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Online Accommodation Intermediaries in Global Tourism: A Quantitative Comparative Analysis of Six Major Platforms

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Abstract: Digital platforms have fundamentally transformed the distribution of tourism services and are increasingly shaping the structure of global accommodation markets. Therefore, this study examines the market structure, financial performance and strategic profiles of six major travel platforms: Booking Holdings, Airbnb, Trip.com Group, Expedia Group, Tripadvisor, and MakeMyTrip. Drawing on secondary data from annual reports for the period 2017-2024, the study applies the Herfindahl-Hirschman Index and CR3 to assess market concentration, a phased Compound Annual Growth Rate analysis across three structurally distinct periods, and a descriptive cluster analysis based on four dimensions of financial and strategic profile. HHI = 2,724.6 confirms the oligopolistic character of the upper market segment (H1), with the three largest platforms controlling 83% total sample revenue. The phased growth rate analysis shows that the pandemic shock (2019-2021) was significantly deeper for platforms dependent on international travel, while recovery dynamics (2021-2024) favour platforms operating in emerging markets. The cluster analysis identifies three strategic profiles: high-margin global leaders, mid-scale platforms, and regional specialists. The key differentiator of financial performance is the combination of business model and geographic diversification, not platform size alone.

Keywords: online travel agencies; HHI; market concentration; CAGR; platform economics

JEL Classification: L13; L83

1. Introduction

The digital revolution has transformed the way tourism products are distributed and sold. Online accommodation intermediaries (OTAs) have become an indispensable part of the global travel ecosystem, with hotel reservations representing the second largest source of revenue from online sales channels, after air transport (Pinto & Castro, 2019).

OTAs operate as two-sided markets (Rochet & Tirole, 2003), connecting accommodation providers with travellers through network externalities on both sides of the platform. Hein et al. (2020) show that digital platforms with stronger network effects naturally converge towards higher market concentration, which this study empirically verifies in the context of the OTA industry.

Existing research focuses predominantly on a single platform or limited geographic comparisons (Talwar et al., 2020a, 2020b). A systematic comparative analysis encompassing all six dominant publicly traded platforms (BKNG, ABNB, TCOM, EXPE, MMYT, TRIP) in terms of market structure, financial performance, and strategic profile is lacking. This study addresses that gap.

Based on the analytical framework, three hypotheses are formulated:

H1: The global OTA platform market exhibits a high degree of concentration in 2024 (HHI > 2,500), indicating an oligopolistic market structure.

H2: The pandemic shock (2019-2021) had a significantly deeper impact on platforms focused on international travel than on platforms with a predominance of domestic markets.

H3: Platforms operating primarily in emerging markets (India, China) exhibit a higher recovery CAGR (2021-2024) than platforms focused on developed markets.

2. Methodology

The study employs a comparative case design (Yin, 2018) combining quantitative and qualitative methods. The primary data source is secondary financial data from annual reports and SEC/EDGAR filings for the period 2019-2024. The six companies analysed were selected on the basis of the following criteria: a digital OTA or travel platform listed on a public market (NYSE, Nasdaq, HKEX, or SGX), with an accommodation segment share of at least 30% of revenue or a strategic priority in this segment, availability of annual reports for a minimum of five years (2019-2024), presence on at least three continents or a dominant position in a regional market, and a market capitalisation above USD 1 billion as of 1 January 2025.

Based on these criteria, six companies were included: Booking Holdings (BKNG), Airbnb (ABNB), Trip.com Group (TCOM), Expedia Group (EXPE), Tripadvisor (TRIP), and MakeMyTrip (MMYT). Currencies were converted to USD using the average exchange rate for the relevant fiscal year. MMYT's fiscal year ends 31 March; FY2024 (April 2023 to March 2024, revenue USD 782 million) was used for the market concentration analysis.

2.1. Herfindahl-Hirschman Index and CR3

The HHI is defined as the sum of the squared percentage market shares of all observed entities (Rhoades, 1993):

$$HHI = S\, si^2 \quad (i = 1, 2, ..., n) \tag{1}$$

where *si* is the percentage market share of the *i*-th firm expressed in percentage points (a 40% share enters as 40, not 0.40). The *HHI* value ranges from 10,000/n to 10,000. According to U.S. Department of Justice (2010) guidelines, markets with *HHI* < 1,500 are unconcentrated, 1,500-2,500 are moderately concentrated, and *HHI* > 2,500 are highly concentrated. The cumulative share of the three largest players (CR3) is defined as $CR3 = s1 + s2 + s3$.

Methodological limitation: the *HHI* is calculated on a sample of six publicly traded platforms, not on the entire OTA market (which includes thousands of regional and niche OTAs). The result therefore characterises the oligopolistic upper tier of the market.

2.2. CAGR Analysis

To capture revenue growth dynamics across three structurally distinct phases, the CAGR (Compound Annual Growth Rate) was calculated for each company:

$$CAGR = (Revenue\_end / Revenue\_start)^{(1/n)} - 1 \quad (2)$$

The analytical phases are defined as three adjacent time periods with shared endpoints: (1) 2017 to 2019 as the pre-pandemic baseline of organic growth; (2) 2019 to 2021 capturing the cumulative impact of the COVID-19 pandemic including the second wave; (3) 2021 to 2024 as the recovery period.

2.3. Cluster Analysis, Porter's Five Forces, and PEST Analysis

The descriptive cluster analysis classifies the six platforms on the basis of four dimensions: 2024 revenue (USD), net margin (%), ROIC (%), and the share of the primary market in total revenue (%). The qualitative analysis of industry structure follows Porter's (2008) five forces model, where the intensity of each force is assessed on a Low-Medium-High scale based on evidence from annual reports. The macro-environment of the industry is assessed through a PEST analysis covering the political, economic, social, and technological factors relevant to the OTA industry in 2024.

3. Results

3.1. Market Concentration Analysis

The market concentration analysis is based on the revenues of the six observed platforms for 2024. Total sample revenues amount to USD 58.45 billion. Table 1 presents the complete HHI calculation.

Table 1. HHI Calculation, 2024.

Company	Ticker	Revenue 2024 (USD bn)	Market share s_i (%)	s_i^2 (HHI points)
Booking Holdings	BKNG	23.74	40.6	1,648.4
Expedia Group	EXPE	13.69	23.4	547.6
Airbnb	ABNB	11.10	19.0	361.0
Trip.com Group	TCOM	7.30	12.5	156.3
Tripadvisor	TRIP	1.84	3.1	9.6
MakeMyTrip	MMYT	0.78	1.3	1.7
TOTAL / HHI		58.45	100.0	2,724.6

HHI = 2,724.6 clearly exceeds the 2,500-point threshold under the U.S. DOJ (2010) methodology, thereby confirming H1 of a highly concentrated, oligopolistic market. CR3 = 83.0%. The market leader BKNG alone controls 40.6% of total sample revenue. This result is consistent with the predictions of two-sided market theory (Rochet & Tirole, 2003): platforms with strong network effects naturally converge towards a concentrated market structure.

3.2. CAGR Analysis

Table 2 captures revenue CAGR across three analytically distinct periods. The pre-pandemic CAGR is calculated from revenues for 2017 and 2019 as the organic growth baseline. The pandemic CAGR covers the years 2019-2021 and captures the cumulative impact of the pandemic including the second wave. The recovery CAGR is calculated for the period 2021-2024. Data are drawn exclusively from annual reports (Form 10-K/20-F) filed through the SEC EDGAR system, where each company's results overview provides comparable historical revenues for prior years.

Table 2. Revenue CAGR by time phase

Company	Pre-pand. CAGR 2017→2019 (%)	Pand. CAGR 2019→2021 (%)	Recovery CAGR 2021→2024 (%)	Intl. share (%)
BKNG	+13.2	-14.7	+29.4	>85 (global)
EXPE	+8.4	-15.6	+16.8	~39
ABNB[1]	N/A (IPO 2020)	N/A	+22.8	~69
TCOM	+20.1	-34.0	+33.2	~78
TRIP	+4.8	-24.0	+26.7	~75
MMYT[2]	+14.6	-38.3	+74.8	<10

Note: [1]ABNB: listed December 2020, pandemic CAGR not available. [2]MMYT: fiscal year ends 31 March; FY2022→FY2025 used for recovery phase.

The results support H2 and H3. During the pandemic period 2019-2021, the deepest cumulative decline was recorded by platforms focused on Asian markets: MMYT (-38.3% CAGR), TCOM (-34.0%), and TRIP (-24.0%). BKNG and EXPE reported a comparable contraction (-14.7% and -15.6% CAGR respectively). Airbnb does not have comparable data (IPO December 2020), however its 2021 annual report documents a revenue decline from approximately USD 4.8 billion in 2019 to USD 6.0 billion in 2021, indicating recovery already during the pandemic period driven by a shift in demand towards domestic and rural destinations.

In the recovery period 2021-2024, H3 holds: MMYT (+74.8% CAGR) and TCOM (+33.2%) significantly outpace the recovery tempo of platforms focused on developed markets (EXPE +16.8%, BKNG +29.4%). TCOM recorded strong recovery despite the delayed reopening of the Chinese market to international flights (April 2023), after which a sharp surge in pent-up demand followed.

3.3. Cluster Analysis

Based on the combination of revenue, net margin, ROIC, and geographic concentration, the six platforms can be assigned to three strategic clusters.

Cluster C1 comprises platforms that converted market dominance into high margins and strong cash flows. The shared feature is an agency or quasi-agency model and global reach. Cluster C2 includes platforms with a more complex structure. EXPE faces high interest costs from debt financing; TCOM records a high net margin owing to tax preferences for Chinese tech companies, but the operating margin (26.6%) better reflects true profitability. Cluster C3 represents platforms in a phase of transformation or expansion: Tripadvisor is reshaping its business model, while MakeMyTrip is capitalising on the structural growth of the Indian market.

Table 3. Strategic clusters of OTA platforms

Cluster	Platforms	Key characteristics	Net margin 2024	ROIC 2024
C1: High-margin global leaders	BKNG, ABNB	Global reach, agency or hybrid model, highest free cash flow, strong brand	> 23%	> 23%
C2: Mid-scale platforms	EXPE, TCOM[1]	Mid-sized revenue, hybrid model, mixed geography, lower margins or impact of non-operating income	9-32%*	15-18%
C3: Regional specialists	TRIP, MMYT	Low revenue, niche or regional strategy, low or unstable margin, high recovery CAGR	0.3-9.7%	5-12%

Note: [1]TCOM 32% includes significant non-operating income and a tax benefit.

3.4. Porter's Five Forces Analysis

The industry structure of the OTA market is assessed using Porter's five forces model (Porter, 2008). The intensity of each force is evaluated on the basis of evidence from annual reports and reflects the situation as of 2024.

Table 4. Assessment of Porter's five forces

Porter's force	Intensity	Key evidence
Rivalry among existing competitors	VERY HIGH	Massive performance marketing expenditure (SEM, affiliate); price wars and discounts; loyalty programmes as a differentiator (Genius, One Key)
Threat of new entrants	MEDIUM	Low technological barrier, but high capital intensity of marketing; main threat from tech giants (Google Travel)
Bargaining power of customers	HIGH	Zero switching costs; price transparency; multi-homing (simultaneous comparison across multiple platforms)
Bargaining power of suppliers	MEDIUM-HIGH	Large hotel chains strengthening direct channels; dependence on GDS systems and cloud infrastructure
Threat of substitutes	HIGH	Direct bookings on hotel websites; metasearch (Google Hotels); emerging AI travel assistants

The overall assessment confirms that the OTA industry operates in a structurally demanding environment. Four of the five forces act with high or very high intensity. This finding explains the sample's average net margin of 15.0% and median of 11.4%, which is significantly lower than in industries with a more favourable structural position.

3.5. Financial Indicators and Business Models

Table 5 summarises the key financial and operational indicators for all six platforms for 2024. Financial data were obtained from company annual reports (Airbnb, 2025; Booking Holdings, 2025; Expedia Group, Inc., 2025; MakeMyTrip Limited, 2025; Tripadvisor, Inc., 2025; Trip.com Group Limited, 2025).

Table 5. Comparison of key financial and operational indicators, 2024

Indicator	BKNG	EXPE	ABNB	TCOM	TRIP	MMYT
Revenue (USD bn)	23.74	13.69	11.10	7.30	1.84	0.78
Operating margin (%)	31.8	9.6	23.0	26.6	5.0	12.3
Net margin (%)	24.8	9.0	23.9	32.0	0.3	9.7
ROIC (%)	56.2	17.7	23.8	~15	~5	~12
Gross bookings (USD bn)	~165	110.9	81.8	N/A	N/A	7.95
Business model	Agency + Merchant	Merchant + Agency	Agency (fee)	Agency	CPC + Comm.	Commission
Accommodation share of revenue (%)	~89	~80	~95	~40	~32	~46

Booking Holdings dominates across all absolute metrics and achieves the highest ROIC (56.2%) as a result of the combination of a hybrid model, global reach, and a long-growing share of direct bookings through the Genius programme (Booking Holdings, 2025). Airbnb stands out for the combination of a high net margin (23.9%) and strong free cash flow; collecting service fees at the time of booking rather than at the time of the stay structurally gives it the strongest FCF in the sample (Airbnb, 2025). Trip.com Group reports an anomalously high net margin (32%) owing to non-operating income from financial investments and the application of a reduced tax rate for tech companies in China. Looking at the operating margin (26.6%), it is the second most profitable player in the sample (Trip.com Group, 2025). Tripadvisor, with a net margin of 0.3%, is valued by the market as a platform in restructuring.

3.6. Macro-environment (PEST)

The following macro-environment analysis assesses four factors affecting the OTA industry in 2024. Regulation of short-term rentals (STR) tightened significantly in 2024. The EU Council adopted a regulation in March 2024 on harmonised registration requirements for hosts (OECD, 2024) and at the city level London applies a 90-day rule (Greater London Authority, 2025), Prague is proposing a statutory limit of 60 days (Horničková, 2025), and Budapest is planning a complete ban in one district from 2026 (Budapest Invest, 2024). Regulatory pressure is also expanding into the area of competition law. Booking.com received a record fine of EUR 413.2 million from the Spanish competition authority for abuse of dominant position and enforcement of price parity (Kahánek, 2024), and the European Commission blocked the acquisition of Etraveli Group (Booking Holdings, 2025).

Economically, the industry remains in a growth phase. The global OTA market reached a value of USD 253.2 billion in 2024 and expected growth to 2034 is approximately USD 533.7 billion (Global Market Insights, 2025).

On the demand side, Generation Z and millennials are reshaping the way people travel and purchase. They prefer personalisation, mobile access, and authentic experiences over standardised hotel stays (Quinby, 2024), which is pushing platforms to transition from a purely distributive model towards guiding the entire travel experience.

Technologically, generative AI has become the central strategic trend. Platforms are investing in AI planners, dynamic pricing, and customer support automation (Papandreou, 2024), with Trip.com investing USD 1.8 billion in research and development in 2024, demonstrating that technological differentiation is becoming a key instrument of competitive rivalry.

4. Discussion

The empirically measured value of HHI = 2,724.6 and CR3 = 83% confirm H1 and are consistent with the predictions of two-sided market theory (Rochet & Tirole, 2003). Three platforms control 83% of sample revenue, with BKNG alone holding 40.6%. This result reflects the mechanism described by Hein et al. (2020): network externalities lead to natural tendencies towards oligopolisation, as a larger platform attracts more providers and customers, thereby further reinforcing its position.

The CAGR analysis confirms H2 and H3. During the pandemic period 2019-2021, the strongest impact was on platforms focused on Asian markets, specifically MMYT (-38.3% CAGR) and TCOM (-34.0%). Recovery dynamics 2021-2024 are markedly asymmetric, with MMYT (+74.8%) and TCOM (+33.2%) significantly outpacing the recovery tempo of developed markets such as EXPE (+16.8%). This asymmetry has implications for strategic planning, as diversification into emerging markets may strengthen overall portfolio resilience.

The results have three practical consequences for strategic decision-making. First, the future development of OTAs will be shaped by the tension between technological consolidation, where AI deepens differentiation, and regulatory pressure in the form of DMA and antitrust proceedings. Second, platforms that remain purely distributive intermediaries face growing pressure from AI planners and metasearch tools, and the industry is therefore moving towards integrated travel platforms of the Connected Trip type. Third, insufficient adaptation to the STR regulatory framework may lead to financial penalties and reputational damage.

The HHI is calculated on a sample of six platforms; the actual concentration of the entire OTA market (including thousands of smaller players) is significantly lower. The cluster analysis is a descriptive typology at n = 6; statistical validation would require a substantially larger dataset. Fiscal years are not identical (MMYT: April-March), which limits the precision of cross-company comparison.

5. Conclusions

This study provides the first systematic, quantitatively grounded analysis of market concentration and strategic profiles of the six major publicly traded OTA platforms using data for the period 2017-2024. HHI = 2,724.6 unambiguously confirms the oligopolistic character of the upper market segment (H1), CR3 = 83%. The phased CAGR analysis confirms H2 and H3: the pandemic shock (2019-2021) was most severe for platforms dependent on international travel, and recovery (2021-2024) is significantly faster in emerging markets.

The key differentiator of financial performance in the OTA industry is the combination of market position and business model, not absolute size. Platforms with an agency model collecting fees prior to the stay achieve structurally stronger free cash flow independently of their market share.

The future development of the market will be shaped by two opposing forces. Technological transformation in the form of generative AI and the Connected Trip concept deepens differentiation and raises entry barriers, while regulatory pressure in the form of DMA, antitrust proceedings, and STR regulation seeks to preserve competitive dynamics. Platforms that can effectively balance investment in technology with adaptation to the regulatory environment will be better positioned to maintain competitiveness in a growing oligopoly.

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