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# The Fast-Forward Tech Stack for 2024

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# AI-controlled Hotel Room Pricing: The Index Fund of Revenue Management

Generative AI

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## Synopsis

In his article, Sage's Matt Schwartz explores the impact of artificial intelligence (AI) on the travel industry. It highlights that while AI will change how people travel, it will not alter the fundamental reasons why people travel, which are to create lasting memories, enjoy unique experiences, and spend time with loved ones. The synopsis acknowledges the potential for AI to enhance travel through advancements like auto-pilot and carbon-friendly transportation. It further discusses how AI will transform the technologies that enable travel, such as interactive booking experiences powered by AI agents and the automation of functions like Revenue Management. The synopsis suggests that while AI-controlled pricing services may outperform the majority of Revenue Managers, there will still be a need for human creativity and expertise in leveraging nuances to generate revenue. It concludes by emphasizing the importance of IT professionals in identifying and implementing AI solutions strategically to enhance travel experiences while embracing our human senses and enjoying the wonders of the world.

It seems that everywhere you turn, people are talking about artificial intelligence, and it's time to have an honest conversation about AI and travel. Will AI change travel? Yes. If you're a hospitality technology professional, should you be concerned? No. Let me explain....

AI will not change why people travel. As humans, we travel to create lasting memories, to enjoy unique experiences, and to share time with family and friends. Unless AI gets implanted into our cerebral cortexes, like in the science fiction novel Ready Player Two by Ernest Cline, AI will never replace the taste of a fresh croissant from a boulangerie in France. AI will never replace the feel of skiing fresh powder while taking in the beautiful views of the Rocky Mountains. AI will never replace the smell of savory spices coming from the kitchen of an informal restaurant in India. AI will never replace the sound of the Amazon jungle. And, AI will never replace the sight of the sheer awesomeness of wild animals roaming the Serengeti plains in Tanzania. Okay, maybe AI will get pretty close for sight and sound, but the taste of a fresh croissant? No way.

While it will never replace experiences – the *why* that drives people to travel – AI will undoubtedly change how people travel. One of the ways is obvious – more auto-pilot. And hopefully, we'll have more carbon-friendly travel vehicles that rely on AI for optimized routes. Solar-powered, supersonic jets anyone? Yes, please.

In our industry, the biggest changes from AI will come in the technologies that enable travel. We are already seeing these changes with the integration of ChatGPT and Online Travel Agencies (OTAs) like Expedia and Booking.com powering interactive booking experiences.

In some cases, these changes will lead to greater efficiencies. For example, it's inefficient for each individual hotel or hotel brand to store my preferences. In the future, my personal AI agent will "talk" to the hotel's AI platform and share (with my approval) my preferences for high floors, extra pillows, and local beer. Further, my personal AI agent, who knows my every move, will communicate how and when to adjust the room thermostat to my ideal temperature prior to and during each

room visit. And imagine if instead of scrolling through a TV guide of 100 channels, my personal AI agent told the hotel's AI platform which channels I enjoy watching and curated the TV guide down to the 10 or so channels I might actually watch. Every element of my hotel stay could be choreographed by my personal AI agent, from restaurant reservations to spa bookings to requesting the valet to bring my car around to alerting the housekeeping staff when to tidy my room and what specifically needs to be tidied – just make my bed and replace two towels please.

In some cases, these changes will lead to near-complete automation of specific functions; and somewhere near the top of the list of the biggest areas for automation will be Revenue Management. Here's a mathematical function that requires 24x7x365 attention to a large amount of disparate data that is constantly changing. Remember the three V's of "Big Data" – Volume, Velocity, and Variety – Revenue Management has this in spades. Competitor rate data, RevPAR Index data, local event data, air travel data, weather data, website analytical data, call center data, group booking pace data, social media data, guest review data, new hotel supply data – the list goes on and on. The human brain, even assisted by decision support systems, cannot incorporate insights from all of these data sources in real time to make corresponding adjustments to hotel room rates.

Now imagine AI-controlled pricing. Think of all the advantages of an AI service that never goes home at night, never sleeps, never takes the weekend off, never calls in sick, never goes on vacation, never asks for a raise, and never quits. An AI service that can process endless streams of data from numerous data sources and make intelligent sense of all that data, separating the nuggets from the noise, and translating those nuggets into price change recommendations. And going one step further, taking those price change recommendations and integrating seamlessly into the hotel's Property Management System (PMS) to update those price changes automatically with no human interaction.

And if such an AI service existed, would there even be a need for Revenue Managers? I imagine the answer is a resounding "yes". Remember, earlier I said a *near-complete* automation, not a complete automation. Why? Well, Revenue Management has nuances. And the smartest, most creative Revenue Managers will find ways to exploit those nuances and leverage them to generate revenue in ways that an AI-controlled service may not contemplate.

That said, I see a future where AI-controlled pricing services not only outperform the majority of Revenue Managers, they will displace the majority of Revenue Managers; just as stock and bond index funds outperform the majority of actively managed (i.e., human-managed) investment funds. Sure, a few investment fund managers find ways to outperform the index funds each year, and a few Revenue Managers will find ways to outperform the AI services, but that will be the exception and not the rule.

Remember the animated cartoon "The Jetsons?" George Jetson had one skill that gave him job security, he knew how to operate a computer system named RUDI (short for Referential Universal Digital Indexer).

George's boss, Mr. Spacely, often threatened George with the prospect of automating George's job. What if a robot operated RUDI instead of George? We are not far from this reality. I recently participated in a hospitality technology panel discussion, and I shared a direct point of view on this topic – if your job is to create MS Excel spreadsheets or to analyze MS Excel spreadsheets, you may want to start looking for alternate career paths.

Following this train of thought, what does the future hold for traditional Revenue Management Systems (RMS)? Well, I imagine most of those systems will either significantly evolve or go extinct. Just look around. Who at your hotel logs into these systems on a daily basis? The future favors services over systems just as the future favors cloud computing over on-premise computing. Fewer Revenue Managers will likely lead to fewer Revenue Management Systems. Recall the index fund analogy. Index funds typically charge lower fees than actively managed funds. Just think how much money hotels could save if they could replace Revenue Managers and Revenue Management Systems with lower cost AI services?

As an IT leader I'm excited about what lies ahead. Hotels and hotel brands will need IT professionals to identify, procure, deploy, maintain, and secure these AI solutions. We have a critical role to play, not in operating systems like George Jetson, but rather in strategically applying technology where automation and AI make sense.

I, for one, can't wait to book my next vacation – traveling with my family, making memories, learning about new cultures, tasting new cuisine, and activating all of my human senses. Let's enjoy being humans, and let's leverage AI to enable better, more efficient travel experiences.

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#### **Matt Schwartz** — Chief Technology Officer (CTO), Sage Hospitality Group

Matt Schwartz currently serves as Chief Technology Officer at Sage Hospitality Group. In this capacity, Matt has responsibility for all aspects of IT including applications, infrastructure, business intelligence, project management and security for the entire company. Matt spends most days thwarting cyber attacks, enhancing Sage's CRM database, and moving as much as possible to the Cloud. Prior to joining Sage, Matt served as the VP of Digital Solutions at Intrawest where he deployed a cloud-based Central Reservation System (CRS) to all of Intrawest's resort properties including Winter Park and Steamboat. Prior to Intrawest, Matt held various leadership positions in IT and Finance at PetSmart and Staples. Matt has a strong passion for technology, starting his career as a "coder" of HTML and SQL. Matt earned a B.S. with Honors from Cornell University and an M.B.A from MIT's Sloan School of Management.

#### **Sage Hospitality Group** — [sagehospitalitygroup.com](https://www.sagehospitalitygroup.com)

Denver-based Sage Hospitality Group was founded in 1984 and continues to lead the hospitality industry in hotel and restaurant management as well as real estate investment. Sage is known for outstanding relationships with hotel brands and creating places that people want to go to, not through, including 10 unique restaurant concepts by Sage Restaurant Concepts and independent luxury properties by Sage Hotel Management.