

# The 2023 Digital Transformation Report

TECHNOLOGY'S IMPACT ON COMPANY CULTURE AND CUSTOMER EXPERIENCE IN TRAVEL AND HOSPITALITY

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Presented by:

**Skift.** + **aws** FOR TRAVEL AND HOSPITALITY



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## Executive Summary

The concept of digital transformation has taken on new meaning for travel and hospitality in 2023.

Amid generational changes in traveler demands and behaviors, rapid advancements in automation and artificial intelligence (AI), and persistent volatility in the economy, environment, and geopolitics, the industry finds itself redefining “business as usual.”

In this light, travel and hospitality companies face a critical existential moment. By rethinking and redefining digital transformation as a means rather than an end, and committing to an organization-wide evolution with technology at the core of their philosophy and process, they will be able to better leverage the fundamental shifts affecting customer engagement, employee satisfaction, operational efficiency, and profitability.

### In this report, you'll find:

- Insights from a survey of more than 1,000 travel and hospitality executives worldwide, revealing technology budgets, challenges, successes, and strategies
- Why digital transformation is a unique journey within every company
- How to inspire, lead, and enact cultural change across organizations through technology investments, strategy, and execution
- How cloud technology empowers unique opportunities for critical business functions and customer-facing applications that are impossible to achieve with legacy systems
- How data, automation, and AI can humanize travel by breaking down departmental silos, empowering operations, improving customer service, and personalizing the entire travel experience

# A Message From AWS

Amazon Web Services (AWS) sponsored our first Digital Transformation Report with Skift in 2020, when AI was more of a buzzword than a reality for most. At that time, the largest number of respondents — 48 percent — said they were only “somewhat” familiar with the cloud, and 63 percent were in early or middle stages of migrating to it.

Today, generative AI is a hot topic, and 49 percent of executives say they are “very” familiar, rather than somewhat familiar, with the cloud. However, 62 percent of companies still remain in those early or middle cloud migration stages, and only 7 percent claim to be in more mature stages now than they were in 2020.

Travel and hospitality executives should be excited about the promise of new technology and how it can transform the traveler and guest experience. They can take some comfort in the fact that, while the tools may continue to evolve, the same core fundamentals that have made them successful in the past will continue to make them successful in the future:

- **People must come first.** After working backwards from your customers’ needs, get buy-in from leaders across your organization. When asked about the top challenges of implementing digital transformation strategies, 31 percent of 2023 respondents cited employee buy-in, and 28 percent said communication.
- **Process comes next.** Start with applications or software migrations that are fairly easy but have a big benefit. We see many travel and hospitality companies start with their website and digital apps, which have an immediate effect on customers, can help gain buy-in from business leaders, and are an easier workload.
- **Then, choose the right technology.** AWS has significantly more services, and more features within those services, than any other cloud provider, making it faster, easier, and more cost-effective to move your existing applications to the cloud and build nearly anything you can imagine. Our fully validated AWS Travel and Hospitality Competency Partners can help you develop a migration plan that encompasses people, processes, and technology so that you can meet your business goals sooner.

While some changes happen more quickly than others, you’ll find throughout the report an increased focus on and investment in enhancing the traveler and guest experience, which is a concept that I think we can all get behind.

***Steven M. Elinson***

Director of Travel and Hospitality, AWS



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## About the Skift and AWS Survey – ‘Digital Transformation in Travel and Hospitality 2023’

Skift and AWS surveyed 1,007 senior-level travel and hospitality industry leaders in 12 markets across the world in March 2023. The survey respondents represented more than 20 industry sectors and comprised top-level executives and decision-makers across various lines of business such as corporate leadership, IT, marketing, data and analytics, sales, finance, operations, customer service, property-level management, e-commerce, product, and revenue management.

Unless otherwise noted, the data cited and visualized throughout this report are from this survey.

The survey questions explored the following themes:

- Year-over-year trends with respect to awareness and evolution of digital transformation in travel and hospitality, through the lens of the fourth-annual Skift and AWS survey

- Travel and hospitality executives’ confidence in the progress they are making on digital transformation and in their ability to anticipate future needs and enhancements
- Executive sentiment on long-term investment strategies — not only with respect to spending but also to the return on investment in terms of cost efficiency, operational benefits, and customer satisfaction
- Travel and hospitality companies’ understanding and application of advanced technologies, including cloud computing, customer data platforms, automation, AI, and machine learning

Overall, executives expressed confidence in the progress of their digital transformation strategies and implementations but also recognized that there are many opportunities ahead that require deeper exploration and investment. <





## Introduction: Redefining Digital Transformation

The concept of digital transformation has become almost ubiquitous in travel and hospitality. About 95 percent of executives who responded to the 2023 Skift and AWS survey said that it is either “very” or “somewhat” important to the overall strategy and success of their business. This figure increased slightly from the 2022 survey (just over 93 percent), and was up nearly 4 percentage points since 2021 (91 percent).

Despite this overall enthusiasm, executives’ sentiment on its degree of impact is more nuanced among different roles. For example, about 80 percent of survey respondents who identified either as “corporate leadership” or “marketing” said that digital transformation was “very” important, followed by IT executives at 74 percent. (See chart on next page.)

Meanwhile, customer service (60 percent said “very” important) and data & analytics leaders (53 percent) were more ambivalent. In both segments, about 10 percent said digital transformation was “neither important nor unimportant,” compared to fewer than 2 percent of corporate leadership, marketing, or IT executives.

### "How important is digital transformation for the overall strategy and success of your business?"

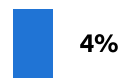
Very important



Somewhat important



Neither important nor unimportant



Somewhat unimportant



Very unimportant



## Executives by Department Who Said Digital Transformation Is "Very Important"

### Marketing

80%

### Corporate Leadership

79%

### IT

74%

### All Respondents

69%

### Operations

69%

### Finance

68%

### Customer Service

60%

### Data & Analytics

53%

Companies often express digital transformation as a list of technology upgrades or boxes to check, which may be the cause of potential disconnects. Because different departments adopt technology at different times for different reasons, definitional misalignment may hinder overarching transformation and innovation efforts.

Take, for instance, several responses to an open-ended prompt in the Skift and AWS survey asking travel executives how their companies define digital transformation:

- "Moving from paper to digital and online"
- "The streamlining of manual processes"
- "Have all files stored online on a cloud"
- "Reskilling employees or implementing automation to accelerate customer support and service"

Indeed, these represent integral building blocks for doing business in today's digital age. The problem with defining transformation as a series of tech upgrades or point solutions is that there will always be something new to add to those lists. Furthermore, if certain departments or employees don't see themselves affected by the current checklist, they may not consider themselves part of the solution or see its greater value and purpose.

By contrast, consider these responses to the same question, defining digital transformation as:

- "The process which contributes to us staying relevant and serving the needs of the business and our customers"
- "The integration of digital technology into all areas of an organization, leading to fundamental changes in how it operates and creates value for customers"
- "The use of digital technologies to change or create business processes, culture and customer experience at the highest levels, rather than just affecting one function or part of the business"



The difference between these two sets of responses is neither the length nor the depth of the answers. The distinction in the second set is a series of common qualities representing a holistic viewpoint: integration, long-term relevancy, organization-wide change and influence, and perhaps most importantly, customer impact.

*Because different departments adopt technology at different times for different reasons, definitional misalignment may hinder overarching transformation and innovation efforts.*

"Today is the slowest pace of innovation you will experience for the rest of your life," said Steven M. Elinson, director of travel and hospitality, AWS. "Companies need their people, in the right structure and supported by the right processes, to harness the next generation of business technology capabilities. The innovation gap will only widen, and companies must reinvent their organizations for continuous digital transformation."

Technology is a critical piece of the larger puzzle — transitioning paper files into digital data, developing mobile apps, creating customer service chatbots, migrating local servers to the cloud, and introducing AI models for any number of operational functions. Yet all of these are means, not ends. True transformation begins only when companies are able to put these foundational elements in place.

"Historically, big [technological] revolutions happened maybe once in a lifetime," said Kristof Caekebeke, chief information officer, product and e-commerce, TUI. "Now that it's going so rapidly, we're wondering how many revolutions we will experience — and we have to organize differently to support that."

Underpinned by analysis of the 2023 Skift and AWS survey results, set alongside in-depth executive interviews with leaders in various roles across organizational departments, this report contextualizes the state of digital, cloud, and AI adoption, innovation, and strategy. By redefining digital transformation as an organization-wide cultural change in mindset, travel and hospitality companies will be able to position themselves to evolve and thrive more holistically in a constantly changing industry. <

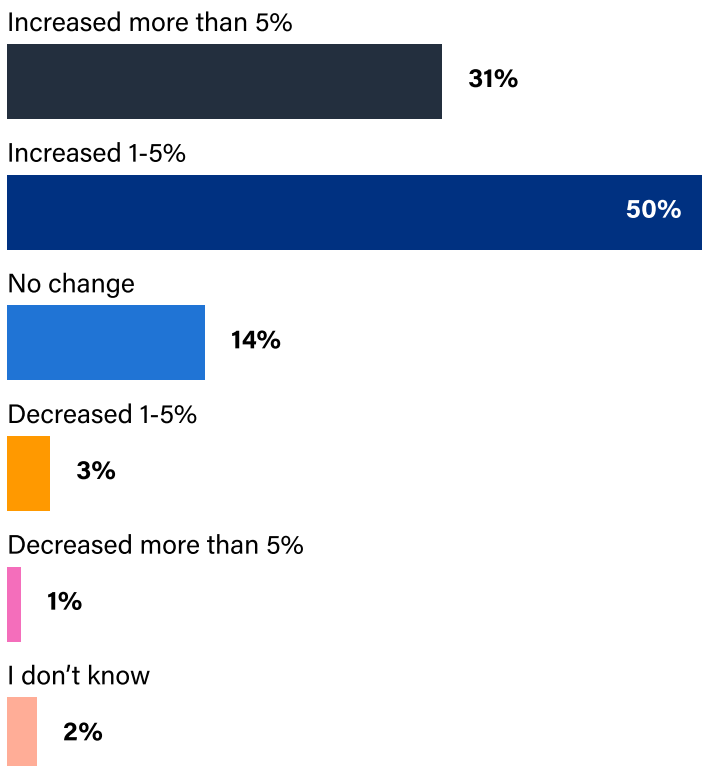




# Life Beyond Legacy: Investing in Transformational Innovation

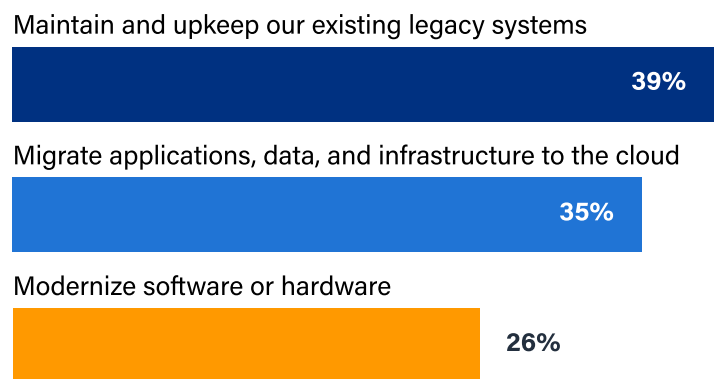
Travel and hospitality companies' technology investments appear aligned with the sentiment that digital transformation is important to the success of their overall business. More than 80 percent of executives reported an increase in their digital transformation budgets this year in comparison to 2022. Nearly one-third (31 percent) said their budget was up more than 5 percent year over year.

## How does your 2023 budget for digital transformation initiatives compare to 2022?



These statistics clearly show the dedication to technology advancement, but the underlying context is important. According to the survey, a lot of that money is going into maintaining the status quo. Almost 40 percent of executives reported that their No. 1 priority for technology system and infrastructure investments in 2023 and 2024 is to maintain and upkeep existing legacy systems.

## "Which of the following best describes your company's NUMBER ONE priority for technology system and infrastructure investments in 2023 and 2024?"

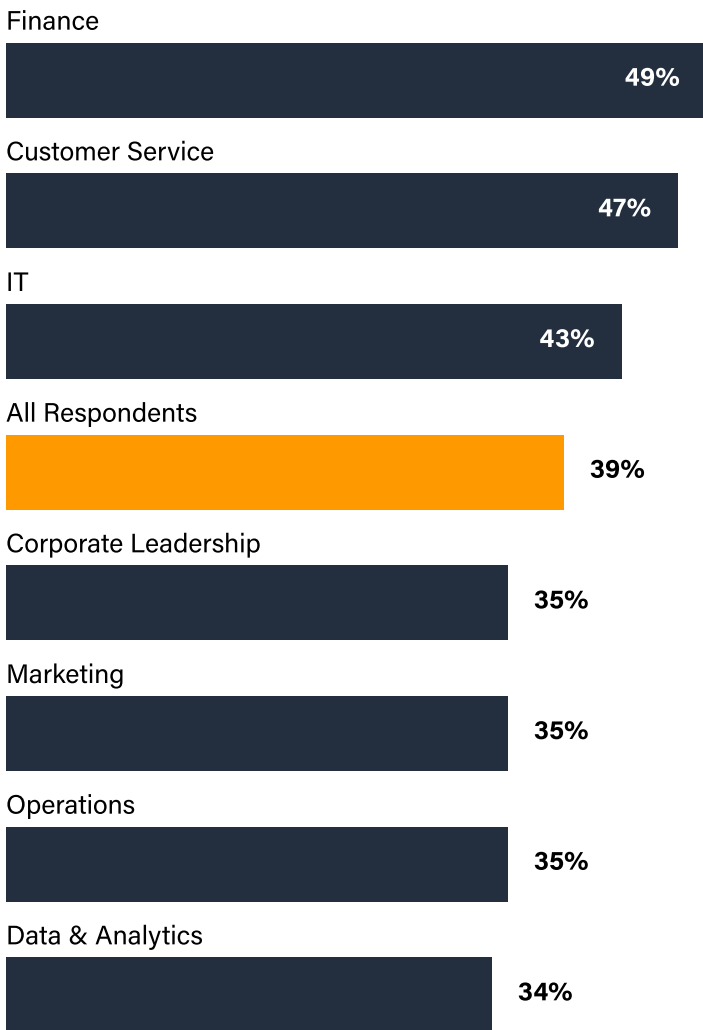


There were notable differences in responses to this question by role. Nearly half of finance and customer service leaders indicated that they believed maintenance and upkeep on existing legacy systems was the top priority. Corporate leadership was more evenly split among the three options, yet 35 percent said their companies were focused primarily on legacy systems — still the top response. (See chart on next page.)



Meanwhile, leaders in data and analytics, marketing, and operations said that migrating to the cloud was their top priority.

### Executives by Department Who Said Legacy Systems Are Their No. 1 Investment Priority



If company leaders aren't able to agree on what deserves the most attention, they will likely also have a much more difficult time transmitting a transformational culture to their employees, and by extension, their customers.

"Oftentimes, legacy systems in the travel and hospitality landscape are highly business critical," added Sowmya Mullur Rajagopalan, head of travel, transportation, and hospitality,

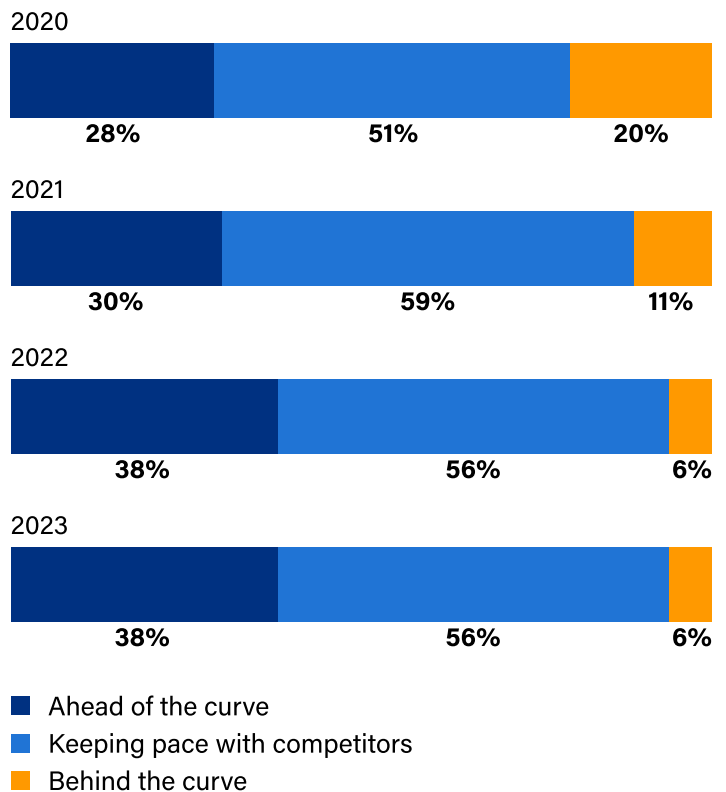
Americas, for Tata Consultancy Services. "They've evolved to be higher in complexity because companies kept adding to them rather than modernizing them, and today, the knowledge is often in everyone's head. To change that overnight is a mammoth task, and that is one of the key challenges companies are having."

### Redrawing 'The Curve'

False comfort with the status quo is one potential side effect of legacy systems remaining common in travel and hospitality.

The Skift and AWS survey has asked in each of the past four years how executives would rate their companies' ability to compete in a digital world. In 2023, 38 percent said that they were "ahead of the curve," compared to 28 percent in 2020. Equally telling, 20 percent said they were "behind the curve" in 2020, compared to just 6 percent in 2023.

### "Overall, how would you rate your company's ability to compete in a digital world?"



- Ahead of the curve
- Keeping pace with competitors
- Behind the curve



Though it would be very difficult to quantify an actual competitive curve for travel and hospitality in this regard — especially given that digital transformation is such a unique journey for each company — the data uncover a key insight: Companies may be implicitly acknowledging the lagging pace of innovation among their competitive set.

Given the industry’s inclination toward and reliance on legacy systems, physical data infrastructure, and manual processes, it might be easier to sit comfortably with the way things are. Perhaps companies recognize that change is needed but are able to convince themselves that they can wait because they’re “ahead of the curve.”

“I think there’s a bit of complacency in the industry, and the issue with a lot of legacy technology still in play in travel and hospitality is that it ages really, really quickly,” said Jonathan Barouch, CEO and founder of Local Measure, which operates a cloud-based contact center solution called Engage for Amazon Connect. “The brands that are investing in moving beyond their legacy systems are really future-proofing themselves.”

## Innovation as a Way of Being

Regardless of where they are in relation to competitors, keeping the status quo means that companies are moving too slowly.

“One of the biggest challenges for airlines and hospitality companies is overcoming the fear of transformation, but there has been a realization that if they don’t transform now, it’s going to be difficult,” said Rajagopalan. “They’re facing peer pressure from other industries, while at the same time there are more people wanting to travel and have a better experience.”

Despite reporting an increase in budgets, 43 percent of travel and hospitality executives said that budget constraints were the biggest challenge to achieving their digital transformation efforts. That was 12 percentage points higher than the next biggest challenge, “employee adoption/support” (31

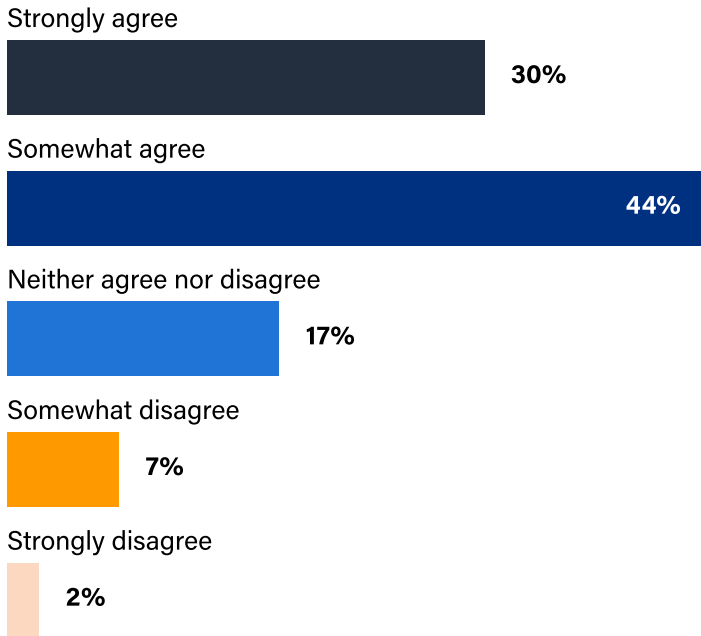
## "Which of the following best describe challenges your company has faced when implementing its digital transformation strategy?"



percent), which was followed by “communication” (28 percent of respondents).

The fact that nearly three-quarters of travel and hospitality leaders either “strongly” (30 percent) or “somewhat” (44 percent) agreed that these challenges have slowed down their company’s ability to meet digital transformation goals underscores the urgency to align organizationally. (See chart on next page.)

## Agree or disagree: “Our top challenges have slowed down our company’s ability to meet digital transformation goals.”



“Innovation is no longer a program, it’s a way of being,” said Clare Ward, technology leader, travel and hospitality solutions, AWS. “A key starting point is to address aspects of cultural or organizational change that are needed to enable innovation.”

Oftentimes that’s much easier to talk about than to implement. The Skift and AWS survey found that 37 percent of travel executives said they are “very satisfied” with their ability to innovate using existing technology.

For those other 63 percent, it’s critical to break the cycle and establish innovation as a core philosophy. Companies need to reframe digital transformation as something central to their mission and vision, in contrast to a series of upgrades pertaining to any given technology or business solution.

“Transformation comes down to people, process, and technology — in that order,” added Elinson of AWS. “The real transformation means continuous updates, continuous innovation, and continually adding onto and augmenting the value that you received before.” <



# How the Cloud Connects the Dots Across Critical Business Functions and Customer-Facing Channels

Cloud technology is the centerpiece for enabling organizational transformation. Legacy, on-premises systems are not capable of collecting, storing, accessing, or utilizing the vast amounts of data required to support critical opportunities in marketing, customer service, cross-department collaboration, and more.

"Few (if any) mainstream organizations will be able to implement new business models or ecosystem relationships without relying on cloud services," wrote Gartner Research analyst David Smith in an October 2022 report, "The Future of Cloud Computing in 2027: From Technology to Business Innovation."

According to the Skift and AWS survey, only about 12 percent of travel and hospitality executives believe that their companies run all, or almost all, of their business in the cloud. Another 20 percent said they are in the "late stages" of this transition, but that leaves nearly 70 percent who are still in the heart of their migration, if they've started that journey at all.

As well-recognized as cloud technology is — 90 percent of executives responding to the Skift and AWS survey said they were either "very" or "somewhat" familiar with the concept of cloud computing — a big education and usage gap still exists.

About half of travel and hospitality executives said that the top benefit of cloud-based software and solutions was to enable a

## "How far along is your business in moving to the cloud?" (e.g. business software, databases, infrastructure)

Complete - we run all or almost all of our business in the cloud



Late stages - we have migrated the majority of our operations to the cloud



Middle stages - we have moved some, but not all of our operations to the cloud



Early stages - we are investigating cloud solutions but haven't decided yet



Not applicable - we don't intend to move our business to the cloud at this time





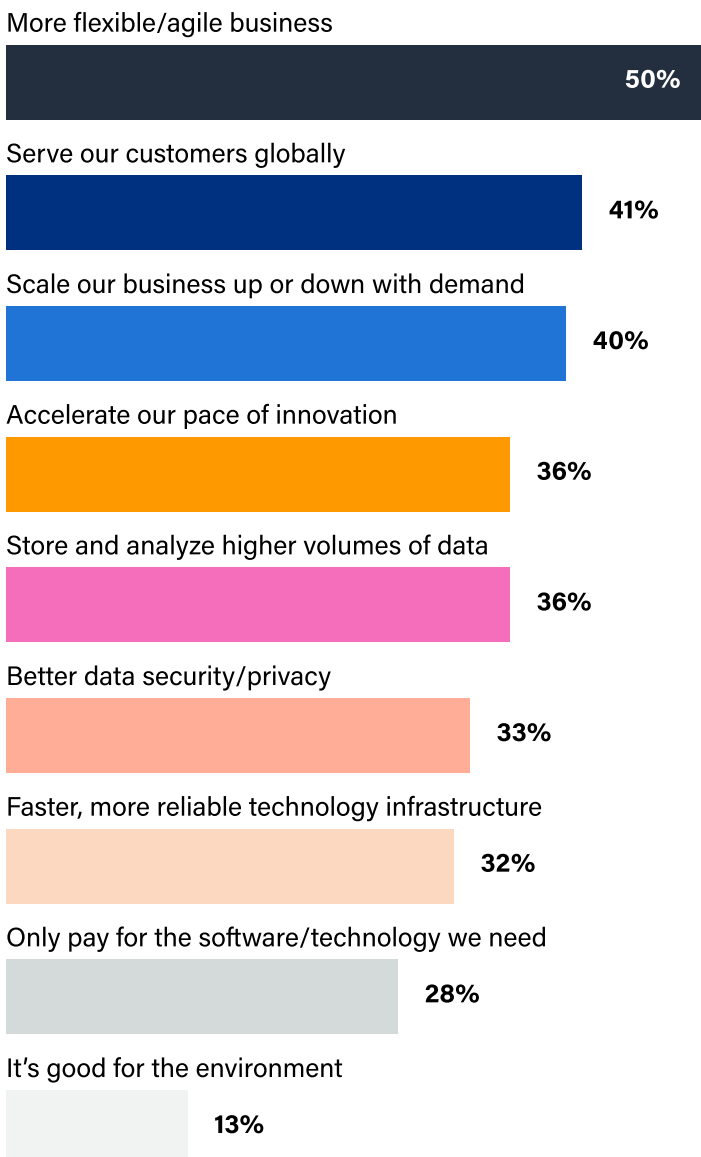
more flexible or agile business. About 40 percent also said that serving their customers globally and scaling their business up and down according to demand were important features of a cloud-based system.

With that noted, executives or employees responsible for using new technology are rarely involved in the technical implementation around the systems they use. For instance, two-thirds of executives said that customer service was a "high priority" for digital investments and software, followed by 60 percent who

cited customer engagement and retention. Individuals leading and operating within these functions may generally understand the benefits of the cloud, but they don't always necessarily understand how the cloud affects tangible aspects of their roles.

"The cloud journey could potentially scare people," said Rajagopalan of Tata Consultancy Services. "Therefore, we have to enable overall organizational change management to bring teams and the various portfolios together to make it happen."

### "Which of the following do you believe are the biggest benefits of switching to cloud-based software and technology solutions?"



### "Please rate the priority your organization is placing on investing in digital technology and software for each of the following business objectives and goals."



In other words, it's important for leaders in customer service, marketing, or operations to understand the outcomes they can achieve when they have access to the information they want when they need it.

"Core innovation is all about meeting business needs by breaking down the silos and enabling collaboration," said Elinson of AWS. "The cloud offers a single concentrated place for any type of data you want — structured, unstructured, streaming, batched files, videos, photos, documents, whatever it is — to be accessible for different departments, different divisions, and different brands to analyze and use."

The good news is that benefits of the cloud are agnostic to role or function, and a helpful way to frame the opportunities is to provide concrete examples. The following sections illustrate the cloud's potential impact in today's travel and hospitality industry by exploring practical applications for mobile engagement, customer service, risk mitigation and incident recovery, and data collaboration across business functions and with industry partners.

## Making Moves Toward Seamless Mobility

Mobile apps have been around for a long time in travel and hospitality, yet it's still quite common for guests to start a booking or try to make a change to their itinerary on their phones, only to abandon apps for a better experience on a desktop browser or with a customer service agent over the phone.

As an example, a recent article in *The Atlantic* detailed the [extensive woes of the average traveler](#) in an attempt to navigate

the current state of hotel booking. If it's not done right, what looks like smart, dynamic, real-time revenue management to the industry can present to the customer as confusing, frustrating, and almost disrespectful.

In 2023 (and beyond), given the mass adoption of mobile devices and the sophistication of the backend technology, this shouldn't happen anymore.

According to George Turner, chief commercial and technology officer, IHG Hotels & Resorts, mobile is the company's fastest-growing revenue channel, now accounting for 58 percent of all digital bookings. In the past year, revenue driven by the mobile app for the company's Americas and Europe, Middle East, Asia and Africa (EMEA) regions has been 30 percent higher than in 2019.

"Thanks to the use of data insights and fresh designs to offer a richer customer experience, the app offers streamlined booking and allows guests to check in faster," said Turner. "It also provides members with seamless access to their loyalty benefits."

A guest experience like this would not be possible without cloud technology and its ability to connect data, systems, and processes across a global network of hotel properties. IHG's shift to a new platform has made it easier for hotels to manage content, such as hotel photography, which, after price, is the most important factor for consumers when making a booking.

"With detailed room inventory assessments completed across IHG's estate, we can now scale our pilots by introducing attribute pricing, where guests will be able to seamlessly select add-ons and further customize their stays, with prices adjusting based on the attributes chosen," Turner said, adding that a

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*We know that to remain successful, we have to constantly put ourselves in the shoes of our guests, corporate customers, owners, and hotel teams in everything we do.*

*- George Turner, Chief Commercial and Technology Officer, IHG Hotels & Resorts*

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pilot mode for a new visual experience allows them to showcase hotel upgrades for purchase like views, valet parking, or high floors.

In the fourth quarter of 2022 alone, IHG made more than 60 enhancements to the booking process through the mobile app. The improvements to the app are intended to support further increases in direct bookings, loyalty engagement, and incremental spend during stays.

"We know that to remain successful, we have to constantly put ourselves in the shoes of our guests, corporate customers, owners, and hotel teams in everything we do," Turner said. "Our desire to build a bigger, better and stronger business is seeing us go the extra mile for our customers and providing them with fast, thoughtful and effective solutions."

## Customizing Customer Contact Center Services

The number of digital touchpoints available for customer service, and the speed at which travelers expect a response through those channels, has accelerated significantly over the past three years. Owing first to the pandemic lockdowns and then to the unpredictability in the reopening aftermath, the ability to reach customer service quickly — often to solve novel, unique, or complicated issues — became an essential consideration for travelers when choosing brands and experiences.

**66%**

*Travel executives who said customer service is a "high priority" among their digital investments, the top response*

The more possibilities technology opens up, the more customers now expect.





"During [the Covid-19 pandemic], there was a massive spike in digital customer communications," said Barouch of Local Measure. "As airlines were grounded, and hotels, physical storefronts, and physical travel agents all closed, the one way that you could actually engage the brand was through the contact center."

**40%**

*Travel executives who "strongly agree" that their customer service channels are well equipped to respond to rapid or significant shifts in demand*

According to the Skift and AWS survey, 40 percent of executives "strongly agreed" that their customer service channels are well-equipped to respond to significant shifts in demand.

That leaves well over half harboring at least some reservations, and perhaps with good reason. Even now, Barouch said that 90 percent of contact centers are still using legacy, on-premises technology. As one client reported to him, prior to moving to the cloud, a customer may have had to transfer at least two or three times before getting to the right person to solve an issue. That's not only a frustrating customer experience — it also costs human labor and telephony expenditures, and risks potential brand damage.

In a cloud environment, 90 percent of calls can be handled on the first touch, Barouch said. Cloud-hosted systems can support automated customer service for simple requests like changing a reservation or upgrading a room, which most calls happen to be. It's a waste of good talent for highly skilled agents to manually handle these inquiries when they could be working with high-touch, special cases that make the most difference to customers.

Turner of IHG reported that the company has seen successful efforts to make this shift. In 2022, as part of a wide range of investments to enhance the customer contact experience while driving greater cost efficiency and effectiveness for owners, the percentage of customer contacts coming through digital channels increased from just 4 percent to 20 percent. Part of this success was the launch of asynchronous text messaging as a 24/7 service, allowing guests to send a text message on their own time to reservations and customer care agents to receive hotel information, modify a reservation, or inquire about IHG One Rewards points or promotions.

"During the year we handled more than 250,000 interactions, with the service receiving the highest satisfaction scores of all our channels," noted Turner.

"In travel and hospitality, there's a huge amount of choice, and there's extreme transparency on pricing, so the way you differentiate is really on service," Barouch said. "I think many are better delivering on that brand promise in the four walls of their hotel or in the cabin than necessarily via the technology and through the contact center."

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*If you have your key business systems in the cloud, quite often you can either minimize the impact of incidents, or sometimes there'll be no impact.*

*- Clare Ward, Technology Leader, Travel and Hospitality Solutions, AWS*

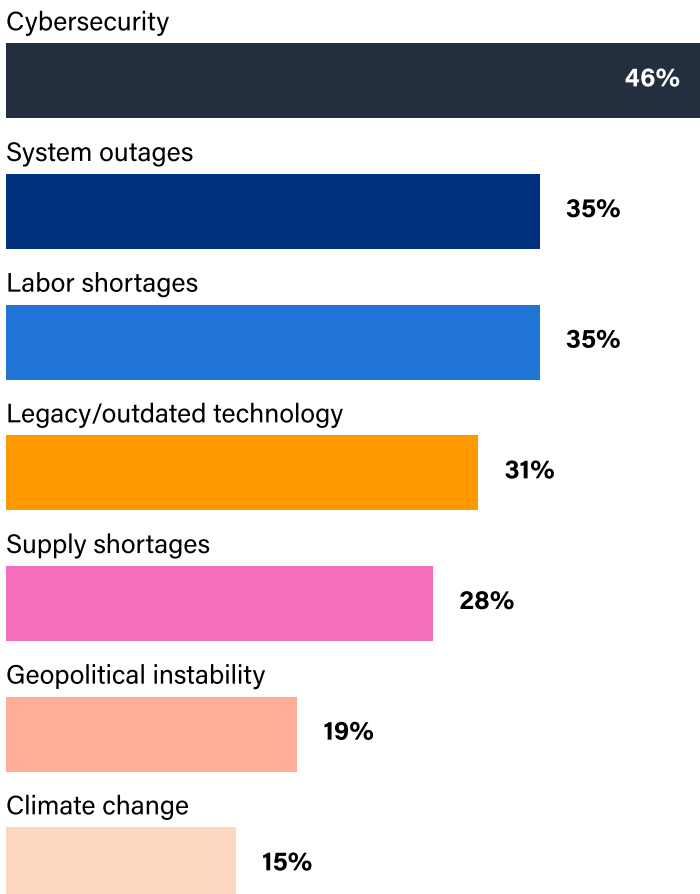
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## Risk Mitigation and Incident Recovery

An ideal way to support customer service is to avoid as many issues as possible in the first place by keeping the business running constantly. Cloud technology solves complex issues that could potentially shut down entire companies’ communications channels so that users and customers don’t notice service disruptions, even when they occur.

The Skift and AWS survey found that nearly half of all executives said that cybersecurity was their biggest concern for business disruptions in the coming year, followed by system outages and labor shortages. Not coincidentally, outdated legacy systems — the fourth-largest concern — leave companies more susceptible to these disruptions.

### "Which of the following best describe your concerns for business disruptions in 2023 and 2024?"



Cybersecurity is an ongoing challenge for which companies need to be constantly vigilant. Threats to steal data, target weaknesses, or cause other problems are only amplified when data are stored in one place. The cloud makes it possible to control where data may be stored, who can access that data, and what resources the organization is consuming at any given moment. In addition, automating security tasks reduces human configuration errors, which gives teams more time to focus on other work critical to the business.

“In the initial stages of our cloud journey, we conducted small and low-risk trials and quickly saw the significant value of cloud adoption,” said Soo Tzu Chieh, vice president infrastructure services, Singapore Airlines. “To pursue a larger and more intentional initiative, we picked one of our most critical applications that runs the SIA website, and migrated it to AWS. This process helped us identify and tackle important considerations, such as managing our public cloud environments, and addressing operational and security requirements.”

Security measures are a good example of critical business functions that mitigate the perpetual risk for things like potential data breaches. The continuity provided by the cloud also helps when completely unexpected, anomalous incidents occur.

“Disruptions happen, and you need to plan for them,” said Ward of AWS. “If you have your key business systems in the cloud, quite often you can either minimize the impact of those incidents, or sometimes there’ll be no impact.”

Ward shared an example of a European carrier that was affected by construction work on a local railway that damaged fiber-optic cables, causing a major IT outage. If all of their data had been on a local server affected by that outage — booking systems, customer contact information, operational data, internal communications, you name it — the cost to the business would have been devastating. Luckily, they were in the cloud and averted a disastrous scenario.

**38%**  
*Travel executives who “strongly agree” that they are “well equipped to provide continuity in midst of disruptions”*

Just 38 percent of executives “strongly agreed” that they’re well-equipped to provide continuity in the midst of disruptions. Incidents that impact components of system availability are always possible. However, if they do happen, the cloud enables resiliency, resulting in a much lower risk of full outages. In contrast to a single location, large cloud providers have hundreds of endpoints spaced out globally. This reduces the risk of any broader outage and provides better speed and responsiveness locally, giving companies the operational efficiency that they need to make split-second decisions.

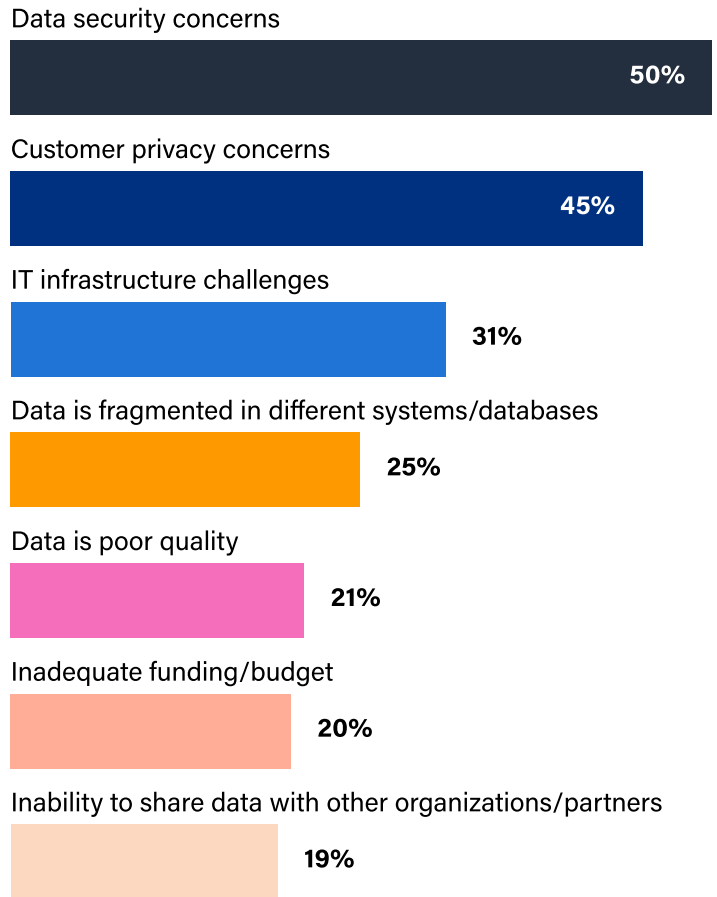
Soo said that during the pandemic, the cloud enabled SIA to deploy more than 500 virtual desktop infrastructure (VDI) environments within a few days amid the Covid-19 lockdown. Then, as travel recovered, the company was able to manage large and sudden traffic spikes with the resumption of overseas air travel. This illustrates how the cloud provides additional opportunities and efficiencies that companies may not necessarily expect or fully realize they need before experiencing them in real time.

“It’s really expensive and time consuming to buy all of your own computing equipment — servers, data centers, networking — and then you have to pay staff to manage it,” said Ward. “With the cloud, rather than taking on the risk and expense of owning your own infrastructure, you pay for what you use, which is beneficial when demand is variable.”

## Secure Data Collaboration to Enable the Connected Customer Trip

All of these instances are predicated on data — its availability, its quality, and its ability to be joined to the right systems — that provides clarity and the right information for the job. None of this would be possible without the cloud, which enables companies to easily collaborate on collective datasets instantly and securely.

### "Which of the following barriers pose the biggest challenges to your ability to use your business data more effectively?"



According to the Skift and AWS survey, data security, customer privacy, and IT infrastructure are the top things standing in the way of using data more effectively. Respondents also named siloed systems, bad data, and inadequate investment in data hygiene.

The question for many remains: How, exactly, does the cloud relieve these pressures? As an illustration, [AWS Clean Rooms](#) helps companies and their partners more easily and securely



collaborate and analyze their collective datasets without sharing or copying one another's underlying data, thereby neutralizing security risks and exponentially speeding up their ability to act on data.

Instantaneous, accurate, and secure data sharing is the linchpin for the "connected customer trip." Since customer data became widely digitized and easily shareable — at least in the theoretical sense — travel and hospitality companies have been talking about working together to connect the fragmented points of the customer journey and provide seamless communication of valuable customer data. This would ultimately result in a better way to travel, allowing people to stitch together flights, accommodations, rental cars, activities, and more all in one place, complete with personalized offers and service all along the way.

*Instantaneous, accurate, and secure data sharing is the linchpin for the "connected customer trip," which has the potential to provide a better way to travel.*

Data collaboration between airports and airlines provides a small window into the real challenges and opportunities that accompany the idea. As one might expect, airports may want data on passenger volumes, for specific times of day, which today they get directly from airlines to help better manage traffic flow through terminals. (Wouldn't everyone appreciate that?)

It's a very reasonable request for an airport to say to an airline, "Can you just give me data on passenger traffic volumes for every 15 minutes in a day?" However, using legacy systems and data-sharing operations — which is the current reality for most companies — the airline would then have to go in and manually perform the data analytics.

As part of that process, it would have to clean the data to make sure not only that it's accurate but also, from a point of view

of any regulatory or legislative requirements, that there's no unsanctioned personal information or privacy infringement.

And that's before actually physically sending the information. Even in an electronic environment, sending, downloading, and collating multiple spreadsheets layers in another set of security issues in terms of the data being sent over the internet and potentially intercepted.

"AWS Clean Rooms now gives airports and airlines the ability to set up a collaboration where the data never moves," said Ward. "For example, an airline could give an airport specific permissions to run analytics on its data, in compliance with regulatory and legal requirements such as data privacy regulations. Now we have a secure mechanism where the airport can run all of those analyses at any time it wants, any time of the day, without having to ask."

The possibilities are endless, both from an internal corporate perspective as well as a vertical, cross-industry standpoint. For example, some of the largest hotel enterprises have dozens of distinct brands, and they may want to be able to securely share certain pieces amongst the portfolio to find additional customers without cannibalizing sales.

"Organizations like airlines and hotel companies are very spread out with many different departments," said Ward. "And traditionally, they've been unable to find all the data that's relevant to get those insights."

This emergent technology is also useful when strategizing how to collaborate with external, third-party organizations, such as an advertiser working with a travel brand or an airport restaurant allowing customers to earn points through an airline app.

"In our industry in particular, customer service is not a point in time or single transaction," said Elinson. "Looking for your reservation on a website, checking in on your app, ordering food delivery to your room, chatting with a gate agent for updates — all those things are built on and backed up by the cloud at every step. And that's really the core of the customer journey." <





# Preparing for the Age of AI and Its Impact on the Customer Experience

AI implementation is just one of the opportunities afforded through digital technology and cloud computing, but its rise in awareness and urgency has clearly become a focus for 2023. The rise of generative AI in particular is an excellent example of technological advancement on an extremely rapid timeline — from conceptual to practical to necessary in driving the customer experience. Companies need a plan, and a roadmap for organizational change, to be prepared for these types of movements.

**50%**  
*Travel executives who said that AI/ML will be “very” important to driving business value for their organizations in the next three years*

Travel and hospitality companies are already keenly attuned to this fact. The Skift and AWS survey found that 86 percent of executives said that AI and machine learning (ML) would be “very” or “somewhat” important to driving business value for their organizations in the next three years.

Yet, 56 percent of the survey’s respondents said they have not implemented AI/ML or are running initial tests. Of those executives that are using AI/ML, nearly half said they are implementing AI/ML for customer service and personalized marketing and advertising functions. (See chart on next page.)

Generative AI applications have captured widespread attention because they can help reinvent most customer experiences and applications, create new applications never seen before, and help customers reach new levels of productivity.

While travel and hospitality companies are feverishly exploring ways to use generative AI, the story behind generative AI is the story of digital transformation. It’s more than a technological tool to buy off the shelf and implement like a single piece of software — it’s a shift in business philosophy and operating on an organization-wide level. Moreover, the ability to put it into play is reliant on the essential building blocks of core innovation: executive leadership, cross-departmental buy-in, cloud infrastructure, and data strategy.

“I’m sure you’re familiar with the phrase ‘garbage in, garbage out.’ If you throw garbage data at generative AI, that’s what you’re going to get,” said Elinson of AWS. “We’ve observed this with data visualization, then big data, and then machine learning. That’s why we stress the importance of people, then process,

## "For which of the following business goals and objectives are you implementing AI/ML applications?"

Customer service

49%

Personalized marketing and advertising

46%

Revenue optimization (continuous pricing, dynamic pricing)

41%

Operational efficiency (reduce fuel usage, waste, etc)

35%

Forecasting

33%

Environmental impact

25%

Predictive maintenance

18%

and then tech. Even with generative AI, we believe there will always be people in the middle because somebody's going to have to train the models and insert the prompts in order to get the technology to do something valuable."

Like all AI, generative AI is powered by ML models — very large models that are pre-trained on vast amounts of data and are referred to as foundation models (FMs). While the capabilities and resulting possibilities of a pre-trained FM are amazing, executives are also excited because these models can be

customized to differentiate their companies with a fraction of the data and compute required to train a model from scratch.

"If you don't have a solid foundation with all that data in a single unified location, with high quality and high availability, then those models are not going to be able to be fine-tuned," said Elinson.

While consumer-facing generative AI is getting most of the public attention, Amazon and AWS are focused on supporting the needs of enterprise-grade customers. Most recently, AWS announced multiple services and solutions to help travel and hospitality companies adopt generative AI.

These services include infrastructure for machine learning in the cloud, an AI coding companion that uses foundational models (FMs) to improve developer productivity, as well as a preview of Amazon Bedrock, a fully managed service that makes FMs from leading AI startups and Amazon available via an API. In addition, Amazon SageMaker JumpStart offers a wide selection of proprietary and publicly available FMs so that companies can experiment with them.

In a recent LinkedIn Live session on the potential for generative AI in travel, Skift's Seth Borko noted one of the issues with the publicly available generative AI services for travel research — at least at the current moment in the way that we think about general search. If someone is searching for the top places to visit on a spring break, a broad-based public service may source top 10 lists from 30 different publications, but the recommendation is only going to reinforce what's already out there as the most popular spring break destinations.

The capabilities with tools like Amazon SageMaker lie on the completely opposite side of the spectrum. The ability to use generative AI to build a travel itinerary using proprietary information from the travel provider coupled with personal data as an input completely upends the traditional notion of a "recommendation."



If someone were to put in a request for a weeklong visit to New York City for a business trip, with one day to explore the city on their own, generative AI could certainly suggest the airline, the time to leave home to arrive at the airport, and the car company to use — all based on preferences or relationships the traveler has experienced or has indicated. But it might also suggest things like a walking tour around Manhattan, and it could do that based on the fact that it's sunny that day, and suggest three restaurants because it particularly knows the traveler likes Italian food (or literally anything else).

"The reason generative AI is interesting in this context is because it doesn't take into account the types of itineraries that might have been suggested before, and as a result it might come up with something quite different," said Ward. "To create that level of detail in an itinerary traditionally would take quite a long time and a lot of effort to put together, but now it can be done instantaneously. That's just an example of the next generation of what we might see in travel."

Furthermore, by owning and controlling the models, travel and hospitality companies can continuously fine-tune AI based on customer acceptance of the itineraries, validate the models for bias, and navigate common security and privacy concerns that regulators have begun to express.

For all the worry and hand wringing about automation and AI removing the heart of humanity from hospitality and travel, the truth is that using these models — when trained correctly — is no different than getting information from a human assistant. In fact, it's better in many cases, since an AI assistant can provide endless amounts of information to help a customer service agent do a better job and also enable guests to self-serve if they prefer.

For example, IHG was able to increase end-to-end self-service among its customers from 12 percent to 17 percent through growth in AI capabilities. At the property level, IHG Voice Cloud, which uses AI technology to automatically handle calls and reduce the workload of reception teams, is now supporting several hundred hotels.

"As well as being a huge time saver for our hotel teams, it's driving better guest experiences, boosting enrollments for IHG One Rewards, and driving revenue," Turner said.

Furthermore, SIA's Customer Insights Portal (CIP) integrates an automated AI-based process that aggregates all customer feedback — from social media to emails to customer surveys — and then categorizes this feedback into the correct topics and sentiment based on the models developed.

"This provides a convenient single source of truth to quickly identify customer pain points across the entire end-to-end customer journey in near real time, so that business units can promptly address and enhance these areas," said Dai Haoyu, divisional vice president, digital, Singapore Airlines.

Instead of constantly reinventing themselves any time a new feature arrives, AI-powered tools like these can incorporate new data in real time, which is why it's critical to do something about it now.

"I'm not going to understate it — we're super excited by generative AI," said Barouch of Local Measure. "When you have your customer service running through a cloud platform, you can do real-time sentiment analysis, you can do real-time alerting, and you can truly personalize the journey. Essentially you're giving your people the ability to become super agents." <

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*Even with generative AI, we believe there will always be people in the middle because somebody's going to have to train the models and insert the prompts in order to get the technology to do something valuable.*

*- Steven M. Elinson, Director of Travel and Hospitality, AWS*

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## Conclusion

No matter what happens in the future, focusing on cultural change and infrastructure investments now will prime travel and hospitality companies to quickly take advantage of continuous technology advancements.

“Travel is almost always in a disruptive mode, but I don’t see disruption as a bad thing,” said TUI’s Caekebeke. “It’s a way to transform or be more resilient for the future, it brings innovation, and it brings opportunities. But we constantly have to think about how we do things better, faster, and more flexibly to give us the opportunity to change direction. And if we do that, we’re able to try out new things much easier from a business perspective.”

Yesterday, blockchain, the metaverse, super apps, and NFTs were in the news constantly. Today it’s generative AI. Tomorrow it might be quantum computing, digital humans, and then digital twins of customers.

“The pattern will remain the same,” said Elinson of AWS. “Technology does not self-strategize, self-integrate, and self-govern

— yet. We need to have the systems in place to be ready for what’s next.”

The past three years — and especially the last 12 months — have laid bare how consumer demands, geopolitics, and technology have changed the nature of travel and hospitality. More importantly, these shifts have proven how far the industry has to go.

The potential for misalignment within individual organizations starts and ends with definitions of digital transformation and how strategic viewpoints may be communicated company-wide. There’s no dispute among company leadership that technological advancements are “important” in some way, shape, or form — as nearly 95 percent indicated in the Skift and AWS survey. The gravity of those advancements’ impact, however, should not be left up to interpretation.

By working backwards from the outcomes they want to achieve, laying the foundations, and starting small, travel and hospitality companies can set expectations that apply across the organization, setting the stage for future success. <

## About Skift

Skift is the largest intelligence platform in travel, providing media, insights, and marketing to key sectors of the industry. Through daily news, research, podcasts, and Skift Global Forum conferences, Skift deciphers and defines the trends that matter to the marketers, strategists, and technologists shaping the industry.

SkiftX is Skift's in-house content marketing studio, working collaboratively with partners like Adobe, Airbnb, Hyatt, Lyft, Mastercard, and many more on custom projects to engage the world's largest audience of travel influencers and decision makers.

Visit [skiftx.com](https://skiftx.com) to learn more or email [skiftx@skift.com](mailto:skiftx@skift.com).

## About AWS

Travel and hospitality companies around the globe are reshaping the way we experience the world using Amazon Web Services, Inc. (AWS), the most comprehensive and broadly adopted cloud. Offering industry-specific services, solutions, experts, and vetted partners, AWS for Travel and Hospitality helps customers of all sizes enhance the traveler and guest experience while improving operational efficiency.

Visit [aws.com/travel-and-hospitality](https://aws.com/travel-and-hospitality) to learn how Choice Hotels, Expedia Group, Hertz, Ryanair, TUI, United Airlines, Wyndham Hotels & Resorts, and many others are innovating on the cloud.