
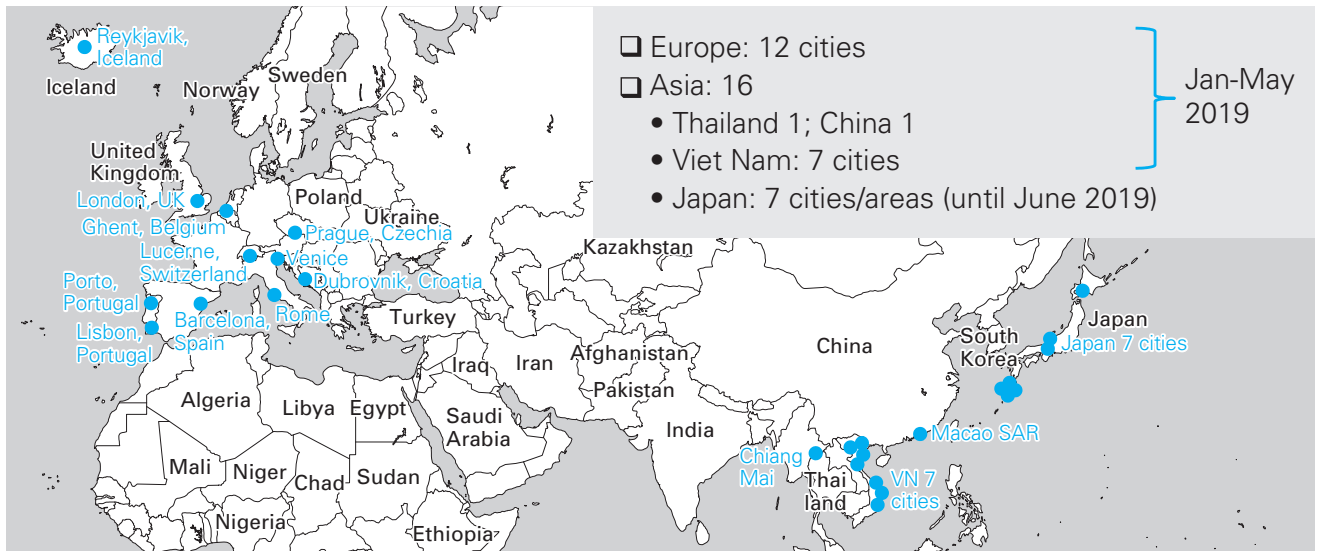
Source: authors composed data
■Figure—3 The survey areas

■Table—1 Surveys and collected items

Survey types	Criteria used in the study
(i) E-mail based survey	- Excess of tourists in general at typical tourist spots in the area (local transport systems, restaurants, shopping malls and recreational areas), - Policies have been implemented or are under discussion (interviewees freely provided any information as far as their knowledge).
(ii) Statistical data and information collection	- Tourist density (tourists/Km2. day), - Tourist intensity (tourists/resident.year), - Seasonal distribution (ratio of tourist volume in peak: off-peak season), - Day-night tourist volume distribution (ratio of day and overnight tourist volume) - Average occupancy rate of accommodation in one year, - Policy information collection: To elaborate on the information provided by the interviewees.

Vietnam, and seven in Japan. The second part of the survey, data collection (box 1 and 4 in Figure—2), focused only on these 28 cities. The statistical data collection included tourist volume to the cities monthly, quarterly, or seasonally; the number of day trips and night trips; peak season length in months; occupancy of accommodation; and population total and administrative area of the cities (the sources of the data collection is presented in Appendix). Five main criteria were then determined (Table—1).
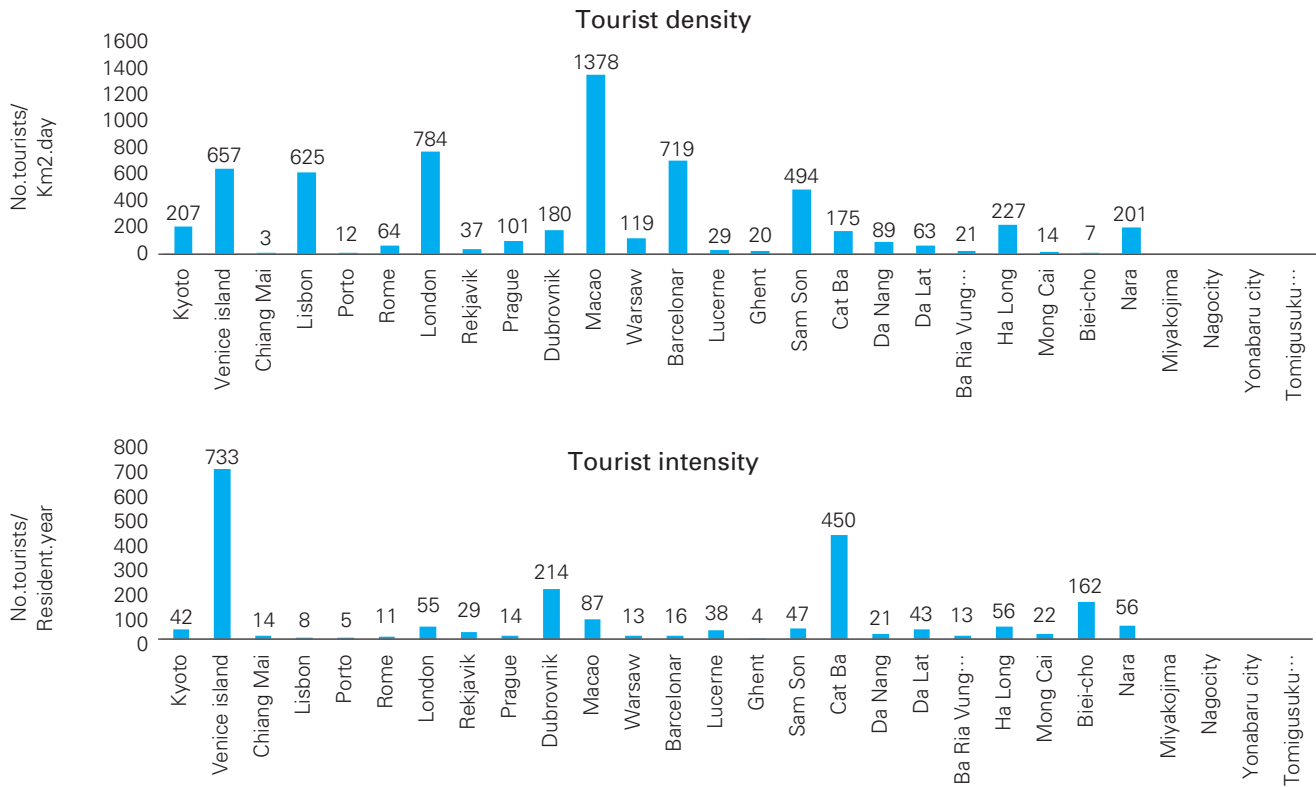
2.2 Results of the data collection and email-based survey

In this subsection, we present tourist density, tourist intensity, seasonal distribution of tourists, day-night distribution of tourists, the occupancy rate of accommodation, and the perception of local experts on the excess of tourists in tourist spots, local transport, restaurants, shopping areas, and other recreational areas in tourism seasons. Generally, the values of the criteria indicate the different situations in those cities. This leads to the significance of utilising the composite indicator for comparison. Specifically, tourist density (Figure—4, upper panel) indicates the average number of tourists per Km2 per day. Tourist intensity (Figure—4, lower panel) presents the average number of tourists that one local resident passively "welcomes" in one year.
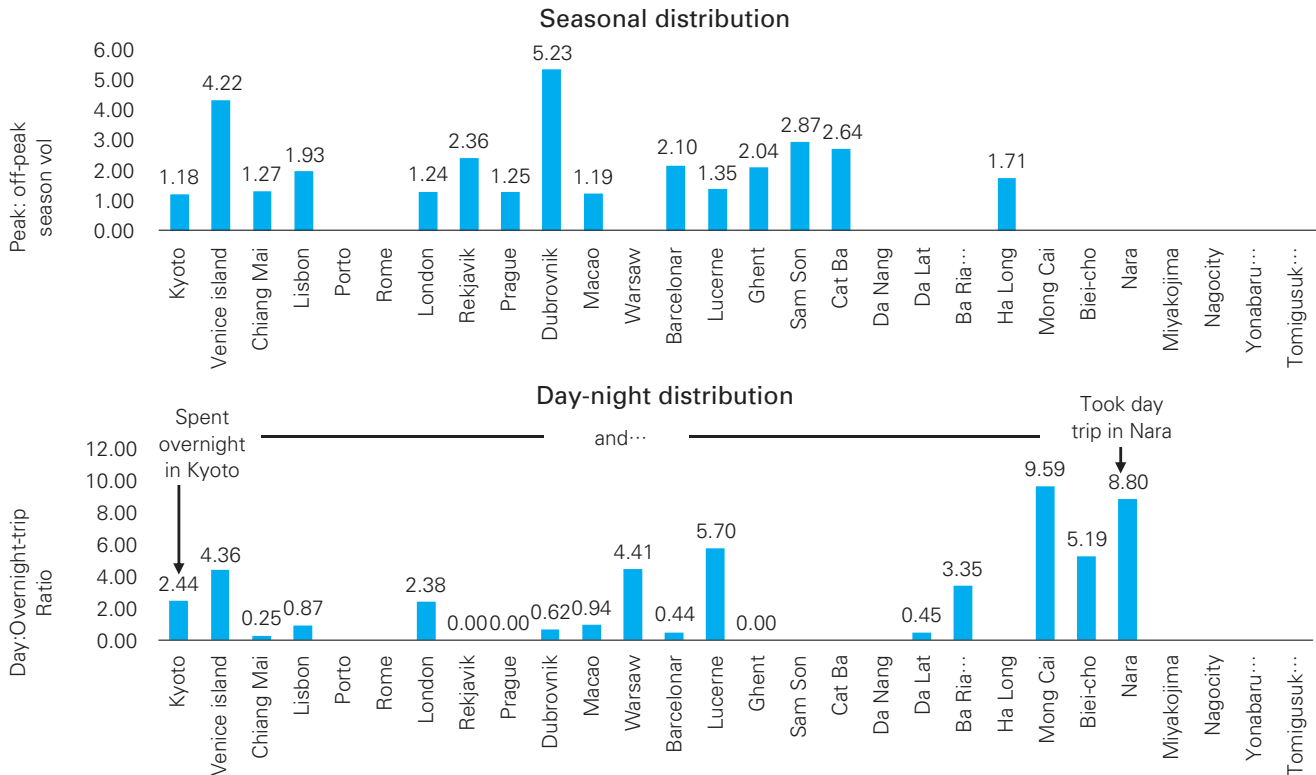
The tourist density criterion showed that Venice, Lisbon, London, Macao, Barcelona, Sam Son are much higher than the others. Tourist intensity showed that Venice, Dubrovnik, Cat Ba, and Biei-cho are very high tourist-intensity cities. Moreover, the density and intensity criteria provided information that may be interpreted as the different impacts of the situation of an excess of tourists on residents. For example, Macao, on the one hand, was relatively small in terms of geometrical area; thus, tourist density was high; on the other hand, the population was relatively high, leading to the low tourist intensity. These figures for Macao were in contrast to those of Venice, Dubrovnik, Cat Ba, and Biei-cho, where geographical areas were relatively larger, and the population was lower.

The ratio between tourist arrivals monthly in peak seasons and those in off-peak seasons is considered as the seasonal distribution of tourists. In other words, this criterion indicates the uneven distribution of

Tourist density

No.tourists/ Km2.day

Kyoto 207, Venice island 657, Chiang Mai 3, Lisbon 625, Porto 12, Rome 64, London 784, Rekjavik 37, Prague 101, Dubrovnik 180, Macao 1378, Warsaw 119, Barcelonar 719, Lucerne 29, Ghent 20, Sam Son 494, Cat Ba 175, Da Nang 89, Da Lat 63, Ba Ria Vung… 21, Ha Long 227, Mong Cai 14, Biei-cho 7, Nara 201, Miyakojima, Nagocity, Yonabaru city, Tomigusuku…

Tourist intensity

No.tourists/ Resident.year

Kyoto 42, Venice island 733, Chiang Mai 14, Lisbon 8, Porto 5, Rome 11, London 55, Rekjavik 29, Prague 14, Dubrovnik 214, Macao 87, Warsaw 13, Barcelonar 16, Lucerne 38, Ghent 4, Sam Son 47, Cat Ba 450, Da Nang 21, Da Lat 43, Ba Ria Vung… 13, Ha Long 56, Mong Cai 22, Biei-cho 162, Nara 56, Miyakojima, Nagocity, Yonabaru city, Tomigusuku…

(blank columns indicate the missing information)

■Figure—4　Tourist density and intensity

Seasonal distribution

Peak: off-peak season vol

Kyoto 1.18, Venice island 4.22, Chiang Mai 1.27, Lisbon 1.93, London 1.24, Rekjavik 2.36, Prague 1.25, Dubrovnik 5.23, Macao 1.19, Barcelonar 2.10, Lucerne 1.35, Ghent 2.04, Sam Son 2.87, Cat Ba 2.64, Ha Long 1.71

Day-night distribution

Day:Overnight-trip Ratio

Spent overnight in Kyoto

and…

Took day trip in Nara

Kyoto 2.44, Venice island 4.36, Chiang Mai 0.25, Lisbon 0.87, London 2.38, Rekjavik 0.00, Prague 0.00, Dubrovnik 0.62, Macao 0.94, Warsaw 4.41, Barcelonar 0.44, Lucerne 5.70, Ghent 0.00, Da Lat 0.45, Ba Ria… 3.35, Mong Cai 9.59, Biei-cho 5.19, Nara 8.80
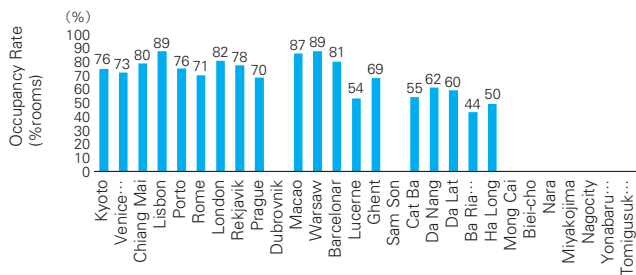
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■Figure—5　Tourist seasonal and day-night distribution

tourist arrivals between seasons (Figure—5, upper panel) in one year and the day time–night time (excursions-accommodation tourists) trips that were supposed to be affected by overtourism.

In Figure—5, the upper panel shows that Venice and Dubrovnik were affected by the seasonality. The

tourist volume in the peak season was from 4 to 5 times higher than that in the off-peak season. In the lower panel (Figure—4), the day–overnight trip ratio demonstrates that Mong Cai, Lucerne, Biei-cho, Warsaw, and Venice island were highly unbalanced between day and overnight trips. The day trips in

(blank columns indicate the missing information)

■**Figure—6　Accommodation occupancy rate**
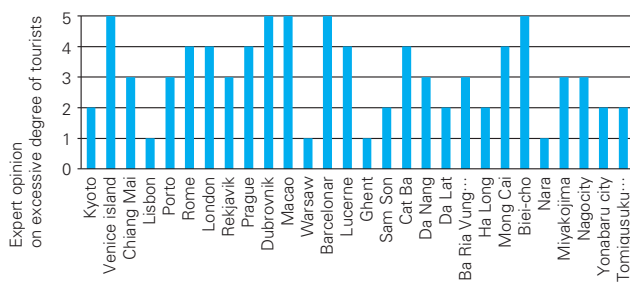
■**Figure—7　General perception of local experts on the degree of excessive tourist at local transport, restaurants, shops and other recreational areas in tourism season**

those cities were from more than 4 to 9 times higher than the overnight trips. Further, based on the observations of tourist volume in Nara city and Kyoto, we hypothesised that many tourists overnighted in Kyoto, then took day trips to visit Nara, and then returned to Kyoto. This indicates that Nara may be more affected by day-trip visitors than Kyoto is.

Facility utilisation is also considered as a criterion of overtourism. In most of the cities, for example, Kyoto, Lisbon, and Barcelona, the average hotel occupancy rates were from more than 70% to more than 80% (see Figure—6).

Figure—7.General perception of local experts on the degree of excessive tourist at local transport, restaurants, shops and other recreational areas in tourism season

The results of the email-based survey of local experts on the level of the excess of tourists were based on a five-point Likert scale (Figure—7). Four of 28 experts, each of them from one city, namely Lisbon, Warsaw, Ghent, and Nara shared that the tourism spots, local transport systems, local restaurants, shops, and other recreational areas in their cities did not have an excess of tourists in general. Five of them, in Venice, Dubrovnik, Macao, Barcelona, and Biei-cho, shared that those locations in their cities

had a substantial excess of tourists in the tourism season. Six cities—Rome, London, Prague, Lucerne, Cat Ba, and Mong Cai—had a high excess of tourists. The other cities had no or a moderate excess.

2.3 Policy strictness - Excessive tourist degree analysis method

2.3.1 Excessive tourist degree

Degree of excessive tourist of a destination, in this study, was assessed based on the composite quantitative indicator, which is based on the quantitative criteria collected from data collection, such as tourist density, tourist intensity, seasonality, day-night tourist distribution, occupancy rate as presented in previous sections. Along with composite quantitative indicator, opinions of local experts on the degree of excessive tourist were also utilised.

Because the information on tourist volume was collected, the overtourism level of the cities was represented in terms of excessive degree. The comparative analysis of policy and the degree of excessive tourists was executed based on a relative basis. The composite indicator was constructed by relying on the guidelines of the OECD, Union and Commission (2008)[28].

$$y_{ki} = \frac{x_{ki} - \bar{X}_k}{sd_k}$$

$$\bar{Y}_i = \frac{1}{k} \sum y_{ki}$$

$$L_{quan} = \begin{cases} 1 \ if \ \bar{Y}_i \in (0, 0.2]Q \\ 2 \ if \ \bar{Y}_i \in (0.2, 0.4]Q \\ 3 \ if \ \bar{Y}_i \in (0.4, 0.6]Q \\ 4 \ if \ \bar{Y}_i \in (0.6, 0.8]Q \\ 5 \ if \ \bar{Y}_i \in (0.8, 1]Q \end{cases}$$

where,

x_{ki} : criterion k of city i,

k : criterion used in this study, for instance, tourist density, tourist intensity, seasonal distribution, day-night distribution, and accommodation occupancy rate,

$\bar{X}_k$: mean of criterion k,

sd_k : standard deviation of k,

$\bar{Y}_i$: a composite indicator of city i,

L_{quan} : degree of excessive of city i, and

$(p_1, p_2]Q$: quantile of $\bar{Y}_i$ with probability p_1, p_2.

First, the criterion k was standardised (equation 1). The composite indicator $\bar{Y}_i$ of the city i was then estimated as the mean of all five standardised criteria (equation 2). Finally, the degree of excessive tourists was ranked on a five-point Likert scale corresponding to 20% quantile (equation 3). The results of the composite indicator ($\bar{Y}_i$), ranking (L_{quan}) are shown in Table—2.

The degree of excess was based on the ranking with the composite indicator. However, a composite indicator of some cities, such as Yonabaru, Tomigusuku, Miyakojima, Nagocity, Biei-cho, was not available due to the unavailability of the statistical data. The experts' opinions were used for the cities that missed the composite indicator. Because most (17/28) of the cities demonstrated that the excessive tourist degree obtained by local experts and by composite indicator was consistent, we assumed that the excessive tourist degree at the cities that unavailability of the composite indicator also was consistent with the opinion of local experts.

2.3.2 Policy strictness and its correlation with excessive tourist degree

Information on the policy implementations at cities, which provided by the interviewees and collected by the authors, was gathered. Based on self-judgment, the strictness of tourism policies was categorised into three levels relying on the strictness: 1. Low strictness for policies focusing on raising the awareness of tourists and residents, such as education and propaganda; 2. Medium strictness for policies such as taxation and tourist dispersion; 3. High strictness for policies that monitoring the tourist volume, such as restriction tourist arrivals and fine bad behaviours (Table—2). Because tourism is promoted due to its primary economic benefit, we hypothesize that the policy implementation of the cities may be dependent on their social-economic condition. The 28 cities were classified into two categories, namely low income and high income. The qualitative correlation between policy and the excessive degree was then analysed and illustrated in Figure—8.

3──Analysis results and discussions

3.1 Local experts' opinions and the excessive degree of tourists based on composite indicators

The comparison of excessive degree based on composite indicators and experts' opinion is presented in Table—2. In this study, we defined that if the difference between excessive degree based on the composite indicator and experts' opinion was ±1, the ranking was considered consistent. This definition seems arbitrary; however, when using a five-point Likert scale, the response tends to be dependent on personal psychology or feelings. The ±1 difference could be acceptable. We found that, in most of the cities (17/28), the opinions of local experts on the degree of excess at local tourism locations in general were consistent with the ranking based on the composite indicator (Table—2).

In some cities, for example, Chiang Mai, Lucerne, Ba Ria-Vung Tau, and Prague, the local experts supposed that the excess degree of tourism locations was much higher than those of the entire city. Through the

■Table—2 Excess degree based on composite indicators and experts' opinion

No.	Cities	Composite indicator (CI, $\bar{Y}_i$)	Degree of excessive with CI (DECI, L_quan)	Experts' opinion	Policy strictness
Consistency					
1	Da Lat	−2.64	1	2	1
2	Ha Long	−2.45	1	2	1
3	Kyoto	−1.15	2	2	3
4	Nara	−1.53	2	1	1
5	Ghent	−1.63	2	1	1
6	Da Nang	−1.66	2	3	1
7	Porto	−0.91	3	3	1
8	Rome	−1.11	3	4	2
9	Reykjavík	−0.50	3	3	2
10	Sam Son	0.80	3	2	1
11	Cat Ba	0.76	3	4	1
12	London	1.09	4	4	1
13	Barcelona	1.03	4	5	2
14	Venice	6.99	5	5	3
15	Dubrovnik	1.91	5	5	3
16	Macao	2.80	5	5	2
17	Mong Cai	1.33	5	4	1
Expert opinion 〉〉 EDCI: (difference = 2+)					
18	Chiang Mai	−2.34	1	3	1
19	Lucerne	−2.03	1	4	1
20	BR Vung Tau	−3.08	1	3	1
21	Prague	−1.89	2	4	2
Expert opinion 〈〈 EDCI: (difference = 2+)					
22	Lisbon	0.88	4	1	1
23	Warsaw	1.04	4	1	1
Cities that were missing statistical data					
24	Yonabaru	−	−	2	2
25	Tomigusuku	−	−	2	1
26	Miyakojima	−	−	3	1
27	Nagocity	−	−	3	1
28	Biei-cho	−	−	5	3

Note: DECI, Degree of excessive tourists with a composite indicator
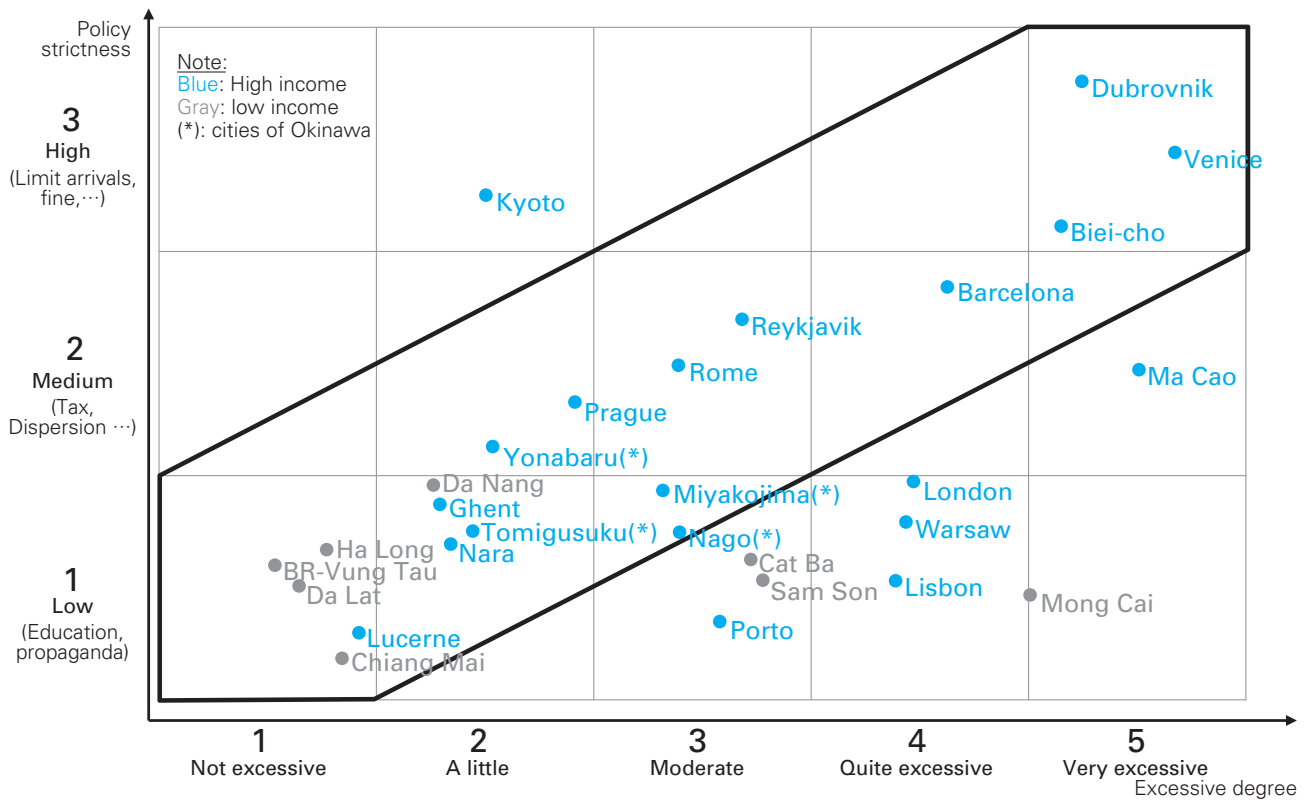
■Figure—8 Excessive degree of tourists vs. policy strictness

comparison of the opinions of the local experts and the composite indicator, we found that in such cities, there was a substantial imbalance in the concentration of tourists between the tourism locations and the remaining areas of the cities. In other cities, such as Lisbon and Warsaw, the ranking based on the quantitative composite indicator indicated that the cities had an excess of tourists, suggesting that the degree of excessive tourist in the overall city area was high. However, the local experts supposed that the tourism locations were not excessive. These opinions of local experts, to some extent, affected overtourism policy implementation (Figure—8). Thereby the level of tourism policy strictness was assessed as low.

The composite indicator, obtained from quantitative criteria, expressed the average crowdedness of the whole city. Notably, overtourism is largely caused by the spatial distribution of tourists, which was unavailable. In this study, the experts' opinions as to what extent they feel is an excessive number of tourists in tourism spots, local transport systems, restaurants, and other recreational areas to express the spatial distribution of tourists were used to compare with the ordinal degree of excessive obtained with quantitative data. This comparison was to qualitatively

identify how concentrated tourists were at destination tourism locations and understand more about the viewpoints of local tourism experts.

3.2 Correlation between overtourism policies and the excessive degree

The analysis of the correlation between policy strictness and excessive degree is presented in Figure—8. Qualitatively, the figure was divided into three areas corresponding to three types of policy implementation. The top-left area contains cities that applied stricter policies to a lower excess degree of tourists. This area describes the cities' early overtourism prevention. The bottom-right area contains the cities at a higher excess degree that did not apply less strict policies. This area indicates the cities' most recent reaction to overtourism. The middle area contains cities now implementing policies to ameliorate the negative consequences of overtourism. Several important points must be discussed.

The first point is how the local authorities' viewpoint affects policy implementation. For example, in Lisbon, Porto, and Warsaw, the report was an excess of tourists. However, local experts also report no overtourism. A tourism officer in Lisbon city

commented, "In Portugal, there are considerably tourists to Lisbon... we consider that we still do not have overtourism problems" (The name, position, office address of the local experts was omitted as the confidential requirement of the survey). In those cities, only educational measures or no specific policies had been implemented. Local authorities' viewpoint played a vital role in issuing and implementing overtourism policies.

The second point is the different policy trends in low- and high-income cities. High-income cities tended to apply stricter policies because they have a higher degree of excess tourists. Low-income cities applied solely to educational measures. We found that economic benefit may be a primary determinant for policy consideration. A local tourism officer in a city of a developing country opined, "More crowded tourists provide more economic benefit and job for local. We see it is much positive than the negative impacts... ".

3.3 Best policy practices

This subsection aims to identify the best policy practices that may be generalisable to other cities. The method is based on policy responses. However, because the overtourism policies were mostly in the early stages of implementation or under discussion, few evaluation reports were available. This study identified the best policy practices from the viewpoint of reacting to overtourism. We relied on reviewing the information obtained from local experts (tourism managers and/or researchers) and limited information from local government websites, and analysing the correlation between policy strictness and the excessive tourist degree.

The first case was Kyoto city. The best policy practices for the early prevention of overtourism (Figure—8) applied strong policies to a relatively low excess of tourists. Although the composite indicator and local expert suggested that the degree of excessive tourist in Kyoto was little in the whole city, the local government has been implementing some strict policies in integration with tourism dispersion to ease the overtourism situation at some of the specific tourism spots, such as world heritage sites. Some of the strict policies are fine for littering, bicycle drink

riding, taking picture prohibition at some specific areas[8]. Along with strict policies, the local residents are encouraged to support the tourism industry with their voluntary activities, for instance, cleaning areas in front of their houses, support tourists.

The second case, Dubrovnik, Croatia, had the best policy practices for controlling tourist volume to mitigate the negative consequences. The mayor of the city said, "We will lose money in the next two years - a million euros maybe by cutting the number of tourists - but in the future, we will gain much more. We deserve to be a top-quality destination[29]." The tourist arrivals from cruise ships were limited to ～4,000 at any time. This measure was supposed to significantly reduce the tourist volume of 6,000–10,000 in the peak season. There were two reasons for the success of Dubrovnik. First, the city prioritised controlling overtourism over maximising economic benefits. Second, the city took advantage of the special condition of traffic access for policy implementation.

4 — Conclusions and recommendations

This study analysed 28 cities with a combination of quantitative and qualitative criteria. The qualitative correlation between policy strictness and the degree of excessive tourists was also presented. We found the following: Firstly, an integration of composite indicator and viewpoint of local experts on degree of excessive tourist was useful to compare overtourism situations and policies. As aforementioned in section 3.1, either a composite indicator or opinion of local expert on degree of excessive tourist was appropriate to present overtourism situation for areas where the temporal-spatial distribution of tourists is quite even. In the cases the distribution of tourists is too unbalanced, for example, tourists concentrate on specific periods or locations, the integration of composite indicator and the opinion of local experts provide insights for the overtourism situation at destinations.

Secondly, the viewpoints of local tourism authorities played a vital role in overtourism policy implementation. In practice, the policy proposed by local tourism authorities is dependent on the extent to the critical degree of overtourism the decision-makers perceive. The critical degree of overtourism perceived by local

tourism decision-makers is formed by their perception of excessive tourist degree, the frequency they observe inappropriate behaviours, as well as adverse impacts of overtourism on local communities. In section 3.2, we demonstrated that the level of policy strictness was highly correlated with the degree of excessive tourist in high-income cities, which was believed that the level of policy strictness was a reflection of the local experts' perception.

Thirdly, most of the high-income cities have been implementing policies to solve the negative consequences of overtourism. The level of policy strictness was found to be associated with the degree of excessive tourist. Reasons were still remained to be elucidated; however, we assumed that the policies were proposed as problem-solving centric rather than problem-preventing centric. In other words, policies were proposed after the problems emerged. The policies proposed a step before problems appear were found rarely. The case of Kyoto, which has introduced policies that are relatively stronger than necessary compared with the degree of overtourism to prevent further impacts from overtourism, was considered as a good case for overtourism prevention. This early implementation policy should be encouraged and applied to other cities.

Finally, the best policy practices for preventing overtourism and controlling tourist arrivals were identified. Although the evaluation of the policy implementations at the cities that experience overtourism has not available yet, the best policy practices were identified based on the action plans of the local governments. This is one of the objective limitations of the study. Nevertheless, as the mayor[29] of Dubrovnik city said, it is worth trading the short-term benefit for more sustainable development in the future. The appropriate policies should be considered to tackle overtourism problems.

The analysis in this study was based on quantitative and qualitative indicators obtained from tourist volume. This is widely known as a source of overtourism. In addition to tourist volume, tourists' inappropriate behaviours are also important sources of overtourism. One of the limitations of this study is that the behaviours of tourists were not considered in the analysis. Another limitation is that the data are inconsistent and statistical information is missing. Further, most of the policies were in the early stages of implementation or under discussion; thus, few policy evaluation reports were available to support identifying the best policy practices. In addition to local experts, i.e., local tourism officers and tourism researchers, residents and tourists are the other two key stakeholders involved in overtourism. The impacts of overtourism on residents and tourists should be topics for further research.

Appendix. Sources of statistical data

No.	Cities	Sources of statistical data
1	Da Lat	30–33)
2	Ha Long	34–39)
3	Kyoto	40–45)
4	Nara	46)
5	Ghent	47–50)
6	Da Nang	51–55)
7	Porto	56–58)
8	Rome	59–63)
9	Reykjavík	64–68,68–71)
10	Sam Son	72–76)
11	Cat Ba	77–80)
12	London	81,82)
13	Barcelona	83–85)
14	Venice	60,86–89)
15	Dubrovnik	90–95)
16	Macao	96,96)
17	Mong Cai	97,98)
18	Chiang Mai	99)
19	Lucerne	100–102)
20	BR Vung Tau	103–106)
21	Prague	107)
22	Lisbon	108–110)
23	Warsaw	111)
24	Yonabaru	NA
25	Tomigusuku	NA
26	Miyakojima	NA
27	Nagocity	NA
28	Biei-cho	112–115)

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量的基準と質的基準を組み合わせた都市のオーバーツーリズム政策の分析

　オーバーツーリズムは, 社会, 文化, 自然, 環境面で悪影響を及ぼしており, 世界的な懸念事項となりつつある. そうした負の側面を解決するために, 地元自治体等による対策が各地で講じられているものの, オーバーツーリズムと政策との関連性についてはほとんど調査されてない. 本研究では, 定性的情報に基づいて政策をそのタイプと関与度合いに応じて分類し, さらに定量的な統計情報等も加味した上で, オーバーツーリズムの観点から都市のランク付けを行った. その際, 世界中から都市を選定しそのデータを分析することで, 政策の厳格さとオーバーツーリズムの度合いの相関関係を分析した. これにより, 量的指標と定性的指標を組み合わせて用いることで, オーバーツーリズムの度合いを都市間で相対比較するための有用なツールとなりうる可能性があることが示唆された. さらに, オーバーツーリズム問題に対する典型的な対応策にはいくつかのタイプがあり得ることや, それが観光地の開発の方向性の要因となる可能性が示唆された.