THE 2021 DIGITAL TRANSFORMATIO N REPORT

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ABOUT SKIFT

Skift is the largest industry intelligence platform providing media, insights, and marketing to key sectors of travel. Skift deciphers and defines trends for global CEOs and CMOs across the travel industry through a combination of news, research, conferences, and marketing services

ABOUT SKIFTX

SkiftX is Skift's in-house content studio. SkiftX produced this report in partnership with Amazon Web Services.

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EXECUTIVE SUMMARY

The Covid-19 pandemic in 2020 was a digital wakeup call for the travel and hospitality industry, placing new demands on companies across the sector and creating an urgent need for solutions to address them.

Travelers demanded more online shopping options, digital communications, and contactless solutions, forcing companies to adapt how they served Meanwhile. behind customers. the scenes. organizations had to design new ways of working as employees shifted to remote work using new digital collaboration tools to stay productive. On top of all this, organizations across the industry dealt with new challenges to their business models, including unanticipated changes in consumer demand, new distribution strategies, and rapid experimentation with new products and services.

But regardless of the challenges facing travel and hospitality brands over the past year, a clear mandate is now emerging: Organizations across the industry are embracing digital transformation, a philosophy that promotes digital-first business practices, toolsets, analytics, and ways of working in order to weather changes caused by the pandemic and ensure their long-term success.

What percentage of the sector has embraced this new digital-first philosophy? Which areas of their business will leaders prioritize as they ramp up their digital transformation efforts? And how will they prioritize investment in software, technology, and talent to support these efforts?

To answer these questions and gain a clearer picture on the ground, Skift and Amazon Web Services (AWS) collaborated in summer 2021 on a global research study of global travel leaders to produce the 2021 Digital Transformation Report.

Building on Skift and AWS's successful report in 2020, this year's installment focuses on the following topics:

- How executives in the travel industry perceive digital transformation as an overall business objective.
- How they plan to make use of company and customer data to support their decision making.
- The kinds of systems and technology companies are investing in to satisfy digital-first consumers.
- Where their major tech investments are going, particularly in emerging innovations such as cloud computing.
- How their talent, training, and team structures will support digital-first strategies.

Building on the insights from a survey of over a thousand travel industry leaders across a diverse range of sectors in North America, Europe, Asia Pacific, and Latin America, the report shines a light on a rapidly digitizing industry in flux: offering an important guide to the travel and hospitality industry as it embraces emerging digital realities and opportunities, and navigates the challenges throughout the decade ahead and beyond.

EXECUTIVE LETTER

After being cooped up for over a year, many of us are taking whatever opportunity we can to get out and experience the world around us. This could mean finally hopping on a flight, indulging in a hotel stay, lingering at a favorite restaurant or experiencing the thrill of the open road — all for a taste of that excitement we've been missing. And travel and hospitality companies large and small have gone to great lengths to evolve and innovate in order to make these experiences possible under the most challenging of circumstances.

For travel and hospitality companies so used to engaging travelers and guests in person - delivering unique, unforgettable, personalized experiences — the past year or so has brought untold disruption: airplanes laid idle, airport terminals shuttered, hotels and dining rooms closed. Yet brands embraced this opportunity to embark upon, or accelerate, their digital transformation and are emerging even stronger than before.



David Peller

Managing Director,

AWS Travel & Hospitality

With little choice but to captivate customers with dreams of what was to come, brands enhanced their digital channels, invested in new and improved web sites, mobile applications, digital services and experiences – delivering improved automation, efficiency and customer self-service. And as travel reopens, with everevolving customer expectations, brands that invested in digital are well-prepared to better serve their customers and meet their needs.

At Amazon Web Services (AWS), the world's most comprehensive and broadly adopted cloud platform, we also understand that with the ongoing pandemic, our customers see the safety and wellbeing of their customers and families as a top priority. So, we're proud to be at the forefront of helping businesses innovate and provide new ways to make tourism safe for those who do want to travel as we slowly return to a sense of normalcy around the world. We've observed first-hand how much innovation has been stimulated from the most recent period of disruption. That's why we collaborated with Skift—for the second year in a row—to better understand and showcase the inspiring efforts and contributions made by so many. The 2021 Digital Transformation Report provides critical insights garnered from travel and hospitality executives around the world, to help you evaluate and prioritize your business's digital transformation and build what's next in travel and hospitality.

And while we can't be certain about the future, I'm certainly thankful that we're on this journey together.

Sincerely,

David Peller Managing Director,



Travel and hospitality companies are innovating through disruption to build what's next





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Learn how A helping thes travel and hot transform at



INTRODUCTION



The Covid-19 pandemic in 2020 was a digital wake-up call for the travel and hospitality industry, placing new demands on companies across the sector and creating an urgent need for solutions to address them.

The most visible new demands were from consumers, many of whom showed growing interest in shopping online and a preference for contactless solutions. According to a recent <u>UN report</u>, ecommerce's total share of all retail transactions worldwide jumped from 16 to 19 percent in 2020, reaching 26 trillion dollars of activity. In addition, a separate but related 2020 <u>study</u>

by Capgemini found that 62 percent of consumers also expected to increase their use of touchless technologies coming out of the pandemic.

"The pandemic introduced a whole set of different expectations from customers," said David Peller, managing director of AWS Travel & Hospitality. "Guests and travelers expected operators to deliver on a whole new level, with cleanliness, health and safety becoming the number one priority... Contactless service, and using your own device, is now expected.

Meanwhile, behind the scenes, the pandemic forced travel and hospitality brands to develop new ways of working. As businesses closed their physical offices to prevent infections, remote work grew in popularity, pressuring companies to develop policies and collaboration tools to support the practice. Even now as companies contemplate a return to the office, remote work seems likely to stick around. The OECD estimates approximately a third of all jobs could be done remotely moving forward. This, too, will have far-reaching implications for the design of company systems used for emplovee collaboration, communication, and information sharing.

On top of all this, in 2020, travel and hospitality businesses reckoned with unexpected disruptions to their operations. Because of the economic downturn, many businesses had to find ways to do more with less as they struggled with staff furloughs and layoffs. Then, by early 2021, many faced a different but equally challenging problem: they couldn't reopen their businesses fast enough. As travel demand started to pick up, companies had to figure out how to rapidly restart and do it amidst growing signs of a potential labor shortage. This also made it difficult to accurately forecast, complicating efforts to deploy resources, hire and train staff, or make marketing and pricing decisions.

"[We had] to completely shut down the airline, on three days' notice, and then restart operations after a 'hibernation' period that lasted over six months," said Pedro Heilbron, CEO of Copa Holdings and Copa Airlines, during a January 2021 interview. "Then came a series of very difficult actions and decisions required to lower our cost base, reduce cash burn, and survive with significantly diminished revenues.

Now, as regions across the world start to reopen, many of these businesses are also facing rapid fluctuations in the demand for their products. This is increasing the importance of being able to analyze and predict business and customer data to stay ahead of the curve, while also making rapid adjustments to distribution strategies to maximize sales. Consider Skift Research on hotel distribution, which found an eight percentage point increase in direct booking on hotel websites during the pandemic.

"One of the things that was most affected from a demand perspective is the way that [the travel industry] forecasted business was upended," said Bethany Frick, senior director at Slalom Consulting, a firm that partners with companies in the travel and hospitality sector. "As [the pandemic] hit, some of those methods of projecting and forecasting business fell by the wayside."

"Cargo enabled us to keep some of the operation running and pilots and crews active," said KLM CEO Pieter Elbers in a 2020 interview with Skift Airline Weekly. "We did not have to shut down the entire shop."

Each of these challenges stemming from the pandemic may appear to be unrelated, but there is a unifying theme: they highlight the need for increasingly digital-first business practices, toolsets, analytics, and ways of working to meet changing expectations. This concept, collectively described as "digital transformation," is an increasingly critical strategy for the travel industry. Digital transformation can help organizations across the travel industry in many ways:

- To deliver experiences that satisfy travelers' increasing preference for communicating, shopping, and buying using digital means.
- To accelerate digitalization of travel company products and services, making them easier to price, promote, distribute, and purchase.
- To enhance the ability of travel businesses to quickly adapt their business models and ways of working to unexpected shifts in demand and the competitive environment.
- To assist with analysis and forecasting of company operations, providing new insights to drive better understanding and decision making.
- To run businesses more efficiently and profitably by doing more with less, cutting costs, and finding new sources of revenue.
- To keep pace with or surpass industry competitors and weather larger, structural changes in the economic environment.

The growing importance of digital transformation and the accelerated push for its use because of Covid-19, is echoed by worldwide sentiment analysis among business leaders. Recent executive research by McKinsey suggests that Covid-19 accelerated digitalization efforts across all industries by as much as three to four years. It has also encouraged business leaders to look for new areas of opportunity to work smarter and find ways to transform how they do business.

But, what proportion of companies in the travel and hospitality sector have embraced the principles of digital transformation? Has Covid-19 accelerated their rate of implementation of digital transformation philosophies? Will the changes made during the pandemic be temporary or permanent? What areas of their business are travel hospitality leaders focusing on as the focal point of their digital transformation efforts?



THE 2021 SKIFT AND AWS DIGITAL TRANSFORMATION REPORT



It is with these questions in mind that Skift and Amazon Web Services (AWS) are releasing the 2021 digital transformation report. Building on their successful collaboration in 2020, the two organizations are teaming up to update last year's research exploring the evolution of digital transformation practices in the travel and hospitality industry.

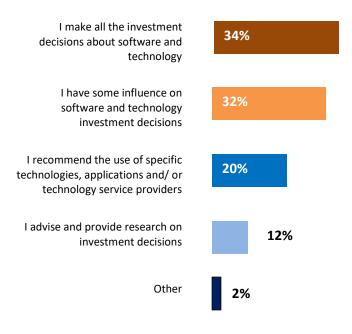
Similar to last year's report, the goal for this year's collaboration is to understand how attitudes toward digital transformation are evolving since the start of the pandemic. Following a turbulent business year,

the report also attempts to understand what digital strategies industry leaders are prioritizing as they prepare their businesses for whatever comes next.

To answer these questions, Skift and AWS distributed a survey to over a thousand travel industry leaders in North America, Europe, Asia-Pacific, and Latin America in the summer of 2021. Matching the diversity of the travel and hospitality industry, the respondent base included representation across a range of sectors, including executives from hospitality, restaurants, travel agencies, travel software firms, tourism boards, airlines, and airports, among others.

To further ensure the relevance of the responses, Skift also screened survey participants to understand their familiarity with, and influence over, their organizations' technology, software, and information technology (IT) purchase decisions. Two thirds of this year's survey respondents either made all technology and software investment for their organizations, or had direct influence over investment decisions.

Which of the following best describes your involvement in technology decisions at your company?



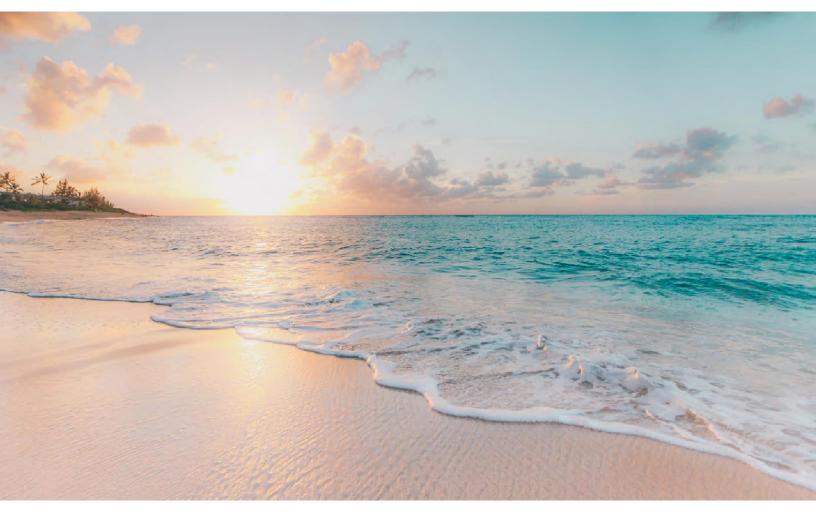
The survey questions were then structured to explore key topics of interest within the digital transformation process. When planning the subjects for this year's report, Skift and AWS agreed to focus their investigation around five main themes:

 Overall digital strategy: How do executives in the travel industry perceive digital transformation more generally as a business objective? How does it align with their broader business goals? In addition, how (if at all) has Covid-19 affected their plans?

- Using data effectively: How do organizations in the travel industry make smart use of company and customer data to support their decision making? What impact will emerging tools like machine learning have on their data analytics efforts moving forward?
- Delivering a great customer experience: Does the travel industry have the right systems and technology in place to satisfy the needs of their increasingly digital-first customers?
- Technology investment trends: What technologies are companies in travel investing in to support their digital transformation plans? What do they think about increasingly important technology solutions like cloud computing?
- Talent and organization: Do those in the industry believe that they have the right talent, training, and team structure to support digitalfirst strategies?

Below, we explore the results of this year's survey in greater detail, accompanied by case studies and commentary gathered from interviews with various travel industry executive leaders.

IMPACT OF 2020 ON DIGITAL STRATEGY



Digital transformation efforts in the travel and hospitality industry were underway before 2020, but the pandemic accelerated the need for digitalfirst business practices, operations, and customer experiences. Did the travel industry keep pace with that need during a year of worldwide disruption? How, if at all, did the pandemic change their digital transformation plans? And where will companies in the industry be focusing their time and resources for the rest of 2021 and into 2022?

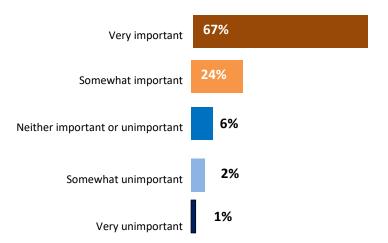
In the face of all the challenges of the past year, the continued importance of digital transformation to travel and hospitality organizations remains clear. According to this year's research results, overall

commitment to digital transformation is nearly universal. Ninety-one percent of respondents said it was a very or somewhat important priority for their business, a finding that is consistent with the 2020 survey's results from the same question (next page, top left).

"There were challenges in the travel industry before Covid-19 became a household term, but the pandemic has certainly exacerbated these challenges," said Tom Kershaw, chief product and technology officer at Travelport. "Travel companies need to migrate what has been a human, physical interaction in the past to more automated, cloud-based tools and especially mobile app-related ways of interreacting with users.

All of these trends existed in travel retail for a long time, but the pandemic has accelerated them dramatically."

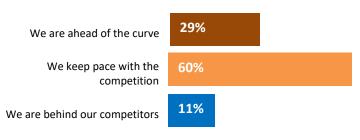
How much of a priority is digital transformation for your business?



"People knew [digital] was important, but I think it was something on the periphery," said Slalom Consulting's Frick. "[In 2020] digital became a bigger part of the business, and we saw more people investing their dollars in the places that were driving the business."

However, a gap still remains between the growing importance of digital transformation as a strategy and the ability of industry companies to put it into practice. Most industry respondents rated their companies' digital capabilities as average at best. Sixty percent of respondents in 2021 said their company kept pace with their industry peers, suggesting an opportunity for further improvement, as well as a potential competitive advantage for those organizations that leap ahead of competitors.

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

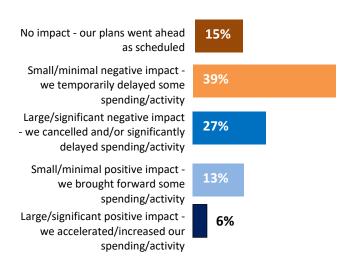


Based on the answers to this same question in 2020, more travel and hospitality companies now recognize the opportunity to further accelerate digital transformation efforts in order to stay ahead of the pack. In the 2020 survey, 20 percent said they "were behind" on their digital transformation efforts (compared to just 10 percent who said the same in 2021), pointing to growing digital sophistication.

Another important question is how Covid-19 is affecting the industry's digital transformation plans. After a year of diminished demand for travel products and services, it's tempting to assume that companies may have scaled back their spending and plans. But, that doesn't appear to be the case.

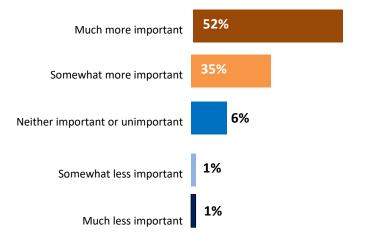
Respondents said the pandemic had a negligible impact on technology investment and deployment. More than half of 2021 executives said the impact was "minimal or small," with 15 percent noting the pandemic had no impact whatsoever. Still, for a minority of travel organizations the 2020 travel downturn did have a significant impact, with 27 percent stating that Covid-19 had a large negative impact on their digital plans.

How did the Covid-19 pandemic impact your digital transformation plans for technology investment and deployment within your business?



Looking ahead to the future, there is a strong commitment among those in the industry to proceed with digital plans, with 87 percent stating that it was much more or somewhat more important to proceed with their plans because of the pandemic.

In your opinion, how important is it for your business to proceed with its digital transformation activities in light of the evolving business situation with Covid-19?

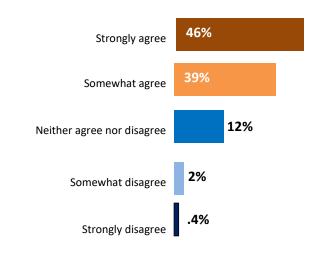


"This is by far the most challenging time that Southwest Airlines has faced. But we're not shrinking from the challenge," said Lauren Woods, managing director of technology platforms for Southwest, in a 2021 presentation. "Instead, we see it as an opportunity to improve our technical health and emerge stronger at the end. Our goal isn't just to survive: our people are busy building the technology and applications we need to thrive."

The sentiment matches with responses from the survey. When asked if the pandemic had forced their organizations to adapt to meet new challenges, 84 percent of industry executives strongly or somewhat agree that innovation caused by the disruption of Covid-19 will help improve the way they do business moving forward.

"Travel and hospitality companies are not unfamiliar with disruption," said David Peller of AWS. "While the

Agree or disagree: "Innovation, born out of the Covid-19 disruption, will ultimately help improve the way we do business."



past 17, 18 months have been particularly extreme, I think they've always innovated through that disruption. And that's as true today as it's ever been."

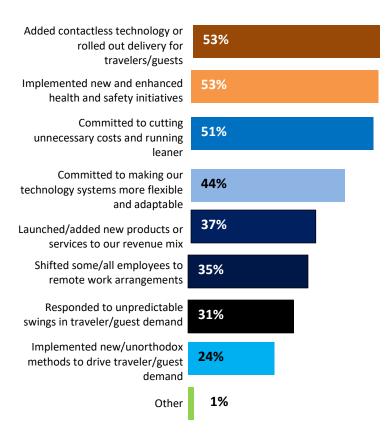
The question then, is which business activities will benefit most from the growing urge in the industry to innovate, adapt, and evolve? One immediate impact is in the deployment of new technologies and protocols related to pandemic safety.

Travel executives noted an accelerated focus in 2021 and moving forward on adopting more contactless tech as well as health and safety protocols due to Covid-19. Both activities were mentioned by 50 percent or more of respondents. Improving company efficiency also was a priority, with 50 percent of participants also mentioning "running more lean or efficient operations" (next page, top).

Despite the many operational challenges created by Covid-19, there are also reassuring signs that the pandemic hasn't affected the travel and hospitality industry's broader focus on achieving their top business goals.

On the topic of business priorities for 2021 and 2022, travel executives said they were focused on the same

Which of the following trends (if any) has your business adopted or accelerated due to Covid-19?



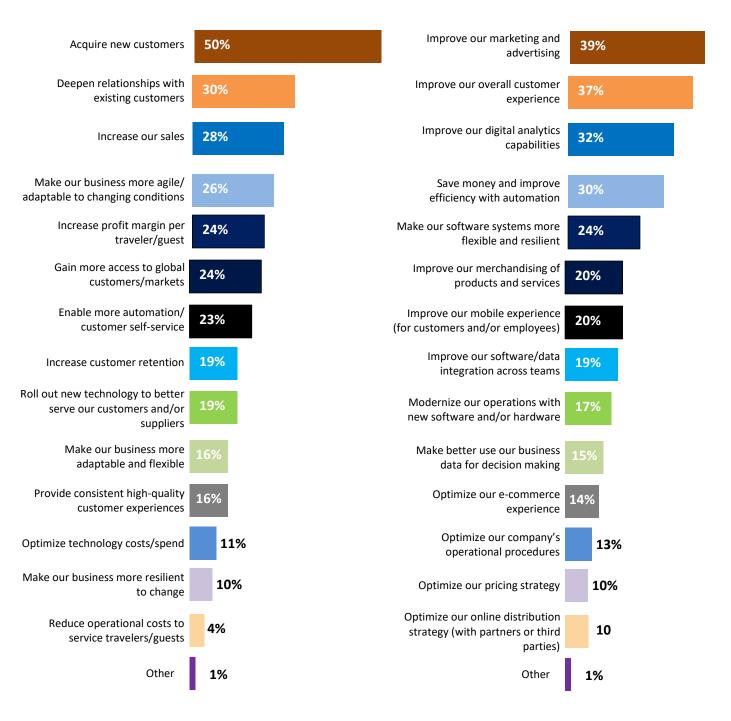
objectives as they were pre-pandemic. Acquiring new customers was the top goal at 50 percent, followed by deepening relationships with customers (30 percent), and increasing sales (28 percent) (next page, left).

A related question on the topic of business goals is how organizations plan to achieve those goals, particularly through digital means. Travel executives said they will focus their digital strategies for 2021 and 2022 on improving their marketing and advertising (39 percent), improving the customer experience (37 percent), and improving their digital analytics capabilities (32 percent) (next page, right).

What the results in this section suggest is widespread support for the goal of digital transformation. However, there is also acknowledgement that the process is not one-size-fits-all. Each organization in the travel industry will need to take stock of its progress to date, along with its unique operational strengths and weaknesses, in order to push forward into the unexpected consumer and competitive environment of 2021 and 2022.

Which of the following are your business's top goals for 2021 and 2022?

Thinking about your overall digital strategy for 2021 and 2022, which of the following strategies will be the highest priority?



USING DATA EFFECTIVELY



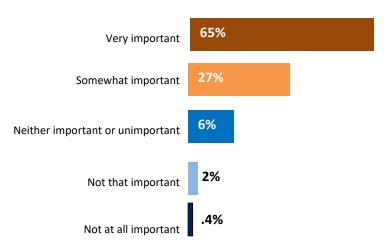
One of the biggest opportunities related to digital transformation is improving the use of data within travel organizations. This refers not only to the digitization of company processes as it relates to information gathering, but also to how organizations then make use of the information generated to run businesses more efficiently, profitably, and deliver better results for customers. How do the industry's leaders rate their progress successfully using data?

There are a multitude of opportunities to apply data more effectively in travel and hospitality, whether it involves improving efficiency, making better decisions, or gaining more real-time insights into performance. As one example, more and more companies in this year's report mention they are prioritizing data as a way to better understand the changing needs of their customers.

"The new world coming out of this crisis will have different dynamics and expectations," said Jeffrey Goh, CEO of Star Alliance, in a January 2021 interview. "What organizations and airlines will need to do is adopt a strategy on data management and data analytics, [as well as] more customization and personalization, [allowing] more of a targeted approach to their customers."

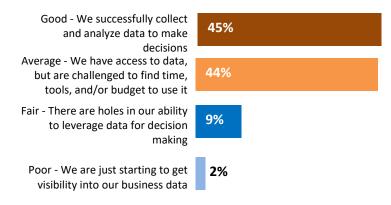
The good news is that there is widespread agreement among travel organizations about the overall importance of data to their business. More than 90 percent of respondents said collecting, analyzing, and acting on business data was very or somewhat important to their success. This figure is unchanged from the results in the 2020 digital transformation report, suggesting that the need for good data is undiminished.

How important is collecting, analyzing and acting on business data to the success of your company?



Even if there is agreement about data's importance, various challenges persist related to the industry's data strategy. One problem is figuring out the right methods to collect it, analyze it, and use it to inform decision making. Even though a significant proportion of respondents said their data collection and analysis capabilities were "good," around the same number (44 percent) of executives also rated their abilities as just "average," the second-most selected answer (above, right).

How would you rate the effectiveness of your business data collection and analytics capabilities?



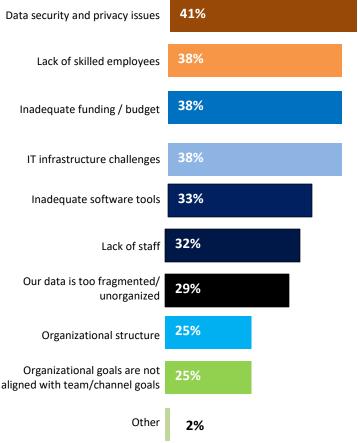
A variety of issues prevent travel and hospitality organizations f rom using their data more effectively. The biggest barriers mentioned in the survey were concerns about data security and privacy issues (41 percent), lack of skilled employees (37 percent), and inadequate funding (37 percent). (next page, top left).

Another problem is partial, incomplete, or missing data. When companies have an incomplete picture of traveler habits or their data is spread out across different, incompatible databases within different teams, it can complicate efforts to analyze it.

Sixty-nine percent said incomplete data was a "considerable problem" or "concerning."

Two technologies that may help further address the issue of incomplete, or difficult to understand, data are artificial intelligence (AI) and machine learning. Both can help companies of all sizes spot hidden patterns in data that can assist with

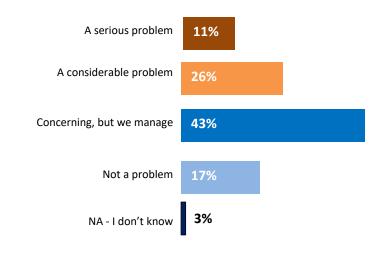
Which of the following barriers pose the biggest challenge to your ability to use your business data more effectively?



analysis. This assumption matches with responses in this year's survey. When asked if AI or machine learning could help them make better decisions, 84 percent either strongly or somewhat agreed (right).

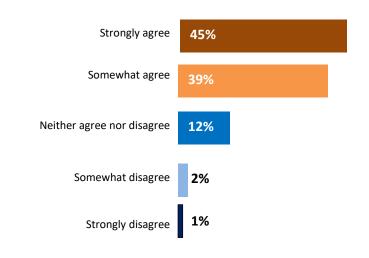
"Machine learning is absolutely becoming a differentiator for travel and hospitality companies. And certainly from an AWS perspective, we see very broad-scale adoption of machine learning across the board," said David Peller of AWS. "It's really in a couple of areas: the personalized experience. recommendations and offers area, and then particularly around forecasting and using data to help drive a clearer understanding of demand potential for your business. And then also how to satisfy that demand and how to resource that demand in your business."

How much of a problem (if at all) does your business have with partial, incomplete, or unusable business data as it tries to make decisions and measure success?

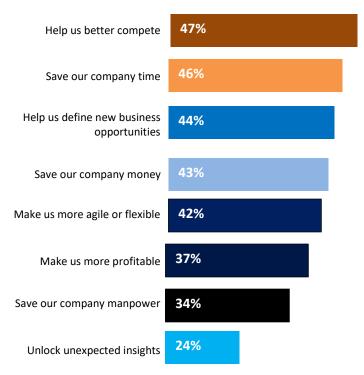


This matches with the variety of benefits industry executives in the survey said they've enjoyed thanks to the use of AI and machine learning. Travel industry executives noted that the technologies made them more competitive (47 percent), saved them time (46 percent), and unlocked new business opportunities (44 percent) (next page, top left).

Agree or disagree: "Machine learning and artificial intelligence are powerful tools that can help us analyze our business data to make better decisions."



Based on what you currently know about machine learning and artificial intelligence, how do you think it could help your business?



Many industry executives also say the potential of machine learning lies in its ability to turn raw information into action: moving from gathering data to using it to improve their operations and the experiences they offer customers. To date, more focus has been on gathering that information than analyzing it.

"For decades, the travel industry has been very much about pipes and speed: pumping as much data back and forth as possible, and less about making intuitive sense out of that data," said Travelport's Kershaw.

Kershaw cites the example of a traveler searching for flights, one in which they are presented with hundreds or thousands of itinerary and fare options. Many of these choices are irrelevant and will never be selected by the traveler, such as an option with two layovers for a three-hour flight. But using techniques like machine learning, a flight search engine could present only the most relevant flight options that match each unique customer profile.

"Where it gets interesting is when I can figure out that you, specifically, would never fly with this route, that you would never fly through that city, or you would prefer to add this or that to your booking," said Kershaw. "Personalizing the experience and using machine learning to present only relevant, accurate options so you can make choices in realtime, as opposed to weeding through a bunch of stuff you wouldn't care about, is really important."



DELIVERING A GREAT CUSTOMER EXPERIENCE



The travel and hospitality industry depends on its customers. In order to succeed and thrive, the industry must find new ways to satisfy the needs of travelers and keep them coming back. This also requires the industry to meet the ever-rising expectations of customers for convenient, safe, delightful experiences. But, delivering on these changing expectations has become even more challenging due to the pandemic.

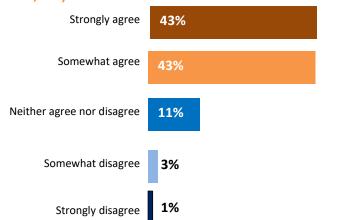
One example comes from the restaurant sector, where many organizations struggled to keep up with skyrocketing takeout and delivery orders.

"Every year we grow by double digits," said Richard Haigh, former chief technology officer for European food delivery firm Just Eat Takeaway, speaking at the start of 2021. "But this year with Covid-19, we saw that growth come faster and earlier in the year compared to usual."

How are travel companies thinking about digital transformation and its potential to improve the customer experience?

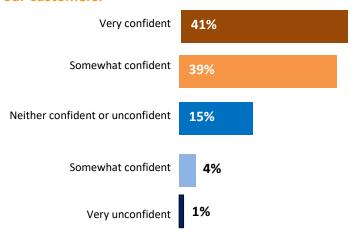
This year's survey confirms a widespread belief among travel executives that they're doing a good job delivering a high-quality customer experience. Eighty-six percent strongly or somewhat agreed they were able to deliver seamless customer experiences across all touchpoints (next page, top left).

Agree or disagree: "Our business can deliver seamless, high-quality, experiences to guests across all consumer touch points (online, inperson, by phone, etc)."



Eighty percent also strongly or somewhat agreed they could deliver personalized products, services, and messaging to their customers. This was compared to only 71 percent who said the same in 2020, an eight percentage-point increase.

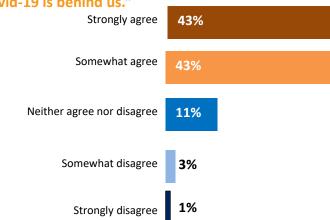
How confident do you feel about the following statement?: "My business can effectively deliver personalized products, services, and messaging to our customers."



Despite these generally high marks, there are also signs that the pandemic forced companies to stretch themselves in order to serve emerging customer demands. Two examples of their response were new operational and customer experience improvements. Eighty-one percent strongly or somewhat agreed that

the pandemic forced them to improve in these areas in order to serve customers better (above, right).

Agree or disagree: "Because of the pandemic, my business has made operational and customer experience improvements that will last long after Covid-19 is behind us."



One business that upgraded its customer experience during the pandemic was Singapore's Changi Airport. The Southeast Asian transit hub, which processed more than 68 million passengers in 2019 prepandemic, had to find ways to supplement lost income at a time when most travelers were not able to patronize the airport's retail stores and dining facilities.

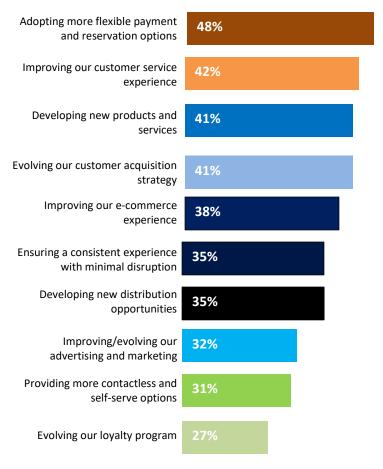
In response, executives from Changi significantly increased efforts to enable online shopping and food takeaway services, using new digital marketing and CRM strategies to understand and more strategically target potential customers.

"We had to accelerate the development and deployment on some of our key digital initiatives, which helped us to know and engage our customers better. The focus started from mass market and drilled down to the segmentation level, and eventually moved all the way to the individual level if applicable," said Joe Chiu, VP of digital and data management systems for Singapore's Changi Airport. "For those customers who had signed up as members of our digital initiatives, it gave us much better opportunities to know who they were, what were their profiles and preferences, what they bought previously, and how we could best engage them with better offerings or

relevant services along the way ... We hope the adoption of these new digital programs helps to enhance the user experience, the perceived value, and provide greater customer relevance, instead of having visitors treat us no differently than any other public facility."

Looking ahead, the most important areas of focus for customer experience for the rest of 2021 and into 2022 will be more flexible payment and reservation options (48 percent), improving customer service (42 percent), and developing new products and services (41 percent).

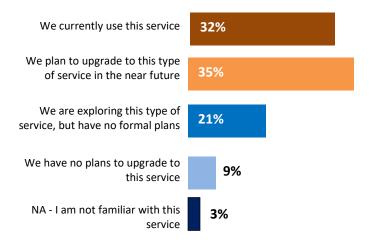
One growing opportunity to improve customer service involves the use of tools like cloud computing to better serve customers. A majority of this year's respondents are either planning to use or already using cloud-based versions of the traditional customer contact centers. Such services, like Amazon Connect, provide a virtual cross-channel tool that helps manage, assist with, and seamlessly track interactions with customers when they reach out for help.



Sixty-seven percent of this year's respondents said they either currently use this type of service or plan to upgrade in the near future.

One organization that relied heavily on cloud-based customer support over the past year was Priceline. At the onset of the pandemic, the company experienced a three-fold increase in the volume of customer support requests, expanding wait times to speak with an agent. Adding to the challenge, most of Priceline's support team operated out of the same facility, which increased the potential risk of Covid-19 infections among staff members if they returned to the office.

Does your customer service team currently operate (or do you plan to operate), a cloudbased contact center for handling inquiries and support requests?



In response to the challenges, <u>Priceline worked with AWS to implement Amazon Connect</u>. The solution not only allowed more than 1,000 Priceline support employees to work remotely during the pandemic, it also simplified the overall support process by streamlining customer service menu options and optimizing callback queues to reduce customer wait times.

"It enabled us to respond more quickly than ever," said Jennifer Featherling, senior director of contact center technology at Priceline. "Over 1,000 agents could work from home and continue using Amazon Connect—all they needed were a laptop and a headset. And we could introduce queued callbacks for our customers."

TECHNOLOGY INVESTMENT AND CLOUD COMPUTING



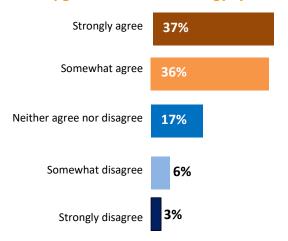
Many travel businesses made updates to their customer experience and data strategies in response to the pandemic. But, equally important in the industry's transition to digital transformation is investing in the right technology and software to help deliver on those promises. How are those in the travel and hospitality industry thinking about technology investment decisions coming out of the pandemic?

The good news is that many travel companies used the lull in demand during 2020 to upgrade and adapt their business. Seventy-three percent strongly or somewhat agreed they had made upgrades to their technology systems during the pandemic (next page, top left).

There was also a growing need in 2020 to find resilient systems to quickly scale up or down depending on changing demand. As governments around the world flipped between stringent travel lockdowns and loosening of restrictions, often on very little notice, travel businesses had to find ways to rapidly adjust to unpredictable consumer demand. This was not just a case of increasing capacity to serve more customers: sometimes it also meant reducing operational costs in order to survive by spending less.

"People talk a lot about the ability to flex up," said Scott Strickland, EVP and chief information officer, Wyndham Hotels and Resorts, in a recent interview. "What they don't often talk about is the ability to flex down."

Agree or disagree: "My organization was able to utilize the recent period of disruption during Covid to make upgrades to our technology systems."



This unpredictability boosted interest in services like cloud computing as they looked to run more efficiently, respond to these spikes, and support new business opportunities and new ways of working. It also encouraged more companies to look for ways to outsource hardware and software needs, moving away from a traditional "onpremises" model where technology is owned, operated, and maintained primarily by a travel and hospitality company's internal team.

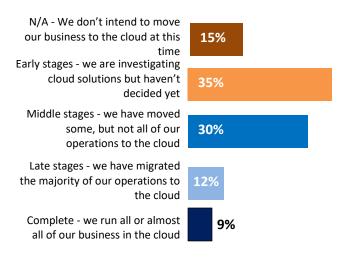
"There are five core advantages of cloud computing," said David Peller of AWS. "First, it's the agility that the cloud provides, with the ability to deploy services very quickly. Then comes cost savings that come from paying only for the services you need and use. Elasticity, the ability to scale up and scale down as needed, enables customers to provision what they need to meet demand. And from there, customers tell us they are able to innovate much faster. Then finally, as it's relevant to many in travel and hospitality, to really go global in moments—which in a traditional, on-premises environment would be very challenging to do."

What do travel organizations think about cloud computing? Even as interest in cloud services is growing, it appears to be early days for the travel industry's shift. Thirty-five percent are still in "early stages" of investigating solutions, while 30 percent are

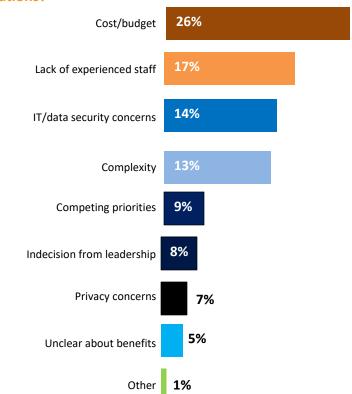
in the "middle stages" of moving some operations to cloud (right, top).

When asked about the biggest barriers to switching more of their work to the cloud, 26 percent cited the cost, with another 17 percent mentioning lack of experienced staff, and 14 percent noting there were potential IT or data security concerns (bottom right).

How far along is your business in regards to moving (ex - business software, databases) to the cloud?

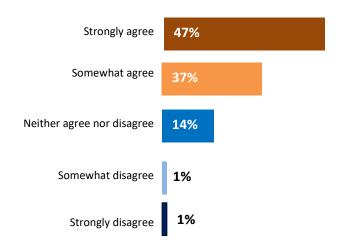


Which of the following would you say is the biggest barrier to switching to cloud-based IT and software solutions?



This hesitation is also balanced by growing advantages, each of which will help accelerate adoption in the coming years. One example is its ability to support new ways of working and running a business. For instance, more travel and hospitality businesses are now using cloud computing services, like those provided by AWS, to rapidly deploy new and better digital experiences for customers. In fact, 84 percent strongly or somewhat agreed that cloud technology can improve the customer experience.

Agree or disagree: "Cloud technology can help improve the customer experience and optimize our operations."



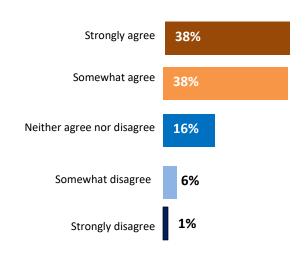
IHG Hotels & Resorts, for instance, is utilizing AWS resources to quickly test, iterate, and roll out new customer-focused digital services like its IHG Studio, an in-room television interface that allows guests to access streaming entertainment, pay for hotel services with loyalty points, and order food, among other features. As the company's executives explain, cloud computing is an essential tool to enable large-scale rollout and testing of the IHG Studio service across the company's more than 6,000 hotels worldwide.

"The AWS platform is really important for a couple of reasons," said George Turner, chief commercial and technology officer for IHG Hotels & Resorts, in an interview about the project. "The first is the ability to innovate in a way that we haven't in the past. It [also] helps us test and learn in really fluid environments, and then roll these [services] out. The other feature is the ability to roll out at speed. Speed becomes such an

important factor as we think about the reaction that we need to have to Covid-19."

Yet another emerging benefit of cloud computing is its ability to support remote employees, an issue that has grown in importance over the past year. Seventysix percent of travel and hospitality leaders strongly or somewhat agreed they would invest further to support remote working.

Agree or disagree: "We are planning to make further improvements or investment in cloud technology to support future remote work arrangements."

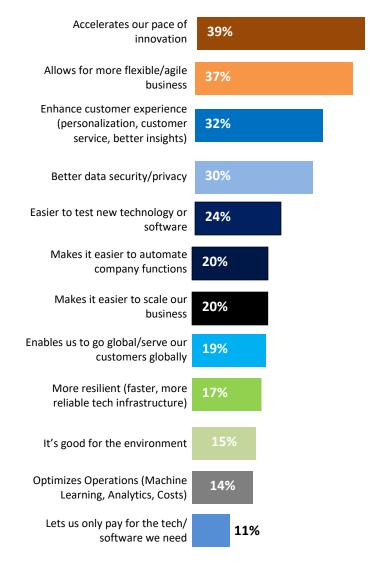


Beyond the more tangible benefits, more travel executives in 2021 also see cloud computing as a strategic opportunity to more broadly transform the way they do business. When asked about the "biggest benefits" of switching to cloud, 39 percent said it accelerates innovation, 37 percent said it allows for a more flexible/agile business, and 32 percent said it enhances the customer experience (next page, right).

This year's answers point to an important perception shift of cloud, with more businesses prioritizing innovation in 2021 rather than exclusively thinking about it as a tool to help handle excess demand. In 2020's survey, 58 percent mentioned cloud computing as a solution to create a flexible/agile business, and another 54 percent said cloud computing was "easier to scale."



Which, if any, of the following do you think are the biggest benefits of switching to cloud-based IT and software solutions?



While there's no definitive explanation for the shift, the year-over-year difference may be due to the operational difficulties that occurred during the height of the pandemic. At the time of last year's survey, many travel and hospitality executives were scrambling to stabilize their operations, making them more likely to focus on flexibility and scalability. These capabilities remain important in 2021. But now, as some of the toughest moments of the pandemic seem to have receded, companies are also focusing more of their energy related to the cloud on developing innovation and business transformation.

FINDING, ORGANIZING, AND TRAINING DIGITAL TALENT

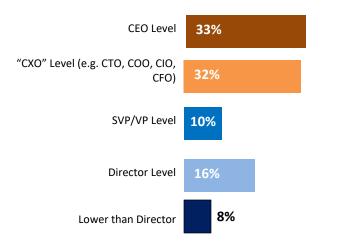


Digital transformation is not only about software and computing power. It also relies on a company's ability to hire talent, organize teams, and train them properly. Who within the organization is responsible for digital transformation? Do travel organizations have the right talent in place to proceed with their plans? How do they structure their internal organizations to support digital transformation efforts?

"The technology is super important, said Slalom Consulting's Frick. "But if you don't shift the talent, the capabilities, the skills, and the culture so they're willing to make changes ... that's where long-term you run into problems."

It appears that digital transformation is a high-level priority in most organizations, with decision making focused at the C-suite level. Sixty-five percent said either their CEO or another C-level executive was involved in the process, signaling the importance of the practice to businesses across the travel and hospitality sector.

What is the top level of the business that is responsible for digital transformation?



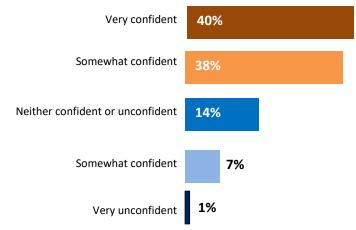
The events of the past year also highlighted new challenges finding and retaining great talent. Many executives report some difficulty recruiting and retaining skilled employees who are fluent in the capabilities of digital-first organizations.

"In Singapore, there's constant competition for a limited pool of IT talent," said Changi Airport's Chiu. "Covid-19 has prompted many companies to accelerate or expedite their own digital transformation journey, which further increases the competition and demand for qualified employees. In the past year plus, we have seen a significant number of IT staff, in both permanent and contract capacities, pulled away to join other industries for the similar positions."

Other executives in Europe agree, pointing out that the rise of remote work is further complicating efforts to recruit and retain talented employees.

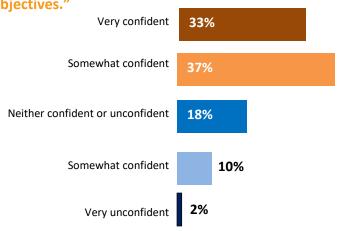
"Since COVID started it's been a challenge, but the one thing we've observed is that location doesn't matter," said Ryanair's Hurley. "You can work from home. Suddenly you're competing with anybody in Europe." But, even if the competition for skilled workers is growing, not all executives have arrived at a consensus as to whether or not it's a problem. In fact, 78 percent said they were already very or somewhat confident they have the necessary talent to deliver on their digital objectives.

How confident do you feel about the following statement?: "We have the necessary TALENT to deliver on our 2021/2022 digital objectives."



Meanwhile, on the topic of training, 70 percent said they were either very or somewhat confident that their teams had the necessary training to support their digital business objectives. As companies focus more on educating and assisting employees, this may help to prevent some of the problems associated with recruiting new digitally-fluent employees.

How confident do you feel about the following statement? "Our employees have the necessary TRAINING to support our 2021/2022 digital objectives."



When asked about which teams were most responsible for driving digital transformation, the IT department, marketing, and customer experience led the way. Thirty-nine percent of respondents listed IT, followed by 37 percent who mentioned the marketing team, and 32 percent that listed customer experience teams.

The results further underscore the strong relationship between digital transformation efforts and efforts related to business efforts to improve the customer experience.

In your business, which of the following departments are most responsible for driving the digital transformation process?





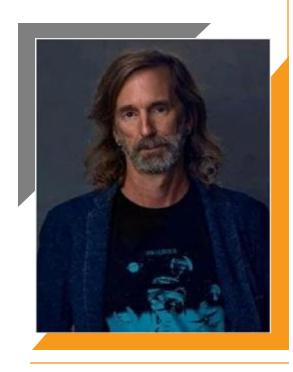
EXECUTIVE SPOTLIGHT: TOM KERSHAW, TRAVELPORT

Few companies have as much insight into the travel industry's digital transformation as Travelport. As an independent marketplace that helps connect travel buyers with the companies selling travel products, the organization understands what is needed to support the industry's various peaks and drops in demand. As with most businesses, Travelport has also had been forced to consider new ways of working, hiring, and forecasting demand for its computing resources in order to serve its various stakeholders.

In order to better understand Travelport's evolving digital transformation efforts, Skift spoke with Tom Kershaw, Chief Product and Technology Officer for the company, in July 2021.

What new demands, if any, did the pandemic place on Travelport's business?

There's the obvious ones and non-obvious ones. The obvious includes the extreme downturn of travel as an industry. As a result of the pandemic, people stayed at home. They didn't travel. For the most part, they didn't even leave their homes. The travel industry went through a very serious transformation. There were furloughs and cutbacks for everyone across the industry, from the airlines and hoteliers to the travel agents. There were a lot of unplanned and short-term changes and the industry had to quickly adapt. And now, travel is coming back, but it's anchored more in leisure with business travel recovery still lagging behind. That said, requirements and entry restrictions will continue to impact many highly trafficked international routes, so there are still changes in the underlying landscape that will shape the future of the travel industry.



Tom Kershaw
Chief Product & Technology Officer,
Travelport

But [the pandemic] also created an environment whereas an industry, we are in short supply of human resources. Like everybody else, [the travel and hospitality industry] is competing for scarce resources, especially those that are skilled. And as a result, we have to do more with software, more with automation, and more with the machine tools that we have to ensure we're maintaining productivity.

Over the course of the last 18 months, the biggest impact is a restructuring of the industry. While we're trying to rebound, we are also trying to grow and improve the user experience to one that is faster, more accurate and more automated. Demand is going to grow crazily and quickly when it does, but travel companies will be challenged with less human resources than they had [before]. The successful

companies will be the ones that can use data and software to effectively fill these gaps, like creating machine learning algorithms to automate their manual processes. We also find that our customers, specifically the travel managers and agents, are leaning more heavily on their tech providers like us. They are looking to us to simplify complexities even more now because they literally don't have enough people to solve [digital] problems.

How do you think the pandemic will impact the customer experience for travelers?

I think the way people shop for and book travel has inherently changed. How far ahead they shop and book, the need to change [itineraries] quickly, and factoring in even more information (Such as carbon footprints, safety measures and international restrictions) will all be part of the retail experience they expect. If you look back, there was a time when [travel companies] had to check if you had a visa for your destination before a ticket was issued. Now, there may be specific health requirements that come up, and not just related to Covid-19, but a new approach to all health-related issues in travel based on the lessons we learned in the last year and a half. All of these things need to be incorporated into the value exchange between suppliers (airlines, hotels, car rentals, rail companies), retailers and, of course, to travelers. The industry needs to improve the booking process and simplify how folks interact with companies during the entire travel experience--during the booking process, at the airport, checking-in at a hotel, through to post-stay.

What are Travelport's most important digital goals for 2021 and 2022, and have those goals shifted from what you were focused on prior to the pandemic?

Our fundamental goal going into 2021 was to launch our next generation platform, Travelport and to use that as a foundation to improve the shopping experience for agents, travelers and suppliers. Now that we've launched the platform, it's all about improvements and working with the industry to evolve rapidly. We are focused on improving and evolving our connectivity to suppliers, simplifying

workflows for our agency customers, and improving implementation for our developer customers. So those macro-level goals of ingesting, normalizing and delivering access to a wide variety of content types, whatever the source, remain the same

The question is how do we achieve those [goals] more efficiently? That's what's changed. We knew what needed to be done to evolve into a next generation platform, but now, we're thinking in a more nuanced way: Let's see if we can use data to automate certain processes and identify ways to make ourselves more efficient, reduce waste in resources and accelerate development. Let's see if we can work with our airline partners to evolve those relationships while improving connections with more stable APIs based on cloud computing and data sharing that was not previously available "on-premise" [on computers we own and maintain].

There are tools that these new environments in the cloud will open up for us that will allow us to achieve those goals much faster. Keep in mind the travel industry has, historically, been relatively slow compared to advancements with the internet and the pace of change in modern digital retailing. Travel has been known to have multi-year roadmaps and multi-year development cycles for [product] features, which I think is getting our industry further and further behind when you consider the way the digital community works. Tying our goals to automation and tools so that we can be more agile, and not just rely on engineers cranking out code is something that's a big change culturally [for the travel industry].

There's a growing shift toward the use of cloud computing in the travel and hospitality industry to support various business functions. What are some of the main benefits of cloud computing you've found for Travelport?

The main reason I want us to be on the cloud at Travelport is the engineering productivity advantages.

The productivity tools that are available through the cloud are just better than what you would get [onpremise]. That's what our strategic collaboration with Amazon Web Services (AWS) is all about. It's about making our people more efficient every second, so that our software engineers don't spend time thinking, "What about [storage] disk availability? What about network performance? And how do I push this [code so it's live]?"

The time spent on finding answers to those questions is time not spent on design, code, and innovation—which are the most important activities. We don't need software engineers to be hardware experts, worrying about ethernet cables. At Travelport, the evolution of our company throughout the last couple of years was determining the [cloud] partner that would be best for us based on our unique needs. That is AWS—no question. What we want to do is leverage that massive group of engineering resources [at AWS] who understand the hardware, how to manage large-scale complex deployments, and how to bring those together for advanced, modern digital retailing, allowing our folks to focus on coding, designing, and testing. That's what we do best.

Can you share any other examples of how you're using cloud computing to support your business?

Travelport has been around for decades, and like many companies of our size and system structure, our first foray into the cloud was for "bursting" purposes-- a scenario in which a company shifts some of its internal hardware resources to the cloud during peak periods of demand. This is very common, especially for "prem-based" legacy driven businesses [companies that primarily use internal hardware to run their digital operations]. When companies have a bunch of hardware capacity and need the ability to support millions of customer queries each minute, we have to figure out months ahead of time exactly [how many queries] there will be in a year. The cost of getting it wrong is substantial.

A specific example for us at Travelport, would be to predict that January, which is the busiest month in travel bookings, will require us to support X million transactions every second. If Travelport spends too much [on computing resources], that's money that could've been better spent on building a new feature or enhancing other functionalities. If we don't get it right and predict less than what we actually need, we'll be dropping transactions and losing revenue. Search response times can also become slower, customers become unhappy and development progress is slowed. For decades, we've been trying to correctly forecast how much hardware we're going to need for a year or longer. Cloud removes that requirement.

Now, we can obtain our [computing resources] on demand. If we get it wrong and are short by 20,000 machines in a peak period, we can literally just spin them up in mere minutes on the AWS cloud. This ability to take our existing capital footprint and burst into additional capacity when we need it most is the key advantage and motivation for moving to the cloud. For a company of our size and scale, supporting the types of travel companies that we do, it's a huge benefit to eliminate hours and hours spent forecasting [demand] and moving machines around. Going forward, what's most important is how we manage our cloud [computing resources] at Travelport, how we spin machines up, and how we utilize the tools that o automate the testing process. We can then build data pipelines and automate our software resources. With the way we're using the cloud, we can access data from any source, pull that data, ingest it, and move it around much more quickly. These capabilities make our engineers faster. Initially, it's all about efficiency and having the scalability to meet rapidly changing capacity requirements that will continue to fluctuate and be even more challenging to predict in the future.

REGIONAL DATA SPOTLIGHTS



Much like the pandemic itself, the travel and hospitality industry's progress with digital transformation is not evenly distributed across the world. Various markets illustrate diverging business priorities, consumer cultural differences, and

technology investment strategies. To help better understand some of these differences, this section examines key highlights from this year's survey responses in Europe and Asia-Pacific.

DIGITAL TRANSFORMATION SPOTLIGHT: EUROPE

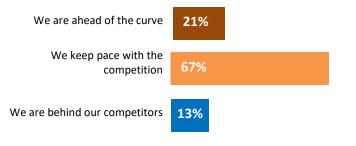
It's a moment of transition for Europe's travel and hospitality sector. After more than a year of regional travel lockdowns that slowed growth, those in the industry are looking to use the remainder of 2021 and 2022 to reset, reassess, and set the sector up for success in the years ahead.

Executives in the region acknowledge that their European recovery plans are proceeding in fits and starts thanks evolving levels of confidence among travelers in a given country.

"The big difference we've seen [compared] to other years is people booking closer in," said Ryanair's Hurley. "Traditionally we would see people booking typically 20 weeks ahead. They would plan their holidays and they go ahead. At the moment, people are waiting to be sure they're safe."

This uncertainty applies to digital business practices as well. Even though European executives may not be as confident in their existing digital competitiveness when compared to other regions, results from this year's survey suggest there is significant interest in upgrading their capabilities using digital strategies like automation and using cloud computing to support goals like business innovation.

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

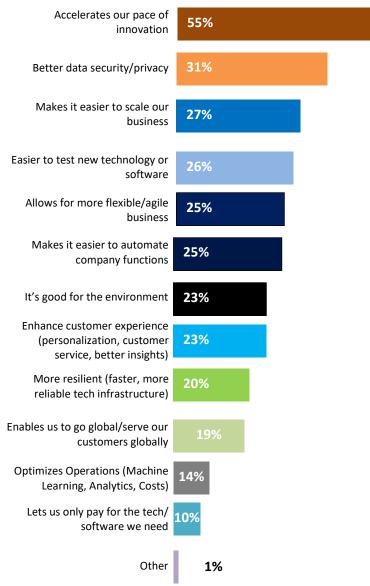


European travel and hospitality leaders rated their digital competitiveness less highly than their peers in other regions of the world, with 67 percent noting that their businesses "keep pace with the competition" (compared to 59 percent who said the same worldwide). Meanwhile, only 21 percent said they were "ahead of the curve" (compared to 29 percent globally) (below, left).

Thinking about your overall digital strategy for 2021 and 2022, which of the following strategies will be the highest priority?



Which, if any, of the following do you think are the biggest benefits of switching to cloud-based IT and software solutions?



But, even if European travel and hospitality leaders felt less confident overall in their digital capabilities, there was strong interest in using new digital tools to help improve their businesses. Consider, for example, that a significantly higher percentage of European leaders said they were interested in using digital tools such as automation to save money and improve efficiency. Fifty-one percent of European leaders mentioned using automation as a priority in 2021 and 2022, compared to just 29 percent who said the same globally, a 21 percentage-point gap (previous page, right)

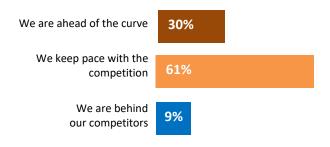
European travel and hospitality leaders were also more enthusiastic about the potential benefits of cloud computing to support growing efforts to facilitate business innovation and make it easier to scale capacity. Fifty-five percent of European leaders mentioned cloud-based IT and software would help "accelerate our pace of innovation" (compared to 45 percent globally). Twenty-seven percent of European leaders (left) also said cloud could make it easier to scale their business (compared to 21 percent globally).

DIGITAL TRANSFORMATION SPOTLIGHT: ASIA-PACIFIC

The pandemic created a difficult business environment for travel and hospitality companies around the world, but perhaps nowhere was this more true than in AsiaPacific. The region's fast-growing travel sector was hit hard by the extensive travel restrictions on international flights that were in place for much of 2020. "Covid turned the whole air transportation segment upside down. What we encountered in the last 18 months was totally unprecedented in the aviation industry," confirmed Changi Airport's Chiu.

The silver lining to this disruption is that it seems to have accelerated digital readiness among travel and hospitality organizations in the region, with local leaders mentioning significant enthusiasm for investment in digital analytics capabilities and cloud computing strategies. These strategies are likely to bear greater fruit in the years ahead as the global travel industry undergoes a more significant rebound.

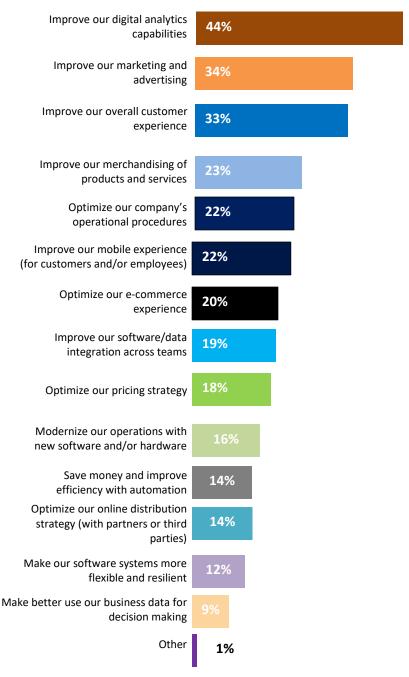
Overall, how would you rate your business's ability to compete in a digital world?



Even if it's been an unprecedented year for travel and hospitality businesses in Asia-Pacific, leaders in the region say they are confident they have the digital capabilities to compete in a digital world. Responses from Asia-Pacific executives were essentially tied with those at the global level. Thirty percent of Asia-Pacific respondents said their organization was "ahead of the curve (tied with global responses), while 61 percent said they "keep pace" (also tied) (previous page, bottom right).

However, when digging deeper into the digital priorities of executives in the region, a number of key differences emerge. One example is in the realm of digital strategies for 2021 and 2022. Fortyfour percent of Asia-Pacific executives said they plan to invest in improving their digital analytics capabilities, 13 percentage points higher than the same response among global travel and hospitality executives.

Thinking about your overall digital strategy for 2021 and 2022, which of the following strategies will be the highest priority?



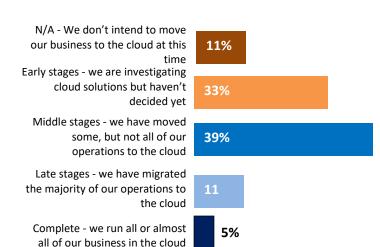


Executives in Asia-Pacific are also much further along in their development of cloud computing resources than the global average. Consider that 39 percent of respondents said their business was in the "middle stages" of moving their business to the cloud. This was compared to 29 percent who said they were at the middle stage globally.

The data matches up with the assessments of industry leaders, who describe a robust investment in cloud dating back several years.

"We have been using cloud technologies (in this case using AWS to host our first business to consumer mobile app, called iChangi 1.0) for more than 10 years, when public/private cloud hosting and pay-per-use charging models were still considered relatively new to many corporations," said Changi Airport's Chiu. "Since then, with adoption of digital programs becoming increasingly more prevalent, important, and vital to serve customers and partners, we've seen more companies, agencies, and corporations jumping on the enterprise cloud platform wagon. This is not just restricted to 'infrastructure-as-aservice' (IAAS) alone, but also includes "platform-asa-service" (PAAS), as well as 'software as a service' (SAAS)."

How far along is your business in regards to moving (ex - business software, databases) to the cloud?



ABOUT SKIFT

Skift is the largest intelligence platform in travel, SERVICES 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.

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