A POST-DIGITAL TRIP OF A LIFETIME
TRAVEL TECHNOLOGY VISION 2019
Travel companies have embarked on a bold and somewhat mystifying trip to a new world. It’s a world where passengers and guests communicate their demands instantly and expect gratification in real-time.
Where interactions are highly personalized and ultra-convenient. Where travel experiences are not isolated events, but part of a connected journey, delivered by a hyper-connected ecosystem of providers.

Digital technologies have taken travel companies halfway there. Now, to meet people where they are, at moments of their choosing, travel companies need to embrace “post-digital” technologies. Distributed ledgers, Artificial Intelligence (AI), Extended Reality and even Quantum Computing (DARQ) will transport travel companies to their new destination. Here’s how.
Many travel companies now consider themselves to be post-digital.
In fact, 92 percent of industry executives claim their organizations are already experimenting with one or more of the DARQ technologies. But experimentation will not distinguish a post-digital company. Scalable solutions that benefit customers will. And in this regard, many travel companies still fall short.

65% of travel executives believe the combination of DARQ technologies will have a huge impact on their businesses in the next three years. For many, this is wishful thinking.

It’s easy to understand why passengers and guests are not convinced that travel companies are fully embracing new technologies. The travel experience remains largely unchanged. Offerings are complex and difficult to navigate via retail-like channels they now favor. Waiting in lines is still the norm, not the exception. The same information is requested over and over.

Travel companies that stand out in the coming years will be those that adopt new technologies to transform operations and experiences and create entirely new travel realities.
Some travel companies are adopting a pragmatic stance and looking to use new technologies to strengthen their core businesses. AI, along with machine learning algorithms, can help airlines optimize crew schedules, routes and fuel consumption.\(^1\) AI-based prediction models, coupled with real-time telematics data, can enable rental car companies to efficiently manage utilization and maintenance across their fleets.\(^2\) Distributed ledger technologies also play a critical role. They, for example, can:

- Help hospitality companies create smart contracts that automatically execute steps in an event-planning process and authenticate everything from banquet suppliers to wedding cake ingredients.
- Enable multiple players—from airlines, online travel platforms and card providers to airports, government agencies, hotels, car rental agencies and more—to accelerate the complex data reconciliation process that happens behind the scenes of every touch point of every trip.
- Improve passenger safety by ensuring that parts procured for maintenance of ships and airplanes are legitimate. An immutable record that traces the history of every part can take the practice of maintenance, safety and security to new levels.
Driving operational performance and efficiency is certainly important for any travel organization. But it barely scratches the surface of what DARQ technologies can enable. Some companies already recognize that they won’t achieve the full value potential of DARQ-enabled solutions if customers don’t benefit from them.

- Carnival Cruise Lines uses wearable technologies, tech-enabled boarding and 3-D wayfinding kiosks to improve on-ship experiences.³
- Munich Airport recently collaborated with Lufthansa to test a humanoid robot that provides passengers with information pertaining to their gates and amenities in Terminal 2.⁴
- InterContinental Hotels Group uses AI-enabled voice-control technologies to create “smart rooms” that allow guests to create the environment they want, based on their mood or time of day.⁵

These companies look at DARQ opportunities from the perspective of the customer. When they make their technology-investment decisions, they do so with an eye toward improving the customer experience and strengthening the customer relationship, which translates into greater lifetime value.
It’s not too early for travel companies to think beyond DARQ-enabled convenience.
New technologies—particularly extended reality—will one day turn the industry on its head. Consider the delivery of virtual experiences that are as good as, if not better than, the real thing. Virtual tourism is closer than many realize. In fact, technology companies are already selling virtual and lifelike tours of the Grand Canyon, Mt. Everest... even the frontiers of space.⁶

Traditional travel companies are making their moves, too. Royal Caribbean has launched its first “smart ship” that offers, among other things, robotic bartenders and virtual balconies.⁷

Marriott, through its VRoom Service program, enables guests to indulge in immersive experiences in different areas of the world—without having to leave their hotel room.⁸ Other hotels are experimenting with virtualized event-planning solutions, which share customized event spaces with meeting organizers or wedding parties.⁹ There’s no reason airlines can’t join the virtual party. Rather than shuttling business travelers to physical meetings, they can use XR technologies to bring virtual meeting experiences to their customers. In this scenario, airline lounges at airports might become virtual meeting hubs.
CUSTOMERS RE-CONSIDERED

As people’s lives become more and more personalized through technology, creating a world with a multiverse of realities and moments, companies must reinvent their organizations to capture those opportunities as they come. That means viewing each moment as if it is an individual market—a momentary market. Miss the moment, and there is no second chance.

Accenture Technology Vision 2019
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To successfully capture momentary markets, travel companies must understand their customers—their preferences, behaviors, expectations and even influencers—as never before. The digital technologies of the past decade, including social media and analytics, certainly provided valuable insights. Moving forward, customers’ digital demographics will provide the next wave of customer understanding.

The use of technology is now so pervasive and integrated into customers’ everyday lives that they, knowingly or not, leave “fingerprints” after each digital interaction. Three in four (77 percent) travel executives believe digital demographics will help them better understand the next generation of travelers and guests. Even more (79 percent) believe digital demographics will change how they deliver products and services. Best Western has used digital demographics to customize its messages to Android and Apple users, leading to a 143 percent increase in app downloads.10

83% of travel executives believe digital identities will give them a new and powerful way to identify market opportunities for unmet customer needs.
With digital and post-digital technologies, travel companies have the chance to not only change their business and operating models, but also transform what travel means in a post-digital world.

There is no single path for all travel companies to follow. But there is a right path for each. That path is shaped by what each company wants to achieve and the difference it wants to make in the industry. We believe three opportunities hold particular potential.
Currently, the travel process—from booking to arrival—is rife with inefficiencies. It doesn’t have to be this way. New technologies can streamline travel and make passenger and guest experiences more convenient.
29% of airports are planning to implement some form of passenger identity management programs by 2020.¹⁹

For passengers, the service speeds up the check-in process and also makes the time they spend at the airport less stressful.¹⁶

The solution is centered around the travelers, enabling them to be active partners in security efforts—while retaining control over what, when and with whom they share their information (see sidebar).

While initially focused on the aviation industry, there is no reason KTDI could not be extended to other industry partners that are present within the travel continuum, including hotels, rental companies and other service providers.

- United Airlines enables hands-free check-in with a new Amazon Alexa skill.¹¹
- NH Hotel Group has introduced a FASTPASS portal and mobile app that enables guests to check in, choose their room and check out in seconds.¹²
- Delta Airlines is applying facial-recognition technologies to accelerate self-service bag-drops at select airports.¹³
- British Airways is using biometrics to speed boarding at a growing number of airports.¹⁴ Royal Caribbean Cruises is deploying similar facial recognition technologies to reduce the time needed to board a ship from 90 minutes to 10.¹⁵
- Japan Airlines is using AI applications, including voice recognition, to help agents at international check-in counters answer passenger questions.

There are even bigger opportunities on the horizon, consider the Known Traveller Digital Identity (KTDI), a global collaboration between public and private sector organizations that trailblazes a future-oriented approach to travel.¹⁸ The KTDI is based on decentralized digital identity, which uses cryptography, blockchain and emerging international standards to enable individuals to self-manage their identities in order to cross international borders.
ON THE GO WITH DIGITAL IDENTITIES

KTDI allows travelers to manage all components of their identity in a digital format. They are able to receive attestations (issued by trusted entities, such as government passport agencies or border authorities), which are then stored to their devices and selectively disclosed, with informed consent, to other organizations in order to move more seamlessly through the travel continuum.

For Travelers, KTDI provides an improved experience by removing points of friction within the airport and eliminating the need to present physical documents at checkpoints.

For Border Management Agencies, the advanced sharing of information enables positive identification and control of passengers, as well as biometric crossing at border checkpoints, which supports risk-based border management.

For Airlines, KTDI enables the identification and control of passengers, resulting in more effective processes, as well as biometric boarding.

For Airports, enrollment based on digital identity prior to arrival in the airport streamlines the flow of passengers while reducing the infrastructure footprint within the airport.
OPPORTUNITY 2
TAMING UNCERTAINTY

With every business embracing the importance of digital transformation, companies need to look toward their next opportunity for differentiation. Internally, this means preparing the organization to be a truly agile company.”

Accenture Technology Vision 2019
Trend: MyMarkets
Travel companies operate in an environment of perpetual uncertainty. There is the unpredictability of consumer behaviors and preferences, as well as uncertainties related to fuel costs, regulations, geo-political volatility and weather—all of which can disrupt travel operations significantly. Clearly, travel companies that can tame uncertainty, predict change accurately, and manage disruption effectively would achieve a competitive advantage.

Advances in AI and big data management and analytics—along with the emergence of 5G cellular mobile communications, which promise to reduce latency, boost system capacity and enable data transfers from a massive number of connected devices—are poised to help travel companies gain an upper hand. Forward-thinking travel companies are already unlocking the power of historical data, applying AI and machine learning to predict future events or behaviors, and building the ecosystems and architectures to respond to those signals and insights in real-time and faster than the competition.

Air Canada, for example, is using AI to make better sense of flight data to predict the maintenance requirements of components before a repair is needed. It can then schedule the repair when the plane is less active, thereby minimizing unexpected downtime—and costs associated with maintenance-related flight delays and cancellations. Accenture has teamed with Salesforce® to create an interactive, AI and voice solution to enable real-time personalization for the hospitality industry. The solution draws data from a variety of sources to predict preferences and create experiences that keep guests coming back for more.
As people’s lives become more enmeshed with technology, unique opportunities are arising for companies to deliver a new product or service—not just customized for specific customers, but for their needs at a specific point in time.
DARQ Technologies make it possible for travel companies to establish these momentary markets. AI enables real-time travel experiences that put travelers at the center. IoT-enabled distributed ledgers and advanced analytics pave the way to trust-based relationships. And technology platforms and APIs allow multiple parties to connect and deliver a comprehensive set of services. This is important since most companies won’t be able to capture momentary markets by themselves.

Increasingly, they will move away from delivering a set of bespoke products and services to building platform marketplaces through which they and their partners can deliver more to travelers than any one of them can on their own.

This will not be easy. Creating a platform-driven business model for new products and services will require a coherent platform strategy, as well as a plan for generating (and sharing) revenue. It will require a special focus on ecosystem security—something that 87 percent of travel executives already see as vital to their long-term resilience.

Finally, it will require travel companies to transition from a global distribution system to a system that provides a more traditional retail experience—enabling passengers and hotel guests to pay for services they find valuable.

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The transition to interoperable order management systems or marketplaces is now possible, thanks to distributed ledgers, which eliminate the need for intermediaries. But it will take time—possibly 10 years or longer for them to be fully established. That lengthy time horizon should not diminish the urgency with which travel companies need to act. It is likely that a number of players—current intermediaries, airlines, online travel agents, new market entrants and others—will soon be looking to establish marketplace platforms that others want to join. The winner of the platform wars stands to gain a tremendous advantage.

This is especially true in the current environment of increasing industry consolidation. Airlines, for example, will find it much easier to merge operations with other carriers if such an interoperable marketplace platform is in place.

Nearly 90% of travel executives believe the combination of customization and real-time delivery represents the next big wave of competitive advantage. Already, 41% are prioritizing both equally.
Accenture led Star Alliance on a program to enhance services offered to interline travelers, including a new digital platform to which the individual member carriers can connect. This will allow passengers to benefit from connected digital and mobile services like seat reservations, flight amenities and baggage tracking, no matter which member airline they are flying on. The platform helps Star Alliance achieve its strategic goal: to deepen operational integration and collaboration among member carriers, and redefine its role as a digital integration enabler for them.
Travel companies will have plenty of opportunity in the next few years to apply new technologies to improve the operational performance in core areas of their business, extend existing services to new customers and markets, or even launch new business models to tap new revenue streams.
Regardless of the strategy they pursue, forward-thinking companies are preparing now for the transformations that lie ahead. They are:

**Checking in**

Travel companies are surveying the technology landscape, identifying the new tools and applications that have the potential to change their business, and experimenting with proofs of concepts to further develop their understanding of the technology’s future value and limitations.

At the same time, they are carefully assessing the competitive landscape. They recognize that their peers are also making moves to compete and win in the post-digital world. Further, they are mindful that the companies that may disrupt their business may emerge from ancillary sectors or even outside the industry entirely. It’s not too early to engage these potential competitors as collaborators working together to create better, seamless and more relevant experiences.
Getting their sea legs
In a post-digital world, travel companies will need new skills and new roles to navigate the way forward. Data scientists will be in high demand. But so will futurists, storytellers, and “hypotheticalists” from outside industries or talent pools. These individuals will not only be skilled in interpreting the data and insights that new technologies make available, but also be able to quickly develop what-if scenarios and prepare the organization for any future use of technology. A culture of experimentation and a fast-fail mindset will be key to achieving the competitive agility that the post-digital age requires.

Preparing for takeoff
Travel companies are among the most innovative in the world. Many have already established innovation centers or incubators for new ideas. Etihad Airways, for example, has recently established an in-house AI Academy to provide all employees access to AI training and establish a culture of AI literacy across the organization. Marriott Hotels teamed with Accenture to develop an innovation lab and a travel experience incubator, which aims to identify and support new startups that are poised to deliver game-changing innovations for the industry. Companies like Etihad and Marriott are ahead of the curve.

But centers of excellence and training programs won’t, on their own, take travel companies to their final destination. What’s needed is an ability to scale new ideas and value propositions. Winning companies will create an end-to-end strategy that is designed by purpose and efficiently moves innovations from ideation to pilot to minimum viable product to scale.

49% of travel executives believe the majority of their workforces will move into new roles because of new technologies in the next three years.
New technologies are ushering in a new world of travel. It’s a world where travel barriers are minimized, customer conveniences are optimized, and global marketplaces are formed to deliver passengers and guests a new range of personalized, on-demand experiences. Winners are setting their course to this new reality today. Where will you go?
REFERENCES

3. Accenture and Carnival: Redefining the Cruise Experience: https://www.youtube.com/watch?v=hjZCmQxophQ
22. Ibid.

Note
Unless otherwise stated, the statistics in this point of view represents Travel and Hospitality respondents in the survey report “Accenture Tech Vision 2019.”
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About the research
Each year, the Accenture Technology Vision team partners with Accenture Research to pinpoint the emerging IT developments that will have the greatest impact on organizations in the coming years. In 2019, the process included a global survey of 6,672 business and IT leaders—including 166 travel executives in 13 countries. This report’s findings are based on analyses of their responses.

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