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yapta FOR BUSINESS

Airfare and Hotel Rate Volatility:

Dynamic Pricing in the Corporate Travel Market

This is Yapta's third annual white paper about corporate travel pricing trends. Yapta's IQ Technology dynamically monitors ticketed airfares and booked hotel rooms, sending instant alerts to travel managers and travel management companies (TMCs) when prices drop on identical itineraries and comparable rooms. Alerts are sent whenever savings are available after accounting for any change fees and/or TMC/agent rebooking fees. All savings alerts meet base-level configurable thresholds set by the corporations using FareIQ™ and RoomIQ™. Price tracking for the entire trip begins at the time of airline ticketing and hotel bookings, continuing until 24 hours before departure and/or check-in.

This study was sourced from corporate airfare and hotel room prices tracked by FareIQ and RoomIQ for the previous 12-month period ending May 31st, 2016, and represents over 2.5 million itineraries. The airfare and hotel price-drop alert data used in this analysis reflects over $2 billion in travel expenditures by large and mid-sized corporations, including both domestic and international travel, purchased in the United States. The analysis is based on savings alert activity, which provides a corollary to airfare and hotel pricing volatility, as alerts are sent only when prices drop.

Yapta's patent-pending technology has enabled corporations to save over **$40 million** on airfare and hotel bookings.

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OVERVIEW OF 2016 AIRFARE AND HOTEL RATES

The fundamentals of corporate travel are both consistently strong yet fluid and dynamic. Airlines and hotels continue to drive aggressive yield and revenue management practices, searching for new ways to extract more revenue from travelers. Simple price increases, while compelling and forecast to occur, are no longer enough in the eyes of suppliers to ensure profitability. Airlines charge fees for checked baggage, carry-ons, preferred seating, early boarding, inflight entertainment, inflight meals – the list goes on and on. Carriers have embraced International Air Transport Association's (IATA's) New Distribution Capability (NDC) in an effort to better market these unbundled services. As a result, airlines have experienced profitability not seen in decades, and are doing a much better job of curtailing the urge to increase capacity growth, thereby ensuring bottom line improvements. All this complexity makes it difficult for travelers and travel managers to fully determine impacts to their own budgets as well as insight and accountability into partner carrier agreement performance. No less than 44% of travel managers in North America feel higher airline fees will contribute to increased spend, according to the 2016 Global Travel Price Outlook report produced by the Global Business Travel Association (GBTA) and Carlson Wagonlit Travel (CWT).

The GBTA/CWT report also found that hotel prices are expected to increase globally in 2016, with the U.S. projected to climb the highest with a 4.7% increase in rates, while 45% of travel managers in North America indicate that higher hotels fees will contribute to higher spend. Also similar to their airline counterparts, hotels have embraced more assertive revenue management tactics. Within the past year, hotels have implemented – and in some cases modified or retracted – various programs meant to drive greater revenue and profitability. Examples include cancellation fees, non-changeable reservations, and loyalty member only rates. Hotels are continuing to maximize ancillary fees by testing various terms and price points for amenities such as WiFi, minibar, and room service. Corporations, in some cases, have experienced an inability to confirm last room availability (LRA) for their preferred suppliers or properties. Data in this study revealed that hoteliers are offering public rates that are lower than negotiated rates on a statistically significant number of occasions. If these fluctuating public rates are beating negotiated rates, the question should be asked "Is it worth it to spend months in the RFP process with hotel partners when rate monitoring finds lower spot rates?"

FareIQ™ – AIRFARE INSIGHTS

Airfare Volatility Index by Origin and Destination – Domestic

The white paper analysis evaluated the top 10 city pairs for airfare volatility by origin and destination domestically within the United States. For these city pairs, price drop alerts were reviewed to determine relative volatility. As shown in Figure 1, the results are based on an index (which is the line at 100% - indicating that the data is indexed against the broader population to reveal the magnitude of the price volatility) with the most volatile city pairs above the index, those close to the line revealing a

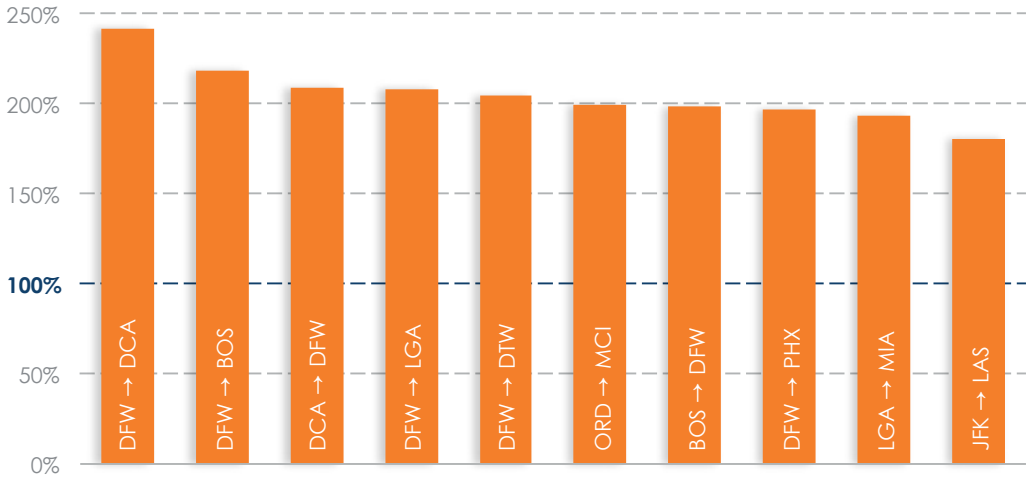

Figure 1: Airfare Volatility Index by O&D – Domestic

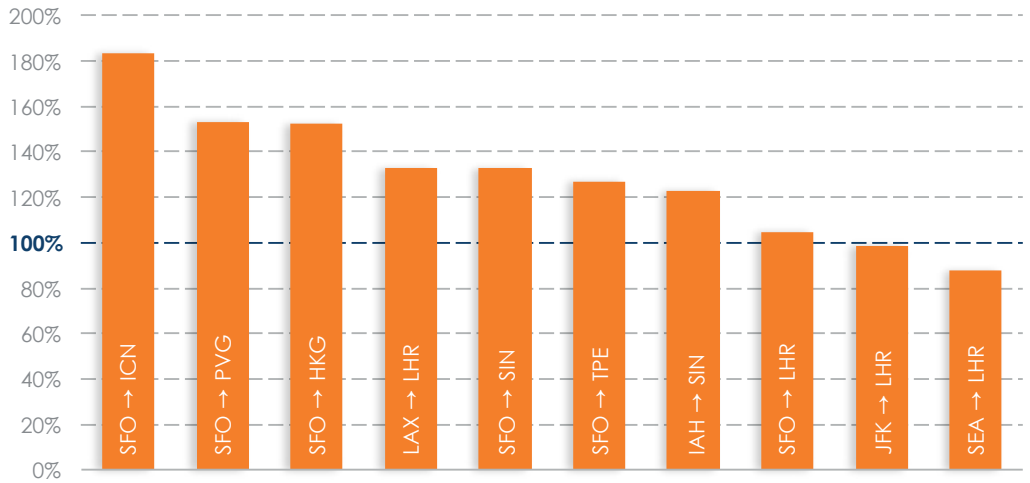

Figure 2: Airfare Volatility Index by O&D – International

more neutral volatility, and those below the line exhibiting relatively stable pricing volatility. The most volatile pair is Dallas/Fort Worth International Airport (DFW) to Ronald Reagan Washington National Airport (DCA), followed by DFW to Logan International Airport (BOS).

One note of interest about the top 10 domestic city pairs is the number of times DFW appears in the data. DFW is represented in seven of the top eight city pairs, which is a significant change from prior years. In prior years, DFW has been a top airport for price fluctuations alongside John F. Kennedy (JFK) and Newark Liberty International (EWR). However, this is the first time DFW has exhibited this type of concentration in the top 10.

Airfare Volatility by Origin and Destination - International

The analysis also assessed the top 10 city pairs exhibiting the most volatile international flights. Again indexed against the broader population of data, the most volatile city pair is San Francisco International Airport (SFO) to Incheon International Airport (ICN) in South Korea. Only SFO to London Heathrow (LHR), JFK to LHR, and Seattle-Tacoma International Airport (SEA) to LHR exhibit neutral to lesser pricing volatility.

The data reveals interesting trends and differences from prior years. San Francisco, while a volatile origin airport for international flights last year, appears in six of the top eight most volatile city pairs. There is also a substantial concentration of price fluctuations for flights into Asia. South Korea, Shanghai, Hong Kong, Singapore and Taipei all make the list, with only Hong Kong remaining as a holdover from last year. Lastly, LHR was the most volatile destination airport last year, and it once again makes a strong showing in four of the top 10 city pairs.

Airfare Volatility by Airline

This analysis evaluated the top 10 airlines that most frequently exhibited price drops in Yapta's data (amongst those that had at least 1,000 itineraries in the data set). For those airlines, the price-drop alerts were reviewed to determine relative volatility. Figure 3 (below) serves as an index. The most volatile airline is Japan Airlines, followed by Asiana Airlines and Singapore Airlines. Rounding out the top 10 is KLM Royal Dutch Airlines, still significantly more volatile than the general population.

Historically, Lufthansa, British Airways, and American Airlines have been the most volatile carriers, but none of the three even make the list this year. Japan Airlines,

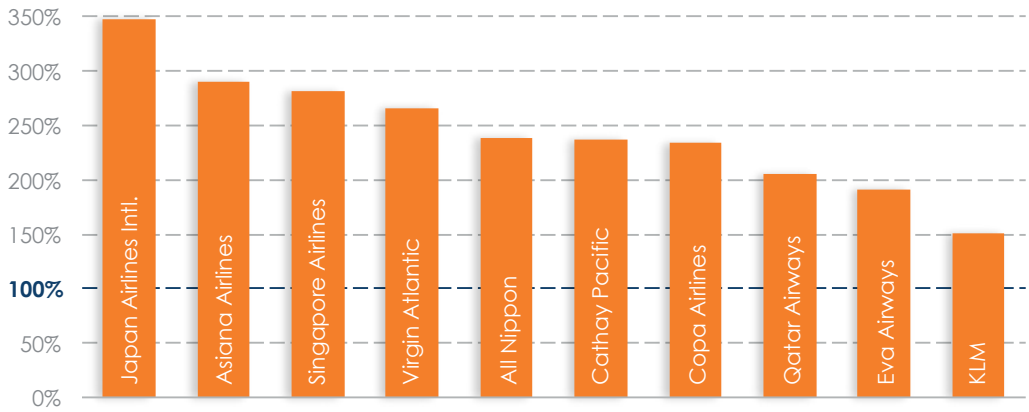

Figure 3: Airfare Volatility Index by Airline

Asiana, Singapore, All Nippon, and Cathay Pacific Airways have brought a decidedly Asian flavor to the table. This aligns with the previous data revealed around international city pairs and the Asian concentration seen there.

Airfare Volatility by Days-to-Departure

In corporate travel, the question is always asked, "When is the best time to buy an airline ticket?" Yapta's data set was analyzed to determine advance purchase effects on the volatility of the fare. The analysis looked at original ticket price, the lower ticket price and resulting savings for those tickets that were purchased more than 21 days in advance, greater than 14 days, one week to 14 days, and less than one week prior to departure. What the data revealed is not necessarily intuitive - on average, ticket prices drop the closer to departure date. It's important to note that tickets purchased more than 21 days in advance of departure typically include a significantly higher portion of refundable tickets, which are generally higher priced. Taking that into consideration, the data shows that the closer in ticket prices are still relatively high on average, and in all cases there are significant savings opportunities. Savings per ticket can be seen going from just under $300 on advance purchase to approximately $200 within seven days of departure.

Two new data points analyzed this year include the percent of savings and the percent of total alerts by days prior to departure. One note of interest involves percent savings off the original ticket price. Regardless of when the ticket is purchased, the savings – on average across the entire data set – is relatively stable at 17%-18%. This means that as airlines reduce prices, they are doing so in a reasonably consistent manner from a percent-off standpoint. Another data point involves the frequency of price drops days before departure, shown by the Percent of Total Alerts row. The data reveals that 29% of airlines' price drops occur 21 days or more in advance, dropping to 18% in the timeframe 15-21 days in advance, followed by an increase to 25% eight-14 days prior to departure, then returning to 29% within one week of departure. This is consistent with the airlines' need to fill the plane well in advance of the flight, gaining confidence in the capacity forecast 15-21 days prior – thereby not offering as many savings opportunities, beginning to show concern 8-14 days in advance, and then offering more price reductions closer in as capacity needs drive yield management practices.

Figure 4, shown below, shows the difference in identified savings based off of how many days until departure.

	< 7 days	7–14 days	15–21 days	> 21 days
Average Original Ticket	$1,088	$1,139	$1,181	$1,642
Average Lower Identified Ticket	$894	$949	$983	$1,361
Average Net Savings	$194	$191	$197	$281
Percent Savings	18%	17%	17%	17%
Percent of Total Alerts	29%	25%	18%	29%

Figure 4: Airfare Volatility by Days-to-Departure

American Airlines Most Volatile City Pairs

As one of the largest airlines in the U.S., it's interesting to see which city pairs are the most volatile for American Airlines. Figure 5 below shows how the top 10 most volatile city pairs compare to each other based on average alerted ticket price, savings per alert, savings percent and percent alerted.

To better interpret this and the next two figures (most volatile city pairs for American, Delta and United) in the white paper, it's important to understand the bars and lines. The full length of the bars represents the original ticket price (on average) for that city pair. The gray portion represents the alerted ticket price, and the orange represents the savings (on average) for that city pair. The solid blue line reveals the percentage of itineraries associated with that city pair that had a savings opportunity, while the dashed blue line reveals the percent savings from the originally ticketed airfare.

For example, in Figure 5 DFW-BOS has an average original ticket price of $565. The average alerted lower ticket price was $404, resulting in an average savings opportunity for that city pair of $161. Continuing with this same O&D, the savings percent on average was 28.5%, while these savings were made available by the airline on 19% of its flights.

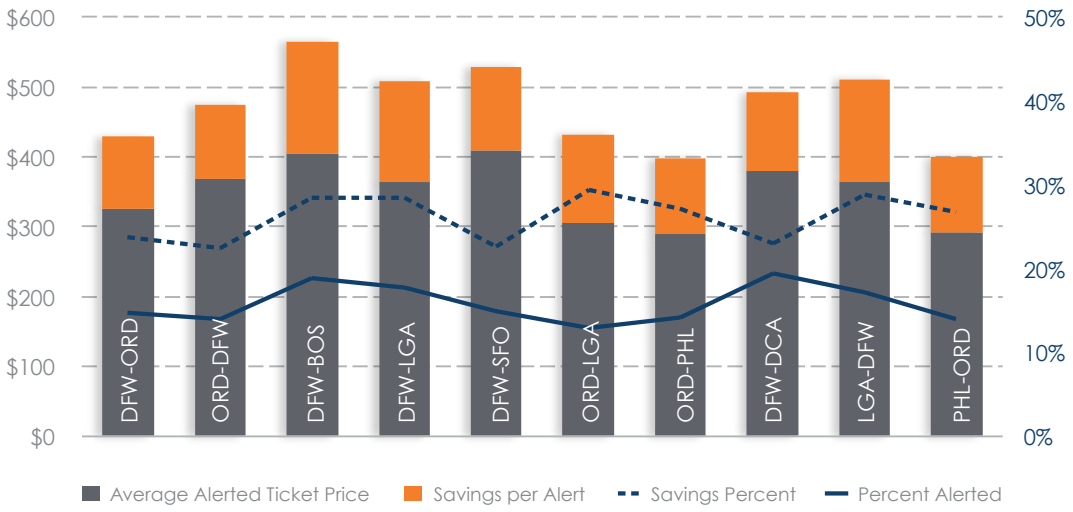

Figure 5: American Airlines Most Volatile City Pairs

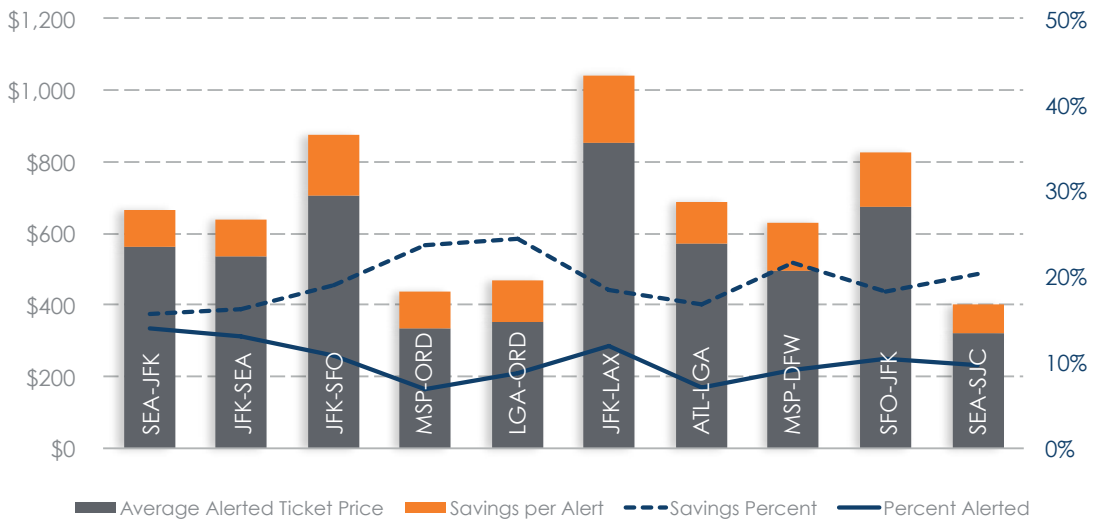

Figure 6: Delta Airlines Most Volatile City Pairs

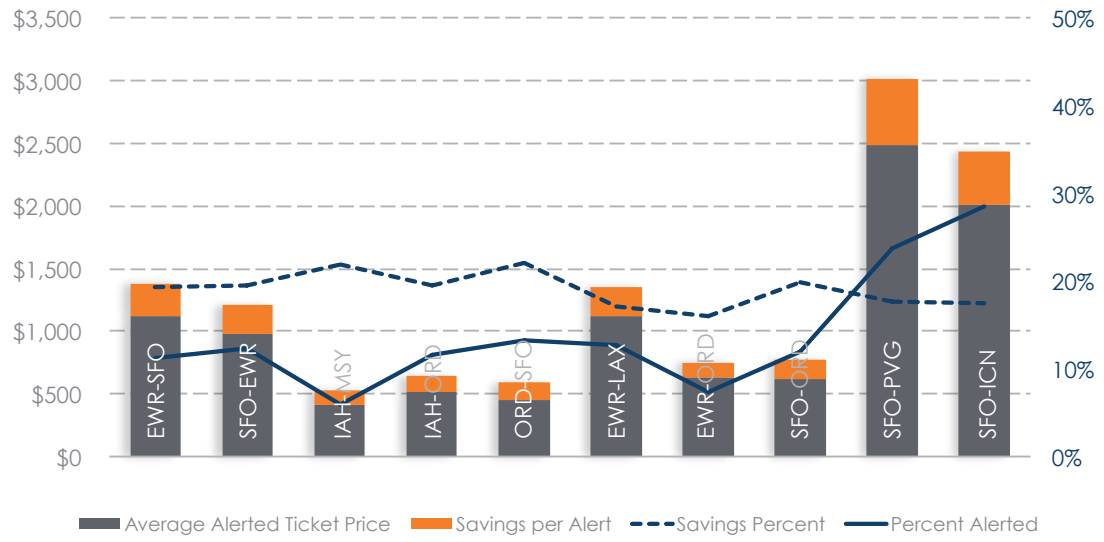

Figure 7: United Airlines Most Volatile City Pairs

Delta Airlines Most Volatile City Pairs

Similar to American Airlines, Yapta analyzed the top 10 most volatile city pairs for Delta Airlines as well, illustrated in Figure 6. As evidenced by the solid blue line, SEA to JFK has the most price fluctuation with 14% of all itineraries having a price drop. The most significant savings from a dollar perspective comes from the JFK-Los Angeles route with savings of $191 per alert. Of note is that Seattle shows up three times in this set – an indication and validation of Delta's push to enter this market and compete for flyers. Also interesting is that along with American Airlines, Delta's most volatile city pairs are all domestic U.S. routes.

United Airlines Most Volatile City Pairs

The third airline examined for most volatile city pairs was United Airlines. The results are shown in Figure 7. United has international routes in its top 10, as evidenced by Shanghai and South Korea at nine and ten. An interesting note for United is that domestically, the carrier drops its prices on 10%-13% of all itineraries in its top 10. However, with Shanghai and Korea, price drops occur on 24% and 29% of all itineraries – essentially revealing that one out of every three tickets purchased on United between San Francisco and Korea will have a price drop.

Savings On Negotiated Airline Rates vs. Public Rates

Figure 8 displays the analysis of negotiated fares vs. public fares for American Airlines, Delta Airlines and United Airlines. The gray table below reveals pricing data when a public fare was originally booked and a lower negotiated fare became available. The orange table below demonstrates the alternative scenario when a negotiated fare was booked and a lower public fare was offered. It's important to note the comparison between number of alerts, identified savings per alert, percent of savings per alert and percent of the airline's total alerts.

Lower Fare was Negotiated

Airline	# of Alerts	Identified Savings Per Alert	% of Savings Per Alert	% of Airline's Total Alerts
American Airlines	7,394	$201	22%	11%
Delta Airlines	963	$226	17%	2%
United Airlines	4,661	$325	19%	9%

Lower Fare was Public

Airline	# of Alerts	Identified Savings Per Alert	% of Savings Per Alert	% of Airline's Total Alerts
American Airlines	2,919	$265	23%	4%
Delta Airlines	3,465	$387	24%	6%
United Airlines	2,489	$488	24%	5%

Figure 8: Savings on Negotiated vs. Public Fares

An interesting take away from this data is the difference between the carriers and the availability of lower negotiated fares when a public fare was originally booked. With American, a negotiated fare beat a public fare 11% of the time, while with United that occurred 9% of the time. However, Delta only presented lower negotiated fares when a public fare was originally booked 2% of the time. Conversely, when a negotiated fare was originally booked, but a publicly available fare is made available that's lower (low enough to cover change fees and/or rebooking fees) – this happens 4% of the time on American, 5% of the time on United and 6% of the time on Delta. It could be concluded that Delta's negotiated fares rarely beat out its public fares (2% of the time) and its public fares beat its negotiated fares three times more often (6% of the time).

RoomIQ™ – HOTEL INSIGHTS

Yapta's intelligent price tracking solution for hotels – RoomIQ – not only dynamically monitors hotel bookings for price reductions, but by utilizing its patented technology it also provides unsurpassed analytics into hotel industry trends and rate level detail not previously known in the industry. Following are a few of the most significant trends that Yapta's research found for hotel rate volatility.

Top 10 Most Volatile Hotel Rates – By City

The 2016 white paper analysis looked at hotel room rate volatility across all destinations in Yapta's data set, and isolated the data for the top 10 cities with the most price-drop alerts. Figure 9 displays this data with Tokyo, Hong Kong, and Honolulu as the top three cities with the most volatility. All cities in the top 10 exhibit very volatile pricing practices as evidenced by San Francisco (at number 10) displaying volatility at over 200% versus the broader population in the data set. In 2015, New York, Boston, and San Francisco were the top three most volatile cities. Only New York and San Francisco made the list in 2016. And similar to the airfare volatility, hotel rate volatility reveals a concentration of Asian cities. It should be noted that the volatility for these international cities is based solely on the currency of the hotel property and is not impacted by currency fluctuations.

Top 10 Most Volatile Hotel Rates – By Brand

The analysis studied all hotel brands in Yapta's data set, and isolated the top 10 brands with the most price drop alerts, as shown in Figure 10. As with the most volatile cities for hotel rates, the top 10 brands are all significantly more volatile that the broader data set. W Hotels and Kimpton are the most volatile brands, with Westin, Le

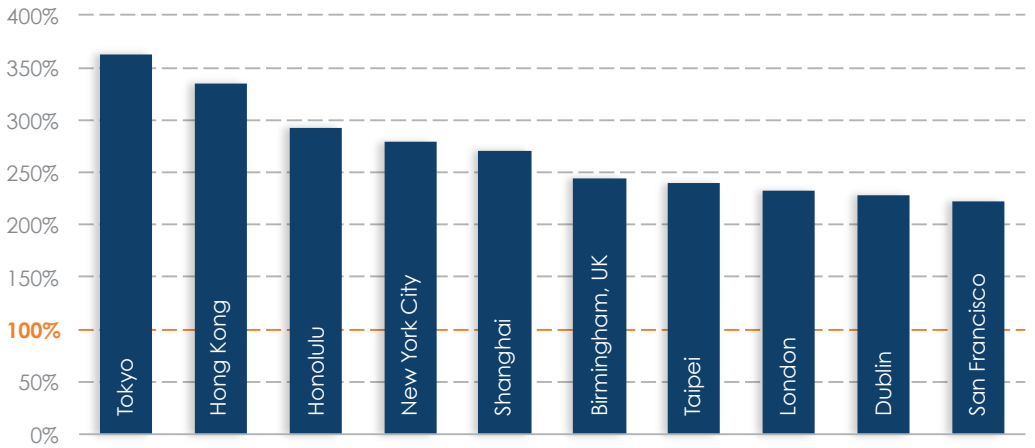

Figure 9: Top 10 Most Volatile Hotel Rates – By City

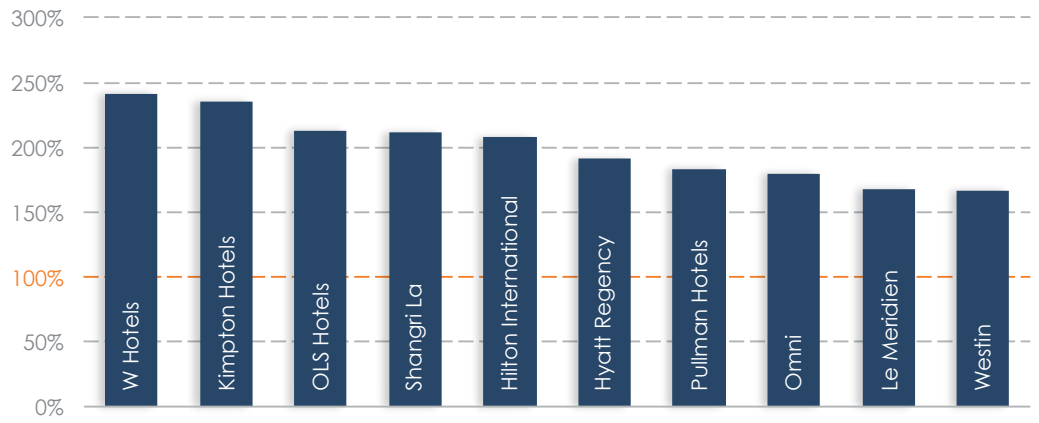

Figure 10: Top 10 Most Volatile Hotel Rates – By Brand

Meridien, and Omni rounding out the top 10. Hilton brands dominated the top 10 for pricing volatility in 2015, but in 2016, only Hilton International – 2015's most volatile brand – makes the list. The 2016 top 10 represents a much broader mix of chains with only Starwood brands making repeat appearances.

Hotel Rate Volatility by Month

In addition to finding the most volatile cities and brands for hotel rates, the analysis looked into the volatility of hotel pricing throughout the year. Figure 11 shows the relative seasonal volatility for each month of the year. The months that are closest to the index line (July, October and December) are most similar to overall price changes, while the months which are above the index line (May, April, and June) have the most volatility. Months below the index line (August, February and January), while still exhibiting price volatility, are relatively more stable when compared to other months throughout the year. This analysis reveals that for hotels booked in May, there is a significantly higher probability that a price drop will occur,

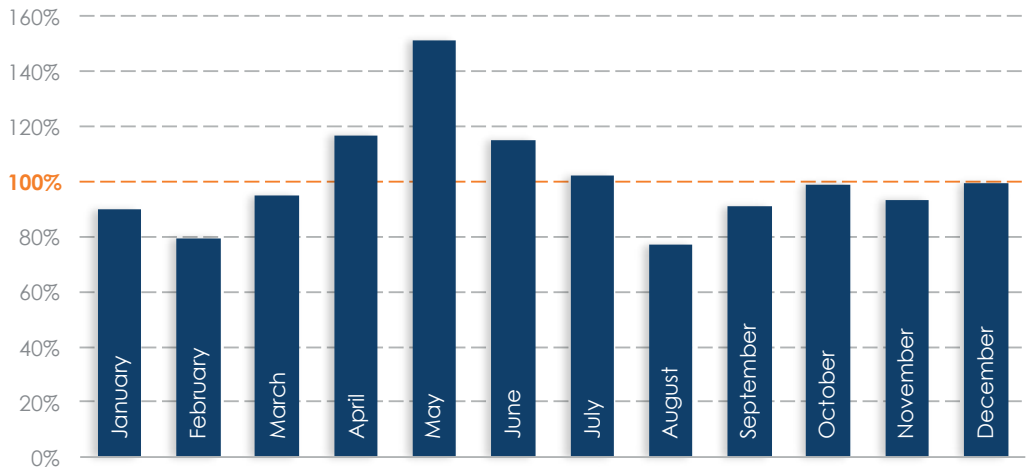

Figure 11: Hotel Rate Volatility by Month

and for the travel month of August, prices exhibit lesser volatility. This could be attributed to the overall impact of hotel revenue management for the consumer-driven summer months and its associated impact on overall rates at hotels, regardless of the purpose of the trip.

HOTEL RATE SAVINGS

This year's analysis of RoomIQ alerts included a more in-depth look at how amenities, room type, bed type and public vs. negotiated rates play into savings across hotel rates.

Hotel Rate Savings – Amenities

Driven by the unique ability of RoomIQ to dynamically read rate-level details, Yapta's white paper analysis looked at savings associated with key amenities (wifi, breakfast, and parking). As reflected in Figure 12, the investigation revealed something surprising. The darkest blue bar on the graph represents savings available when the amenity is "gained", meaning the originally booked rate did not include it. In the case of wifi, the data reveals that there is an opportunity to save more – and gain internet – when prices drop. The same trends are revealed in the data for breakfast and parking. While somewhat counterintuitive, this means that hotels are making lower rates available that include an improvement in amenity. The remaining bars in the graph reveal price

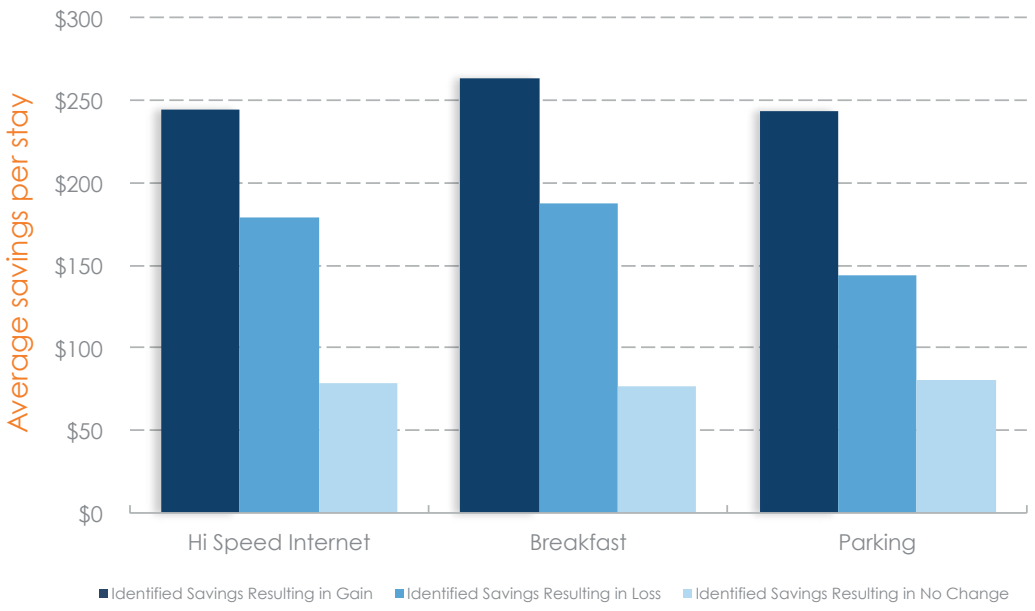

Figure 12: Hotel Rate Savings – Amenities

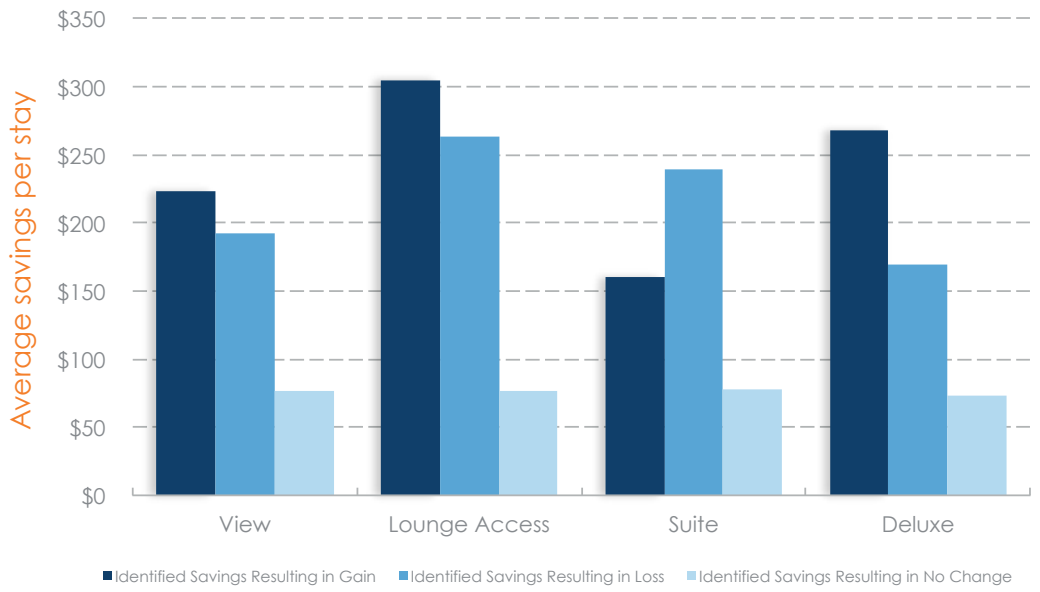

Figure 13: Hotel Rate Savings – Room Type

drop savings available when that particular amenity is lost (e.g., the lower rate does not include wifi), and when there is no change to the amenity (e.g., the originally booked and lower rates both include wifi).

Corporations spend months each year negotiating with hotel partners to achieve preferred rates that include key amenities. Yet the data shows that hotels are making rates available that are not only lower, but include an improvement in amenities. Is it worth spending all that time negotiating with hoteliers? The data implies that the jury is still out.

Hotel Rate Savings – Room Type

Again enabled by RoomIQ's unique capabilities to dynamically read rate-level details, the white paper analysis examined savings associated with a change to room type. In Figure 13, the darkest blue bar represents identified savings when the room type is changed to that particular room from another, the middle bar represents identified savings resulting in a loss of that room type, and the lightest bar represents identified savings when there is no change to the type of room. The data reveals that more can be saved when gaining a View room (from a non-view), gaining Lounge Access (from a rate that did not include that access), or moving to a Deluxe room (when the original was not deluxe). However, when a suite was originally booked, greater savings are gained when rebooking away from that type of room.

Hotel Rate Savings – Public vs. Negotiated

Similar to the analysis of negotiated and public airfares for the top three U.S. carriers, Yapta's white paper studied the availability of negotiated and public rates across the four largest chains – Marriott, Hilton, Starwood, and Intercontinental Hotel Group (IHG). As shown in Figure 14, the analysis looked at the number of times a negotiated rate is lower than an originally booked public rate as well as when a public rate is lower than the originally booked negotiated rate. The analysis looked at savings available for each hotel stay, as well as how often the major chains made those lower prices available ("% of Chain's Total Alerts"). The data reveals that the top chains are making their negotiated rates available almost twice as often as when a public rate beats a negotiated rate. However, with both Marriott and IHG, 12% of the time a public rate beats

Lower Rate was Negotiated

Hotel Chain	# of Alerts	Identified Savings Per Alert	% of Savings Per Alert	% of Chain's Total Alerts
Marriott Hotel Brands	1,507	$263	30%	28%
Hilton Hotel Brands	1,276	$184	20%	18%
Starwood Hotel Brands	269	$188	21%	15%
Intercontinental Hotel Brands	231	$241	24%	21%

Lower Rate was Public

Hotel Chain	# of Alerts	Identified Savings Per Alert	% of Savings Per Alert	% of Chain's Total Alerts
Marriott Hotel Brands	641	$169	17%	12%
Hilton Hotel Brands	253	$146	16%	4%
Starwood Hotel Brands	129	$113	13%	7%
Intercontinental Hotel Brands	136	$179	14%	12%

Figure 14: Savings on Negotiated vs. Public Rates

a previously booked negotiated rate. Lastly, with savings ranging from $184 to $263 per stay for lower negotiated rates, and $113 to $179 on public rates, substantial savings are available.

Advance Booking Volatility (Per Night)

Again similar to the days-to-departure analysis for airline pricing, Yapta's white paper assessed advanced booking volatility for hotel rates. The data in Figure 15 below reveals the difference in hotel rates between booking greater than 21 days in advance to booking within one week of arrival. Rates drop very consistently the closer to check-in, going from $238/night to $220/night, at an average net savings of $40-$42/night. This tends to indicate that hoteliers are systematically opening rate codes to drive occupancy at similar dollar discounts, regardless of how early or late a rate is booked.

Hotel Rate Volatility – 30 Days Out

The chart shown in Figure 16 represents savings opportunities at hotels from 30 days before arrival up until check-in. Interestingly, the savings per night does not vary significantly. The noteworthy part of this analysis is the number of price drops that occur. At 30 days out, less than 1% of the hotel bookings have a price drop, meaning the prices are stable. However, closer to check-in, the number of price drops skyrocket with the most occurring between seven days prior to arrival and check-in. The data also reveals an increase in the number of price drops at 14 days before arrival and again at seven days before arrival. It would appear that hoteliers are mimicking, to a certain extent, the airline practice of 14-day and 7-day advance purchase windows. Lastly, it is worth noting that the dollar savings per night does not significantly fluctuate over this time period, beginning at just over $50 per night 30 days before arrival, and ending at just under $50 per night just before check-in. It would appear that hoteliers may simply be opening up more inventory at similar discounts as the stay approaches.

	< 7 days	7–14 days	15–21 days	> 21 days
Average Online Booking	$220	$227	$227	$238
Average Lower Identified Rate	$178	$186	$185	$198
Average Net Savings	$42	$41	$42	$40

Figure 15: Advance Booking Volatility (Rates are Per Night)

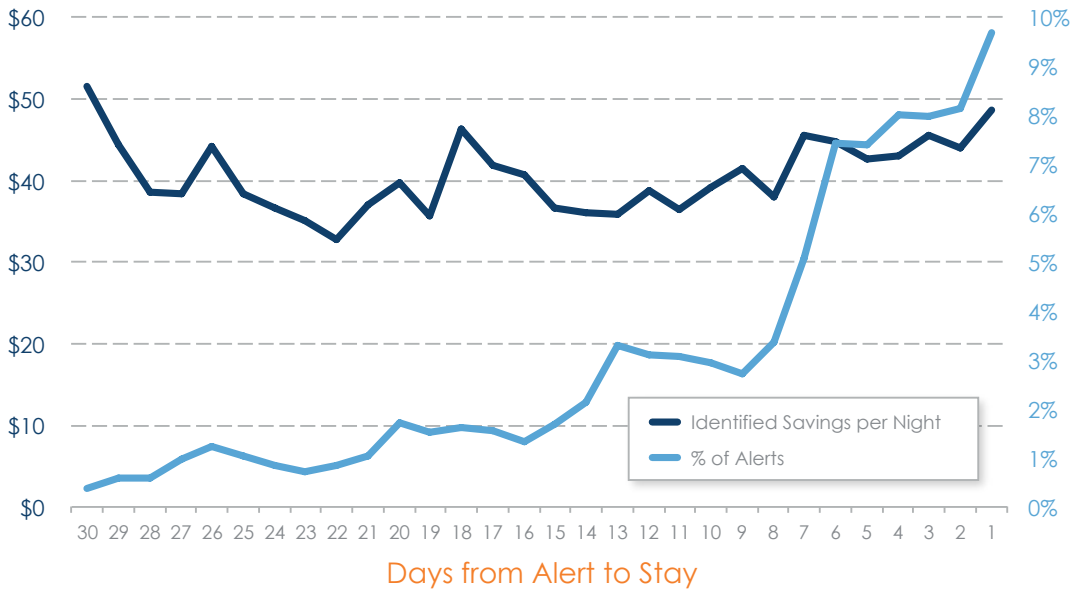

Figure 16: Hotel Rate Volatility – 30 Days Out

CONCLUSION

With airfare and hotel rates continuing to increase in price and complexity, travel managers face the challenge of understanding the complexity and finding ways to improve their employee travel cost-effectiveness. Offsetting increased spend, finding savings, and getting clear insights into data makes it ever more important to take a focused approach – in a transparent environment – to overall travel programs.

Yapta has enabled businesses to save over $40 million on travel. This white paper reflects analysis of those savings and more, providing a snapshot of the types of insights and data analytics that can be offered to clients to manage travel spend, boost traveler compliance, and improve supplier negotiations.

According to the 2016 report from Phocuswright, The Business Traveler: Embracing New Tools, Finding New Savings, "Nearly six out of every 10 travel managers place increasing cost savings at the top of their strategic priorities."

Source: Phocuswright's U.S. Corporate Travel Report: Market Sizing and Trends
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ABOUT YAPTA

Prices drop. We alert. You save. Yapta's corporate travel solutions, FareIQ and RoomIQ, enable companies to extend their T&E budgets, boost traveler compliance and attain essential program-specific data. Constantly tracking booked airfares and hotel rooms, Yapta sends instant alerts when prices drop. Launched in 2007, we pioneered the category of travel price assurance, and have delivered more than $650 million in savings alerts to businesses and consumers. Yapta guarantees bottom-line savings. www.yapta.com.

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