



Mindtree

A Larsen & Toubro Group Company

Travel and hospitality
challenges in an era of
tech disruption

With this in mind, we've identified five key themes modern business leaders from the travel sector contend with in the era of tech disruption:



Maximising Opportunities:
Collaboration & Innovation

1

Blockchain: Potential &
Practical Challenges

2

Creating Meaningful
Customer Experiences

3

Personalisation &
The 'Netflix' Effect

4

Leveraging Data: A
Powerful & Plentiful Asset

5

Over the course of a few months, we had
stimulating conversations with

**30 travel and hospitality
industry insiders**

to find out how they're keeping up with digital
innovation to stay ahead of the competition.



1



Maximising Opportunities: Collaboration & Innovation



By now, most executives know about artificial intelligence (AI), machine learning and the Internet of Things (IoT), and have a grasp on the value these innovations offer. For instance, take, the travel chatbot. These AI powered bots answer travellers' questions directly, which not only saves the user time by instantly offering the solutions they need, but also improves efficiencies for travel businesses. And because these smart bots are constantly learning, the quality of their responses get better each day. But simply investing in the latest technologies does not guarantee business success. Whilst there is so much potential in this technology, it has yet to mature to be truly productive. The real benefit will be when it can truly interact with customers and ensure that the experience feels 'human'.

Working together to achieve real results

Today, the most successful companies are the ones that are willing to form strategic partnerships and collaborate with other businesses to achieve the desired results. For the travel and tourism space, when different stakeholders work together, be it airlines, tour operators, tourism boards or hotels, they can combine their marketing efforts, which saves money and also ensures that consumers receive messages via a single, coherent voice. This productive collaboration can create new communities and market places that extend value to consumers, make their lives easier and also generate new revenues for the businesses who form those new communities.

And with so many smart collaboration solutions on the market, One would expect modern businesses to be able to seamlessly collaborate to achieve the desired results. But consolidation and fragmentation remain major hurdles in the travel and hospitality space.

If you know the travel industry, there are a lot of partnerships and intermediaries between those who provide the holiday and the customer, says Michael Cares, leading IT strategist for hotels and resorts at TUI. Bringing all of these stakeholders together and ensuring everyone speaks the same “language” can prove challenging.

For Denisa Spinkova, Vice President of Executive Services at Menzies Aviation, it’s important to have a “partnership mindset”. This makes it possible to better engage with partners along the value chain, as well as with smaller startups.

A typical problem in the aviation sector is fragmentation, explains Abhi Chacko, who leads technology innovation at Gatwick Airport; “you have 200 to 300 different entities operating on campus, this fragmentation can sometimes stand in the way of the airport operating efficiently because each organisation manages their own systems.”

Denisa Spinkova agrees. Consolidation is crucial, she says “we need to consolidate services and adopt technologies that support the larger parts of the business simultaneously.” “Systemwide technology business solutions are critical. With a strategic focus on growth, and as new businesses join our network we need to be able to easily share information with these new partners.”

Community collaboration

In an attempt to avoid this fragmentation, Abhi Chacko, and the team from Gatwick Airport, have experimented with a community app that brings together all of the different businesses located across the airport campus. The app allows them to share information seamlessly across the entire airport.

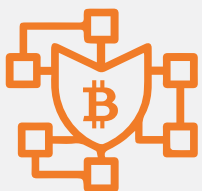
The community app
brings together all
200 organisations



operating on campus,
with around **14,000**
people using the app at the
moment.

“This has resulted in a lot of micro decisions being made by the people on the ground without having to wait for someone higher up to tell them what to do. It really has eliminated silos,” explains Abhi Chacko.

2



Blockchain: Potential and Practical Challenges



Whilst not everyone in the travel industry can agree that there are enough immediate benefits that come from implementing blockchain technology, real live use cases are increasing, which demonstrates more security and transparency within critical processes.

According to Forbes, there are various areas where blockchain can be tremendously disruptive to incumbents and return value to customers, and the travel industry seems to be leading the pack. Some blockchain applications include using this innovation to boost security at airports, improve travel finance and enable zero commission hotel bookings.

Despite the travel industry being uniquely suited to benefit from blockchain, our interviewees have found that making the most of blockchain is decidedly complex.

Steven Zaat,
Chief Financial Officer Air France KLM,
who describes Blockchain as a **“very, very complicated technology”**. That said, the airline could easily use Blockchain technology to better manage maintenance, he notes. For instance, if you were looking for a specific part, it would be easier to track it down because of all the historical data captured. This can be especially useful when you have a problem that proves difficult to solve.



According to Luca Pronzati, Chief Business Innovation Officer for MSC Cruises SA, everyone may be talking about Blockchain technology but he is still struggling to see the real value of it. This isn't to say that they aren't having discussions about using Blockchain, but he doesn't think that it is at a level of maturity that warrants them making any big investments yet.

Toufic Machnouk, Route Programme Director for Network Rail, agrees. He believes that there was a massive hype around Blockchain last year and everyone was all excited about the possibilities but very few people really understand its potential. It feels like we're living in the 1980s and we're trying to describe how a massive computer network, the Internet, will totally change the world as we know it. People just can't comprehend the impact Blockchain will have once it reaches maturity. He would like to see more understanding and speed of adoption to release benefits sooner.

Michael Cares, IT Director for hotels and resorts at TUI, shares this sentiment. He believes Blockchain still needs to evolve because the high operational and computing costs can sometimes lead to a point where one can't use Blockchain because it is simply too expensive to do so. "This is the biggest issue we see with Blockchain and its development at the moment," he adds.

There seems to be consensus that Blockchain isn't currently fast enough to manage transactions at scale, limiting its disruption to the travel, transportation and hospitality sectors. However, as increasing numbers of software developers work with the technology, it's likely to redesign a wide range of core processes from sales, settlement, security, baggage and capacity management.

Karan Rao,

*Program Director,
Travel and Hospitality*

for Mindtree in Europe,
thinks that the **biggest opportunity** is for use cases that require **collaboration amongst multiple organisations** where a single version of the truth is of greatest importance.



Consider things like flight status - both the airport and airline need to have the same information. With regards to aircraft maintenance, the airline, aircraft manufacturer and the OEMs all need to have the same information about parts. In addition, travel documents, the issuing authority, airlines and border control across governments need to be able to share this information. There is also an unprecedented opportunity to create new marketplaces with multiple participants as soon as the brave unite to invest rather than waiting to see who blinks first.

3



Creating Meaningful Customer Experiences



Today, travellers are more demanding, more informed and increasingly tech savvy. They're also generating a whole lot of data with each hotel stay, flight booking or train trip. This presents the travel and hospitality industry with a wealth of information that they can use to improve their offerings, personalise experiences and streamline every phase of the customer journey.

When looking to improve customer experience, businesses need to use all of the information they have at their disposal to provide customers with the best possible experience. In order for modern businesses to go above and beyond, they must tailor offerings to meet each customer's unique needs.

Something like sentiment analysis or opinion mining may have been around for quite some time but it offers the travel and hospitality industry the opportunity to identify issues and improve the customer experience. For the travel industry, customer reviews offer a wealth of insights that the industry can use to better understand their clients and give them what they want. This is especially important given the fact that travellers often read these reviews and make their buying decisions based on these comments.

According to the industry experts we interviewed, keeping customers happy isn't easy. Neither is finding the right tools and solutions to effectively make the most of customer data.

Any business looking to compete must have a customer centric approach. This means, "it's no longer only about the services that we deliver, it's about how we deliver a frictionless customer experience," stresses Denisa Spinkova. "If that means that pain points are caused by an airline, the airport authority or the ground handling company at the airport, all three of these parties must sit down together and figure out a solution, irrespective of where the problem occurs."

"What I've seen within the travel industry, not only from a professional point of view but also from a personal one, is that the more we invest in what the customer wants, the more value we gain," she notes Graham Lee, an experienced group automation and AI leader. It's about thinking of how the customer wants to interact with their holiday planning and their holiday experience and this is where the "legacy" players in the industry need to change.

Some of the key pain points highlighted by Denisa Spinkova include the sensory overload that comes with being inside the terminal building, as well as airport queues. How can technology help eliminate these pain points? Something like biometrics and facial recognition technology may make movement through the airport faster. She suspects that in the next decade, innovations like these will be essential.

"What the passenger hates the most is disruption," says Steven Zaat, "where there is disruption you need to give the traveller an immediate solution." AI can help by already seeing there's a disruption and smart systems can work out a solution e.g. quickly redirecting them onto a new plane.

Abhi Chacko is also very positive about these innovations. "Imagine if someone is coming to the airport and is already late. They want to get to the gate as quickly as possible. With these technologies

we could identify this person and speed up their movement through the airport."

Working at a major international airline, so many factors can cause delays and disruptions, Steven Zaat shares. "Be it the weather, technical troubles or problems at other airports. Passengers hate disruptions to their travel, which is why you need to do everything you can to make their travel experience as smooth as possible. When there is a disruption, the hope is that AI will enable us to find a solution far quicker".

"I believe that IoT and AI are actually two of the most relevant trends for the travel industry and this is where we should focus if we want to transform the customer experience," says Luca Pronzati. AI and IoT could really enable completely frictionless experiences. How do these innovations do so? A great example of data science in action is using analytics to make certain predictions around travel spend, making it possible to identify new sales opportunities that weren't possible before.

"Technology is a lever to enable change in the travel industry



now and in the future,"
adds Luca Pronzati.

In the past, travel experiences were created to fit as wide an audience as possible. With the aim being to attract as many travellers as possible. Today, things are different. As the customer experience insights above reveal, modern consumers want more personalised offers and experiences. By providing a specific service to a particular person, personalisation takes the customer experience to a much deeper level.

4



Personalisation & The 'Netflix' Effect



If you have Netflix, you already know that your account offers a range of recommendations based on the shows you've watched in the past. A seemingly never-ending list of recommendations from a brand that is trying to get users to add a few extra hours to their viewing activity. Powered by a proprietary algorithm, it makes the customer feel valued and keeps them coming back for more. Personalisation is all about seeing each customer's uniqueness and offering products and services based on these preferences and quirks.

"Today is all about the personalisation. People want to be understood, they want something really customised and tailor-made for them," says Luca Pronzati.

"Personalisation is all about integration," says Toufic Machnouk. "We need to integrate the industry better. With customer expectations higher than ever, the only way to be effective and efficient and to give customers the bespoke experiences they demand, is to integrate everything and have a single view of what is happening at all times."

Eduardo Selmi, of Liveperson agrees with Toufic. He insists that they are driving change in the travel industry by designing and building conversational interfaces to change the customer experience. Consumers want to communicate with brands just like they do with their friends and family using up to date conversational messaging techniques to address the big challenge of integrating across the industry.

"We've got to understand the need for what I call 'needs based' travel," explains Denisa Spinkova. She divides travellers into two distinct groups the first want personal contact, they want someone to hold their hand and check them in and explain everything to them because they're not a frequent traveller. The second group of travellers are the people who don't want to speak to anyone and they want everything to be seamless because they travel frequently.

For Michael Cares, a big issue with personalisation is around trust. If you have the technical ability to collect a lot of data, then it becomes your responsibility to treat the data properly and to not use it in a way that negatively affects your brand or your customer relationship. The information that guests give you should be used to make the holiday experience better.

Karan Rao, a Mindtree expert believes that the next level of personalisation is about understanding a customer's context at every touchpoint and creating offerings that will enrich the customer's experience in the context of their physical, temporal, relational and cultural uniqueness.

"They want everything to be efficient," Denisa continues. **"Technology can help us handle those two types of travellers and it can also help us profile the different needs of these specific travellers"**.



5



Leveraging Data: A plentiful and powerful asset



As we mentioned above, data has the potential to take the travel and hospitality industry to new levels. A powerful business asset, data is increasingly being used to inform business decisions and many businesses have started loyalty programmes. These offer a great way to gather valuable consumer information, optimise pricing strategies and devise customer engagement strategies. "The use of data to personalise travel will ultimately lead to a much better holiday experience than ever before," notes Michael Cares.

"Railway tracks need to be maintained regularly," says Transport for London's Head of Line Operations, Frank Ibe. "It's a huge task. In the past, this entailed sending teams of people onto the tracks to search for any irregularities. But in several modern railways such as the Singapore

Metropolitan Rapid Transit Corporation, they've attached sensors to passenger trains. These are used to pick up very tiny cracks in the railway and can detect issues long before a normal human being would be able to pick out, he continues. Utilising 'Internet of Things' (IoT) this data is captured and automatically sent back to the office and fed into a program that creates work orders for repairs."

For Denisa Spinkova, it is crucial that this data should be shared along the travel and hospitality value chain. Using data is less about growing our differentiation and more about how we can start to share information about the traveller and improve their entire travel experience.

“In rail, we have been developing something called a Digital Railway, which will see us digitising many aspects of the railway in order to enable transformational change,”



is to make the railway oriented around data, making data more accessible, changing how data is used, and that is radically transformative in how you maintain and operate assets. In a world where data is more readily available and connected, I can also see how travellers can benefit. With a greater depth and breadth of data available the scope of innovation and how we can improve the passenger's experience is incredibly underestimated.”

explains Toufic Machnouk. “It's underpinned by a different way of controlling trains. The whole idea

Conclusion

by Elaine Stewart,

Head of Travel, Transportation and Hospitality Europe for Mindtree

There is clearly an opportunity for emerging disruptive technologies to be used by travel companies to transform their businesses. There are many use cases highlighted by our leaders from the travel industry that stand out, especially the vision to create a frictionless and unique experience for travellers and run services more efficiently.

With the advancement of AI, IoT, Blockchain and the rise of voice, there are many options to choose to invest in for the right business outcomes. According to the International Data Corporation, in 2020, AI will create half a million more jobs than it destroys, and certainly we have found this trend at Mindtree. We have started reporting on our growth in Bots, alongside our growth in headcount, and both are following our growth pattern. With our 674 Bots now mainly focused on executing repetitive tasks, it frees our 20,000 Mindtree Minds to concentrate on value creating activities for our customers. Our philosophy is to 'automate everything that is automatable'.

So does this spell doom for our human minds? It's been forecast that 57% of workers in the 32 Organisation for Economic Development (OECD) countries may have their jobs automated over the next 20 years but Julian Birkinshaw, Head of Strategy and Entrepreneurship at the London Business School argues that some tasks will never be replicated by computers. "Lateral thinking involves far more than computing power. No computer every dreamed up a cool new brand". Or a leap frog disruptive business model.

Let's not forget the 'human dimension', where computers can certainly aid organisations and help people create unique and yet repeatable experiences, but still not design and deliver these experiences end to end. This still requires human invention and intervention. In order to create the magic that inspires people to act and companies to be altruistic and at the same time commercially viable, the use of all of these highly promising technologies still need to be driven by human beings.

It's my belief that the biggest opportunity with these changing business models and exciting technologies is the power of collaboration. There are bigger markets to be made if only partners in the travel ecosystem can come together to create new products and services that delight travellers in the widest sense.

Instead of waiting to see who blinks first, we have to realise that the technology already exists to join up these experiences - we just need to be bold and lead the charge.

About the Authors



Steven Zaat

EVP Finance, Air France

Having occupied various positions at AKZO Nobel, Steven joined KLM in 2000 where he worked within the Engineering and Maintenance division and subsequently within Alliances and Auditing.

In 2014, he joined the Air France-KLM group, where he has risen through the ranks to be the EVP of Finance

Steven holds a degree in economics and business studies from the Erasmus University and is a Certified Controller post-graduate diploma from the Amsterdam Vrije University Controllers' Institute.



Luka Pronzati

Chief Business Innovation Officer, MSC Cruises

Luka is responsible for the big picture vision and culture innovation, enabling the disruption of current business models to leverage on emerging technologies such as Digital Channels, Wearables, IoT, Bots, AI & Robotics and AR/VR.

He also focuses on business relations with the MSC technological partners' ecosystem, accounting today for more than eleven of the world's leading digital, tech and behavioral science companies, including Samsung Electronics International, Harman Kardon, Deloitte Digital, and Hewlett Packard Enterprise.

In addition to a Masters' degree in Electronic Engineering, Luka also holds further degrees in Financial, Business and Marketing trainings attended at SDA Bocconi and other top class institutes.



Denisa Spinkova

Aviation Executive, Menzies

Having the benefit of cross-cultural upbringing combined with extensive international work experience in the hospitality space, Denisa drives growth strategy at Menzies whilst ensuring successful delivery and implementation of excellence across the global airport lounge collection and executive services.

If home is where you live, Denisa adds Prague, Denver, Phoenix, London, Brussels, Edinburgh, among others, to her list. Her continued passion and dedication to lifelong learning keeps Denisa exploring organisational leadership and information systems, the topic of her post graduate work.

Denisa loves taking long country walks, "thinking slow", keeping fit and gets her adrenaline fix by getting out on one of her motorcycles.



Micheal Cares

Director, TUI

Michael began his higher education at Control Data Institute, where she studied IT and Business. He started his career in 1991 in the Automotive industry and, after several IT assignments in Germany, he joined TUI 1996 where he developed the Data Warehouse before being appointed Head of Business Intelligence. In 2005, he became Head of IT Operations and Service Management. In this he was responsible for the Data Centre and Server operations as well as the implementation of IT Service Management.

In September 2008, he became TUI's Director of IT Services and joined the Joint-Venture with Sonata Software in Germany and abroad. Since then, he is a member of the IT Executive Committee.

Since 2018, Michael's focus is on Digital Transformation and IT for the brands Robinson, TUI Blue and MagicLife.



Abhi Chacko

Business Unit Head, Gatwick Airport

Abhi leads the business unit that provides IT services to more than 120 entities operating at Gatwick Airport. The role allows Abhi to bring his breadth of experience in technology-led innovation to the airport campus.

Before moving to London in 2013, Abhi held Head of IT roles at Abu Dhabi Airport Company and Emirates Airlines, as well as being the CIO of Dubailand Theme Parks.



Frank Ibe

Operations Director, Transport for London

As a highly competent senior manager in the transport operations & customer service industry for over 21 years, Frank has had no shortage of senior management experience leading and influencing large teams. He is an alumnus of Ashridge (Hult) Business School and has an MBA from that institution.

His career has focused on continuous improvement in the transport industry and ensuring that the customer experience as well as safety & reliability are at the forefront of his and his teams' delivery.

At present he is working for Transport for London (TfL) ensuring he delivers a reliable, safe and customer-focused experience.



Toufic Machnouk

Programme Director, Network Rail

Having started his career in infrastructure management and operations, Toufic went on to deliver major projects and industry programmes. He joined the Reading area redevelopment delivering the first new multi-traction train maintenance facility for the Great Western Railway.

His team was recognised for breakthroughs in safety performance, collaboration, and successfully realising a complex cross-industry change, receiving national awards.

He was more recently on the Crossrail project, the largest infrastructure project in Europe.

Toufic is passionate about technology, skills and talent development, lecturing at universities and colleges, and mentoring people from across the industry. He has completed the accelerated business leaders programme and holds a degree in Engineering and Design.



Graham Lee

Automation Anywhere Director, Europe Cognitive Services

After 25 years in the Forces, Graham moved to Norwich Union and rebranded the Pensions, Bonds and Annuities part of NU to Aviva.

Graham has trained over 26 subject matter experts helping to drive a hopper and backlog of potential RPA problems to provide automation solutions. He has trained over 40+ Business SMEs to be able to deliver and build their own robot solutions to their own problems, using true governance and audit control measures.

Acknowledgements

Helen Bett

*IT Director of Service at
Manchester Airports Group*

Martin Fritsch

CFO CSI at DHL

Kim Laursen

Head of Baggage Design at Heathrow Airport

Kai Otte

*Head of Operations Sales Platform / Head of IT
Operations (Interim) at Deutsche Bahn*

Vihang Shah

Lead Digital Architect at Carnival Cruise Line

Toufic Machnoug

Route Programme Director at Network Rail

Steven Zaat

Divisional CFO at Air France

Charles Abraham

Commercial Director at Gategroup

Luca Pronzati

*Chief Business Innovation Officer
at MSC Cruises S.A.*

Otman Nouinou

*Senior Solutions Architect
at KLM Royal Dutch Airlines*

Michael Cares

IT Director - Hotels & Resorts at TUI

Graham Lee

*Group Automation and AI Manager
at Thomascook*

Omur Benek

*Senior Project & Portfolio Manager at Turkish
Airlines*

Abhi Chacko

*Head of IT Commercial & Innovation at Gatwick
Airport*

Anni Ahnger

Head of Digital Revenue at Finnair

Stefan Brock

Head of IT Architecture at Swissport

Denisa Spinkova

*VP, Executive Services Development at Menzies
Aviation*

Marcus Scholz

*Director Business Unit Corporate &
Mobility Solutions - Member of the Management
Board / procurement at Europcar*

Anthony Akers

Head of Bus Operations at Transport for London

Brijesh Tiwari

Senior Product Manager at Sixt Rent a Car

Frank Ibe

Head of Line Operations at Transport for London

Wolfgang Weinhold

*Managing Director DB Regio Southeast
at Deutsche Bahn*

Fredy Peter

COO at Swissport

Sharon Huetson

Head of Ancillary Revenue at Iberia

Florian Eggenschwiler

VP, Head of Innovation at Swissport

Dominique Radonde

Telecom Senior Architect at Air France KLM

Matt Lovell

Head of Data, Analytics & Insight at Eurostar

Matthias O Koester

*Head of Revenue & Tax Integrity, Head of Airline
Partnerships at Thomascook*

Jeremy Axe

Principal Enterprise Architect at Network Rail



About Mindtree

Mindtree [NSE: MINDTREE] is a global technology consulting and services company, helping enterprises marry scale with agility to achieve competitive advantage. "Born digital," in 1999 and now a Larsen & Toubro Group Company, Mindtree applies its deep domain knowledge to 350+ enterprise client engagements to break down silos, make sense of digital complexity and bring new initiatives to market faster. We enable IT to move at the speed of business, leveraging emerging technologies and the efficiencies of Continuous Delivery to spur business innovation. Operating in more than 15 countries across the world, we're consistently regarded as one of the best places to work, embodied every day by our winning culture made up of 21,000 entrepreneurial, collaborative and dedicated "Mindtree Minds."