

# BTN

BUSINESS TRAVEL NEWS

April 23, 2018

## ARTIFICIAL INTELLIGENCE

Are we there yet?

The promise of  
personalization

What AI means  
for buyer-supplier  
relationships

AI in action at  
UBS & ZVRS

Sponsored in part by

American Airlines 

IHG<sup>®</sup> InterContinental  
Hotels Group



# EXPLORE MORE OF EUROPE

*Fly new seasonal nonstop service to Prague and  
Budapest from Philadelphia and to Venice from  
Chicago – starting May 4.*

*Learn more at [aa.com](http://aa.com)*

Louis Magliaro, Senior Vice President & Group Publisher  
973.769.0028 • lmagliaro@thebtngroup.com

## EDITORIAL

**Elizabeth West**, Editor-in-Chief  
732.494.1955 • ewest@thebtngroup.com

**Jay Boehmer**, Editor-in-Chief, The Beat  
646.380.6249 • jboehmer@thebtngroup.com

**Amanda Metcalf**, Managing Editor  
646.380.6248 • ametcalf@thebtngroup.com

**Michael B. Baker**, Senior Editor, Transportation  
646.380.6250 • mbaker@thebtngroup.com

**Julie Sickel**, Editor, Lodging  
646.380.6264 • jsickel@thebtngroup.com

**JoAnn DeLuna**, Associate Editor,  
Payment & Expense • 646.380.6268  
jdeluna@thebtngroup.com

**Dawit Habtemariam**, Staff Writer &  
Assistant Editor • 646.380.6267  
dhabtemariam@thebtngroup.com

**James Jarnot**, Art Director  
646.380.6252 • jjarnot@thebtngroup.com

## PRODUCTION & CIRCULATION

**Michele Garth**, Production Manager  
201.902.1930 • mgarth@ntmlc.com

**Lisa Gonzales & Gayle Graizzaro**,  
Production Specialists • 201.902.2000  
lgonzales@ntmlc.com  
ggraizzaro@ntmlc.com

## DIGITAL

**Alexandra Mancini**, Digital Product Man-  
ager 201.902.1984 • amancini@ntmlc.com

## MARKETING

**Max Bzdyk**, Marketing Assistant  
646.346.5676 • mbzdyk@thebtngroup.com

## SUBSCRIPTION SERVICES

800.869.6882 • btn@kmpsgroup.com  
Business Travel News  
PO Box 47655 • Plymouth, MN 55447  
www.businesstravelnews.com/subscribe

## SALES

**Anthony Carnevale**, Publisher  
201.902.1976  
acarnevale@thebtngroup.com

**Edie Garfinkle**, Advertising Director  
805.389.6836 • egarfinkle@thebtngroup.com

**Lindsay Straub**  
Business Development Manager  
646.380.6274 • lstraub@thebtngroup.com

**Debbie Anderson**, Hawaii, 808.739.2200  
debbieanderson@dmhawaii.com

**Michiko Kawano**, Japan  
+81-3-3661-6138  
kawano-pbi@gol.com

**Lavender Tan**, Singapore  
(65) 9752 8613 • lavtan@singnet.com.sg

## CONFERENCES

**David Meyer**, Executive Director,  
Conference Content & Strategy  
646.380.6246 • dmeyer@thebtngroup.com

**Melissa Gain**, Event Manager  
917.626.6832 • mgain@thebtngroup.com

## CONTENT SOLUTIONS

**Mary Ann McNulty**, Director  
630.519.4510 • mmculty@thebtngroup.com

**Mariza Moreira**, Group Design Manager  
201.902.1965 • mmoreira@ntmlc.com

## LIST RENTAL, REPRINTS, COPYRIGHT & CIRCULATION

**Danielle Zaborski**, MeritDirect  
914.368.1090 • dzaborski@meritdirect.com

**Brett Petillo**, Wright's Media  
877.652.5295 • bpetillo@wrightsmedia.com

**Kwafno Anoff**, Director of Circulation  
201.901.2103 • kanoff@ntmlc.com

BTNG Group Editorial & Sales Offices 116 W. 32nd St., 14th Floor, New York, NY 10001  
www.businesstravelnews.com



**Thomas L. Kemp**, Chairman & Chief Executive Officer

**Lisa Cohen**, Chief Financial Officer

**Robert G. Sullivan**, President, Travel Group

**Thomas Cintonio**, Executive Vice President, Digital Media

**David Blansfield**, Executive Vice President & Group Publisher

**Lori Cioffi**, Senior Vice President & Editorial Director

**Arnie Weissmann**, Senior Vice President & Editorial Director

**Janine L. Bavoso**, Senior Vice President, Human Resources

**Roberta Muller**, Senior Vice President, Product Development & Production

**Sheila Rice**, Vice President, Information Products Group

**Richard Mastropietro**, Vice President, IT Infrastructure & Operations

**Elizabeth Koesser**, Vice President, Database Products

100 Lighting Way, 2nd Floor, Secaucus, NJ 07094 • www.northstartravelgroup.com

# CONTENTS

## Artificial Intelligence: Are We There Yet? Page 5

## AI IN USE

Mobile Travel Assistant Improves  
Deaf Employee Traveler Experience  
Page 10

Machine Learning Powers UBS's  
Travel Reporting  
Page 12

## TOOLS & TECHNOLOGY

It's Personal This Time: AI &  
Managed Travel Booking  
Page 14

AI's Ability to Transform  
Expense Management  
Page 20

Will AI Redefine Buyer-Supplier Dynamics?  
Page 22

## THE SUPPLIERS' SIDE

Areas Where AI Will Help the  
Hotel Industry Do Better  
Page 26

Airlines Turn to AI as They  
Up IT Spending  
Page 28

Will Self-Driving Cars Ever Fly?  
Page 30

Business Travel News (USPS 0728-870, ISSN 8750-3670) April 23, 2018 Issue 835 Vol. 35, No. 6. Business Travel News is published monthly except semi-monthly in March, April, May, August, September and October by Northstar Travel Media, LLC, 100 Lighting Way, Secaucus, NJ 07094 (201) 902-2000, and is distributed free of charge to qualified corporate travel buyers and travel agents specializing in business travel in the United States and Canada. The cost of a print subscription to non-qualified subscribers is \$129 in the U.S.; \$142 in Canada and Mexico; and \$210 in other foreign locations; the cost of a digital edition subscription is \$65; payable in advance in U.S. dollars. Registered for GST as Northstar Travel Media USA GST No. 264513185. Canadian GST #123397457. Periodicals postage paid at Newark, NJ, and additional mailing offices. Business Travel News is a trademark owned exclusively by Northstar Travel Media. Copyright © 2018 by Northstar Travel Media, LLC. Reproduction of this magazine, in whole or in part, is prohibited unless authorized by the publisher. Editorial and advertising offices: 100 Lighting Way, Secaucus, NJ 07094. For all circulation inquiries, including new subscriptions, renewals, cancellations, changes of address and problems with missed deliveries, contact customer service by mail at Business Travel News, P.O. Box 47655, Plymouth, MN 55447; by phone at (800) 869-6882; fax at (866) 658-6156; e-mail at btn@kmpsgroup.com; or www.businesstravelnews.com/subscribe. POSTMASTER: Send change of address to Business Travel News, P.O. Box 47655, Plymouth, MN 55447. Printed in the USA.

## SPONSOR WELCOME LETTERS

## American Airlines



Dear Travel Professional,

At American Airlines, we are thinking about the future, and that goes hand-in-hand with the way we approach our investments in technology. We are delivering products that embrace technological innovation to provide additional support for our front-line team members and customers.

In 2017, we introduced self-service tools that allow customers to receive alerts about the status of their checked luggage and we launched a new dynamic rebooking tool that allows customers to rebook their own flights during irregular operations.

We're keeping a close eye on advancements with artificial intelligence to gain insight into how we can provide the best products and services to our customers. Any implementation using AI must be proven and consistent before introducing it into a complex business that requires reliability and consistent delivery, but we are asking the question "how can we use the data we have to help predict what might happen during a customer's journey so that we can provide better service?"

Technology is a key part of powering our future, and we look forward to seeing where advancements in areas like AI will lead us.

As the world's largest airline, we are pleased to sponsor the 2018 Spring Research issue, "Artificial Intelligence and Managed Travel."

Sincerely,

Chris DeGroot  
Vice President, International Sales  
American Airlines

## IHG® InterContinental Hotels Group



Dear Travel Partner,

At IHG®, we aim to provide True Hospitality for everyone. This means making each guest feel welcome and cared for, including our B2B customers and their traveling employees.

We're continually testing emerging travel-related technologies, including artificial intelligence, to ensure we

drive value along each step of the travel buying journey and the guest experience. With advancements in technology that are fundamentally changing the way our clients do business, and more than 5,300 IHG hotels across nearly 100 countries, we aim to develop solutions that appeal to our customers in diverse markets around the world.

B2B customers in today's digital marketplace are savvier than ever, expecting suppliers to understand their needs and preferences on a granular level. This evolution is especially true in the travel industry, and IHG is exploring how we can optimize technology, data, and insights to create solutions that help ensure an exceptional, ultra-customized buying experience.

We've trialed technologies that enhance the guest experience, including in-room assistant or voice-powered rooms. We're also exploring the potential of third-party messaging platforms to further optimize our service levels along various stages of the travel journey.

We're proud to sponsor this special issue of Business Travel News and know that the research and materials within will help us continue developing the best products and tools to meet the evolving needs of our B2B customers.

Warm regards,

Derek L. DeCross  
Senior Vice President, Global Sales  
InterContinental® Hotels Group

# Artificial Intelligence: Are We There Yet?

The technology is here. Yes. Though of course artificial intelligence will always evolve. That's inherent: If computers can "think" in their own way, the foundational tenet of AI, they thus will learn. The more practical question to ask, though, is whether AI has arrived in the corporate managed travel arena. The answer: in small ways, sure, but AI won't truly change the managed travel game until suppliers develop solutions that solve for travelers' and travel managers' problems and until business travelers and corporate travel managers come to trust the results.

"Trust is key here," said Microsoft travel technology manager Steve Clagg. His enthusiasm for AI lies largely in its potential to anticipate the traveler's needs: recognizing an email conversation about getting together as the intent to travel, proactively searching for and proposing a minimal number of tailored flights, arranging ground transportation, helping to reschedule conflicts, suggesting a restaurant that suits the traveler's taste the way Netflix recommends movies and so on. That's stuff that personal assistants already do but that AI someday will do better as it integrates and analyzes data feeds. There are calendars but also booking history and expense history, which can reveal a traveler's preferred way to get to the airport. AI could know that a traveler loves meatballs and assimilate that with Italian restaurants coworkers seem to like and with the restaurants whose meatballs the locals praise.

That's all nice in theory, but travelers have to see it to believe it.

"You trust your personal assistant because of past performance and capability," Clagg said, "from repeatedly demonstrated value." For AI, "that isn't going to happen overnight." Rather, the value of AI as a travel assistant will increase as travelers use it, as will their dependency on it. That will prompt them to use it more, and with that performance will improve. And so begins the cycle. Somewhere in there, trust will have been established, Clagg said.

United Technologies corporate travel associate director Colleen Kearney bears witness to that self-fulfilling cycle around hotels' AI offerings. "We hear from travelers, 'I got a notice I could check in on my phone. They knew what I wanted: away from the elevator or king-size, nonsmoking. It was very easy.' There are comments like that," she said, "that make that of more and more interest to our travelers." She explained why: The AI in play is personalized and makes the traveler feel cared for, even though there's no human interaction.

Kearney also has come to trust AI biometrics after seeing it in action herself. She attended a JetBlue event at Boston Logan International Airport, where the carrier has debuted facial-recognition for boarding. However, because it matches the passenger's face to a passport photo on file, it's limited to international flights. She wonders whether the technology would work with other forms of ID. "It's a limited application in my estimation right now," she said. Still, she

## YES, AI IS HERE FOR BOOKING, BUT IT WON'T LOOK THE SAME BY 2038

The current reality of AI for managed travel booking, according to Microsoft travel technology manager Steve Clagg: Booking tool developers are consolidating, in one place, data from multiple sources, and they're angling to build the best interface with which "to throw all that content at the user." That includes determining the most valuable options to present to the traveler. "Simple AI can remove the irrelevant ones from thousands of choices," Clagg said. "No one is going to pick, like, Seattle to Chicago with two hops in between just because it's like \$50 cheaper. Why is that listed?"

Next up will be customizing those remaining, logical options for each traveler—really knowing the traveler and predicting his or her needs—plus delivering helpful, customized information to that traveler in the right place and time. But traveler preferences and sort order are not enough, he said. Clagg eagerly anticipates intelligence that accounts not only for his documented preferences but also for his past behavior, as well as information Big Data can glean about his type, what Microsoft's travel program has been calling a persona. "It's really only three choices a traveler is going to be weighing from" those thousands of flight options, he said. "You can get to those by understanding the traveler better."

And within 20 years? An AI system will be able to "delight the traveler" by anticipating the traveler's needs in advance—from recognizing that a person will want to take a trip to helping rearrange their schedule to making suggestions for things to do along the way. At this point, Clagg said, booking tools will be no more.

# “Business travel is a place where certainly artificial intelligence has a place and it’s coming fast and furiously.”

United Technologies’ Colleen Kearney

described it as cool, easy and successful a high percentage of the time.

On the flip side, negative experiences can sow doubt. FINRA corporate travel services manager Carol McDowell has witnessed the frustration on her husband’s face as he talks in circles via their cable company’s online chat service. “It seems right now that it actually takes him longer using the chat box than if I call someone,” she said. “Sometimes with travel, you need that interaction and you need that personalization. You need someone to talk it through with you because you’re not really sure what you need unless you know the right questions to ask.”

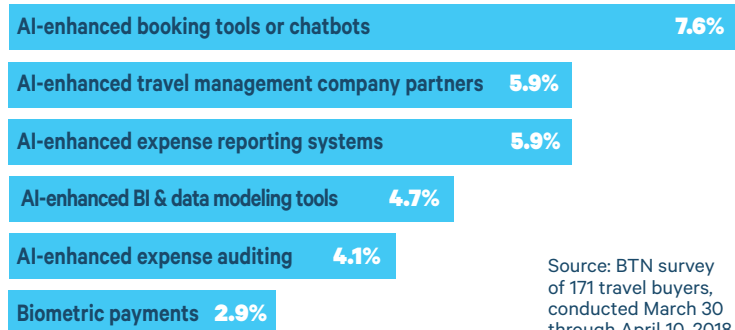
PSG corporate meeting and travel manager Jennifer Brown is similarly skeptical of chatbots, at least as far as their facility for self-booking. “Anything that makes the booking process easier for the traveler I would fully support, but it has to be consistent,” she said, citing the fact that the Siri voice-activated assistant on her iPhone doesn’t always understand her. “That’s the one thing I’m a little skeptical about with AI. ... I don’t know if it’s been fully perfected yet.

## THERE’S TRUST & THEN THERE’S FAITH

At some point, though, people just have to have a little faith and jump in, even if they don’t understand the nuances of how AI does what it does. “I don’t understand how I can throw a penny in a river and it drops to the bottom of the river and [yet] boats with cargo on it that weigh like a kazillion jillion times more than anything I could ever account for can cross the ocean,” said MassMutual travel services director Kelly Taylor. “But I know it works. There are just people who are awesome at that and that’s they’re niche ... whether it be making a tanker float or making AI work.”

Kearney, who looks forward to AI’s ability to sift through reams of data and predict spend and traveler behavior, also has faith, at least enough to try it out. “I don’t have any reason to doubt it at this point,” she said of the results AI-enhanced predictive analytics might spit out. “We would have to see what they come up with and if it sounds about right. We would do some verification, at least initially.”

## TRAVEL BUYERS HAVE ADOPTED LITTLE AI THUS FAR



Source: BTN survey of 171 travel buyers, conducted March 30 through April 10, 2018

If there’s risk in not fully grasping how AI does its magic, it’s worth the reward in Kearney’s eyes. “There are ways that information is somehow being collected in the cloud, and they’re bringing information and data together and bringing insights that we wouldn’t normally have. We have all of these data sources that are hanging out there, and we’re manually pulling from each one of them and trying to lay them over one another and bring insights ourselves.” She dreams of a reality in which she can ask an AI-enhanced database how much a particular business unit will spend on business class flights for a certain time period and the system “suddenly brings a report up and it puts it in a very nice pie chart and I don’t have to sit here for hours inputting data from different sources into a spreadsheet and then creating a nice pie chart.” She added: “It’s a way for us to get our hands on more immediate data, then move forward with predictive anticipation of what our travelers are going to do, how much we’re going to be spending versus just looking at historical” data.

On the traveler side, Taylor believes, widespread adoption of AI is inevitable anyway, another reason to embrace it. She bases that assumption both on younger travelers’ consumer habits and on older executives’ business decisions. When Taylor’s 24-year-old daughter is planning a trip, for example, Taylor wonders whether her

daughter doesn't want to talk to people for advice. Instead, her daughter visits TripAdvisor and seeks out other online resources. "She can plan everything without talking to anyone," Taylor said, "and it works." That lays out in front of Taylor's eyes a future in which machines can facilitate travel without human help.

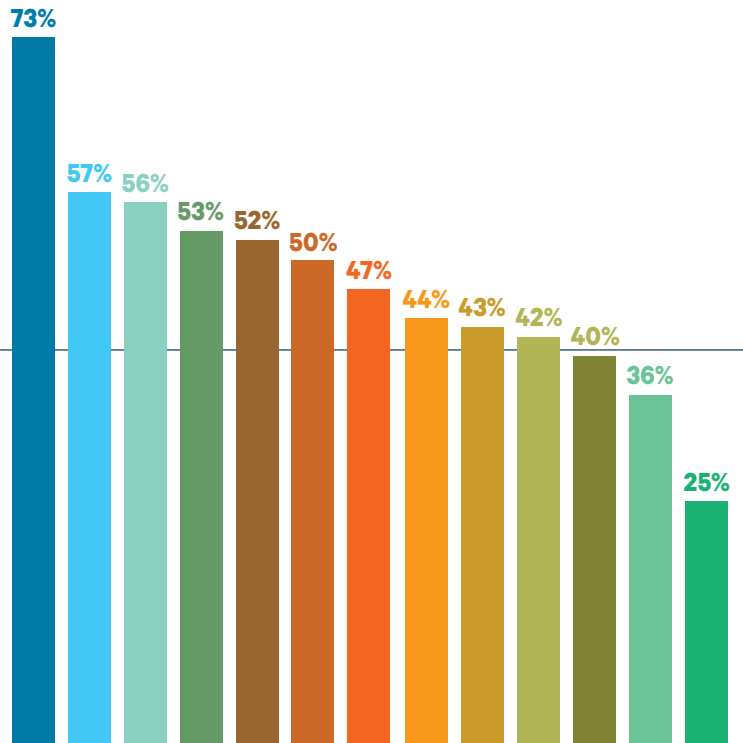
In contrast, most MassMutual EVPs and C-suiters still avoid themselves of concierge-level travel management company services; they like the high-touch interaction, she said. But behold! Those same decision makers are investing the company's capital in AI. They know AI is the future, she said. MassMutual data scientists are applying algorithms to the company's data to identify sales leads—customers that just experienced a life change like buying a house, for example—and the company also has launched Haven Life, which walks people through the process of buying insurance without human interaction. Taylor has no doubt the company will at some point turn the personalization AI capabilities it's developing to internal operations like T&E.

**WHERE THE BIG CORPORATE TRAVEL AI OPPORTUNITY LIES: PERSONALIZATION**

Like the travel program at MassMutual, Microsoft's travel department will benefit from its larger company's predilection for AI-enhanced technologies. The company is investing a lot in AI cloud services, said

"I believe in the concept. I just don't know who is going to put the money into developing it."

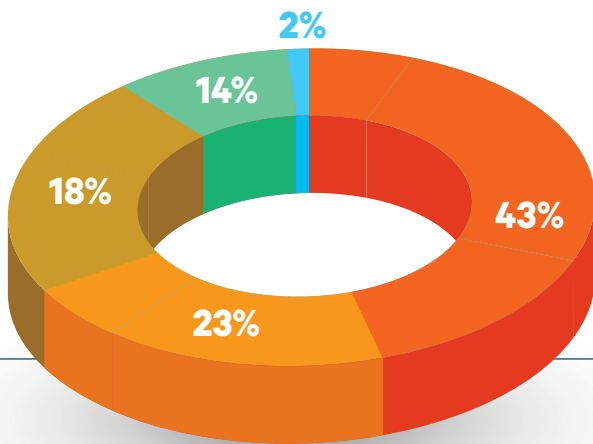
FINRA's Carol McDowell



**WHICH AI BUYERS PEG FOR HIGH MANAGED TRAVEL POTENTIAL**

- Biometric recognition at airports, airline boarding & border control
- Airline, hotel, car, etc. traveler experience personalization
- Personalization & recommendation engines for self-booking tools
- Expense auditing that examines external data for signs of fraud or large data sets for suspicious patterns
- AI-enhanced business intelligence & data modeling for travel data management & program analysis
- Biometric recognition for credit cards or mobile payments
- Chatbots for self-booking tools
- Chatbots that automate travel management company communications or services
- Personalization & recommendation engines for TMC services
- Voice recognition like Alexa & Siri for booking travel, retrieving itineraries or initiating expense reports
- Optical character recognition for expense management tools & receipt management
- Voice recognition like Alexa & Siri for retrieving travel management reporting & analysis
- Self-driving cars

Source: BTN survey of 176 travel buyers, conducted March 30 through April 10, 2018



## WHAT TRAVEL BUYERS KNOW ABOUT AI & MACHINE LEARNING ADVANCEMENTS

Excellent knowledge

Try to keep up but have limited knowledge

Average knowledge; know more about some areas than others

Not very knowledgeable

Good knowledge; follow it regularly

Source: BTN survey of 175 travel buyers, conducted March 30 through April 10, 2018

Clagg. “Over the next five years, we’re going to see some amazing stuff come out of this company.” It’s all about using data to enhance the user experience. For eight years, Microsoft has been working on embedding AI capabilities into Microsoft Exchange, on which the Outlook email program and Office 365 software are built. Clagg points out that email is unstructured data, meaning it requires a human brain to interpret and analyze the content and determine a course of action. There’s a “ripe opportunity to understand content and semantics to turn it into structured content that can be automated and utilized,” he said. Booking confirmations from suppliers, for example, can be added to a calendar. Expanding that capability to travel assistance—blocking out time in your calendar for an airport security checkpoint, for example—is coming to fruition now.

Taylor still thinks most AI personalization innovations will come from the supplier side. At the moment, concierge-level TMC services are the gold standard of personalization—telling a hotel how to stock a room on behalf of an executive, for example—but those are available at a steep price and thus only for a company’s VIP travelers. AI, though, could automate those preferences for anyone; a hotel could know, automatically, that Taylor prefers sparkling water and down pillows. And it’s worth it for suppliers to build out such technology, she said, for the upselling opportunity. If a flight is close to selling out, for example, the airline could approach Taylor and offer her one of the last remaining window seats for \$30—because they know she prefers the window.

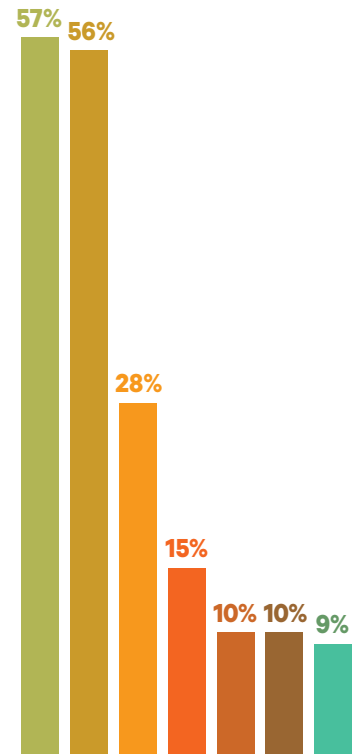
“I’m pretty optimistic,” she said. “The data is out there. People are working very hard behind the scenes to come up with the algorithms, to come up with ways to improve not just personalization but also upselling because that’s a win for them.”

### SO WHAT WILL TRAVEL MANAGERS’ ROLE BE?

“They’re automating everything. What do they need me for?” Taylor wonders. There’s time, though, to figure out how to make herself needed. “The concern is not for today or tomorrow, but ... I have to keep growing as a person so that I’m not doing something that could eventually be automated and making myself obsolete. ... I need to make sure that I’m providing value.” According to Brown, though, her value lies in her humanity. She looks forward to the improvements she believes AI will bring to her travelers’ lives, but she said, “People are always going to want someone to go to if they have a problem.” ■

“AI is brewing and bubbling up right below the surface.”

MassMutual’s  
Kelly Taylor



### HOW BUYERS THINK AI WILL AFFECT THEIR JOBS

Provide insights on large data sets

Personalize the travel program

No Effect

Relying on AI seems dicey because it’s difficult to verify how machines arrive at results

Travel data is too flawed to use AI effectively

Travel decision-making is too complex for AI to offer actionable insights

Reduce my value as travel manager or eliminate my role

Source: BTN survey of 176 travel buyers, conducted March 30 through April 10, 2018

# A BUSINESS RENTAL SOLUTION THAT RAISES THE BAR.

With a business rental solution from Enterprise, you can experience the speed, choice, service and reach of one of the industry's leaders – making your company's travel program more efficient while giving your business travelers more options.

And Enterprise Rent-A-Car ranked “Highest in Rental Car Customer Satisfaction, Four Years in a Row” by J.D. Power.



Visit [businessrentalprogram.com/BTN](http://businessrentalprogram.com/BTN) or call **1-877-439-4504** to learn more.



# Mobile Travel Assistant Improves Deaf Employee Traveler Experience

ZVRS makes video technology for deaf and hard-of-hearing people, and the company employs a number of deaf and hard-of-hearing people, as well. It's a growing business that acquired Purple Communications in December. With that acquisition, ZVRS decided it was time to explore a new TMC. The company had struggled with a lack of email support; its former agency accepted only phone calls after formal business hours. This was not a good option for deaf travelers. "We got many complaints," said ZVRS business manager Dawnmarie Caggiano, who also runs the company's travel program.

ZVRS looked at both incumbent agencies. Purple Communications had been with Flight Centre's Corporate Traveler brand, which specializes in small and midmarket clients and had rolled out Flight Centre Travel Group's Smart Assistant for Mobile about six months earlier. Corporate Traveler's 24/7 e-mail support combined with Sam's mobile services were game changers for hearing-impaired employees.

The app enables travelers to book or reschedule trips via SMS text with travel agents. "That has been a huge benefit," said Caggiano. "It's user friendly and deaf friendly." The app also tells travelers where to claim their bags, notifies them about flight changes, informs them about travel time to the airport and helps them book ground transportation if the sys-

tem sees that they haven't rented a car in the arrival destination.

"When our deaf employees face issues like a flight delay or cancellation, they don't necessarily have the advantage of picking up the phone to call the travel agency," she said, but it's not just about travel disruptions. It's also about efficiencies. "When the plane lands, the airlines make announcements about baggage claim No. whatever, etc. Deaf employees have to wait for the screens to show them where the baggage will be. Sam shows you that information so none of ZVRS's employees have to wait."

Plus, Caggiano said, it's about convenience. "There's a lot of hustle and bustle in the airport so that even hearing employees may prefer the chat-with-an-agent option through Sam. And it's also more private." Employees are able to communicate discreetly with an agent during meetings without having to step out for a call. "This keeps them on top of their travel without missing a beat in the workday."

ZVRS trained travelers on using the Sam app as part of the orientation to the company's new travel program and agency. About a quarter of ZVRS's travelers use the app actively and more have logged on at least once, according to Flight Centre Travel Group.

## AI'S ROLE

Considering booking on Sam happens through chat and that Sam has programmatic settings behind ground transportation, the AI at work within Sam isn't obvious. But

it's there, said Flight Centre Travel Group chief strategy officer of the Americas John Morhous, and it is getting more advanced.

"The AI is watching the user's interaction flow with the solution. It's watching what messages they look at, it's watching how it's delivering messages to users, and it's constantly adapting and tweaking the information delivery based on individual needs and preferences," he said. If the app sends driving directions and the user doesn't look at it a certain number

"There's a lot of hustle and bustle in the airport so that even hearing employees may prefer the chat-with-an-agent option through Sam."

## ZVRS's Dawnmarie Caggiano

of times, it will stop sending them, for example. This assures that the app remains helpful rather than becoming annoying, and half of ZVRS users rate the app's performance as at least an 8, on a scale of one to 10.

"We are looking to use the app to simplify the interaction flow so the [agent] can spend time servicing the traveler," said Morhous. That will soon include AI-enhanced self booking through the app, with options based on user behavior and company policy, and that will allow the traveler to book on the spot without agent involvement. ■

# HAPPIEST TRAVELERS IN THE INDUSTRY.



▲ DELTA  
EDGE™

[PRO.DELTA.COM/CORPORATE](http://PRO.DELTA.COM/CORPORATE)

According to the Services & Amenities category of the 2017 Business Travel News Airline Survey, published on November 20, 2017. Delta Air Lines earned the top overall score for the 7th consecutive year (2011-17) on the Business Travel News (BTN) Airline survey.

# Machine Learning Powers UBS's Travel Reporting

Swiss banking giant UBS came out of a five-year travel program strategy in 2015 with a globalized program that optimized policies and contracts. But, said UBS global travel lead Mark Cuschieri, the only data available for decision-making was coming from the agency, which limited both the travel team and UBS executives in numerous ways moving forward.

While agency data is rich with detail, it often trails actual travel activity by at least 30 days. Plus, a single data source of any kind produces only a partial picture for travel. True visibility relies on aggregating and integrating sources like global distribution systems, suppliers, payment solutions and expense tools, said Cuschieri, but also sources outside travel like market data, hotel availability data and catering.

"We weren't accessing all the data sources we had to better inform UBS businesses," he added. "Plus, we were only offering historical data, which is nice to identify trends but the business wants to know, 'What am I doing today? And what if I change what I'm doing today or tomorrow? What impact will that have on my goals, my targets?'"

UBS had contracted with PredictX on a broad shared services technology initiative, including travel. "Travel [data] is very difficult to manage, comparatively, and there's a healthy appreciation of that at UBS. The work of a bank is to make decisions from information, so it's quite natural that they were open to that promise on the travel side," said PredictX CEO Keesup Cho.

UBS wanted deep visibility into total trip cost, and the team wanted actionable pre-trip data, as well as a way to predict the future impact of

travel on UBS businesses. One of the challenges peculiar to travel is that the company is quite often not the owner of the data it needs to analyze its own programs. Instead, it's the travel management company, the GDS or the suppliers that own the data. As a result, the corporation is not the one that defines the data format, the content or the accuracy.

"That's unlike any other core system used to managed other vertical within the organization. Customer relationships, human resources, enterprise resource planning... they're operated and maintained by the enterprise," said Cho.

## LEVERAGING MACHINE LEARNING

As a result, travel departments have a unique challenge to re-create total trip spend. Even if the traveler uses all the approved channels and payment mechanisms, there are ancillary hotel and airline charges, ground transportation costs and meals, and there could be multiple legs of the trip. "An executive assistant, perhaps, could manage this for a single trip, but it's very difficult to do at scale," said Cho.

At UBS, machine learning algorithms are picking apart the data from multiple sources and grouping transactions based on probabilities to create the total trip cost. Prior to machine learning, this type of data might be aggregated using a static rules set that would miss elements like whether a hotel room transaction was actually part of a meeting expense. Machine learning algorithms can figure out new exceptions and possibilities without manual intervention.

"It can automatically identify and correct data without having to go back to the data source," said Cho. This is machine learning at its most basic, and it is facilitating more advanced automation and more strategic action.

"How often do you actually get your rate [at preferred hotels], and how often do travelers have to book away because of availability? We now have ... far more information that enables us to go back to suppliers and say, 'Wait a second. From what we've agreed.'"

**UBS's Mark Cuschieri**

## THE ANALYSIS STORY

UBS has taken its machine learning-enhanced data set and transitioned it into AI-enhanced analysis and reporting for UBS executive management and business leads, said Cuschieri. As machine learning identifies spending trends, it automatically pulls them out of the data mine in a visualized presentation designed for key stakeholders, who want to understand its effect on UBS business.

Because these stakeholders aren't interested in travel, per se, "you want something very clean and very clear," said Cuschieri. "You have to have a report that shows how much you're spending and where. This is how you are spending it and what you're doing against historical levels."

Direct data feeds into the tool allow UBS to work with very close to real-time information, so business leads know what is happening "right now." At the same time, machine learning is correlating and grouping data in the background to ensure accuracy without manual intervention.

Cuschieri said UBS also is working on a predictive data set, which means the reporting will show a visual representation of current spend and a prediction of whether business leads will hit their targets, come in below them or are on a trajectory to beat them. The analysis includes pre-trip data so the information is actionable. "It allows us to get ahead of the curve, rather than trying to explain what happened at the end of the year," said Cuschieri.

The automated analysis and projections are impressive in themselves, but there's more to this AI story: The reporting uses natural language processing capabilities to write itself.

"[The technology] engages senior

management with more visualization and less text, but the text is actually generated by the machines,” said Cuschieri. Also, UBS offers businesses a self-serve model in which leaders go into the tool themselves, where they can look at current data and model what-if scenarios.

Asked what is left for the travel managers to do, Cuschieri said there is plenty, but it does change the skill set required. “The businesses can depend on the travel team much more as subject matter experts,” he said. “Too many people go, ‘Here’s the report. Go away.’ That’s not what we do. We support the business in better understanding their goals and driving reports that [show] meaningful actions ... around behavior management, demand management, etc.”

**“The work of a bank is to make decisions from information, so it’s quite natural that they were open to that promise on the travel side.”**

**PredictX CEO  
Keesup Cho**

#### **MACHINE LEARNING & MANAGING TRAVEL**

Machine learning is powering the business of managing travel as well. Integrating broad and enhanced data sets has not only provided a better picture of traveler spend patterns but also of their motivations. The improved visibility has increased negotiating power for UBS buyers, according to Cuschieri.

“Managed travel has been the only industry where we agree to enter into negotiations where the supplier knows more than [the buyer],” he said. “How many times do you actually get your negotiated rate [at preferred hotel properties], and how often do travelers have to book away because

of availability? We now have that kind of information on historical trends, variances against what we actually contracted and a much better understanding of compliance at the property level. We have far more information that enables us to go back to suppliers and say, ‘Wait a second. From what we’ve agreed, we’re not getting the availability.’ Machine learning is helping us identify those things far better and quicker than humans could.”

At a certain level, said Cuschieri, there’s an element of trust because humans can’t process the amount of data that goes into producing those insights. “We’ve seen successful models in other industries. You have to jump in if you want to move forward.” ■

# **DON'T TAKE CHANCES WITH TRAVELER SAFETY**

**JOIN US IN A CITY NEAR YOU  
NEW YORK • CHICAGO • SAN FRANCISCO • HOUSTON • LONDON**



## **GLOBAL TRAVEL RISK SUMMIT**

Now in its third year, the Global Travel Risk Summit is a one-day conference series focused on educating corporate travel buyers, procurement professionals, human resources, legal, it and risk professionals on meeting legal obligations and executing safe and secure travel. Participants engage in real-world scenarios involving business travel risk management.

**“An extremely eye-opening event that highlights the risks and realities of travel in this age of extremism.”**

– Derek Dixon,  
Travel Coordinator – Americas,  
Aberdeen Asset Management  
(2017 Global Travel Risk Summit New York)

**Please email [mbzdyk@thebtngroup.com](mailto:mbzdyk@thebtngroup.com) to be added to a notification list as dates are confirmed.**

PRODUCED BY:

**BTNGROUP**  
CONFERENCES

 **HospitalityLawyer.com**<sup>®</sup>  
worldwide legal, safety and security solutions

# It's Personal This Time: AI &

Machine learning and artificial intelligence capabilities like natural language processing are gradually making their way into the managed travel booking experience. A maximally personalized shopping experience, however, relies on technologies beyond the reach of even the most sophisticated algorithms and bots. Plus, privacy regulations could slow progress.

Even so, chatbot-powered mobile booking assistants and AI-enhanced travel management companies and online booking tools are getting better at predicting what travelers want, weighing that against what their companies require and delivering balanced itinerary options. Adoption of such tools, however, at least among the managed travel-centric BTN audience has not been high. Just 7.6 percent of travel buyers provide AI-enhanced booking technologies to their travelers (see page 6).

## MOBILE TRAVEL ASSISTANTS

Chat-based mobile travel assistant technology has been a hotspot for managed and unmanaged business travel innovation. TripActions, 30SecondsToFly, HelloGbye, Hello Hipmunk and others are working on their algorithms. Even startups that have launched in the consumer travel space like Paul English's Lola have pivoted to business travel. That's largely because machine learning and algorithms require lots of data; they need to digest a lot of trips, ideally for the same individual, before they can personalize itinerary options.

Tech investors agree. Concur bought Hipmunk in 2016, but Concur, a traditional online corporate booking tool, has yet to capitalize on Hipmunk's AI achievements for unmanaged travelers. Credit card network American Express acquired travel-oriented chatbot provider Mezi in January and is turning it into its proprietary AskAmex travel tool for cardholders. TripActions received \$51 million in Series B funding last month and is looking to build infrastructure technology that will unleash the real power of AI for managed travel. Indeed, even with the excitement in the mobile travel assistant space, there's a lot of work to be done—and traveler expectations are high.

Travelers expect chatbot-enabled mobile booking technology to respond quickly, to understand complex requests and to be flexible in how travelers search for flights, according to 30SecondsToFly CEO Felicia Schneiderhan. Hipmunk CEO Adam Goldstein said travelers want bots to be “explicit and helpful and not be too magical.” Yet, a little magic might be nice, according to TripActions chief technology officer Ilan Twig, who said today's overall user experience is still frustrating and not traveler-centric enough.

Travel bots have gotten better at understanding what travelers want. Schneiderhan said 30SecondsToFly's AI-travel assistant, Claire, can optimize a traveler's options by considering both a traveler's explicit flight request and the suggestions the traveler has chosen during previous searches and by then combining those with the corporation's preferred supplier set and policy constraints. Claire then pushes four personalized flight options to the user, and 98 percent

of the time, the travelers choose one of those four. Agents step in when flights need to be rescheduled or canceled.

Hipmunk can understand nuances in the language of traveler requests and the context in which a trip is booked, said Goldstein. It also can help with open-ended questions. “We've gone from [an experience in which] all you can do is chat to [an experience] where you can book inside a bot to [an experience] where you can actually authenticate and get specific trip information personalized for you,” said Goldstein.

Of the 10 options TripActions recommends at a time, users pick one 91 percent of the time, Twig said. The median time a user spends booking on the platform is six minutes. During travel disruptions, the TripActions bot scans for impacts on an itinerary and reaches out to the traveler. “The bot is putting you on the next flight, communicating to you that we noticed the delay, found an alternative and it is refundable, communicating the details of the flight and telling you that your itinerary has been updated,” said Twig. “It's all automated.” The agent steps in if the traveler has a question or rejects the bot's recommendation.

Now, 30SecondsToFly is “building more narrow bots that can coexist and then basically bounce the user between them depending on which context they need, type of intent they have,” Schneiderhan said. “That is the type of bot that will be speaking to them. [Using multiple bots increases] accuracy and speed for a broader variety of user requests or user intents.”

With Claire, Schneiderhan is trying to make travel processes

**“The next job for all of us in the industry is that once we understand the request, how are we going to fulfil that request?”**

**Concur Labs'  
John Dietz**

# Managed Travel Booking

and policies more dynamic and intuitive. The company is working to give Claire the ability to process trip approvals. Similarly, expense reporting technology providers are using AI to relieve supervisors of approval tasks. Adoption in the expense arena, however, has been challenging (see page 20).

TripActions is experimenting with blending data from new sources. It would like to access details like employee seniority to provide more personalized features. It's also working on reducing its 10 recommendations to three and reducing the median time users spend booking to one minute.

## THE NEXT GEN TMC

Chatbot-enabled personal travel assistants need fulfillment partners in the background: TMCs. Christopherson Business Travel is an investor in and the fulfillment partner for 30SecondsToFly, at least when the company sells its product directly to corporations. Schneiderhan actually pivoted the company in March to serve tech to TMCs; in that model, fulfillment would shift to each client TMC rather than be provided by an umbrella partner TMC. Few travel chatbot providers have gone that route. The one that did, Mezi, is largely out of the picture now that Amex acquired it. Schneiderhan told BTN sister publication The Beat last month that 30SecondsToFly has contracted with three TMCs. That's the same number Mezi had on board when Amex bought it.

Among Mezi's three TMCs were Silicon Alley-based WTMC and Silicon Valley-based Casto Travel. Casto president and CEO Marc Casto decided to

go with Mezi last year, based on demand from tech-savvy clients who were eager to have a sleeker, more consumer-grade technology experience for their corporate travelers. But not all clients are ready to jump on AI-enhanced travel tools. "Some people prefer to call an agent. Some people prefer to go to an online booking tool. Some people prefer to use a text-based messaging system like a chatbot," said Casto. To satisfy various client needs, Casto Travel created specialized workflows and training through which a group of agents can work with AI-enabled agency desktop tools. The agency desktop tools take in and steer content from the AI-enhanced traveler-facing chatbot, Marco.

Marco provides travelers with three personalized options: "what is best based on the request, what is best based on the company policy and ... what we feel is most appropriate based on their prior travel purchases, what they've always enjoyed in the past. So it's very intuitive based upon prior purchasing," said Casto. He said the agency is getting closer to finding the middle ground between the preferences of the traveler and the requirements of the company.

In terms of language recognition, Marco has the capabilities of a "third or fourth grader," but with additional human inputs every day, the agent team is training Marco to understand conversational nuances. Casto hopes Marco will communicate at a high school senior level within two years.

WTMC CEO Sarosh Waghmar uses Mezi technology as part of a broader agency technology

strategy he calls Bots & Beings. He told BTN Mezi can handle day-to-day traveler requests like flight searches, recognize a user's loyalty status and deduce a traveler's preferences from historical booking patterns to provide personalized travel options that are still within a corporate travel policy. Human agents intervene when a request requires lateral thinking, which happens often. WTMC is taking the pragmatic approach to enhance agent intelligence without trying to remove the human touch.

Waghmar, who was a Mezi board member prior to the chatbot's sale to Amex, praised the technology's user interface and its natural language processing, but he sees real limitations for personalization. It's not exactly the chatbot's fault. Instead, it's the antiquated TMC infrastructure used to fulfill the requests, he said. Real personalization has to dig deeper, he told BTN; it has to be initiated at the TMC level by technology that uses the traveler profile as a dynamic filter for recommendations presented to the traveler. Right now, he said, that technology doesn't exist.

"Today's enhanced AI tools fail to provide personalized booking experiences to travelers [because] they don't link up to the traveler profile. They don't even know what's in the profile because that information is dead; it's just static. [All the profile information] has to be pasted [after the fact] at the time of completing the PNR," he said. "When I start to search, [the booking tool] just shows me the cheapest. Then I have to filter it myself to show me just nonstop, then to show me by airline preference. Why am I doing that if I've

**"Today's enhanced AI tools fail to provide personalized booking experiences to travelers [because] they don't link up to the traveler profile."**

**WTMC's Sarosh Waghmar**

CONTINUED ON PAGE 18

# SAVE THE DATE

5<sup>TH</sup> ANNUAL  
 innovate

for the advancement of business travel

[ OCTOBER 29-30, 2018 ]

NEW YORK HILTON MIDTOWN, NEW YORK CITY

Join ***Business Travel News*** and ***Travel Procurement***  
for the only industry event that combines...

- \* Cutting-edge buyer education
- \* Technology innovators and influencers
- \* Networking with 400 of your business travel peers

## MASTER CLASSES

Education sessions presented by senior BTN Group executives and panels of experts assembled to explain cutting-edge topics that savvy business travel buyers are not yet well-versed on, but ought to be.

## THINK TANKS

Tackle four tough industry issues via small group workshops and in-depth discussions that activate industry progress.

## BUSINESS TRAVEL INNOVATOR LAB

### When Innovators compete, the industry wins

See new technologies poised to change the business travel industry. Top executives present cutting-edge products, technologies and services that are critiqued, judged and voted on by both a panel of expert judges and those in attendance.

[www.btngroupconferences.com/innovate](http://www.btngroupconferences.com/innovate)

# Oct 2018

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

## HEAR WHAT PAST ATTENDEES HAVE SAID

BTN Innovate 2017 provided a new lens to see the entire ecosystem of corporate travel. Access to great minds with years of experience in one room = priceless. Worth every second of time of out of the office.

- Ariel Crohn, Corporate Meeting & Travel Manager, Coverys

BTN Innovate never fails to deliver insightful content best practices about what really matters in our industry

- Martha Ferguson, SVP, Global Travel Manager, Lazard Freres

BTN Innovate 2017 was simply fantastic! Great presenters and amazing new ideas/apps/innovations. Even better than the year prior! GREAT JOB BTN and THANK YOU!"

- Anna C. Bramante, Director Travel & Fleet, The Travelers Companies, Inc.



SpotHero for Business Co-Founder Becca Rabinowitz, who took home 2017's Business Travel Innovator Award



DVI's President Brian Beard, who took home 2017's People's Choice Business Travel Innovator Award

**CONTINUED FROM PAGE 15**

already entered my profile? Why is the profile just lying there?"

WTMC champions cloud-based profiles that integrate with multiple technologies to accommodate whatever process the traveler chooses to initiate the booking. "If I need to push [the profile] out to any of the GDSs, I'll be able to push it out. ... If I need to populate it on Concur, I'll be able to sync it to Concur. I'll be able to push to whoever and whenever I want," Waghmar said.

The profile is one side of the personalization coin, providing rich information for an AI-enhanced tool to understand the traveler. Delivering a tailored

"We've gone from [an experience in which] all you can do is chat to [an experience] where you can book inside a bot to [an experience] where you can actually authenticate and get specific trip information personalized for you."

**Hipmunk's Adam Goldstein**

product, however, is the other side of that coin, and it's also waiting for a solution.

The momentum building around New Distribution Capability is a major step in the right direction. It will make more-detailed air content choices available to both agent desktop tools and mobile booking tools. Waghmar's WTMC was the first Level 3-certified NDC TMC.

Casto said NDC will have a major impact on AI's ability to provide personalized experiences. "The ability to access very personalized fare requests for a traveler in a mechanism that is specific to their needs ... well, that's exactly what we are

trying to achieve with our chat-bots: How do we tailor this specific to the traveler's desires? Bringing in [NDC] content will be extraordinarily helpful."

**SLOW GOING FOR TRADITIONAL ONLINE BOOKING TOOLS**

AI for managed travel booking tools is clearly still in its infancy, which accounts for much of the low adoption. Another possible contributor, however, is the vast empire of Concur Travel. It has not introduced AI-enhancements to its online booking tool but has captured 57.4 percent of the global T&E management software market, according to IDC. It's a big decision to change booking tool providers, and that may not be an option for a company accessing the booking tool through its TMC. Personalization, at this point, may not be a big enough reason to make a change; even more, said Concur Labs VP John Dietz, corporate clients may object to it.

He said Concur has been conservative with introducing personalization and predictive features due to privacy concerns, especially for global clients in the era of the European Union's General Data Protection Regulation. "We as an industry are trying to work on how we preserve our consumer's rights to be forgotten [while also] predicting what they want next. Balancing those [opposing options], we are going to come out on the side of what [corporate] clients want in terms of privacy first then prediction second." Dietz added that when Concur is ready, its likely focus will be AI-enhanced trip-disruption recovery, which requires more nuance than bookings do because they require more context about the particular situation.

Not all booking tools have taken that tack, however. KDS made a big splash in 2013 with

its Neo booking tool, which not only gives door-to-door itineraries in a few clicks but also applies traveler preferences to its recommendations. It bases those on the individual's historical bookings and on various content inputs. It looks at more than just the obvious ones in order to optimize routes.

When then-CEO Dean Forbes debuted the tool in Paris, he said, "The algorithm is built so that it learns. We won't be right 100 percent of the time. We have been testing Neo on ourselves. It suggested Oliver [Quayle, then KDS SVP for products] fly from his home to our Paris office via Southampton Airport. It was smart enough to propose something he hadn't thought about before, and now he is using that route regularly."

That was before the term machine learning had become an industry buzzword, but KDS has continued to build on the concept since American Express Global Business Travel acquired KDS in 2016.

Dietz believes the industry is close to fully understanding traveler requests, but like TripActions, Casto Travel and WTMC executives, he questions how the industry will deliver personalized products, given that distribution technologies are antiquated.

KDS Neo director of global product marketing Amber Stauffer said the company is focusing its machine learning on enhancing the hotel amenity data coming from the global distribution systems. This would allow Neo to deliver on travelers' personal preferences by presenting more consumer-style hotels for business travel.

"The next job for all of us in the industry is that once we understand the request, how are we going to fulfil that request?" said Dietz. "That is the kind of work that is happening in research labs." ■

# American Airlines

We fly your travelers, but you lift them up. American is committed to providing you with what you need to keep your company flying forward. From a convenient network and a flexible schedule, to 24/7 support with a knowledgeable and dedicated sales force, we're making travel an even better experience for you and your travelers.

## A Convenient Network

We offer the flexibility your travelers need with our network and schedules to global business destinations:

- More destinations and nonstop routes than any other airline
- Over 1,000 more flights a day than the closest competitor
- The most flights from the U.S. to London, with up to 17 daily flights from New York and 5 from Los Angeles, with our partner British Airways
- The most daily flights from New York to Los Angeles, with a true First class option on this route
- The only hourly shuttle service between New York, Boston, Washington D.C. and now Chicago

## Dedicated, Specialized Support

In addition to your dedicated Account Executive, we're also the only airline that offers:

- Flex Funds to make your job easier and to better service your travelers
- 24/7 live agent and online support services
- The most specialty support desks and support centers worldwide, including New York, London, Tokyo and Sao Paulo
- Dedicated local service teams who provide fast and efficient account management support for key accounts



For travelers' best flight's sleep, we teamed with Casper in Flagship® First, Flagship® Business and Premium Economy.



New Flagship® Lounge at New York (JFK), also now open at Chicago O'Hare (ORD), Los Angeles (LAX) and Miami (MIA) airports.

- Our redesigned SalesLink application introduces a more contemporary look and feel, which provides a more intuitive user experience. The redesign also proves we are focused on supporting our partners by offering more online waiver and favor services than any other airline

## An Elevated Travel Experience

We know that the journey is just as important as the destination. And with more improvements coming in the airport and every cabin, we're working to enhance your travelers' trips even further.

- Opening of the new Flagship Lounges, offering a specialty cocktail bar, premium wine table, chef-inspired meals and an expansive seating area
- Opening of Flagship® First Dining – located within our Flagship® Lounges, it features locally sourced ingredients and regionally inspired menus to provide you an elevated pre-flight meal unmatched by any U.S. carrier
- A modern travel experience with lie-flat seats with direct aisle access in Flagship® First and Business, featuring soft goods designed by sleep technology partner, Casper; Wi-Fi and power outlets, hundreds of entertainment options and chef-inspired menus on nearly every route
- Introduced Premium Economy on select international flights to Europe, Asia and South America, offering extra legroom and wider seats, enhanced dining and amenity kits
- Increased connectivity with the most Wi-Fi in the skies and expanded complimentary entertainment on domestic flights, including streaming from your own device

American Airlines 

For more information, visit [aa.com/corporatetravel](http://aa.com/corporatetravel)

# AI's Ability to Transform

“Manager approvals of expense reports have to be one of the worst controls that exists,” said Oversight Systems president and CEO Patrick Taylor. Why, then, do many companies insist on managers approving every expense report? It exposes those who have violated policy. That’s valuable knowledge despite the effort required by managers and the friction caused for honest travelers. Artificial intelligence, though, can solve for all parties: the good, the bad and the managers.

Expense management controls several risks, including misuse, fraud, waste and abuse, according to Taylor. “If someone is committing fraud on an expense report, there’s a 75.6 percent chance they’re engaged in occupational fraud,” Taylor said, citing the Association of Certified Fraud Examiners.

Still, Oversight data shows that 70 percent of employees are “good travelers” partaking in no risky behavior. Travel managers can reduce friction for these employees, Taylor said. Moreover, a quarter of travelers commit offenses but aren’t considered high risk; their violations may be honest mistakes or owe to unfamiliarity with their companies’ travel policies. “This set of people are the ones you want to educate to make smarter decisions in the future,” he said.

A small number of employees intentionally cover up behavior they know is wrong—passing off a companion’s flight or hotel as a business expense, for example. These few are the ones you have to watch out for the most. “Five percent are engaged in high-risk activities, with a fraction of

those engaged in fraud. Those people I don’t mind creating more friction for,” Taylor said.

AI allows managers to reduce friction for the good travelers, educate occasional offenders and thwart high-risk ones. It can catch potentially fraudulent transactions by comparing expensed items across company departments and against other companies. “There’s clearly an opportunity to make [expense management and auditing] more efficient and intelligent and even increase compliance rates,” Certify CEO Bob Neveu said.

## AUTOMATION HESITATION

The typical expense management workflow requires a traveler to create and submit an expense report for his or her manager’s approval. If the company uses an automated expense management system, the traveler can upload receipts through an app. The manager then sends the report to the accounting or finance department for approval before the company reimburses the traveler. The process can take several days to several months.

Several expense management firms have automated many of these processes, including matching receipts to credit card charges, creating and submitting expense reports for users, approving reports on behalf of managers, and reimbursement. Some even use AI to auto-audit certain processes and flag irregular expenses or suspicious patterns for managers. Likewise, AI-based Xpenditure uses machine learning and predictive analytics to evaluate claims in real time and identify those that may require further investigation. The technology also can classify, organize and transform receipts

and invoices into formatted data with “100 percent certainty,” claimed Xpenditure chief innovation and technology officer Moncef Khanfir.

Corporations, however, have hesitated to adopt advanced automation because they want the traveler and/or manager to confirm the accuracy of expenses before funds are reimbursed, Neveu said. They reason that a traveler or manager could blame the technology when a noncompliant expense gets through the system, he added. “We continue to struggle to see the adoption rates there,” he said. “Our customers want control around [those processes], not an AI layer driving that. ... Everyone wants to be able to point to someone in this process if there’s an error.”

Expensify, a big proponent of AI and machine learning, similarly admits that a large portion of its customers use only some of its automation capabilities. Thus the expense firm is focusing on improving the manual expense reporting side of its system.

## SIMPLIFYING PROCESSES FOR GOOD TRAVELERS

Still, there’s value in AI-based automation. While many companies believe the most effective way to catch fraud is to review 100 percent of reports, doing so is time consuming and ineffective, as most managers approve reports without scrutiny, especially for employees they trust. “That [approve] button is so easy to hit. It’s a waste of their time,” Taylor said. Others scrutinize a random sample of reports, which means some violations are slipping through the cracks anyway.

Expense management systems

AI is “going to catch on as people realize AI apps are able to review and make those decisions around inappropriate, misuse or fraudulent expenses far better than what those managers can do.”

AppZen’s  
Anant Kale

# Expense Management

like Xpenditure and AI-based third-party audit systems like AppZen and Oversight can scrutinize every report, do it faster and catch violations a human could not. They also can analyze a traveler's historical expense submission data to identify unusual patterns and recurring bad behavior. AppZen additionally scours the Internet to confirm acceptable merchants and identify suspicious meal or meeting participants.

Considering most business travelers do not participate in risky behavior, Taylor said, it makes sense to use AI to identify the good travelers, eliminate manager approval of their expense reports and reimburse them automatically. AI still can catch questionable expenses should such travelers stray from the straight and narrow. "I'm not ignoring the risk. I'm reducing the friction," Taylor said.

## EDUCATING OFFENDERS & IMPROVING TRAVEL POLICIES

Likewise, AI can categorize offending travelers based on their risk levels and respond accordingly. Oversight, for instance, can scan a traveler's historical expenses and can tailor templated emails suited to the violation. It's a recognition of the difference between a repeat offender versus a new traveler with no history or a long-time traveler with no prior offenses. "Because you don't want to come down on that person like a ton of bricks," Taylor said. The system could send repeat offenders a more stringent message and could copy a supervisor on the email.

Machine learning learns from humans, Taylor said, but it also can teach them. In the first

quarter, Oversight tweaked its automated emails so they indicate which policy a given employee violated and a link to the travel policy. The idea is to educate travelers rather than reprimand them.

AI also can drive policy improvements, Taylor said. Data amassed from AI reviews of expense reports could reveal that certain violations actually constitute rational behavior; the company could consider updating those parts of its travel policy, such as allowing ride-hailing suppliers like Uber and Lyft. On behalf of one client, Oversight flagged individuals who repeatedly expensed in-room movies, but analysis revealed that those travelers were spending less money on meals, according to Taylor. "It turns out that the \$7 movie is a bargain," he said.

Likewise, SAP Concur is working on an AI feature, Dynamic Policy, that incorporates a company's travel policy, data from SAP's intelligence innovation system Leonardo and other systems and automatically adjusts the policy within Concur as needed, according to Hendrik Vordenbaeumen, SAP Concur Expense global VP of product management for integration, globalization and cards strategy. For instance, a traveler might expense a hotel in New York City for more than the company's \$200 limit; if the data tells the system no hotels are available for less than \$200, "the policy will be adjusted automatically to reflect that in New York City it will be higher," Vordenbaeumen explained. That way, the traveler doesn't get flagged unnecessarily and the expense reimbursement process isn't slowed. While

Dynamic Policy is still in the early stages, Vordenbaeumen said SAP Concur is a step closer to the idea of an expense report that "creates itself."

## GETTING BUY-IN

Moving legacy clients to new processes and technologies is more difficult, and so providing clients opt-outs from technologies is a must. "A lot of travel managers would have a heart attack, so it'll be up to the travel manager to decide whether they want to use it," Vordenbaeumen said of the Dynamic Policy solution.

But the benefits of AI-powered auditing and automation are evident for large corporations that process thousands of expense reports and need a more efficient process and for small and midsize businesses that are growing and don't have the manpower to scrutinize expense reports. Some companies outsource these functions, and AI-powered auditing tools can bring that work back in house, eliminating back-and-forth with third-party auditors, AppZen CEO Anant Kale said.

Seeing is believing for his clients, he said, so AppZen typically compares a prospective client's expense workflow and the App-Zen automated AI process side by side. In an automated expense ecosystem, "they simply have a look at trends and anomalies that keep appearing and make sure that behavioral changes are happening rather than involve themselves on every transaction," Kale said. AI is "going to catch on as people realize AI apps are able to review and make those decisions around inappropriate, misuse or fraudulent expenses far better than what those managers can do." ■

**"There's clearly an opportunity to make [expense management and auditing] more efficient and intelligent and even increase compliance rates."**

**Certify's  
Bob Neveu**

# Will AI Redefine Buyer-S

Corporate travel buyers and suppliers have been at the same impasse for a long time. In short, how do they negotiate pricing and agreements and still accomplish goals? The situation presents problems on both sides. Buyers need to ensure availability and service levels for their travelers at good rates; suppliers need to protect inventory to ensure goods go to the highest bidders and that the companies—and shareholders—make money. We're not just talking about corporate business, here; meetings, groups and leisure travel factor into the equation, too.

Corporate relationships matter. But, especially in revenue management circles, they don't necessarily translate into optimized quarterly performance. In the most difficult circumstances, promises made on the sales side can't be fulfilled on the revenue management side and may not be communicated at all. It leaves buyers and suppliers in a tough place. Could artificial intelligence change this most fundamental issue? Well ... maybe.

## SUPPLY SIDE: BUILDING BETTER PRICING MODELS

Revenue management, at its most basic level, adjusts prices based on demand, suppliers' current booked business and competitors' prices in the market. The complexities of the practice have led to the proliferation of fare classes in the airline business—far beyond first, business and economy; any given cabin has multiple seat “types” that look identical to any passenger. Only a certain number of seats are available at the lowest fare class, and they

come with the most restrictions. As those are filled, prices rise until close to the departure date, when in some cases the demand breaks and seats are released to lower fare classes to drive final sales. Revenue management strategies most likely are to thank for that great airfare you found at 8 o'clock Sunday morning but that you lost by 4:30 that afternoon after confirming plans with a friend.

Airlines sharpened the practice, but the hotel industry has picked it up with fervor, carving out a percentage of rooms and types eligible for the lowest corporate rates and reserving other blocks for higher-paying customers like groups that will drop some coin on food-and-beverage events. What percentage to reserve versus how much to contract and how to price it all has been described as more art than science. As more data science enters the picture, however, that may be changing.

Just over a year ago, Best Western Hotels & Resorts launched new revenue management technology, BestRev, that crawls markets to search for pricing benchmarks 24 hours a day and weighs those benchmarks against current demand and booked business. The hotel chain allows certain hotels to set the system on autopilot, which means it makes changes to best available rates based on its own calculations and without human intervention. Hotels not set to autopilot get the same recommendations, but an employee had to approve the rate changes before they were reflected in the market. The initiative has now delivered a full year of results. “Ending 2017, the hotels that gave the system authority [to

change rates automatically] saw a 3.1 percent incremental increase in revenue compared to those that did not,” said Best Western SVP and COO Ron Pohl, adding that the machines continue to learn from themselves and that the algorithms improve with human tweaks. “We continue to evolve this, and revenue management is one of those things where computers, over time, can really determine the best way to sell hotels.”

While Best Western has seen good results from its first foray into machine learning and revenue management, American Airlines director of revenue management and operations research Marcial Lapp isn't so sure that price determination is the right way to use AI. “We create on the order of a half billion forecasts every night for all different flights and all different subsegments of those flights,” he said. “We build some pretty sophisticated algorithms in there. However, they are not what I would call auto-adapting, if that's a way to represent machine learning technology. These algorithms need feedback, and that's where it gets tricky because it's not always clear if certain pricing, per se, was good or bad.”

Airlines are not selling widgets, Lapp continued, and this applies to hotels, as well, especially in high-demand business markets. “I'm not necessarily looking to increase conversions by 10 percent or whatever. The problem I have is that I have customers wanting to buy a ticket and I have to make sure I can say, ‘Hey, customer, I'm not going to sell you this seat because I've got another person lined up and ready to go who's

**“Revenue management is one of those things where computers, over time, can really determine the best way to sell hotels.”**

**Best Western Hotels & Resorts' Ron Pohl**

# Supplier Dynamics?

willing to pay more.' These algorithms aren't traditionally designed to do that. I'm not saying we won't ever get there, but we're not there now." Lapp said he needs human analysts to provide market context for events like the Boston Marathon that "might look like a blip to a machine" but that are very meaningful to price forecasting.

Yet Noodle.ai CEO Stephen Pratt said that is exactly where AI-enhanced revenue management for airlines and hotels is going. "The amount of data [that hotels and airlines are analyzing] with learning algorithms to help set prices is very small," he said. If he were a revenue manager, he'd want AI to quantify the effect that weather has on hotel demand or that other events are having in the area. Not to mention macroeconomic conditions, consumer sentiment and what customers are saying about the

Suppliers "want buyers to come in with better information. They can set their revenue targets and contract targets at a more acceptable level and figure out terms that really make sense. I can't tell you how many companies set targets they can't possibly meet."

## Data Visualization Intelligence's Brian Beard

brand online. "What's the tone that's set? What are my competitors doing? What specials or deals do they have?"

These types of data sets, Pratt said, can fuel the AI fire when it comes to pricing. Plus, he said, "There's a whole new world of

analytics, of mathematics that are now possible to be applied to revenue management [with] breakthroughs [in] super computing power."

## BUY SIDE: STAYING COMPETITIVE

Pratt's soothsaying probably sounds scary to corporate travel buyers struggling to manage just their traditional T&E data. "It would be an interesting exercise to take a stopwatch and track what activities a travel manager actually spends time doing," said Keesup Cho, CEO of business intelligence tool PredictX. "They spend a huge amount of time chasing after data, checking data, correcting data, generating reports, sending reports, correcting and resending that report ... and I bet none of their business cards say 'data collector' or 'data generator.'"

Yet at the same time that buyers are chasing the data they can get, they are keenly aware of how much they are missing, especially when they sit down to negotiate with suppliers. "Every organization that goes to the negotiating table has been reliant on supplier data," said Advito senior director of intelligence and analytics Lexi Honohan, who was formerly a travel buyer for Swiss bank UBS. "It would be great to have conversations [with suppliers] where the buyer could say, 'You canceled your flights in that market 15 percent of the time,' or, 'Our travelers know that your airline cancels every time there is a weather issue,' or with a hotel supplier, 'Our rates are not available 70 percent of the time.'"

We're getting there, slowly, according to a handful of travel

business intelligence executives. The emerging best practice for corporate travel data, said Cho, is the smart data lake. "You just bring in every single piece of data: pre-trip, post-trip, social media or anything. Then you can create models that generate alerts, information based on that data without having to be bogged down at that database level." Big companies like UBS (see page 12) and Microsoft are building on this concept for travel already, but it doesn't have to be out of reach for the masses.

Honohan has built, on a Domo platform, a business intelligence tool and dedicated advisory practice at Advito that she calls "user friendly and economical." In addition to traditional travel management company, credit card and expense data, it digests data on market rates and data from FlightStats, QSI, traveler sentiment and other sources. It also can integrate with other systems in the organization like sales, HR and finance.

Data Visualization Intelligence president Brian Beard has been democratizing machine learning-enhanced business intelligence for travel management, and he feels the concept gaining traction as travel managers start to see what is possible, particularly for predictive volume and pricing. "One of the most intriguing areas for us is to look at how much it costs, for example, to go from New York or London or New York to Los Angeles with everything all in. We've used machine learning on the historical data to create total trip cost with airfare, hotel, meals, ground transportation, etc.," he said. "Then, you start to look at economic data, development in the market, [airlift] capacity changes." At that point,

Beard said, buyers will be able to model the data to show suppliers “for this airline or for that route or for that hotel chain: ‘This is where our travel will be in the next year and possibly even the next two years.’ Can you imagine going into negotiations with that kind of predictive data? It’s becoming doable.”

Conventional wisdom might hold that buyers armed with this level of data would make suppliers

“You just bring in every single piece of data: pre-trip, post-trip, social media or anything. Then you can create models that generate alerts, information based on that data without having to be bogged down at that database level.”

### PredictX’s Keesup Cho

nervous. Not so, said Beard. “When I talk to suppliers about it, at least today, they want buyers to come in with better information. They can set their revenue targets and contract targets at a more acceptable level and figure out terms that really make sense. I can’t tell you how many companies set targets they can’t possibly meet.” That sets a bad tone for everyone.

### BACK TO THE SUPPLY SIDE: MAKING GOOD ON PROMISES

“The biggest problem right now is that the revenue management department and sales department in a traditional system cannot communicate,” said Marco Benvenuti, chief marketing officer and co-founder of cloud-based hotel revenue management technology provider Duetto. “Even if you have data in the system, you have an inherent problem in the incentives between the two departments.

You have to fix that alignment and get to a revenue strategy. You can’t just look at revenue management. You have to get revenue, sales, marketing and analytics under one umbrella.”

That’s going to take better data storage strategies to pull the pieces together internally, said Benvenuti, plus more advanced algorithms to find the data patterns that will shape the right strategies. If hotel companies can get that far and buyers can confidently model their future volumes, however, the horizon may open up for new agreements.

Buyers should get ready, though. Benvenuti said pricing agreements have to be dynamic; static pricing agreements won’t work. “The flexible pricing model is the last component if you have the data and the AI and the culture together. It will change the way we segment and manage. The travel manager gets rational pricing and access, and the hotel makes money—not necessarily by charging more but by charging the right prices at the right times. If we can’t move to dynamic pricing, I can put the most advanced AI in the picture but the answer is nothing.”

### NEGOTIATING BEYOND PRICING

The data disconnect is pretty much the same for airlines, according Lapp. “It’s not a lack of data. Airlines have always had a lot of data—revenue management data, loyalty data, marketing data, network data—but it’s been sitting in siloes.” And he agreed with Benvenuti that bringing the data together is key. “Integrating all this data to make better decisions is a goal. It requires a new platform, which we now have, but it also requires new skills, which we are learning.”

Where they differ is in pinpointing the opportunity. The

pricing model for negotiated airfares already comes down to a percent off market rates—i.e., it’s already dynamic. There could be an opportunity to fine-tune it, but there’s a point at which you are diving for pennies. Lapp is concentrating American Airlines’ machine learning efforts on merchandising and personalization with ancillary offers.

“This relates to my previous point in that [ancillary purchases] are much more about increasing conversions,” he said. “If you bought a fare on AA, for example ... and you also bought priority access, I can use that in my algorithms to then say, ‘Here are a bunch of other things you may be interested in. If you are, great. If not, it’s still good because you as a human being have given me information that allows me to tune my algorithms based on what works on your segment and what doesn’t.’”

Translating that into the corporate world, he said, is challenging even if travel managers came to the table with amazing traveler segmentation data and behavior stats that could enhance agreements. The reason: distribution technology. Managed travelers generally are not booking direct, and therefore technology limitations restrict what can be done from a merchandising perspective. But in theory, this is the future, as standards like New Distribution Capability penetrate deeper into the industry.

Right now? We’re not quite there yet. As Benvenuti said of the hotel side, the data is too dispersed on the airline side to apply a true AI strategy, Lapp said. “I don’t have the data in one place so that I can run these algorithms, so that’s where we’re focusing our energy right now: making sure that we have all the data in one place. And then we can figure out what actually matters for personalization. Machine learning and AI will be the icing on the cake.”

**JOIN 100**  
of your data-  
focused travel  
industry peers!

**BRAND  
NEW!**

# business travel intelligence summit

**MAY 22, 2018**

**NEW YORK CITY**

Millennium Broadway Hotel New York

## Harness the Growing Power of Data Science

Join the BTN Group, publishers of *Business Travel News*, *Travel Procurement* and *the Beat*, for the inaugural Business Travel Intelligence Summit, a one-day, buyer-focused conference bringing together the industry's best and brightest data management minds.

Leveraging travel spending data has always been essential to business travel programs, but recent developments in data sources, tools and applications are empowering travel buyers to become more effective agents of change in their organizations.

**REGISTER  
NOW!**

- Gain insight into sources of data and what they can deliver
- Apply AI and produce predictive analysis
- Use data to transform business decisions



**CINDY HESTON**  
Director Travel and Events  
Anthem



**MARTA RODRIGUEZ MARTINEZ**  
Global Travel BI & Analytics  
Microsoft



**MICHELLE DE COSTA**  
Head, Global Travel/Meetings  
& Events/Fleet/Aviation  
Shire

[www.btngroupconferences.com/btis](http://www.btngroupconferences.com/btis)

DIAMOND SPONSOR



SILVER SPONSOR



BRONZE SPONSORS



PRESENTED BY

**BTNGROUP**  
CONFERENCES

PUBLISHERS OF

**BTN**  
BUSINESS TRAVEL NEWS

**Travel Procurement**

**the beat**

# Areas Where AI Will Help the

It's telling that, at the recent Americas Lodging Investment Summit, the two experts on stage to discuss what artificial intelligence could mean for the hospitality industry were not hoteliers but rather executives from Google and Expedia. This at one of the largest gatherings of hospitality industry leaders in the Americas.

That reflects that hotels are behind the AI curve, especially compared to Google and Expedia, which have been developing and testing AI capabilities for years, according to PwC partner and hospitality and leisure technology consulting lead Ali Abidi, who moderated the panel.

This fact isn't lost on hoteliers, either, who still lament that they didn't foresee the impact online travel agencies, which launched in the mid-1990s, would have on their businesses. According to PwC's 2017 Global Digital IQ survey of IT and business leaders, two-thirds of respondents from the hospitality and leisure industry said they were making substantial investments in AI, more than any other industry surveyed; 80 percent planned substantial investments within three years.

While AI may seem like the new tech craze, its greatest impact in the hotel industry will be in areas hoteliers have already been contemplating for years.

## OPTIMIZE FOR INTERACTIONS BEFORE, DURING & AFTER TRIPS

The growth of mobile use during the past five years has lifted hotel executives' skepticism that travelers would never research trips or book using their mobile devices. According to J.D. Power's 2017 North American Hotel Satisfaction Index Study, 25 percent of online hotel reservations are booked via mobile devices, up from 14 percent in 2014. The past two years have seen vast mobile app improvements and relaunches from the industry's largest players as they try to stay ahead of the curve or at

least in line with it. Hotel mobile apps now enable capabilities like booking, mobile check-in and check-out, pre-arrival room selection, messaging with the front desk and mobile room keys.

But what does mobile have to do with AI? Benjamin Devisme, VP of sales for The Colossal Factory, an AI-based instant communication channel for hospitality companies, said the way travelers expect to interact with hotels has changed as they've shifted from Web to mobile. They've stopped planning as much, and they rely on their phones to improvise prior to and during trips. "Now the challenge for hotels is to be able to be immediately relevant for the guest and to be able to have lots of relevant interactions with their customers at different moments of the customer journey," Devisme said.

Enter chatbots. They're designed to understand the intention behind a guest's question, thanks to natural language processing, one form of AI, and to respond in a relevant way, also using natural language (see sidebar). "It sounds easy," Devisme said, but guests can have thousands of questions. "I can think of, right now, 10 different ways to say, 'I want to book a room for tomorrow.'"

Still, hotel companies are working to understand and deploy the technology. While some use white-labeled chatbot interfaces, others have launched via Facebook Messenger, Slack and Google Assistant, leveraging the existing natural language processing capabilities of those platforms and meeting guests where they already interact online.

AccorHotels in 2017 invested in French travelbot startup Destygo and launched a beta of its Phil Welcome chatbot via Google Assistant and Facebook Messenger. Accor SVP of e-commerce and digital services Soumia Hadjali said Phil provides simple information on Accor hotels, such as available amenities, check-in and check-out hours and hotel searches

based on simple criteria like "business" or "trendy." Testing Phil has allowed the company to improve its AI knowledge and its conversational user experience and user interface. "Conversational AI is a no-brainer," Hadjali said. "In 2020, it will be part of our guests' life and for sure in their travel experience."

Here, though, hoteliers are still trailing. Of Booking.com's thousands of daily customers queries, 50 percent can be settled by the OTA's Booking Assistant chatbot within five minutes, according to tech website VentureBeat. That's up from 30 percent when the chatbot came out of beta in December.

Natural language processing also plays a key role in Internet of Things rollouts as hoteliers test AI-enabled virtual assistants like Amazon Echo and Google Home in guest rooms.

Best Western Hotels & Resorts is testing the Echo, also called by its persona, Alexa, at six properties. Best Western SVP and COO Ron Pohl sees the Echo as a way for guests to ask basic questions about their stays, such as, "What time is breakfast tomorrow?" and as a way to make special requests of the hotel staff. The hotel also will be able to track how quickly it responds to requests.

"It's not often in our business that you find a technology or something of this nature that is both a satisfier or delighter for a customer and at the same time is more efficient for a hotel," Pohl said. "We don't have to have the front desk clerk trying to answer a phone and respond to a customer when Alexa is doing that for us." Pohl said the company is seeing customer satisfaction increases as high as 10 points. That's from guests whose pre- and post-trip interactions with the hotels are via mobile messaging, not AI, and whose interactions during their stays are via the Echo.

Marriott, too, is testing virtual assistant technology in its IoT Guestroom Lab. For instance, users could ask virtual assistants to wake them up at 6:30 a.m.,

**"It's not often in our business that you find a technology or something of this nature that is both a satisfier or delighter for a customer and at the same time is more efficient for a hotel."**

**Best Western Hotels & Resorts' Ron Pohl**

# Hotel Industry Do Better

display a yoga routine and start the shower at the temperature preference stored in their customer profiles and could request additional housekeeping services—all by voice or app.

## FINALLY ALLOW HOTELS TO LEVERAGE THEIR DATA

Big Data is hardly a new concept; companies for years have been trying to glean insights from their massive amounts of data, but that's easier said than done.

In PwC's 2017 Global Digital IQ survey, only 13 percent of IT and business leaders from the hospitality and leisure industry said their companies effectively use all the data they capture to drive business value, placing it last among the industries in the survey. "Big Data is something that is kind of a buzzword in the hospitality industry, but very few people have it. Booking.com, Expedia, Amazon—they have a fair claim to Big Data," Devisme said. "Hotels ... they don't even have data."

A number of industry players are looking to change that, particularly by updating their decades-old technology stacks with dynamic, cloud-based systems that will enable AI applications. "AI machine learning is critical for the industry," IHG CEO Keith Barr told BTN last year, prior to the launch of the IHG Concerto cloud-based global reservations system. "It's something that we're going to be leaning into pretty heavily going forward."

Choice Hotels International, Wyndham Hotel Group and Radisson Hotel Group are also among the hotel companies that have updated or are in the process of updating their technology systems and shifting them to the cloud to provide more opportunities around AI and Big Data.

The greatest area of focus for these hoteliers is applying AI to revenue management to realize predictive pricing (see page 22). Choice president and CEO Patrick Pacious

said it's about tying in more factors that influence hotel stays, such as weather. "There are markets we have where if it rains on a Friday, and then Saturday people cancel their reservations because they were planning to go to the beach."

AI also factors into another industry buzzword: personalization. As hoteliers are better able to track, understand and use the data they collect on individual guests, they will be able to cater experiences to guest preferences. For instance, hoteliers soon might be able to predict whether a guest is likely to take advantage of on-property dining, room service or event programming and thus could tailor its communications with that guest accordingly.

The personalization that will be possible has helped to fuel the hotel industry's push toward loyalty program enrollment. Hilton president and CEO Christopher Nassetta said as much in 2016 when announcing discounts for loyalty members booking directly. "The ultimate objective is ... about having direct relationships with our customers," he said. "We want them to get the best value that they can get, get the best experience." The loyalty programs will create a flywheel of sorts in which data will be collected from loyalty members, that data will be used

to personalize to that loyalty member, that personalization will drive a better experience and increase loyalty, and that experience will incentivize others to join loyalty programs.

## CAN THE INDUSTRY GET OUT OF ITS OWN WAY?

The oft-cited reason hotels are behind in technology is that hotel owners want to see the ROI before they embrace something new. That's a problem for innovation.

Devisme said large, established companies looking to launch technology often end up with a Benjamin Button situation, in which they try to give birth to a fully-grown adult. They don't understand, he said, that they need to go through a learning curve; things only need to be good enough, not perfect. For example, Booking.com's ability to resolve customer inquiries within five minutes may not seem like much right now, but that time will only improve.

PwC's Abidi is optimistic that the industry is finally understanding the need to embrace technology. Industry sentiment is going to pivot, he said. "Analytics, AI, IoT, connected solutions—from a technology standpoint, it's going to drive and enforce the agenda. What we're going to see is hospitality and hotels embracing technology a bit more than they did before." ◀

## THE FOUR CHATBOT RESPONSE TYPES

**API:** When a traveler wants to book a room or see what kind of restaurants are in the area, the chatbot pulls up an application programming interface for the hotel's booking engine or Google restaurant results.

**DATABASE INFORMATION:** The answers to straightforward questions like, "What time is check-out?" or, "Can I bring my dog?"

**SPECIAL REQUEST:** If a guest requests something like an airport transfer, the chatbot will confirm the guest's information, departing airport and flight time and pass that information to a human at the hotel to fulfill the request.

**UNKNOWN ANSWER:** If a user asks a question the chatbot doesn't understand, the bot alerts developers, who can take steps to improve the chatbot's knowledge base. Ideally, the chatbot will respond to repeated unknown questions by directing the user to contact the hotel directly.

Source: *The Colossal Factory* VP of sales Benjamin Devisme

# Airlines Turn to AI as They Up IT Spending

Early forms of autopilot technology sprang up more than a century ago, but the aviation industry now is counting on artificial intelligence to improve the traveler experience.

AI is an emerging area for airline IT investment, according to a 2017 report by SITA; half of airlines plan to invest in AI and cognitive computing over the next three years. Overall IT spending by airlines increased an estimated 3.3 percent to \$24.3 billion in 2017, according to the report.

In a late-2017 webinar on aviation industry AI, Houman Goudarzi, innovation manager for the International Air Transport Association, spoke of four generations of AI that have improved airline operations or will do so:

- **First generation:** flight management systems and other technology in common use on aircraft, such as automatic cabin pressurization technology
- **Under development:** harnessing technology to predict passenger behavior and to model revenue management; and using biometrics to eliminate the need for boarding passes
- **In the future:** better detection and analysis of aircraft damage
- **Eventually:** self-flying planes and autonomous in-flight services

## CURRENT INVESTMENT PRIORITIES

Forty-three percent of airlines are undergoing or planning major programs regarding biometric identity management through 2020, according to SITA. Some already have pilot programs in

place. Delta, for example, began a program last year for Clear members to access Delta Sky Clubs via fingerprint scan at Washington Reagan National Airport, and the carrier since has expanded the program to boarding at Reagan and to Sky Club access across the U.S. "It's about how we can minimize the transactions employees have to do," Delta director of innovation Nicole Jones said. "In the long term, passengers could transfer from the curb to the gate without the need of a printed or mobile pass, as long as they are Clear members."

JetBlue and Lufthansa, meanwhile, are trialing biometrics-based boarding programs that identify passengers by facial imagery. JetBlue is trying its program in Boston, and Lufthansa is expanding its program across U.S. airports after a test run in Los Angeles. Lufthansa said it could enable a 350-passenger A380 to be boarded in about 20 minutes.

Airlines also will invest big in AI-driven chatbots over the next few years. As of last year, only 14 percent of airlines were using chatbots, according to SITA. Last November, Air France launched Louis, a chatbot dedicated specifically to baggage questions. A few months prior, Finnair launched Finn, which can answer, via Facebook Messenger, questions about baggage and buying tickets. By 2020, 68 percent of airlines plan to be using AI-driven chatbots, according to SITA.

Voice-activated technology also will play a role. Last year, United became the first U.S. carrier to enable Amazon's Alexa to

answer questions about flights like flight status or onboard amenities of a specific flight.

Other AI investments are not customer facing but will affect the traveler experience. Over the next three years, 80 percent of airlines plan investments in AI-reliant prediction and warning systems to minimize flight disruptions, according to SITA. AI also will transform airline revenue management, as forecast models will adapt better to changing conditions, such as the launch of a low-cost carrier, Amadeus IT Group head of AI research Rodrigo Acuna Agost said during the IATA webinar. Another area of AI investment will be investigating how people select flights and ancillaries, he said. "Most of the previous models were rational, but people are not rational."

Airports, too, are investing in AI; 42 percent of them, for example, are investing in chatbot services, according to SITA. Airport enhancements over the next several years should include ways to make facilities more customer-centric, such as easily informing travelers of security queues and alerting them of alternatives when certain lines are long, said Mark Drusch, VP of consulting firm ICF. "If I'm spending 30 minutes on the other side of security, it's infuriating to me and I didn't have time to go get a Starbucks [coffee], so the airport lost revenue," he said. "Telling me makes me as a customer feel better and generates more revenue for the airport." ■

**"Passengers could transfer from the curb to the gate without the need of a printed or mobile pass."**

**Delta's  
Nicole Jones**

7TH ANNUAL

# BUSINESS TRAVEL trends & forecasts

ATLANTA

5.11.18



RENAISSANCE  
ATLANTA WAVERLY

Business Travel Trends & Forecasts Atlanta is a one-day, buyer-focused conference designed to enhance corporate travel and meetings programs by uniting industry peers and providing a platform for information sharing.

**GAIN**  
valuable insight  
on managing  
the travel  
management  
company

**EXAMINE**  
airline industry  
conditions and  
hotel sourcing  
strategies

**EXPLORE**  
opportunities  
from listening  
to travelers



**HOWARD  
BROOKS**

Director, Travel, Card  
& Fleet Management

**McKesson**



**ALINA HOLMES**

Purchasing and Corp  
Travel Manager

**Habitat for  
Humanity Int.**



**ANNA KERSHAW**

Senior Sourcing  
Specialist and N.  
America Travel, Fleet &  
Meetings Strategy Lead

**UCB**



**KATHRYN KOHLER**

Corporate Travel  
Manager

**Mirion  
Technologies**

**REGISTER TODAY!**

[www.BusinessTravelTrends.com/Atlanta](http://www.BusinessTravelTrends.com/Atlanta)

SPONSORED BY



PRESENTED BY **BTNGROUP**  
CONFERENCES

PUBLISHERS OF **BTN**  
BUSINESS TRAVEL NEWS

**Travel Procurement**

the **beat**

# Will Self-Driving Cars Ever Fly?

Though autonomous vehicles have hit the road in select markets, the industry is several years from reshaping corporate transportation policies. Some buyers and analysts, however, already have a vision of what ground transportation could look like.

Transportation tech providers have been pouring capital into self-driving vehicles. Uber, for example, has been testing the technology in several markets—including Pittsburgh, San Francisco, Toronto and Arizona—putting cars on the streets with drivers who can take over if necessary. Those tests hit a major setback in March, when an Uber self-driving vehicle killed a pedestrian in Tempe, Ariz., prompting the company to suspend tests. Around the same time, a test driver for one of Tesla's autonomous vehicles died when his vehicle hit a lane divider in Mountain View, Calif.

Those investing in the industry note the high rate of deaths related to passenger-driven automobiles. Even if autonomous vehicles were never fatality free, they say, the rate of death still would be lower. Such accidents, however, also are reminders that this will not be a quick change.

Automobile industry insiders project it will be at least another few years before significant deployment of autonomous vehicles. A forecast in recent years by consulting firm McKinsey estimated that by 2030, fully autonomous vehicles could make up 15 percent of passenger vehicles sold around the world. Speaking at the Association of Corporate Travel Executives' global conference in London last fall, Stuart Donnelly, then Fleet Logistics international sales director and now Sixt senior director of group international sales in Northern Europe and the U.S., said that prediction is optimistic. "It depends on the government infrastructure to enable that," he said.

Regardless of how long it takes,

autonomous vehicle technology and other automotive technology like electric cars will result in "massive, dramatic change" to the transportation industry, Donnelly said. For many, owning a car might cease to make economic sense, as could maintaining a fleet of company cars.

So, where does that leave the traditional car rental supplier? "Car rental companies are well positioned," said ground transportation consultant David Kilduff. "Enterprise's parent company EHI has a fleet of over 1.8 million cars; they have a huge footprint. How many will be automated depends on car manufacturers' progress in AI. The difference is that EHI and other car rental companies are profitable now and can service the AI fleets. Uber and Lyft are still bleeding money" even as they rely on drivers to buy cars. That won't change until driverless cars are mainstream.

Over time, autonomous vehicles will be of great benefit to travel managers, Ingersoll Rand director of global travel and fleet services Pascal Struyve said. They will resolve several issues around safety, he said, such as whether to allow employees to drive after long flights and vetting a ground transportation supplier

**"[Autonomous vehicles will bring] massive, dramatic change to the transportation industry."**

**Sixt's  
Stuart Donnelly**

on driver training and certification. Incorporating autonomous vehicles into managed travel programs or fleets, however, could be tricky depending on how deployment unfurls. "There's a matter of when it will come and when will it become a valid solution in programs," Struyve said. "Is it globalized, or is it great to have it in one market?"

Those are not questions he grapples with day to day, though. "We don't think about it right now because it's not, in the purest sense of the word, reality yet," he said.

For those unfazed by the thought of a fleet of driverless vehicles, Uber, Airbus, a tech company financed by Google founder Larry Page and others are developing autonomous vehicles that fly. One, developed by a German drone manufacturer, took its first test flight in Dubai last year, and Page's company reportedly was ready last month for test runs in New Zealand.

With 44 years to go before the real world reaches The Jetsons' 2062, it looks like George's flying car may be more believable than the fact that he had to drive it himself. ■

## SELF-DRIVING CARS IN THE WORKS

**ADDISON LEE:** The UK-based chauffeured car firm is working with Ford on a government-funded project dubbed Merge Greenwich that aims to understand demand and distribution strategy by tracking Addison Lee data while Ford concentrates on the automotive technology.

**LYFT:** Lyft opened an autonomous vehicle technology research facility in Palo Alto, Calif. It's not developing its own vehicle but has opened its network to those developing the cars. It has worked with Ford as it tries to establish commercial service in Miami. Lyft and auto supplier Magna International also are jointly manufacturing systems for autonomous vehicles.

**NUTONOMY:** Tech startup Nutonomy plans to launch paid commercial service in Singapore this year. The company also is testing its vehicles in Boston.

**UBER:** Uber put its autonomous vehicle tests in Pittsburgh, San Francisco, Toronto and Tempe, Ariz., on hold after one of its vehicles killed a pedestrian in Tempe in March.

**WAYMO:** This year, Waymo expects to launch a driverless ride-hailing program in the Phoenix area. It began piloting the program last year.

3RD ANNUAL

# BUSINESS TRAVEL trends & forecasts

BOSTON

4.26.18



WESTIN COPLEY PLACE

Business Travel Trends & Forecasts Boston is a one-day, buyer-focused conference designed to enhance corporate travel and meetings programs by uniting industry peers and providing a platform for information sharing.

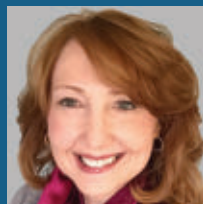
**GAIN**  
valuable insight  
on managing  
the travel  
management  
company

**EXAMINE**  
airline industry  
conditions and  
hotel sourcing  
strategies

**EXPLORE**  
opportunities  
from listening  
to travelers



**LINDA BICE**  
Senior Manager,  
North America Travel  
**Bain & Co.**



**PRISCILLA  
CAMPBELL**  
Global Travel  
Manager  
**Akamai**



**MICHELLE DE COSTA**  
Head, Global Travel/  
Meetings & Events/  
Fleet/Aviation  
**Shire**



**GARY POLITO**  
Global Travel  
Sourcing Manager  
**GCP Applied  
Technologies**

**REGISTER TODAY!**

[www.BusinessTravelTrends.com/Boston](http://www.BusinessTravelTrends.com/Boston)

SPONSORED BY



# Welcome to a new experience in business travel management, **IHG® B2B**

Our Global Sales force of 18,000 has one vision: to meet your unique business needs. With over 5,300 trusted hotels across nearly 100 countries, we partner with you in making confident, strategic decisions that save you time, money and effort. IHG® B2B maximizes your value and influence, giving you what you need to excel in your role.

And we're just getting started...

