Maximizing revenue across the traveler's journey

Introducing the concept of Complete Retailing

6
Traffic jams
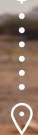
37%
Congestion

80%
Road works

Flight No.

My location

Home

1300.4 km
Distance

30 mins
Time

A
B

ENTERPRISE IRELAND

A white paper by
Henry Harteveldt
Atmosphere Research

Introduction from Atmosphere Research

Ireland enables the era of Complete Retailing

As we write this updated introduction, the world is still reeling from the societal, financial and emotional impact of the Covid-19 pandemic. The virus has wreaked havoc across all industries, but few have felt its impact as forcefully and intensely as the global travel industry.

Covid-19 is the first peacetime event to bring nearly all of the world's travel industry to a total standstill. As we write this, some parts of the world are starting to reopen, while others remain fully or partially closed. International travel restrictions remain in place between dozens of countries – and, in the US, even between various states or cities.

With most travel demand having evaporated and a recovery timeline still uncertain, airlines, hotels, and other travel businesses have understandably slashed their operating and capital expenditure to reduce expenses and preserve cash. The budget carnage affected many technology-related activities, including spending for ancillary product development, retailing/merchandising, and digital direct and third-party distribution channels. But no business can be a "turtle," retreating within its shell, quivering, waiting for the bad times to pass before they extend their head out and start to move forward. If anything, a business landscape like the one the industry is currently in demands bold, creative, and arguably even counterintuitive strategy and action – albeit strategy and action that is also financially responsible.

Beginning in late June 2020, and continuing into mid-July, Atmosphere Research Group, an independent and objective travel industry market research firm, conducted its own global survey of airlines and hotel brands and groups about their Covid-19 recovery strategies in topics such as budgets and spending, ancillary products, digital commerce and distribution, marketing, and other commercial topics related to travel retailing. Forty-one digital commerce, distribution, marketing, innovation, and technology professionals in the airline industry and 35 professionals in similar roles at hotel brands or groups completed the survey.

From it, Atmosphere learned:

— **Industry financial recovery is expected to take about three years.** Both sectors currently anticipate it will take approximately three years to reach the same topline revenue they saw before the pandemic. Hotels anticipate a slightly shorter timeline than airlines (2.8 years for hotels, 3.1 for airlines). The expectation is that leisure travel will recover faster than business/corporate travel, with meetings/conference demand (the MICE segment for hotels) expected to take the longest time to return to pre-Covid-19 levels.

— **Commercial technology budgets have been slashed.** Budget, of course, is always the big topic, whether times are good or bad. The news here isn't pretty – but it may not be as bad as some expect. The airline respondents said their commercial technology budgets, covering software and functionality such as digital commerce, personalization, ancillary product development and retailing, marketing, and loyalty applications were cut 44% from their pre-Covid-19 budgets (NB: the survey focused on budget for software, applications, etc., but not about headcount and compensation). For hotels, it's a nominally sharper cut – 47%. Asked where, at this point in time, they expect their commercial tech budgets to be in 2021, 34% of airline respondents and 37% of hotel respondents admitted they were uncertain. If there's good news, it's this: Just 10% of airlines and 14% of hotels expect cuts from their revised post-Covid 2020 budgets to 2021. There's also this glimmer of hope: Nearly one in four airlines and 17% of hotel respondents believe their commercial tech budgets will increase next year from their current reduced levels. Fingers crossed.

— **The focus will shift, slightly, from cost reduction to revenue growth.** Survey participants were asked whether they focused on cost reduction or revenue growth for March 2020 through June 2020 and where they expect their focus to be for the remainder of the year (July 2020 through December 2020). Almost all – 88% of airlines and 91% of hotels – cited cost reduction for March through June. Just 10% of airline respondents and three percent of hotel respondents said they had placed their commercial tech emphasis on revenue growth (the balance opted not to answer this question). For July through December, some change is afoot. The emphasis on budget reduction leads among both airlines and hotels (39% and 43%, respectively), but there is a splash of good news: 34% of airlines and 29% of hotels say they will focus their commercial technology budgets on revenue growth. And, this reality check: a critical mass of both airlines (22%) and hotels (26%) are currently uncertain what they will do.

— **Priorities favor more immediate solutions.** When asked to rate the importance of various components to their Covid-19 commercial recovery efforts, solutions that offer the promise of faster returns come out on top. Revenue management and customer and commercial data won the "gold" and "silver" medals, scoring 9.3/10 and 9.0/10 for airlines, and tied at 9.1 apiece among hotels. Ancillary revenue was the third highest scoring focus for airlines (8.1/10) while personalization scored third for hotels – 8.5 (ancillaries scored fourth among hotels, at 7.3). Personalization was the fourth most important option for airlines and scored dramatically lower – just 6.8. Why? Because, in Atmosphere's opinion, airlines were further ahead than hotels with personalization efforts pre-Covid-19. Mobile scored fifth for both groups (5.9/10 for airlines, 7.1/10 for hotels).

Why do hotels place more importance than airlines on mobile? In a post-Covid-19 world, hotels recognize that a great deal of the hotel guest experience can exist within their mobile apps. Plus, airlines had already created comprehensive mobile experiences (booking, flight check-in, contactless bag check, mobile boarding passes) – meaning there's not that much left to do. As one airline said in a follow-up call, "We're holding off on mobile perfection for now. Good enough will have to be good enough until our business improves."

What does this mean?

If you're an airline or hotel, 1) you're not alone in the confusion and professional angst you may be feeling, 2) you can't just cut, cut, cut and hope to make it through this mess, and 3) it's OK to tackle more pragmatic things for now. Earlier, we counseled that airlines and hotels shouldn't be corporate turtles. To that, we'd also like to discourage airlines and hotels from embracing lemming-like behavior as well. Opportunities exist to conduct affordable testing of various software solutions. The intensity of the current revenue crunch compels airlines and hotels to explore new ancillary product ideas. And the "Complete Retailing" strategy, explained in full detail later in this report, is arguably even more important than it was before the pandemic began. Why? Pre-Covid-19, it was relatively easy to coax financially confident travelers into spending money. Now, the traveler has a tight vice around that wallet. You'll need to work extra hard to get even a few bucks more.

If you're a software provider, you're in one of the toughest selling environments that's existed since software sales began.

Your product and its value must be unambiguously clear and intuitive – this is about helping your customers improve their appeal and relevancy to their travelers, while helping them generate critically-needed revenue or provide newly-essential information. Don't be afraid to show how your product may generate a small profit now but could easily generate many times more within a few years. Make sure your software is easy to implement and operate, and that it integrates with key systems (for example, airline PSS or DCS, hotel PMS, customer databases, etc.). Prepare to take on as much of the tech set-up, testing, implementation, and maintenance as possible; your prospect's or client's IT department has a sea of empty desks now. Be open to new commercial terms to show that your firm understands the severe business environment your prospect or client is operating in, plus your commitment to a long-term partnership based on shared success.
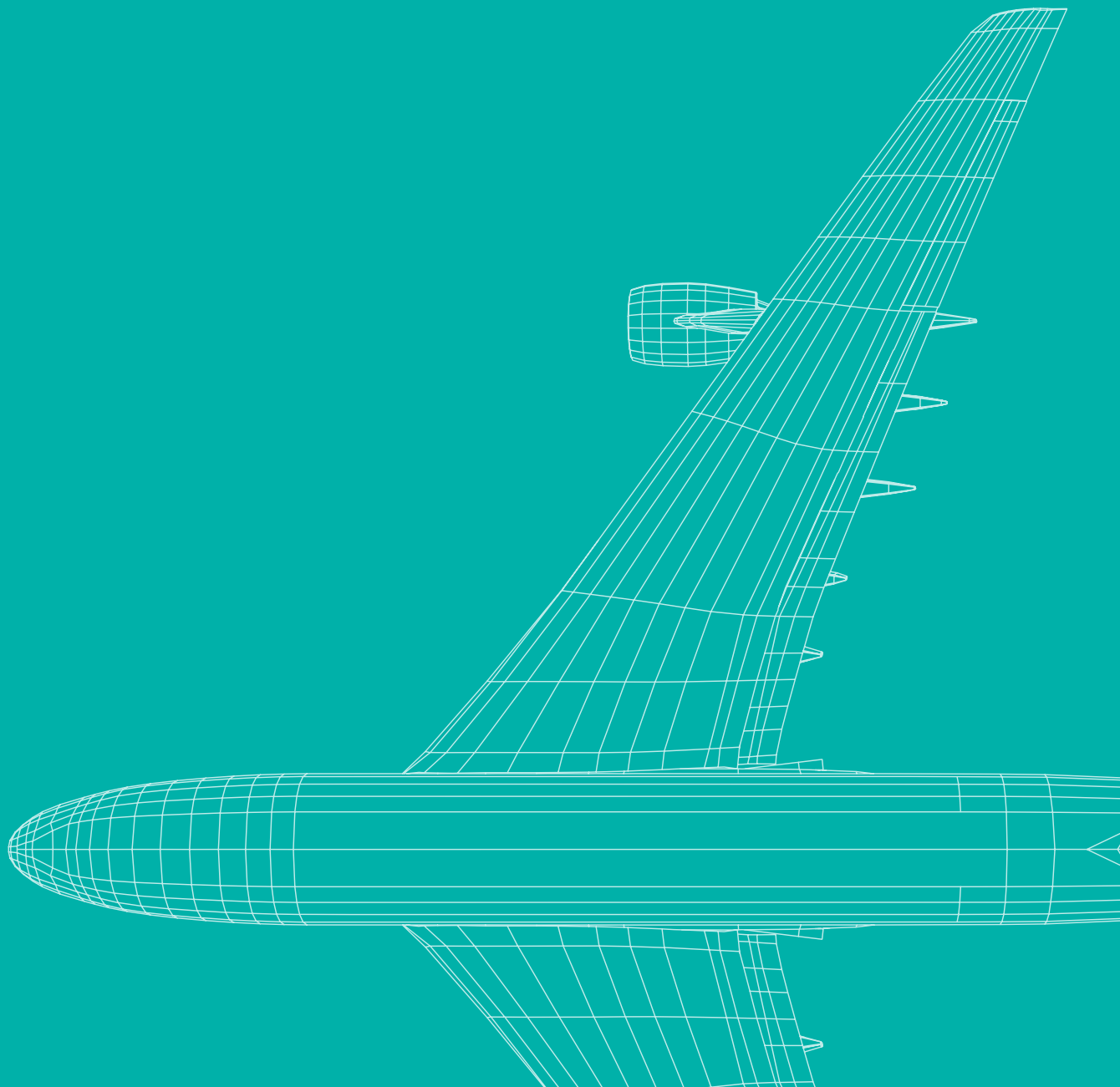
Against this, the technology innovation that is occurring in Ireland has perhaps never been more valuable to the global travel industry. And while Enterprise Ireland, the trade and venture capital arm of the Irish government, commissioned Atmosphere Research Group to prepare this Thought Leadership Paper before the pandemic had emerged, its findings remain relevant. Atmosphere Research interviewed 10 of Enterprise Ireland's portfolio companies, forming its own opinions about each firm. The report also includes data from Atmosphere's proprietary studies of travelers in five countries selected by Enterprise Ireland – the USA, UK, Germany, Spain, and China – to provide context for why Complete Retailing is essential to airlines' and hotels' commercial success.

Finally, please note that the concepts and opinions expressed in this report are solely those of Atmosphere Research Group.

Contents

Introduction

# Why is Ireland a hotbed of Travel Tech?

Ireland is one of technology's most active and creative start-up hubs.

Ireland is one of technology's most active and creative start-up hubs. The country is home to more than 70 innovative travel tech firms, including start-ups, early stage, and established businesses. These companies sell to companies worldwide, including the USA, China, and countries across Europe.

How did Ireland earn its place as a leading nexus of travel technology?

Let's look at the map. Literally. Ireland is an island nation located on Europe's periphery. Travel and transportation have played unique roles in the country's trade and commerce. Irish shipbuilding dates back to the Viking era and was a major industry during the 18th, 19th, and early 20th centuries. Given its geographic proximity between continental Europe and

North America, the Irish government made aviation a central focus of its pre-World War II industrial development policies. Aviation contributed to the country's participation in exploration, science and engineering, and commerce. An Irish pilot, James Fitzmaurice, was the first to cross the Atlantic from east to west. In 1929, Irish pilot Sophie Peirce-Evans (also known as Lady Mary Heath), was the first person to fly solo the 9,000+ miles from Cape Town, South Africa to London. The world's first female aviation engineer, Lilian Bland, was from Ireland. The world's first airport duty-free store was located at Shannon Airport. Ireland is home to the world's first commercial aircraft leasing firm and Europe's largest single airline brand, Ryanair. Ireland has also produced several well-known airline CEOs, among them Alan Joyce (Qantas), Michael O'Leary (Ryanair), and Willie Walsh (International Airlines Group, parent of British Airways, Aer Lingus and others).
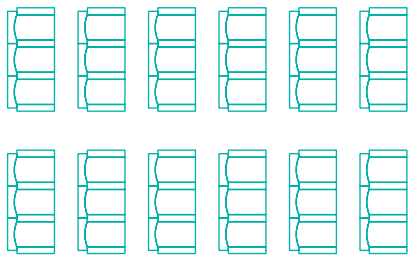
A   B

To learn more about how Ireland became a vibrant technology hub, Atmosphere spoke with Dr. Padraic Regan, Ph.D, an aviation consultant and formerly Ussher Assistant Professor in International Strategic Management at Trinity College Dublin. Dr. Regan explained that, as the 20th century progressed, the country lost much of its manufacturing industry. Exploring options, the country's leaders realized that technology was a sector growing enormously and acted to position the country to benefit from it.

Dr. Regan explained that Ireland has a strong focus on education. The country's primary and secondary schools' programs of studies focus on STEAM (Science, Technology, Engineering, Arts, and Math). Ireland is home to numerous world-renowned mainstream and technology-focused universities and colleges, including Trinity College Dublin, University College Dublin, University College Cork, NUI Galway, Dublin City University, and University of Limerick. As the country pursued its focus on a technology-based future, these and other Irish institutions of higher learning 'blossomed' with diverse curricula in disciplines such as technology, digital, business, entrepreneurism, design, and literature, producing graduates well equipped with the knowledge, inquisitiveness, and savviness required to

propel existing businesses forward and spark the creativity that fosters an entrepreneurial culture. As the Irish economy boomed, Irish expats returned from abroad with their own experiences and ideas and started their own businesses.

Dr. Regan shared that Ireland also developed 'inside out clusters' centered around aviation and travel. "Aviation has long been a respected industry in Ireland to work in." The Professor also pointed out that aviation in Ireland is valued as much for its role, creating a large number of skilled engineering and technical jobs in its ability to link the country to other parts of the world. Having created industries like aircraft leasing and duty-free shopping, and having developed expertise in air traffic control and airport management, Ireland exported these concepts to other countries.

Another key to Ireland's success was its ability to successfully attract a growing constellation of technology firms, including top-tier brands like Google, Facebook, Microsoft, Airbnb and others. "These firms did more than just create jobs," said Dr. Regan, "they attracted the disruptors, spurred the development of locally-based venture capital firms, and contributed to the country's burgeoning entrepreneurial business environment." It helped, added
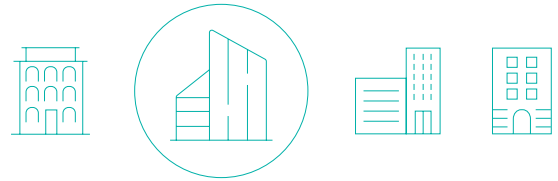
Dr. Regan, that the Irish government had a foreign direct investment tax rate of just 12.5%, and that Ireland is an English-speaking country. The European Commission classifies Ireland as a 'Strong Innovator' in its European Innovation Scoreboard (EIS) 2019, thanks in part to its extremely high level of university graduates, strong venture capital funding landscape, and high employment.

Aside from their roles as conduits for travel and tourism, travel and aviation in Ireland are major employers. They are complex industries with numerous business challenges and highly technology-reliant – perfect fodder for entrepreneurs with ideas they believe can help solve some of these.

Helping incubate and scale many of Ireland's most compelling travel tech start-ups is Enterprise Ireland, the country's economic development agency tasked with helping Irish companies grow. Enterprise Ireland provides financial support and advice to its portfolio companies, which include more than 70 travel tech firms. Given its strong STEAM-based education, a longstanding role in travel and aviation, and a passion for entrepreneurism, Ireland continues to play a significant role in travel technology and the industry's future success and prosperity.

Digital travel, especially digital travel retailing, demands creative, market-focused B2C and B2B travel technology solutions. As you will see, there are numerous gaps which must be addressed for the industry to meet (and ideally exceed) travelers' ever-increasing expectations and enable airlines, hotels, and other travel sellers to achieve greater digital commerce success.

[1] Source: https://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en
An interactive tool of the European Innovation Scoreboard can be found at https://interactivetool.eu/EIS/EIS_2.html#a

Section 1

**Poor digital experiences weaken the joy of travel**

Travel can be fun. Travel can be a source of joy, learning, sharing, personal and professional growth, success, and even love.

And yet sometimes the process of planning and booking a trip just sucks.

This isn't a random statement. Atmosphere's research among travelers in five countries – the US, UK, Germany, Spain, and China – shows numerous pain points vex travelers.

It's not like digital commerce is a niche activity. Every day, more than 5.2 million people around the world make at least one digital purchase. Travel is one of the pioneering e-commerce categories. People have been booking travel for 25 years, and travel remains one of the largest digital commerce sectors. In the US, UK, Germany, Spain, and China, between 82% and 92% of online travelers are Bookers, people who research and buy some portion of their travel online. But plenty of these Bookers curse airlines, hotels, and other travel sellers as they plan and book their trips.

Figure 1: Travelers say planning trips takes too much time
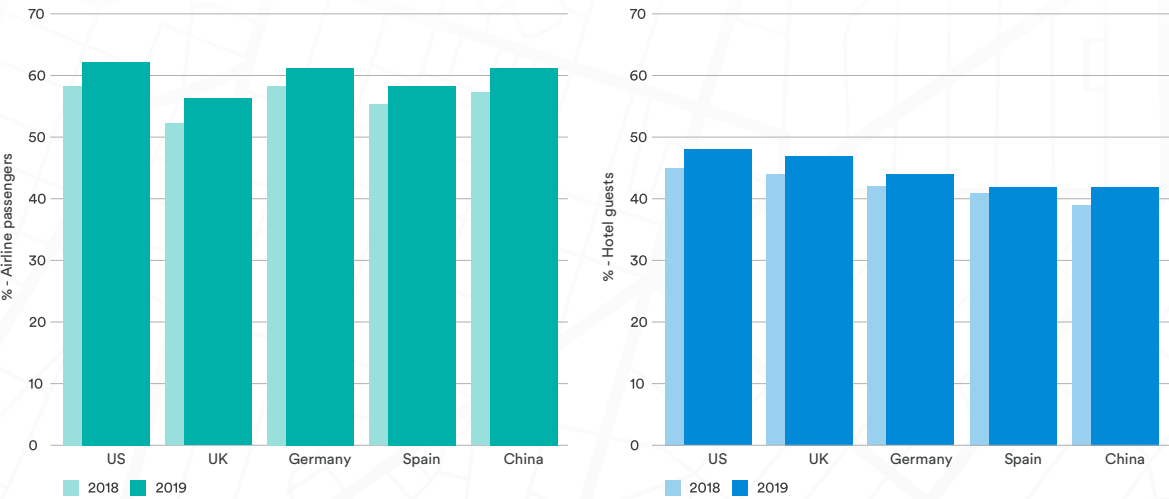
Sources: Atmosphere Research Group's US Travel Online Studies, Q1 2019 and Q1 2018; UK, Germany, and Spain Travel Online Studies, Q2 2019 and Q2 2018; and China Travel Online Studies, Q3 2019 and Q3 2018

Why? Because:

— **Travelers say it takes more time to plan and book trips online now than in the past.**
Even though travel has been sold online since 1994, 50% or more of the airline passengers in the US, UK, Germany, Spain, and China say they spend more time than they want using digital channels to plan and book flights (see Figure 1). Worse, more people feel this way in 2019 than in the past. Hotels fare only slightly better; on average, 45% of the hotel guests believe they spend too much time planning and booking a hotel stay. Compounding this are travelers' perceptions that they need to shop across too many websites to find the travel services they want and need for their trip (see Figure 2).

— **Inadequate actionable, contextual product information makes them feel confused.**
Why do travelers find flight and hotel booking to be so frustrating? In part, because they lack contextually useful content to make well-informed purchase decisions. As with the shopping process for almost any goods or service, shopping for travel involves finding the base and optional

Figure 2: Travelers have to shop too many places to get the information to plan a trip
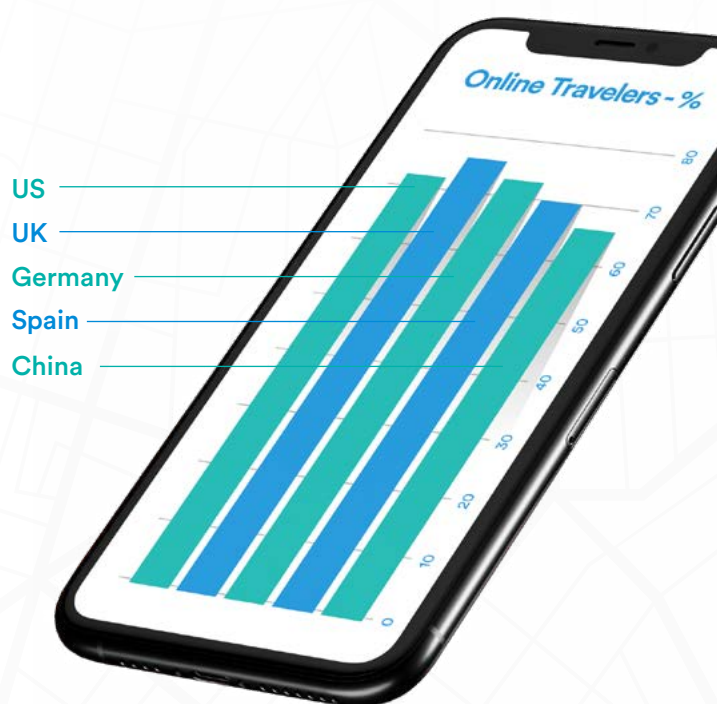
Sources: Atmosphere Research Group's US Travel Online Studies, Q1 2019 and Q1 2018; UK, Germany, and Spain Travel Online Studies, Q2 2019 and Q2 2018; and China Travel Online Studies, Q3 2019 and Q3 2018.
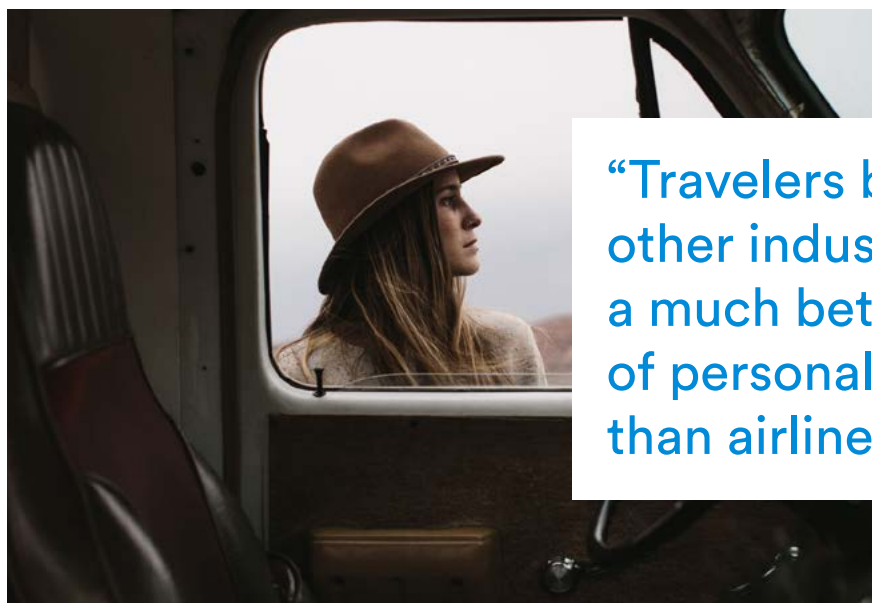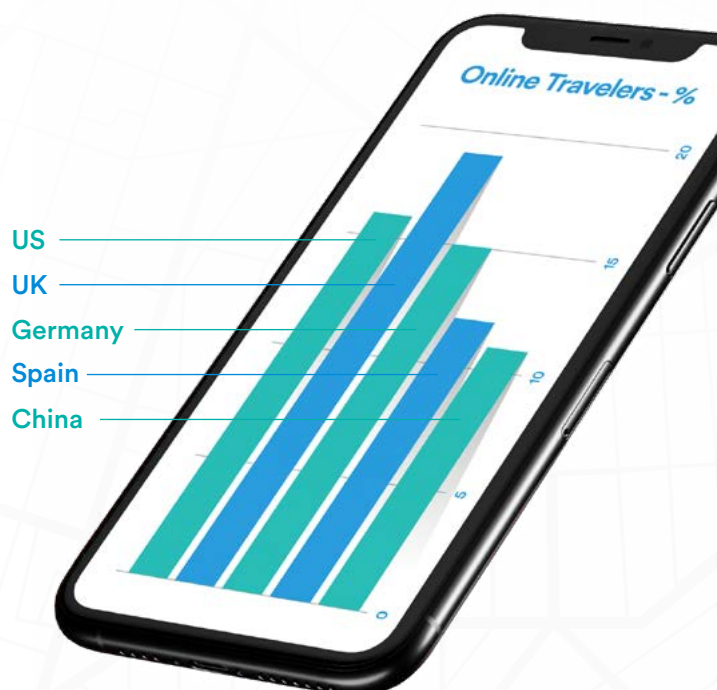
"Travelers believe
other industries do
a much better job
of personalizing offers
than airlines and hotels."

products that meet a traveler's emotional and rational needs. Yet just 23% of airlines and just 17% of hotels say they adequately invest in innovation for their ancillary product strategies.[4]

— **Airlines and hotels don't adequately personalize their offers.**
Unfortunately, travelers believe other industries do a much better job of personalizing offers than airlines and hotels. Even though 70% or more of travelers in the US, UK, Germany, Spain, and China want to receive personalized offers from travel sellers, not even one in five say they receive offers that reflect their interests, travel behaviors, or stage in their lives (see Figure 3). That's a massive gap. Meanwhile, digitally native businesses such as Amazon, Netflix, and Spotify regularly push personalized communications, recommendations, and offers. Tsk, tsk, travel.

Figure 3: Travel brands guilty of sending irrelevant offers to travelers

Online Travelers - %

US
UK
Germany
Spain
China

Section 2

The story arc framework remains underutilized

Every trip, from the first spark of an idea about taking a trip to returning safely back home, consists of countless micro-moments where a traveler is open to making a purchase.

Some of these purchase opportunities will be large and considered – Where to go? How do we get there? Where do we stay? – to simple – Where should we eat? What should we do today? Where do local residents shop?

Atmosphere likes to use a framework we call the 'story arc' to organize these moments (see Figure 4). Though we pioneered the use of the story arc within travel commerce, we borrowed it from the literature and entertainment industries, which use the story arc to provide structure to novels, movies, TV series, and video games. A traveler's story arc embraces the entire trip, from ideation through planning and booking to all the steps within the journey itself.

The 'story arc' framework is just that, a framework, a structure that each travel seller can use to tailor the products and offers it wants to show to each traveler. Just as no two people are alike, no two story arcs are alike, either. Yet, just as people can be clustered

into groups, such as demographic groups or personas, a travel seller can identify common moments in which to sell various products to a cohort of travelers. What will make the story arc a successful tool for a travel seller is when that seller fully leverages its customer data, software, customer insights, and commerce tools to dynamically create and publish tempting offers to the traveler at the opportune moment, and through the channel most likely to snag that traveler's attention.

Figure 4: A 'story arc' spans every traveler's trip

Traveler's Journey

Dream · Plan · Book · Pre-trip · Outbound Journey · Destination · Return Journey · Share · Dream

Channels, content, offers, etc.
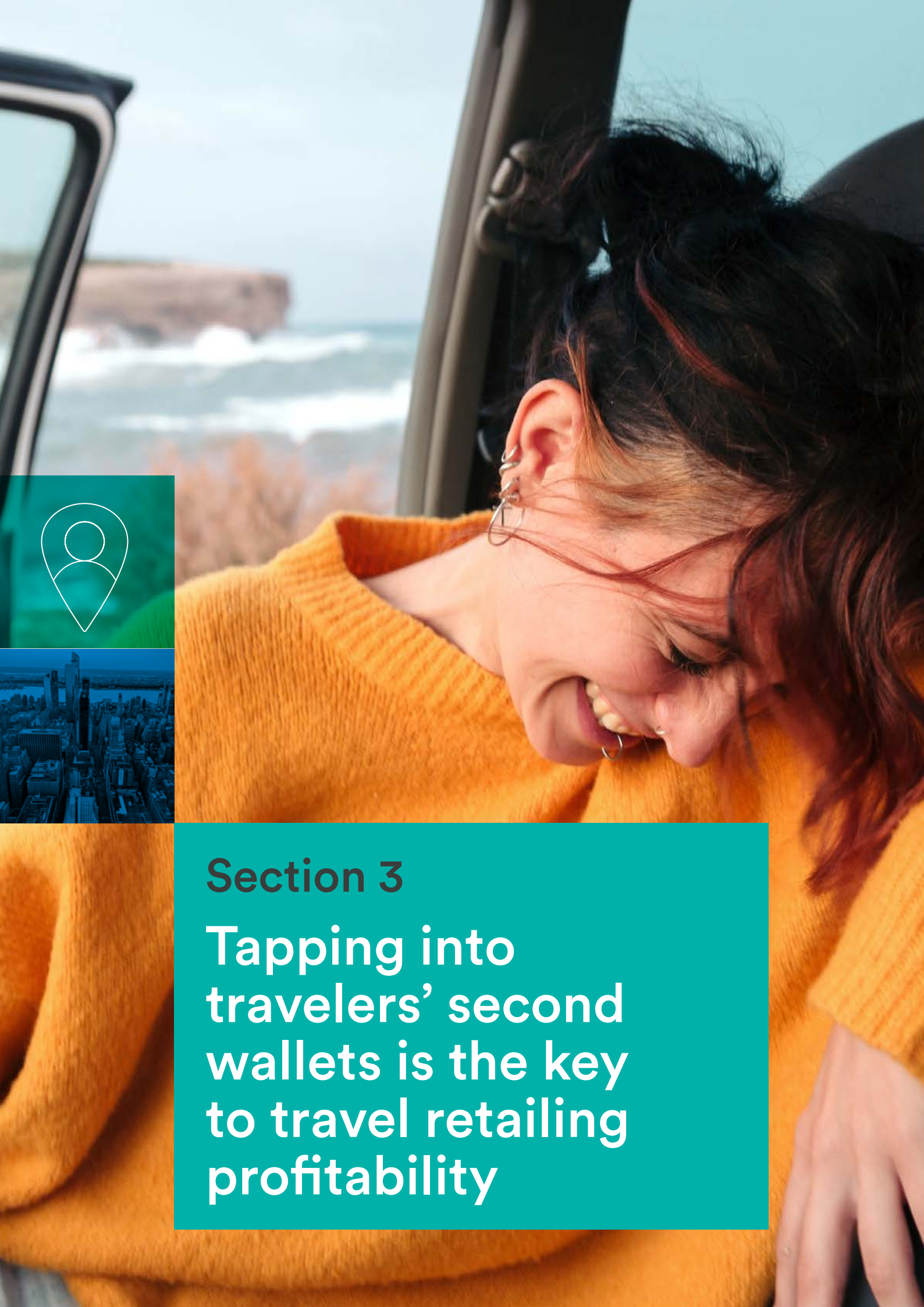
Section 3

Tapping into travelers' second wallets is the key to travel retailing profitability

From our consumer research, we know more than four in five travelers in the US, UK, Germany, Spain and China establish budgets that cover their leisure trips' transportation, lodging, ground transportation, and meals (see Figure 5).

This partially explains travelers' intense focus to find the best possible price for their flights, hotel rooms, and other travel services. Fortunately, travelers give themselves an 'out' to spend more. They view travel as an indulgence they have earned (see Figure 6). We also know leisure travelers tap into other budgets for activities such as shopping, entertainment and other 'splurges' (see Figure 7). This is where airlines and hotels can tap into what Atmosphere calls the 'second wallet', travelers' supplemental budgets for affordable extravagances. It's this second wallet that often funds travelers' ancillary product purchases such as fast-track security, seat or room upgrades, or a spa treatment.

Figure 5: Most leisure travelers create budgets for an entire trip
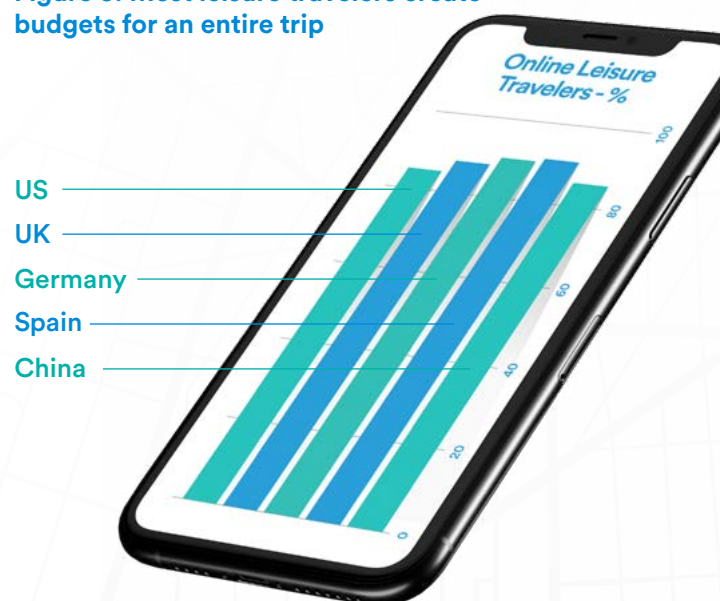
Sources: Atmosphere Research Group's US Travel Online Studies, Q1 2019 and Q1 2018; UK, Germany, and Spain Travel Online Studies, Q2 2019 and Q2 2018; and China Travel Online Studies, Q3 2019 and Q3 2018.

Airlines and hotels can't sit back and expect travelers to open their second wallets without working for it, though. This is why it's critically important for airlines and hotels to invest in rich visual content, such as high-definition video, high-resolution photography, or crisp diagrams and graphics to sell effectively. Airlines and hotels also need highly detailed written content, ideally dynamically prepared so the
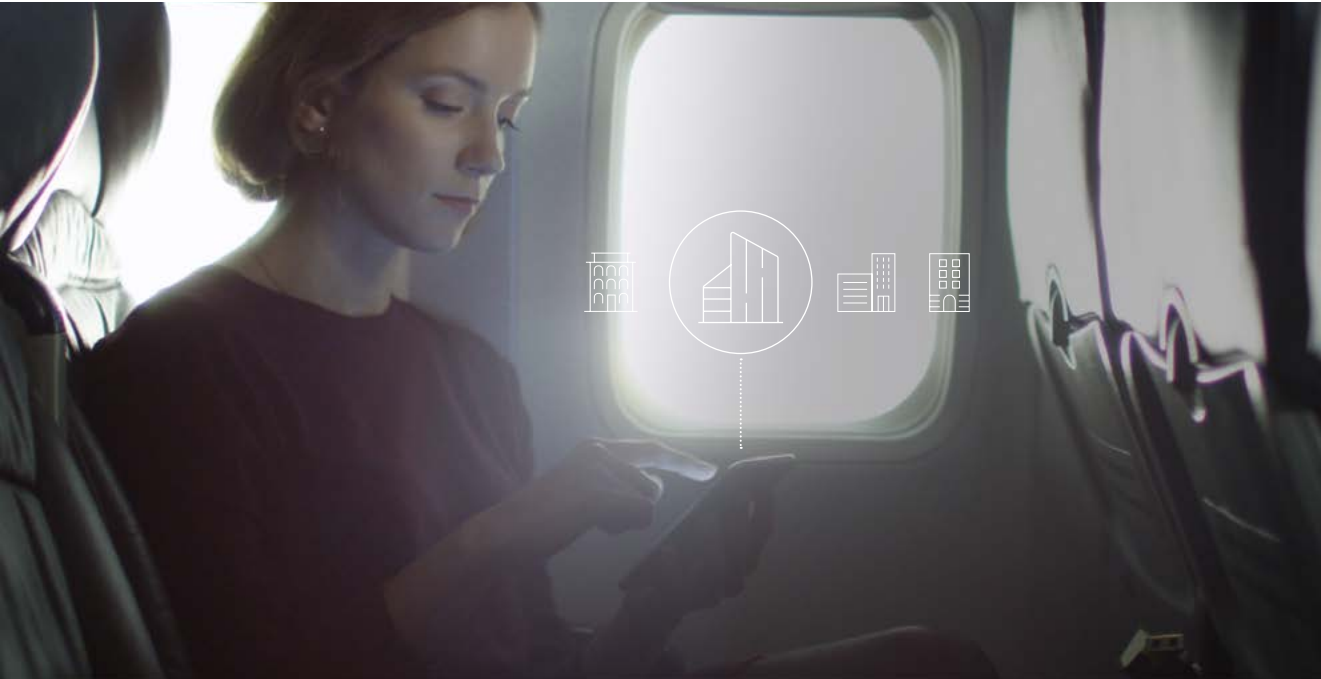
seller can match the product's description to the traveler's interests. But at the core, the airline or hotel must offer a broad, relevant mix of products, especially those that can fill out travel's 'long tail'. A smart retailer knows what its customers may want or need and strives to sell as many of those products as it can. It's no different for an airline or a hotel. Like well-run retailers, airlines and hotels need to be able to say "yes, we have that" as often as possible, both to please the traveler and generate more sales – and profits. Amazon sells both mass-market major brands and numerous niche products it believes are relevant to its customers. Airlines and hotels that want to be successful retailers must be prepared to do the same.

Figure 6: Travel is an opportunity for self-indulgence
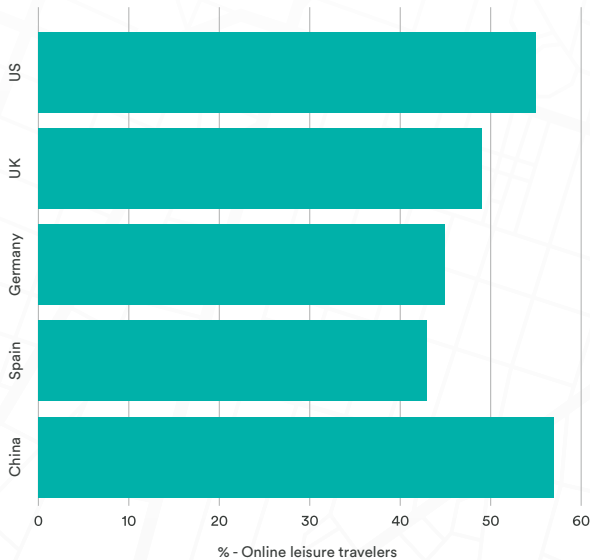
% - Online leisure travelers

Figure 7: Travelers 'second wallets' fund ancillary purchases
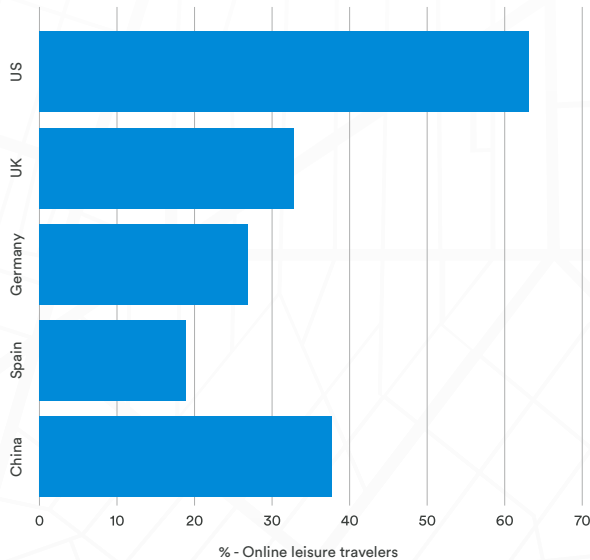
% - Online leisure travelers

Section 4

Travel enters the era of Complete Retailing

Except for 'all-inclusive resorts', most hotels use the 'a la carte' business model, where a guest books a room, with additional hotel services charged when used.

In contrast, most airlines had traditionally used the 'all-inclusive model' with services like checked bags, meals, and assigned seats included in the fare. This began to change after 9/11, with airlines more widely moving to unbundle its products (especially domestic or regional economy class) following the oil spike and start of the economic crisis in 2008.

But just because airlines and hotels have been selling ancillary products for a decade or more doesn't mean they do it well. As with many aspects of business, airlines and hotels have followed an evolutionary path towards their new roles as retailers as market dynamics, technology, and consumer behavior allow.

The industry is now at the point where travel sellers should be equipped to elevate their customer and user experiences with the most useful back- and front-end technologies that allow travelers to find the products they want and the value they demand, in a shopping and booking process that reinforces the seller's desired attributes. And good news, we're making progress.

Travel sellers now enjoy access to more extensive (though still not perfect) customer, commercial, and operational data. The industry is benefitting from advancements in transformational technologies such as the cloud, mobility-based solutions, and machine learning, all of which have also become more affordable. Some travel firms have begun to build teams of data scientists, complementing their digital commerce and product groups. The intersection of these developments enables the travel industry to enter what Atmosphere calls 'the era of Complete Retailing'.

We define Complete Retailing as:

The ability for a travel seller to dynamically create, price, publish, and sell relevant, personalized, appealing offers, whether as a proactive 'push' or a response to a traveler's request, and manage the order's creation, purchase, payment, and fulfillment across any channel and platform.
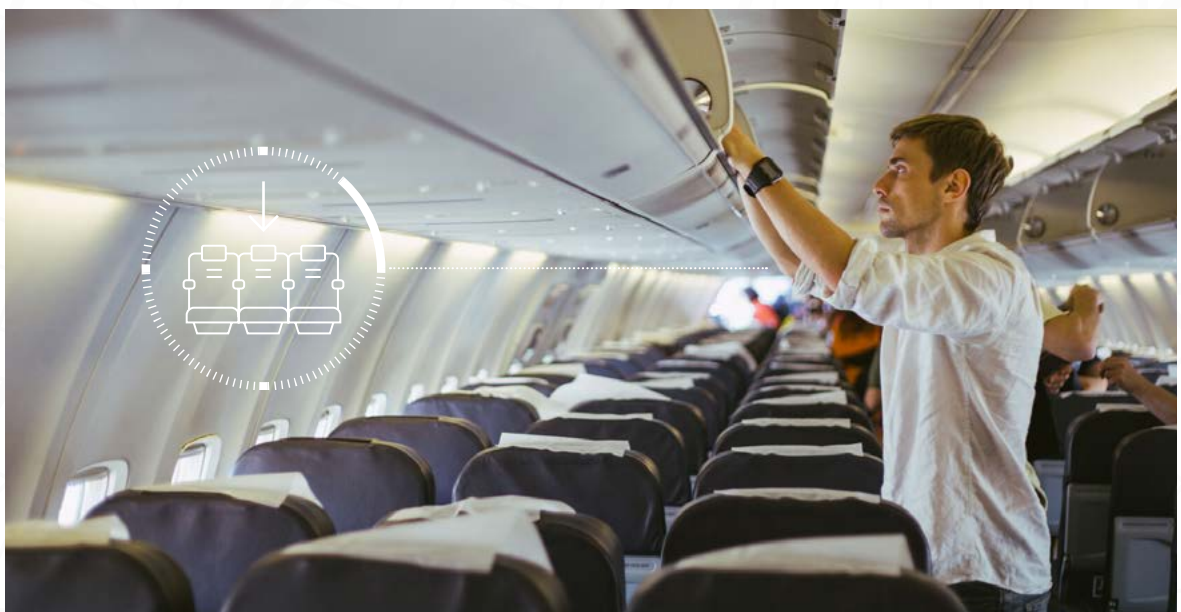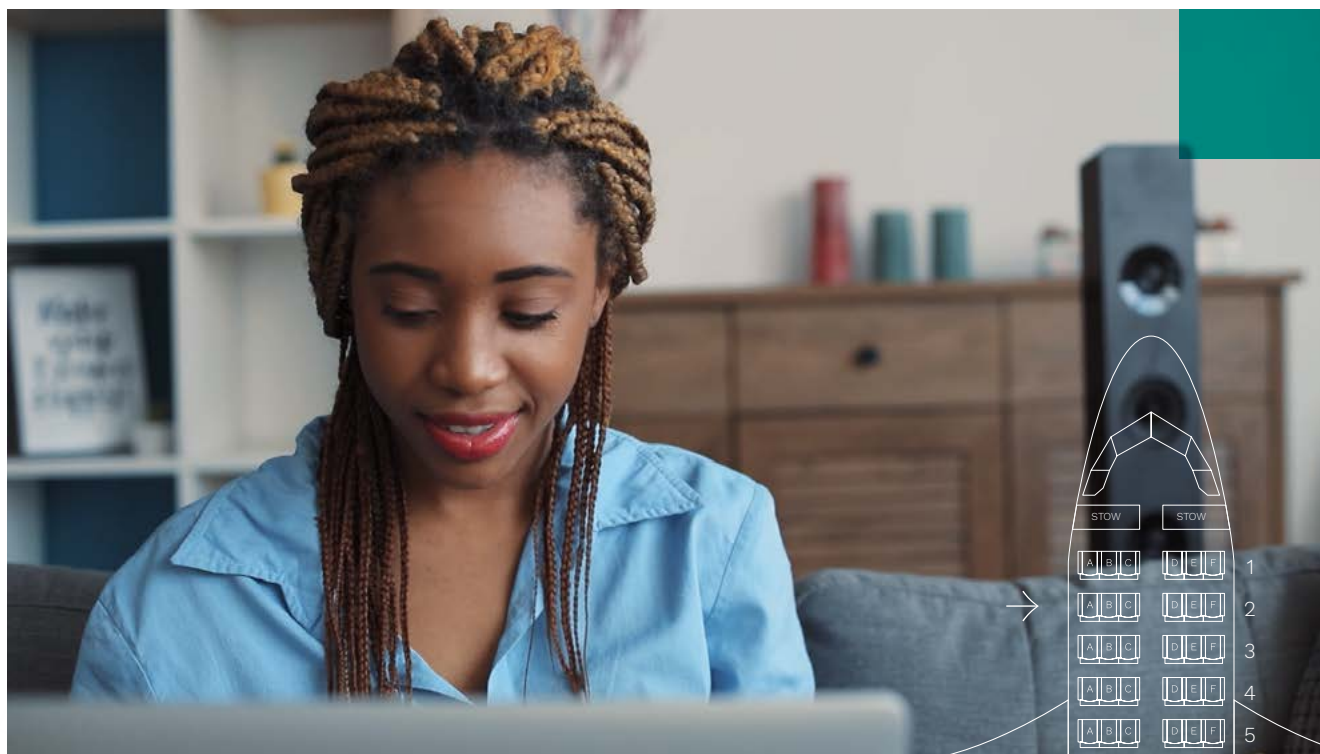
Complete Retailing is the fourth and most recent, though certainly not final, stage of travel's retailing evolution that began in the early 2000s. The four periods that comprise travel's retail evolution are:

— Simple selling (start through 2012).
Think of this as travel retailing's Hadean era. Airlines started to cluster their fares into 'fare families' based on factors such as advance-purchase requirements and refundability as well as cabin classes; in 2007-2008, the first branded fares (product or attribute-based fares) emerged. If an airline or hotel was able to sell its ancillary products online, it did so in a random, higgledy-piggledy manner. There was minimal offer targeting, let alone tailored or dynamic pricing. Travelers' loyalty 'elite tier' statuses were generally overlooked, resulting in their seeing sales messages for products or amenities that they were entitled to receive on a complimentary basis. Copy and visual content were both basic. Aside from greeting a registered user by name after logging in, there was no personalization.

— Basic merchandising (2012-2016).
The first attempts to 'merchandise' airline and hotel ancillary products emerged during this time, and they were weak. Though airlines and hotels began to present a few optional products during the initial booking path within their own websites, the offers were fairly uniform and rarely targeted, and were often not available from other direct or indirect channels. Once the initial reservation was made, the traveler rarely saw another offer for an ancillary product until they checked in for their flight or arrived at their hotel. The seeds for improved airline merchandising were planted in 2012, when IATA, the airline industry's global trade group, launched New Distribution Capability (NDC), a set of industry-developed XML-based data transmission standards intended to help airlines sell their base fares and optional products more effectively through third-party distribution channels such as GDSs (Global Distribution Systems).
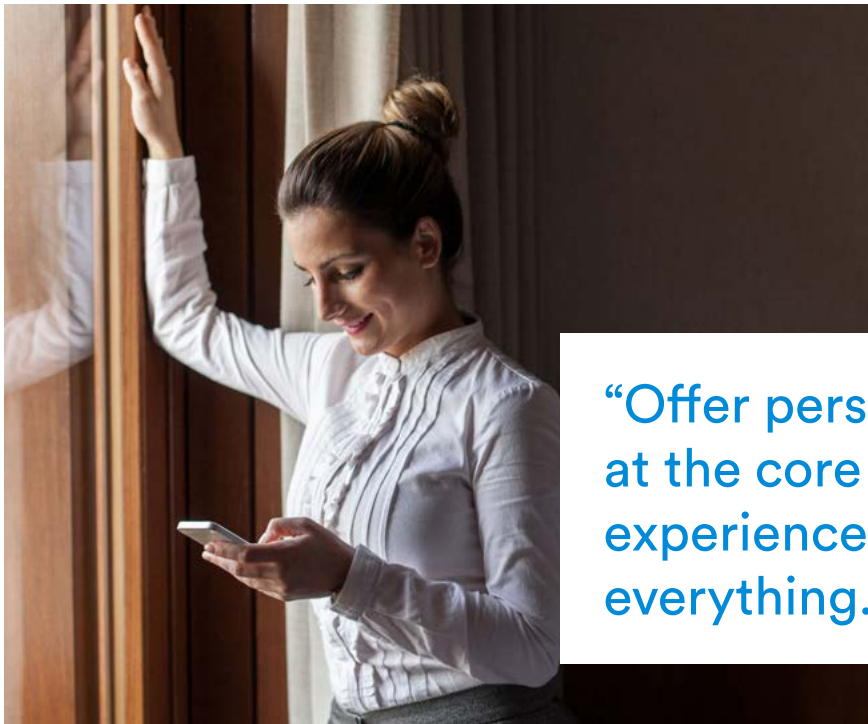
> "Offer personalization is at the core of the user experience – relevancy is everything."

— **Beginning Retailing (2016-2019).**
During this three-year period, airlines and hotels began to implement their initial attempts to 'retail' their optional products, including some of the first efforts using offline and third-party channels. The products received more engaging, compelling copy and, for some, photography or video content. Airlines and hotels improved their abilities to target offers. Their customer databases and content management systems were enriched as well, allowing them to promote 'elite tier' benefits to eligible members within the search, shop, and booking phases. This is also when airlines and hotels augmented their mobile app-based optional product merchandising. Airlines' first uses of NDC standards in production mode launched in 2017.

— **Complete Retailing (2019-).**
The era of Complete Retailing is built on a foundation of timely, targeted, and thoughtfully presented offer creation and real-time order management. The seller makes a complete catalog of its own and third-party ancillary products available for sale on a channel-agnostic basis, with offers crafted using machine learning-based inputs. Similarly, machine learning-based algorithms inform the dynamically calculated prices, which are made available on a more continuous curve rather than the traditional, less flexible revenue management 'stair step' approach. Travel sellers embrace the 'story arc' of potential selling opportunities that spans each traveler's journey. Offer personalization is at the core of the user experience – relevancy is everything. Brands use an omnichannel distribution and sales strategy to ensure their products are available at the right time via the traveler's channel(s) of choice.
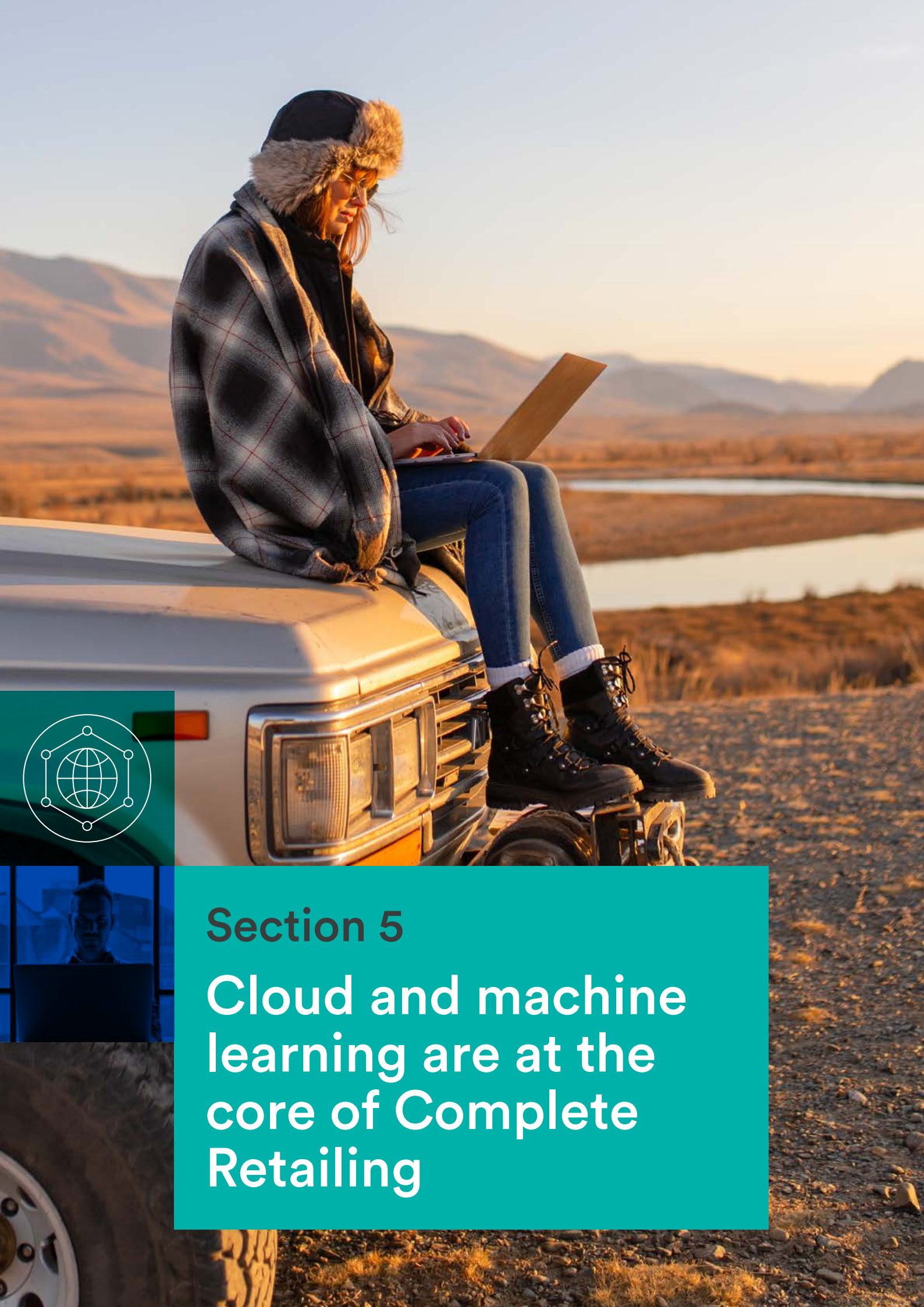
Section 5

Cloud and machine learning are at the core of Complete Retailing

The new generations of flexible, nimble, and responsive technologies allow Complete Retailing to exist. And, within these new technologies, the cloud and machine learning play the greatest roles.

As part of our research for this report, Atmosphere spoke with Dr. Edward McDonnell, Centre Director, National Centre for Applied Data Analytics and Machine Intelligence, at the Centre for Applied Data Analytics Research (CeADAR).

Dr. McDonnell noted that "Ireland has long been a strong innovator in the European innovation ecosystem," a point borne out by the European Innovation Scoreboard. He also observed that though the travel industry has numerous challenges, they are similar in some ways to those found elsewhere: "The challenges the travel industry faces are the same as other industries, such as retailing, manufacturing, and financial services."

Dr. McDonnell sees the cloud, data, artificial intelligence (AI) – which includes machine learning – the Internet of Things (IoT), and blockchain as technologies offering potential to the travel industry. Chief among the challenges faced by the travel sector, Dr. McDonnell believes, is actionable customer data. "Traveler data is one of the first steps of enlightenment. The challenges of having limited customer insights is not unique to travel." But other industries, namely fintech, in his opinion, use their data more effectively and thus serve as an example for travel firms. According to Dr. McDonnell, "it's not enough to have the data,

travel firms must be able to extract insights and act on them as close to real-time as is possible." To do this will require travel firms to have "bottom-up use of data science and AI" as part of their decision-making processes. Contributing to the mix are blockchain-based smart contracts, which could help travel firms pass information and funds more securely and irrefutably, whether internally or with a third-party organization, improving aspects such as operational effectiveness and the customer experience.

Dr. McDonnell believes travel firms are making progress, adding he sees a "never-ending quest for gathering more and better data, and for exploiting the data travel firms already have." Yet the situation is ripe with opportunities to improve. How? One suggestion he offers is marrying what may appear to be disparate data sources, but which if combined could help a travel company vastly improve its product and provide a better end-to-end travel experience. As a suggestion, Dr. McDonnell mentioned a piece of work they undertook with a major airline which combined data from the aircraft plus weather patterns to minimize the aircraft's fuel consumption and flight path while satisfying international rules on air travel. Almost every executive we interviewed for this

report credited the cloud or machine learning, and often both, for their firms' abilities to exist and operate as market-, client- and traveler-focused businesses. The executives routinely cited the cloud's flexibility, scalability, and cost-effectiveness compared to even the newest generation of servers. Several of the firms Atmosphere interviewed for this report, including Boxever and CarTrawler, cited the cloud in playing a role in their growth and success.

The firms we interviewed also regularly cited machine learning as the most important component of artificial intelligence they were using. The algorithm, once it has learned the patterns in the data, often from seeing multiple repeated patterns, applies the learnings in a fraction of a second to subsequent decisions. Its ability to process massive volumes of data at blazing speeds makes effective personalization possible, because results can be returned with essentially no noticeable latency. But we must recognize one brutal truth: As is often the case when using data, a travel seller's ability to execute depends on its own data's relevancy and quality. No matter how good a machine learning-based algorithm may be, it can't compensate for inadequate or poor-quality data.
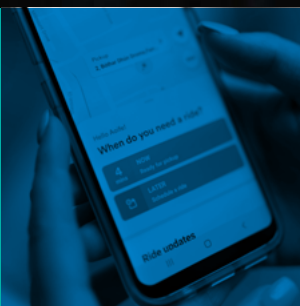
Section 6

Content is king

If airlines and hotels want more people to buy more things from them – from their direct channels, too – then they need to transform themselves into what consumers would call 'travel companies'.

What do we mean by that? In 2019, the typical airline or hotel website or mobile app sells primarily its own products: its core fares or rates and its own ancillary products (and possibly not all of those). If the airline or hotel sells third-party products, they probably offer a small selection, such as insurance, airport transfers and ground transportation and, for airlines, lodging. Contrast this with travel agencies, which in addition to a wide selection of airlines and lodging options, also sell other forms of transportation, (e.g., rail, ferry), cruises, destination activities such as sightseeing tours and festival tickets, passport and visa expediting services, and more.

In the era of Complete Retailing, airlines and hotels must remember that authentic 'retailing' is based on more than 'selling stuff'. To succeed at Complete Retailing, airlines and hotels must offer robust content based on product catalogs comprised of a thorough, relevant assortment of proprietary and third-party products – especially 'long tail' products.

In Complete Retailing, it's the product catalog content that is king.

In retail terms, airlines and hotels are specialty shops, while travel agencies are department stores. Referencing the massive online retailer, some airlines and hotels say they want to become 'Amazons of travel'. Guess what? Travel agencies are already there. If airlines and hotels want to become more comprehensive retailers – retailers of travel, not just their own services – they need more content.

And while this isn't necessarily difficult, it will require airlines and hotels to slay a few corporate dragons, among them being prisoners to big numbers. When an airline or hotel generates hundreds of millions (or more) of euros in ancillary revenues, its product managers understandably look for the 'next big thing' to meet their ever-increasing revenue goals.

"In retail terms, airlines and hotels are specialty shops, while travel agencies are department stores."
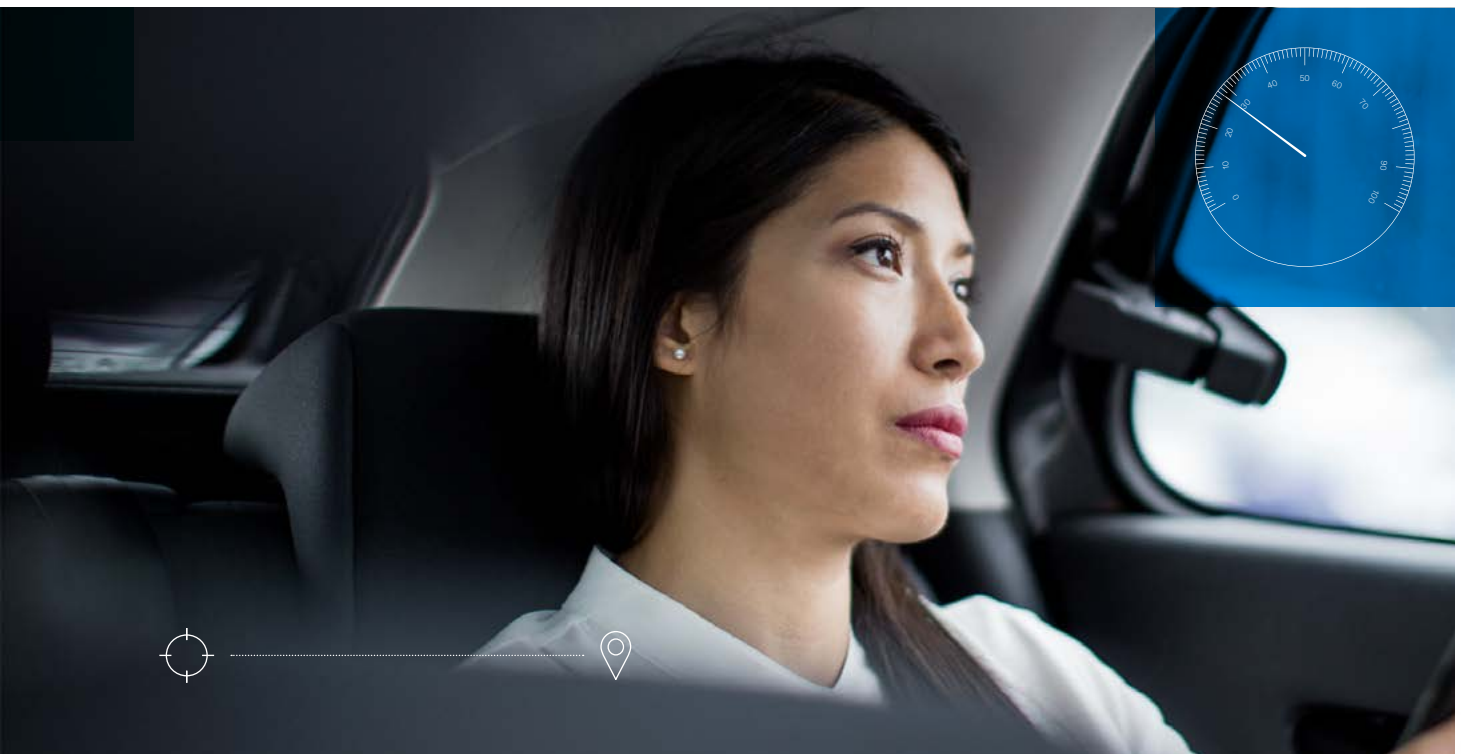
Atmosphere understands this. It's much easier to hit an increased revenue goal with a commission of €100 than one of €10. We'd counter with this suggestion: Look at the bigger picture. Adding 'long tail' services that may admittedly be considered niche products now, with smaller pay-outs, may actually be quite the smart move. Why? Adding these services can help improve the utility and appeal, and thus the customer experience, of the brand's digital channels and, by extension, the brand itself.

Some may argue it may take the same amount of IT effort to add the smaller ancillary product provider as the larger one. This may be a point of negotiation. Explore having the vendor do more of the IT work or consider a compensation arrangement that allows the IT costs to be recouped within a given timeframe.

This much is true: Adding the right mix of third-party ancillary products can help transform the airline or hotel into the more customer-centric retailer it needs to be, the more comprehensive travel brand it wants to be, and helps it get closer to becoming the 'Amazon of travel' its CEO says it's going to be.

Enterprise Ireland has numerous portfolio companies that can help airlines and hotels become travel companies. For this report, Enterprise Ireland selected 10 firms from its vast portfolio, based on each company's abilities to complement and strengthen an airline's or hotel's customer experience, its business strength, and its unique nature within the travel technology landscape. These six, presented in alphabetical order, all offer content that can enhance an airline's or hotel's digital customer experience and brand USP.

▲ campsited

Camping is much more than hiking, cooking out, and sleeping under the stars. Camping is part of the $260+ billion adventure travel market, which the United Nations World Tourism Organization estimates is growing by 30% or more annually. In 2020, Campsited estimates camping will produce more than one billion 'camp nights' worldwide.

Campsited has made camping a digitally accessible part of travel's 'long tail'. The firm estimates the value of campsite bookings

(excluding airfare, gear, meals, and activities) in Europe in 2019 will be €11.5 billion and is estimated to reach €13.5 billion by 2023. Camping's growing appeal reflects how we live increasingly hyper-connected lives from which we'd like to disconnect, even if for brief periods of time. We'll admit there's a bit of irony in Campsited, an online company, making it possible for consumers to use technology to book escapes from their digital lives.

Campsited's backstory began when its founder, Finán O'Donoghue, wanted to take his family camping in Europe. An IT and digitally centric business professional and experienced camper, he knew the campsites existed but found it maddeningly difficult to find them online. Even when he did, a significant proportion weren't bookable online directly, and there was no easy-to-use central platform to find, compare and book every campsite globally.

You can see the light bulb going off above O'Donoghue's head right about now, can't you?

Campsited became O'Donoghue's passion before it became his business. While working full-time in another job, O'Donoghue spent nearly every night and weekend for six months researching campsites, gathering government statistics on camping and campsites, assessing campsite operators in 30 countries, and conducting country-level, local-language Google searches using 20 different search phrases. Eventually, O'Donoghue emerged with a catalog of 600 websites, plus mobile apps. He scored each based on UX, ease of use, number of campsites and number of bookable campsites (which were very few). Through more than 40 conversations and in-depth interviews with almost every type of camper – individuals, families, younger couples, older couples, groups of friends, and more – O'Donoghue learned that guidebooks and Google Maps were the tools campers used to find campsites. And, because many of the campsites didn't have transactional websites, people emailed the campsites with their queries and for reservations.

O'Donoghue launched Campsited in late 2015. He focused on signing up campsites in order to have product to offer travelers when the company eventually began to market to them. Today, Campsited has more than 2,000 properties on its platform, and can offer real-time availability, pricing, and booking at more than 1,300 locations. Campsited's inventory currently represents about 10 million available nights and is growing weekly. With an average stay of seven nights, the platform has enough supply to accommodate 1.4 million bookings. Campsited has seen impressive growth. O'Donoghue anticipates that Campsited's 2019 revenue will be 400% greater than 2018's.

Campsited currently has small campsites, glamping sites, right up to five-star camping resorts in France on its platform. In France, campsites are known as 'hotel de plein air', which translates into open-air hotels. That's a fitting description, because some of the largest campsites are resorts that define European camping. These campsites offer every imaginable type of camping accommodation, from pitches, to safari tents to air-conditioned mobile homes. They also offer a huge array of amenities, such as bars, restaurants, supermarkets, and spas, plus an extensive assortment of activities, including archery, fishing, and nature walks. Some even offer accommodations in air-conditioned cabins.

"Campsited estimates the value of campsite bookings (excluding airfare, gear, meals, and activities) in Europe in 2019 will be €11.5 billion and is estimated to reach €14.3 billion by 2023."

While a week's stay at a modest campsite may cost a few hundred euros, according to O'Donoghue a booking at some of these campsites can reach several thousand euros.

The primary Campsited customer segment, producing more than 75% of its reservations, are families. Younger travelers, either couples or small groups, are also important, as are retirees, who have the time to travel and are flexible about when and where they go camping. In our interview, O'Donoghue emphasized how camping is often an intergenerational experience, where grandparents travel with their kids and grandkids. This helps build deep passion for the camping way of life among future generations of travelers. It's common, says O'Donoghue, to see people who first went camping with their parents or grandparents return to the same campsites as adults with their children.

The company plans to expand its network of campsites, including the US market. The US market is as large as all of Europe; each region produces about 500 million 'camp nights' a year. That's one billion camp nights just from these two regions – the global market size is, of course, even larger.

From its experience, Campsited has learned that all campers are not alike. UK campers, says O'Donoghue, are "stone mad" for their caravans

and camper vans. Travelers from other countries often opt for rental accommodations, including those air-conditioned cabins.

Campsited uses two models to work with partners such as airlines and travel agencies. The company has a full white-label solution and a suite of APIs that can be integrated into the partner's website (O'Donoghue says integrating the white-label solution is the faster option). Campsited has invested a "huge amount" in its UX and conversion optimization, which partners benefit from through steadily improving conversion rates.

One benefit Campsited offers airlines and travel agencies is that most parties booking on the site consist of two or more people, which can contribute to the partner's traffic, volume, and revenues. Campsited, says O'Donoghue, shares its commissions with its partners using a negotiated revenue share model. The company plans to introduce car rentals and transfers. It is exploring adding camper van and carvan rentals and adding destination services and activities at and around the campsites on its platform, O'Donoghue said. Many of these ancillaries will be included in its partner revenue share program as well.

CarTrawler's Chief Commercial Officer, Aileen McCormack

Ground transportation provider CarTrawler is a B2B supermarket of global mobility services. CarTrawler provides unrivalled breadth and depth of mobility suppliers across the globe, including car rental, private airport transfer, and on-demand ride hailing services at more than 50,000 locations in 174 countries. Working with more than 100 airlines and 2,000 travel retailers, CarTrawler expands the airlines' and travel partners' offering to their customers, while deepening those relationships and creating substantial ancillary revenue opportunities – a central component of Complete Retailing in travel.

CarTrawler is exclusively B2B – the company doesn't compete with its airline and travel partners for customers. CarTrawler is also a master at using its data to tailor offers to increase the potential of a traveler making a purchase. CarTrawler has massive scale and an equally extensive diversity of data from its worldwide sales, which it aggregates and learns from. As Bobby Healy, CarTrawler's

Executive Director, told Atmosphere, CarTrawler's data "knows no one rents a car at London Heathrow Airport, but 40% do at Miami International." As a result, CarTrawler will serve up taxi and private transfer options at Heathrow, while at Miami they'll suggest a car hire along with other options, such as on-demand ride hailing. "The selection a traveler sees," says Healy, "isn't random."

CarTrawler is a business deeply rooted in, and passionate about, personalization and merchandising. The company often finds itself teaching its clients how to be more effective in their personalization and merchandising efforts. CarTrawler's secret, says Healy, is the amount of data it has collected – "trillions of data points," according to Healy – and its ability to utilize that data effectively on behalf of its clients: "90% of the problem in personalization is needing the data to make the decisions." CarTrawler's Healy is a personalization evangelist. He elegantly articulates the benefits personalization can offer travel sellers and the risks travel firms face if they ignore personalization or fail at it. Says Healy, "This is a time where businesses
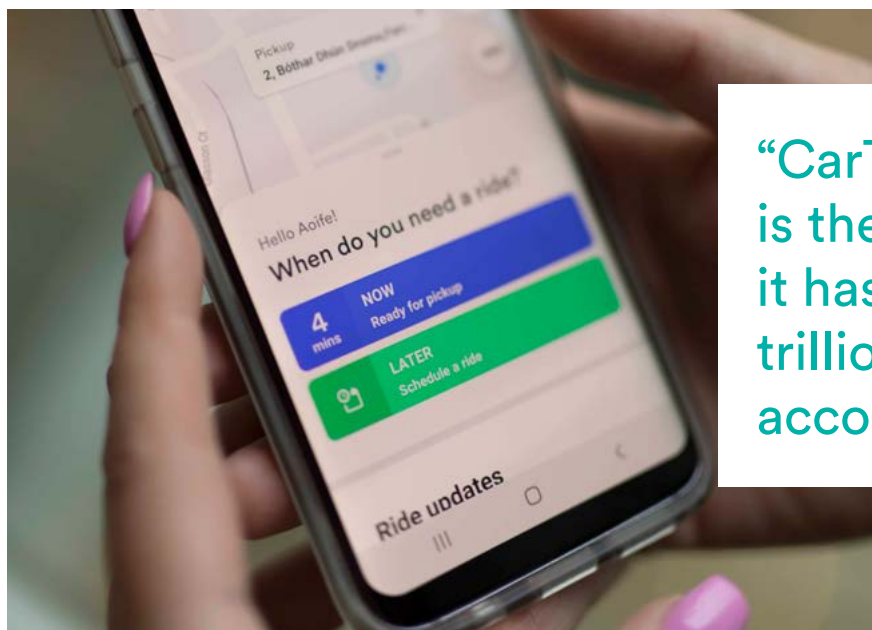
"CarTrawler's secret is the amount of data it has collected – trillions of data points," according to Healy.

are made if they do personalization well, and where they won't succeed if they don't." Healy acknowledges the challenges regulations such as GDPR and external events like hacks pose to earning travelers' trust and participation: "People are fearful about sharing data thanks to hacks, breaches, and bad actors, so they are less likely to do it. Some feel it's safer not to share data." Fortunately, Atmosphere's research shows 75% or more of travelers in the US, UK, Germany, Spain, and China are comfortable sharing personal data with travel sellers if doing so will help them save money or result in more pleasant journeys – provided their data is protected and their privacy respected.

CarTrawler recently introduced a very slick mobility SDK that sits inside partner apps which allows airlines and travel retailers to offer the broadest range of travel solutions in-app so that they can "own the last mile" for their customers. This is the culmination of significant investment by CarTrawler in the mobility sector and ensures that airlines and travel retailers can maximize revenues from the mobility-as-a-service (MaaS)[5] market, which is estimated to reach a value of $1.75 trillion by 2028. The result: In just two taps, the traveler can find and reserve all available mobility products at the destination.

CarTrawler's new SDK takes advantage of geo-location data, of course, plus the company's customer data insights and other pertinent data elements to suggest the most appealing and relevant options to the traveler. But CarTrawler didn't merely "shrink" the screen size of its traditional web displays to fit mobile device forms – the company completely rethought its mobile UX and processes to account for mobility being a distinct platform whose user is a traveler with a very different mindset than when on a laptop or desktop computer.

From its UX testing, CarTrawler knows that presenting travelers with too many options can dilute conversion rates and reduce performance. "You can't overwhelm the customer with 50 choices when they're on their smartphones. Mobile needs to be more precise," says Aileen McCormack, CarTrawler's Chief Commercial Officer. Mobile is a more immediate platform and is more focused as a shopping and booking channel. Travelers are often pressed for time and have too many potential distractions swirling about them as they're shopping. CarTrawler doesn't want to risk losing them. Decision-making on mobile is "atomic," says Healy, compared to a more contemplative and comparative process for travelers using a laptop or desktop computer.

[5] Source: Global Mobility as a Service Market – Analysis and Forecast (2018-2028), BIS Research, October 2018
https://bisresearch.com/industry-report/mobility-service-market.html

CityHook's CEO, Kevin O'Shaughnessy

Airlines, in particular, offer a unique customer value proposition through their loyalty programs. CarTrawler offers the first ever mobility SDK which affords travelers the ability to both earn and burn their airline loyalty points as they ride. As McCormack put it, "Airlines need to offer travel solutions that can exist alongside car rental – the ride-hailing market alone is estimated to reach a value of $285 billion by 2030 and the overall MaaS market will grow by 25% over the next five years. However, just 12% of the world's 473 airlines currently offer mobility services to their customers."

Does CarTrawler work? In its first year of working with SWISS and Vueling, CarTrawler says each airline saw its car rental conversion increase by 151% and 298%, respectively. What's more, in the first three years working with one of its large European partners, CarTrawler grew car bookings made on the airline's site by travelers flying with competing airlines by 40% between Year 1 and Year 2, and by 49% between Year 2 and Year 3. CarTrawler actively builds brand loyalty for its partners. This growth isn't a one-time event, either. Says Healy, "We continually grow the revenue per PNR we produce for airlines." Constant mining and fine-tuning its data are among the reasons why CarTrawler steadily produces strong

results for its clients, claims Healy, adding "There is no end to our optimization efforts."

CityHook

CityHook is a specialist airport transportation provider, focusing on bus, airport shuttles, taxis, rail, and car-sharing. The company works in 60 countries worldwide – a global network the company created solely on angel funding.

Arriving at an airport, whether familiar or new, can create stress for a traveler. CityHook's CEO, Kevin O'Shaughnessy, believes the company has an opportunity to help arriving travelers feel more in control. "The first 10 meters of each arrival are the most anxious," says O'Shaughnessy, who believes CityHook can help business and leisure travelers "book like a local" while reducing "arrival anxiety."

A reason CityHook launched was because it realized there were no existing sources of authoritative, neutral information and content for ground transfers. And while adding ground transportation seemed straightforward – just establish the connections to a transit system's, bus line's, or railroad's reservation platform or a taxi group's or car service's booking system, right? – CityHook discovered numerous

challenges existed "below the surface." For its product to work, CityHook had to find and access crucial "hidden data" and functionality (which didn't always exist), such as routes, schedules, inventory, availability, and bookability in order to onboard each provider. Many of the operators CityHook works with are relatively small businesses or, in the case of taxis, individual operators, contributing to the complexity involved in developing its custom software.

As a result of this work, though, CityHook is able to offer an API-based solution to connect clients' systems to its reservation system. The company can also integrate its booking engine directly into the native booking path, thanks to its fare-calculation tech. CityHook has also created its own terminal maps, so that it can offer arriving passengers specific step-by-step directions to where they will find their transport provider. All of this, O'Shaughnessy emphasized, is to "make its clients' brands look good."

With all the effort required, why pursue ground transportation at all? Because the market is vast – something important for airlines to consider, since this can be a lucrative line of ancillary business. CityHook estimates as much as 65% of airline passengers use some

form of local ground transportation to or from the airport whether in their hometowns, destinations, or both. This means four potential interactions – four potential revenue-generating opportunities – for each traveler. Because CityHook always recommends three options to each traveler (public transit, private transit (e.g., taxi), and a premium or 'luxury' option), there are built-in up-sell options. Offering multiple options is smart and a key part of successful Complete Retailing. According to CityHook, per-transaction revenue can range from €7 to €200, though the average is around €80 (remember, there can be four of these transaction opportunities within each journey). CityHook works with its partners to deliver on their earning requirements; the average commission for an airline is €2.50 per passenger journey.

Offering airport transportation allows an airline or hotel to enhance its ancillary product catalog and can help the airline or hotel improve the utility of its direct channels (especially its direct digital channels). As airlines and hotels bolster their third-party product catalogs with useful services like airport transfers, they are better able to be viewed as 'travel companies' and are better able to compete and prosper as Complete Retailers.

coras
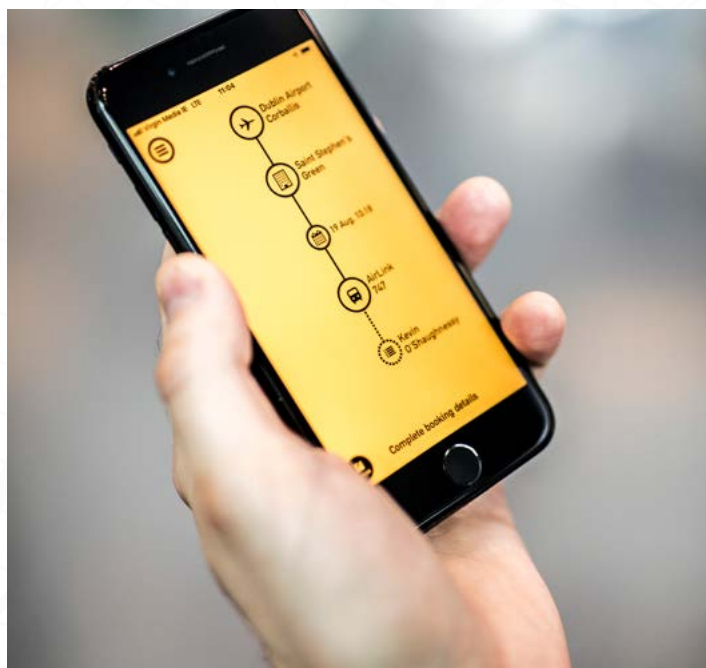
Every year, people worldwide spend an estimated $150 billion to $180 billion on event tickets (e.g., live music, theater, and sports) and tours and activities. Selling event and attraction tickets is a blinding glimpse of the obvious for airlines and hotels that want to generate additional ancillary revenue and increase the utility and convenience of their own channels. How to do this? Most event ticket sellers are focused by region or genre. You don't want them, you want Coras. Coras is the Jedi of event ticketing, offering comprehensive, real-time, face-value ticketing inventory to music concerts, sports, theater, tourist attractions, and more – pretty much everything from The Lion King in London's West End and Premier League Football to Cirque du Soleil in Las Vegas.

Coras understands both the event ticketing world and travel. The firm's CEO, Mark McLaughlin, told Atmosphere in an interview for this report that "events create a reason to travel. There are people who travel specifically to attend events." Atmosphere's own research confirms this. In the US and UK, for example, more than three in five travelers say entertainment is a major factor in their lives. More than one in six travelers between the ages of 18 and 24 in the US, UK, and Germany took at least one trip in 2018 to attend an event such as a sporting event, concert, theater, art performance, festival, or public party.

Events and activities is one of Complete Retailing's core product categories. After all, few people travel just to sit on a plane or in a hotel room, they travel to do something at their destination. Enjoying experiences is increasingly important to travelers, especially Millennials and Generation Z. Selling event tickets allows airlines and hotels to better serve these travelers and tap into their 'story arcs'. Similar to ground transfers, events also offer multiple sales opportunities and, therefore, multiple opportunities to generate revenue. As Coras' McLaughlin points out, "Ticket sales aren't a one-off transaction. A traveler may attend multiple events during the

course of a trip. The first ticket sale is a signal for the travel brand to offer the traveler other tickets to buy." How much are the sales worth? According to Coras, the average order value per transaction is €130; the partner receives between 10% and 20% of each transaction.

An additional way events enhance an airline's or hotel's potential to succeed in Complete Retailing is their opportunity to engage with travelers at home. We don't attend events only when we travel; we're far more likely to attend an event when at home. Event tickets can be sold locally. Observes Coras' McLaughlin, "If a travel brand also sells event tickets, they can theoretically sell tickets to a local event and engage more often with their customers."

One of Coras' clients is Ryanair, Europe's largest airline, serving 145 million passengers a year. Coras has completely integrated its content and payments into the airline's website and mobile app. When a Ryanair passenger selects an event, Coras adds the purchase to the traveler's 'shopping basket' along with his or her flights and any other items they may be buying through the airline. Ryanair processes everything in a single transaction. However, for the events tickets, Coras actually tokenizes the payment and processes it in the background; the firm also

serves as merchant-of-record for the transaction. As a pure B2B provider, Coras doesn't compete with its clients for customers. And, good news for airlines' and hotels' digital commerce or IT teams tasked with adding partners to their retailing suites, Coras says that event ticketing is a relatively simple product to offer and sell. Coras does the work of aggregating the various sources of event and activities inventory and consolidates it within its own platform. Coras' clients access the content via a single API which they connect to their digital commerce systems. Coras also offers a white-label version of its website, which the company says some partners use to test the concept before implementing its API.

LikeWhere

The era of Complete Retailing in travel has emerged because airlines and hotels recognize that relying on core bookings will neither generate acceptable profitability or allow them to match the utility of travel agencies. It's also not enough to add more optional services. Complete Retailing is based on contextual relevancy – not just personalization, but helping travelers understand how their destination's neighborhoods compare to what they know and like at home. As Simon Dempsey, LikeWhere's CEO, observes, "Airlines need to expand the

LikeWhere's CEO, Simon Dempsey

customer relationships and involvement beyond the jetway, and hotels need to expand their guest relationships beyond the lobby."

Enter LikeWhere, the software provider that helps customer-centric airlines and hotels create contextually relevant destination-focused marketing campaigns. Why does this matter? Notes Likewhere's Dempsey, travelers "purchase the flight but consume the destination. We seek to belong as humans. We seek to find a version of ourselves in our destinations."

LikeWhere's core promise is contextually meaningful convenience: Intuitively enabling travelers to find neighborhoods, points of interest, and tours and activities that match what they enjoy at home. Travelers currently scour dozens of websites and apps to gather the information they need for a trip, because they can't find everything they need from one source. LikeWhere can help reduce this. Through its ability to aggregate and consolidate information for scores of cities worldwide, and make it personally relevant,

LikeWhere can turn an airline's or hotel's digital channels into more authoritative, complete "channels of record."

Personalized recommendations have impact. Digital commerce brands such as Amazon, Netflix, and Spotify excel at this, and have educated modern consumers to expect these. It's estimated approximately one-third of Amazon's revenues come from the recommendations made to its shoppers. LikeWhere seeks to emulate this, by presenting curated, short-form content in ways that accurately relate to the traveler and create contextual specificity about a particular neighborhood, activity, or business – think "Brigid's best version of Madrid" or "because you like this neighborhood at home, we think you'll like this one in Paris."

To create its personalized recommendations, LikeWhere has developed a massive proprietary database of cities' neighborhoods, which it augments with insights and content from a network of more than 600 local content creators. Travelers receive their

"LikeWhere's algorithm taps into the metadata it has created about thousands of neighborhoods in hundreds of cities around the world and scores the results to produce an 'interest graph' for the traveler."
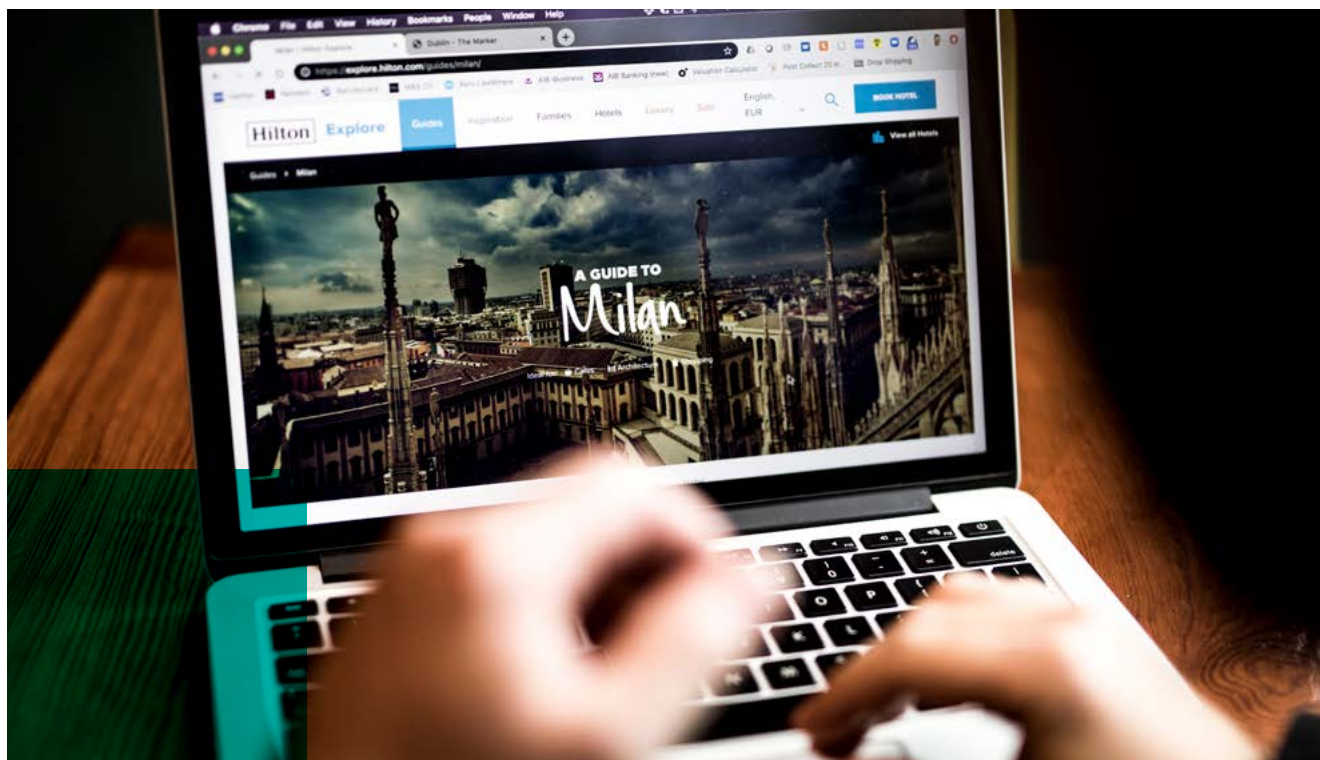
personalized recommendations by completing a brief, visually-based quiz that asks about the neighborhoods and activities the traveler enjoys in her or his hometown. LikeWhere's algorithm taps into the metadata it has created about thousands of neighborhoods in hundreds of cities around the world and scores the results to produce an 'interest graph' for the traveler, from which it then recommends the neighborhoods, tours, and activities it believes the traveler will enjoy most.

LikeWhere's content can be used across multiple channels, including websites, mobile apps, social media, and email. Alaska Airlines has begun to work with LikeWhere to power a personalized social marketing campaign touting some of the airline's new routes from its Seattle hub. Called 'Meet Your Neighborhood Match,' the campaign enables Alaska passengers to find their perfect neighborhood match in the airline's new destinations. LikeWhere estimates the campaign will generate between five million and six million impressions across social media, driving traffic to a LikeWhere-powered branded microsite.

Hilton Worldwide, one of the largest global hotel groups, also uses LikeWhere to power the destination content on its 'Hilton Explore' microsite. The site is available to people planning trips and to guests already at their destinations, enabling Hilton to engage travelers with neighborhood and activity recommendations in ways that a hotel concierge might. In Hilton's case, though, LikeWhere's content can be used to help travelers decide which neighborhood may be the best one to choose to stay in (in cities with multiple Hilton-affiliated properties) as well as develop trip plans.

Airlines and hotels can expect to make money using LikeWhere in two ways. The first are commissions from the sales of tours and activities. Though perhaps the most obvious revenue source, it's also a small one. The average commission LikeWhere collects for tours and activities is €16, which it shares with its clients. This means LikeWhere-based marketing campaigns will require volume to produce meaningful revenue. The second revenue source may be the better option: LikeWhere's neighborhood content lends itself nicely to sponsorships from a variety of

enterprises, including Destination Marketing Organizations (DMOs), attractions, and visitor-focused businesses. Still on the fence? Remember this: Personalized destination content and activity recommendations help strengthen the appeal and utility of an airline's or hotel's direct channels and helps reduce product competitive gaps.

There's an additional, highly useful commercial benefit to brands that partner with LikeWhere: actionable customer data and insights. LikeWhere aggregates the meta data from travelers' interactions with their content and compiles traveler 'interest graphs', which LikeWhere serves up to its client partners. Think of the 'interest graph' a bubble that hovers over the head of each traveler showing her or his topics and activities of interest. The partner brand can use these insights to 'future market' to individual travelers based on actually knowing their interests, and shape marketing content to match these themes (LikeWhere also fulfills this content to the partner brand via its content API service). LikeWhere's respect of user privacy ensures the consumer is able to access or amend their interest-graph data

should they wish to, with personal data only being retained for the duration of the active campaign or product integration.

Complete Retailing in travel means offering as many services travelers may require or want on their journeys. Atmosphere believes adding LikeWhere to an airline's or hotel's ancillary product mix offers the potential to increase its customer-centricity, bolsters its reputation as a 'travel company', and provides the partner with first-hand, actionable customer insights which it can use for future marketing.

Mobility Mojo fulfills one of the most important and, perhaps, one of the most noble purposes among travel UX software providers: Helping to make lodging more accessible to everyone including people with accessibility issues regarding mobility, sight and hearing impairments, as well as people booking a room for their elderly parents or parents bringing a stroller to a hotel. Mobility Mojo, which launched in August 2016, is now working with hotels across Ireland, the UK, Europe and the US.

Mobility Mojo's CEO, Stephen Cluskey

Atmosphere interviewed Mobility Mojo's CEO, Stephen Cluskey, and Noelle Daly, the company's COO, for this report. They shared that according to the World Health Organization, there are over one billion people around the world with some form of a disability, and studies show that 50% of people with access needs don't travel because of lack of information and fear of something going wrong.[6] Add to this a rapidly ageing population in many Western European countries, the US, and China, and the need for innovation to enhance the lodging experience for people with disabilities becomes even more apparent. By 2020, Mobility Mojo estimates that travelers with disabilities, reduced movement, and age-related impairments may account for one in four guests.

Depending on a property's location, size, and business focus, accessibility at a hotel can span hundreds of individual items, from hotel entrance access to large-print restaurant menus. Some of these may be required by regulators, some may be brand related. The hotel apartment is where travelers can spend a great deal of time on their trip, which is why Daly noted, "If the hotel fails, the entire trip is ruined." Publishing accessibility information isn't a matter of charity. It's about enhancing the experience for everyone who travels – or can travel. Critically, it's about the business case, too.

Cluskey and Daly, who both use wheelchairs, realized that though they may be able to serve those with disabilities, hotels often had no effective way to share this information. "Hotels were struggling" with how to publish their accessibility-related content in a standardized and engaging manner, said Cluskey. As they spoke with hotels, Cluskey and Daly realized hotels viewed their accessibility content as a compliance matter, rather than an asset the hotel could leverage to heighten its visibility and appeal to a far broader market. But even if they could change hotel and serviced apartment managers' mindsets, Cluskey and Daly knew they would need to create a simple, straightforward product that managers could implement themselves to publish their

[6] Source: www.mobilitymojo.com/case-studies/case-study-2

"Studies show that 50% of people with access needs don't travel because of lack of information and fear of something going wrong."

Mobility Mojo's COO, Noelle Daly

accessibility information. Mobility Mojo has created a product so easy to use that a hotel can go live with it in less than half a business day. To begin, the property follows Mobility Mojo's self-service auditing process, which takes approximately 40 minutes to complete. The process includes answering questions, taking measurements and taking photos. Then, the hotels add a line of code to their website, and it goes live. Next, they publish.

The business benefits extend beyond simply attracting a guest with access needs. Cluskey commented there can be a noticeable 'knock-on effect', where seniors and people with disabilities are more likely to travel with friends, families, or groups. More than that, the person with access needs can often be the deciding factor for the venue where a holiday, wedding, or conference takes place. A new type of influencer is born.

Data from hotels using Mobility Mojo suggests it produces positive results for hotels as well as their guests. According to Mobility Mojo, 1.5% of the people who landed on websites equipped with Mobility Mojo content and used the Mobility Mojo widget spent an additional two minutes on the website, and produced bookings whose total value was about 25% above the brand's average.

Information is power. Mobility Mojo makes lodging properties and their direct digital channels more powerful and useful to their guests, by making it easy for the properties to share their accessibility information with minimal effort and in a very compelling manner. In doing so, Mobility Mojo opens these properties to hundreds of millions of valuable guests, while ensuring these guests are empowered with actionable information that can help them fully enjoy their trip.
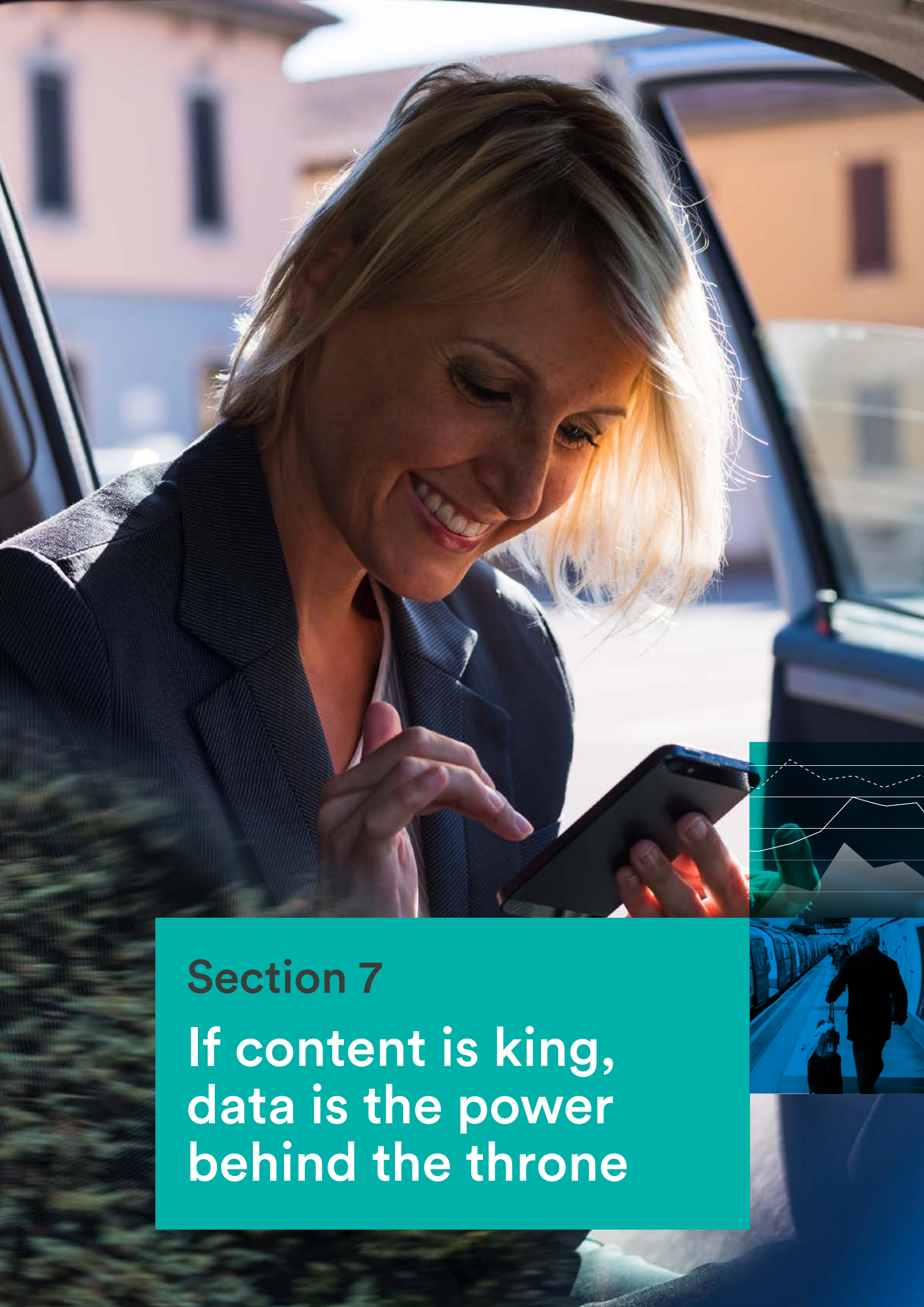
Section 7

If content is king, data is the power behind the throne

Boxever's CEO, David O'Flanagan

Like it or not, consumers have become spoiled by the personalized suggestions and offers they – make that we, for you and I, dear reader, are consumers – receive on a daily basis from the entertainment, media, retail, and other firms with which we routinely interact.

Complete Retailing in travel hinges on a travel seller's ability to extend appealing, relevant, personalized offers to the traveler at the right time, with the right price, through the channel that has the best chance of capturing the customer's attention.

Airlines and hotels continue to struggle with data – obtaining the data they need, aggregating and homogenizing it, and making it consistent, more usable, and more useful. In Atmosphere's research, airlines score the quality of their customer-related data as 5.9/10, hotels higher at 6.3/10. Fortunately, machine learning

and natural language processing make it easier for travel firms to analyze their data and use it to make better-informed business decisions and create more appealing personalized offers. Make no mistake: The collective travel industry is still very much in its early stages in doing this. But start we have, and progress we shall. Fortunately for the industry, among the many outstanding data-focused firms in Enterprise Ireland's portfolio are these four. As in the preceding section, we present these four companies in alphabetical order.
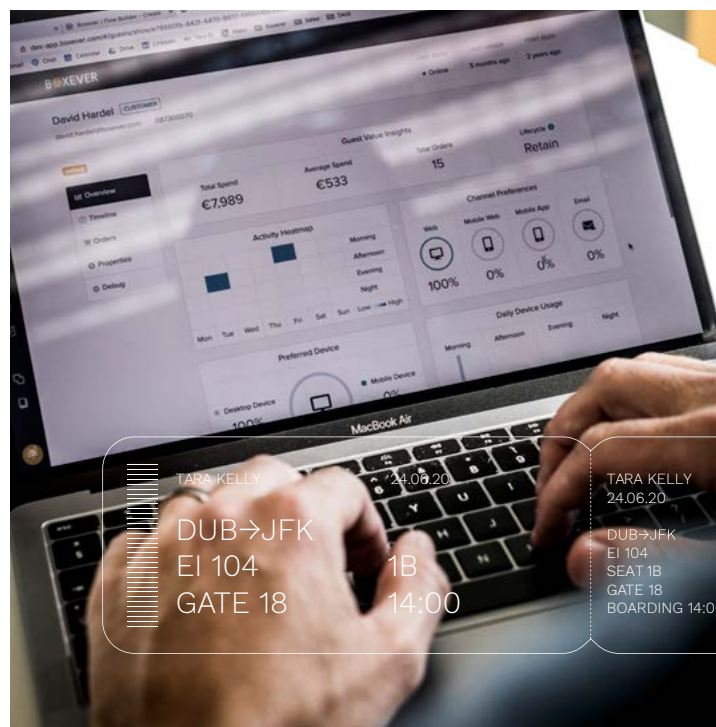
B◈XEVER

Since its start in 2011, Boxever has recognized that personalization plays a critical role in business success. Boxever has been one of the pioneers in harnessing the strength of data, AI and machine learning to help its clients distinguish themselves from competitors, improve their marketing and operational effectiveness, and increase customer preference and loyalty.

Boxever is a data and personalization firm, but the business recognizes that people and process are both required, along with data, for personalization to work well. Essential to this is a data-focused company culture and a clear, top-down vision of how the business needs and wants to use its data in its retailing, merchandising, and marketing efforts.

In an interview with Atmosphere Research for this report, Boxever's CEO, David O'Flanagan commented that, "There is so much potential for companies to do smart things with their data. Take airlines and the way they handle retailing - it's still pretty unsophisticated. Airlines have very little analytical capability for retailing, so their results are not as intelligent as they could and should be."

Airlines may be awash in data, but Boxever has found data to be the tail wagging the dog, as airline managers and executives struggle to better unlock its potential. O'Flanagan observes, "Getting the data that managers need and want is such a large task that no one knows where to start." Boxever views one of its core competencies as helping its clients get over their collective data daze so that their data works more effectively in their commercial efforts.

Another role that Boxever sees itself fulfilling is making its clients masters of personalization. Large travel firms have massive volumes of inadequate, inconsistent, and irrelevant data across the enterprise. A typical airline's data quality, says O'Flanagan, would score "between six and seven" out of 10 points – ugh (in Atmosphere's own research, airline execs rated the quality of their data 5.9/10). Airlines' PNR and loyalty program data are usually excellent, but marketing, shopping, and ancillary sales data can be weak and rarely link to a specific traveler or PNR. As a result, O'Flanagan says Boxever must occasionally administer tough love to new clients: "When we meet with a prospective customer, we are quite upfront about what it takes to offer data-driven insights

and be better with personalization." Those who listen, he says, often end up succeeding.

From its work with firms in multiple industries, Boxever believes airlines are too reliant on "fuzzy matching" of flight, fare, and product results for travelers who use carriers' direct channels. O'Flanagan notes: "Airlines need to use data better so they can in turn better adjust their messaging to the type of customer." Using data well and wisely is, of course, a core part of effective personalization. O'Flanagan offers particularly cogent insights here: "Personalization can improve both conversion rates and average order value. Smart, effective personalization is really about how an airline can present the best options to each customer when they're ready to buy. Good personalization allows an airline to make the customer journey from shopping to purchase to flight as good as it can be. The key to this is rich, good, actionable data."

Among the challenges that airlines face as they enter the era of Complete Retailing is the need to better understand merchandising and retailing. Too often, airlines think about

'merchandising' without 'retailing' and equate 'selling' with 'retailing'. Think of it this way: Your product is the bait, merchandising (price and offer) is the hook, and retailing (when and how the offer is presented) are the conditions that get the fish to bite. Confounding an airline's ability to succeed are organizational silos and collaboration gaps between what should be logically interrelated teams, namely revenue management and groups such as digital commerce, ancillary management, and marketing. Boxever has observed that revenue management teams are often divorced from the groups responsible for selling. A task Boxever takes on is acting as a catalyst for better collaboration between teams, so that in the end a client's data can be better used in business decision-making and personalization.

A suite of tools are emerging to help airlines use their data more effectively and produce more precise results. Boxever cites IATA's New Distribution Capabilities (NDC) standards as a technology solution that makes offer targeting more possible and gives airlines the potential to better recognize and reward desired behavior. Boxever's O'Flanagan sees the

value NDC offers airlines: "NDC will become a powerful tool to help airlines control their products. It's definitely the way forward."

Using data to improve and personalize flight shopping should produce better results and make the user experience more satisfying. For personalized flight shopping to fulfill its true potential will require travelers log in, which Boxever says most airlines don't do. Boxever believes airlines must encourage, and ideally require, passengers to log in by convincing their customers there is tangible value beyond the home page. How? Offer the best prices and most compelling bundles only to logged-in travelers. The customer gets a valued benefit of savings while the business gets data it can use. Amazon and Booking Group both successfully do this. Both firms require customers to log in to see their orders or reservations, manage their accounts, and more. Amazon offers discretionary discounts to logged-in users, while Booking offers 'secret deals'. Both firms' customers log in, because they know there are pertinent benefits to doing so. If this works for Amazon and Booking, why shouldn't it work for you?

Hi Laura,
Welcome back.
How can we help
you today?

An irony, adds O'Flanagan, is that organizations in multiple industries may pride themselves on offering high-touch service through their offline channels (for example, an airline's call centers, airport counters, or on the plane) but struggle with the relevancy of something as basic as email marketing. Personalization has a role to play almost everywhere in the customer journey. Intelligent use of data can transform customer service into a truly personalized experience. Arguably, the roles of data and personalization increase in importance on the day of travel, and become even more important if delays or cancellations occur. Using data to personalize service recovery and problem resolution can turn these moments of truth into positive events for the traveler and carrier. From his experience, O'Flanagan has learned that, "Every organization struggles with how to service customers when problems arise. Data can help manage this and allow managers and employees to make better decisions."

Of course, the most important data to most airlines managers will be if personalization improves business results. Boxever helped increase one airline's emails engagement by more than 35%, resulting in $6.7 million more in website sales. Not bad.

![HOSTELWORLD]

Hostelworld is a 20-year-old firm with 2018 net revenues of $90 million that doubles as both a B2C online travel agency (OTA) specializing in hostel accommodations and a B2B software firm that sells a property management system (PMS) specifically designed for hostels.

Hostels are a vibrant part of the lodging industry. Hostelworld's CEO, Gary Morrison, spoke with Atmosphere for this report. The first question we asked him was, "why hostels rather than traditional hotels?" Morrison replied that hostels comprise a vibrant part of lodging that "have stood the test of time."
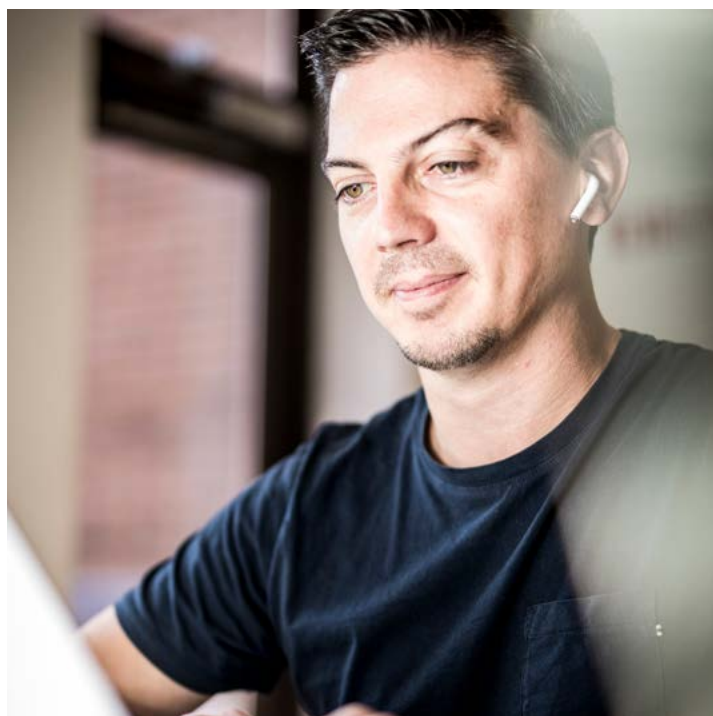
Boxever's CTO, Alan Giles

"Boxever believes airlines are too reliant on 'fuzzy matching' of flight, fare, and product results for travelers who use carriers' direct channels."

Generations ago, hostels were preferred primarily because they were inexpensive places to stay. Today's hostel guest chooses them based more on value and experience than price. Hostel guests often prefer these types of accommodations because the quality is generally good, locations convenient, and the atmosphere, importantly, is inherently convivial. Morrison noted that hostels have become experiential to appeal to a wide spectrum of guests, especially Millennial and Generation Z guests. Morrison added, "Business travelers are another important segment for our industry. Hostels help

"Hostelworld also knows mobile will play a significant role in its future and is designing its technology to thrive in mobile environments."

humanize business travel and make it more fun. Business travelers enjoy hostels' social experiences and atmospheres, which result in more interesting stays." With business travelers, though, comes the requirement to accept credit cards as a form of payment and the need to provide acceptable invoicing for expense report submission.

One of the first points Morrison shared is that 80% of hostels are individually owned, single-property businesses. Thus, software that is easy to install and manage is critical, since these owner-operators may not always have extensive IT departments. Morrison also advised that many hostels are becoming increasingly complex businesses. In addition to the familiar 'dorm'-style accommodations, some hostels now offer rooms designed for multiple occupants and 'private' rooms for solo travelers or couples. And here is where Morrison points out a unique complexity that requires an industry-focused PMS solution. In

a traditional hotel, a guest's gender is generally irrelevant. Not the case at a hostel, where a dorm or group-occupancy room may be restricted to male or female guests, or be co-ed. "You have to play Tetris every single night to get the gender and accommodation balance right. Traditional hotel PMSs can't do this," said Morrison, which is why Hostelworld developed its own solution.

Morrison also pointed out that, even though hostels' average occupancy rates are 90% to 95%, their sleeping rooms are essentially break-even products. As a result, Morrison said more hostels are offering restaurants, rooftop bars, or other food and beverage amenities. Many also sell sightseeing tours and other destination activities. And this is where Hostelworld enters the world of Complete Retailing. It has configured its PMS to sell these and other ancillary services online, so guests can pre-book and, often, pre-pay additional hostel services.

By adding these and other optional services, Morrison says hostels generate almost as much revenue per square-foot as traditional hotels. This may explain why the sector is attracting investment from private-equity firms and established lodging groups such as Accor. Their growing complexity creates its own 'triple-edged' sword. Hostels are able to better participate in Complete Retailing, are able to partner as a lodging option to third parties such as travel agencies or airlines, but require more robust software to do this. And this is where the B2B software side of Hostelworld comes into play.

Hostelworld's PMS and other B2B software solutions are designed to help hostels operate and compete more effectively in three key areas: Improving the guest experience, reducing operating costs, and driving ancillary sales. Hostels can connect to Hostelworld's software through its open API. Hostelworld's PMS is highly customizable and can be configured with a variety of add-on modules for pricing, hotel services, and third-party products. But it's not just software for software's sake. As Morrison observes, "It's important for hostels to manage guest expectations and be hospitable."

As we approach 2020, being "hospitable" requires more than well-trained, pleasant staff. Just as it does in Complete Retailing, data and technology play significant roles in the delivery of guest hospitality and the contemporary guest experience. Clients can use Hostelworld's PMS software to create their catalogs of on- and off-property services, events, and activities. Hostel managers can leverage Hostelworld's machine learning-based backbone to improve their business and marketing performance, as well as guest engagement. Hostelworld's machine learning algorithms can be used to sort through factors such as seasonality, geolocation, length of stay, and even a guest's willingness to pay. As an example, Morrison said its software could alert a manager if there are guests in-house who

have all visited Colombia within the past year and extend an offer to them all for a happy hour pisco tasting in the property's bar.

Hostelworld also knows mobile will play a significant role in its future and is designing its technology to thrive in mobile environments. Mobile, of course, provides valuable user insights, such as a traveler's geolocation, which can be combined with a hostel's guest and business data and then applied to the offers and messaging a hostel may want to extend.

planitas

It's not every day that an airline chairman determines its revenue management information is so inadequate he incubates a new software solution to solve the problem. But that is how Planitas, a suite of airline flight revenue management decision-making software solutions able to support Complete Retailing, came to be.

Simon Grennan, Planitas' CEO, shared the fascinating backstory that led to its founding. Planitas' founder, Luke Mooney, was chairman

of Irish airline CityJet. Mooney's professional background was in accounting and corporate finance, so numbers are to him as jet fuel is to CityJet's aircraft. Mooney knew the flight revenue performance data that was available to airline management was inadequate. The system looked at inventory, not fares paid, and revenue accounting reports could lag by as much as two months. Worse, said Grennan, revenue management and revenue accounting reports in airlines could be off by 5% or more. In an industry already challenged by thin profit margins, where precision is required in everything from maintenance to landing speed to financial controls, Mooney knew this was completely unacceptable. Rather than accept the status quo, in the late 1990s, Mooney set out to create a more useful, actionable, forward-looking flight booking and profitability performance tool – one designed by an airline for airlines' use. Formally launched in 2000, Planitas now counts Air Malta, CSA Czech Airlines, Frontier, Hawaiian, JetBlue, and Sky among its airline clients.

Grennan explained more about the data choke-point that contributed to Planitas' product development. Airline revenue management

determines the fares an airline charges by looking at various data points to determine the optimal selling price. This is core, of course, to airline pricing and revenue management. But in an industry where ancillary products can often account for most or all of an airline's profits, it's no longer enough for an airline to fine-tune the prices of its seats, it must ensure it sells its optional products at the right prices as well. This plays a central role in Complete Retailing. When you combine a revenue management solution with industry standards like IATA NDC and airline retailing software solutions like those from OpenJaw Technologies and Datalex, you see how the pieces of airline retailing come together. Planitas' revenue management software is at the heart of airline retailing.

Revenue management software illustrates the phrase "garbage in, garbage out." As Grennan said, "You need a good foundation of data to get good outputs." If an airline doesn't pipe the most relevant data into its revenue management software, the software's algorithms won't be as accurate as they need to be, and the resulting decisions won't be as effective as they need to be. The airline may

"80% of the core benefit comes from the data we get from the PNR, but the rest can come from channel data, booking engine, frequent flier data, and more."

sell too many seats at too low a fare, which may result in a loss or, equally bad, closing its lowest-priced inventory groups too soon, and then not selling enough seats because the fares are too expensive.

In Grennan's opinion, the best resource to get the fare data needed for the best possible revenue analysis and decision-making is a passenger's PNR, which is stored in the airline's PSS host. Unfortunately, according to Grennan, some "PSSs treat the data as theirs, not the airline's." All airlines sit on this rich vein of data. The information within a PNR is fantastic. It contains lots of good information, but airlines can't access it due to the PSS operators' restrictions or expensive fees. "Airlines need a good data core and foundation," says Grennan, for effective revenue management.

Planitas takes the PNR data feed directly from an airline's PSS. It can also accept additional data inputs from other sources, including the two largest sources of third-party competitor fare data, Infare and RateGain. Planitas cleans the data and links it to each competitor's flight (including multiple-segment/multi-stop flights), allowing users to accurately conduct 'like-for-like' revenue analyses and revenue management exercises. A revenue analyst or manager can contrast her own airline's

average fares against the average fares on her competitors by flight, route, market, or region, based on elements such as number of days before departure, flight departure date, and seasonality.

"80% of the core benefit comes from the data we get from the PNR, but the rest can come from channel data, booking engine, frequent flier data, and more," said Grennan. An airline can plug all of its distribution channels, including call centers, digital channels, and GDSs into Planitas. If an airline wants, it can upload its look-to-book ratios and customer satisfaction survey data into its revenue management software as well, for a richer perspective. The outcome is that Planitas can help airlines understand, in real time, market and flight performance at a granular level, flight by flight, day by day. Planitas' machine learning-based software can rapidly analyze data, develop patterns, compare the results to historical performance, and make recommendations so revenue managers can quickly make decisions.

Calculating a flight's profitability requires precision. That's not easy to achieve, because airlines mange each flight's revenues on multiple dimensions. An airline may sell seats for just a single non-stop 'local' segment (e.g.,

Dublin to London), a connection (e.g., Dublin to Nairobi via a hub), an 'interline' connecting ticket (e.g., Aer Lingus connecting to British Airways), and codesharing (e.g., JetBlue inventory sold on an Aer Lingus-operated flight). For interline and codesharing itineraries, the participating airlines must determine their prorated shares of the total fare paid.

Many airlines now also sell advance seat reservations, a substantial source of high-margin ancillary revenue. As with their base fares, airlines routinely dynamically price advance seat reservations based on multiple factors, including origin and destination, flight load factors, frequent flier elite status, and negotiated corporate account contract terms. Planitas' software allows an airline to identify passengers likely to pay for advance seat reservations and dynamically creates the optimal price and manages the offer. Its software can also calculate ideal pricing for a bundled rate of both the base fare and the seat assignment. Managing the offer and the order are key parts of the merging world of Complete Retailing.

Though ancillary product sales can rack up big profits for airlines, ancillary product sales often can't be linked back to a specific passenger, complicating an airline's ability to personalize its offers – a core plank of Complete Retailing in travel. Airlines that can't, or don't, manage this well may experience low take-up rates on their bundles, which costs them money and deprives their passengers of appealing value. Planitas can address this. As long as an ancillary product sale can be linked to a flight and seat number, Planitas can associate that sale to a specific passenger or PNR. Smart. By associating as many of a passenger's transactions as possible to a journey or a passenger's profile, the airline can develop a more complete financial value of each passenger, which in turn can contribute to more effective offer targeting and marketing. And that's what a lot of Complete Retailing is about.

Sometimes, you just need to do it yourself. And

when you do, you may end up creating a useful solution for others.

The Great National Hotel Group is one of Ireland's and the UK's largest privately-owned hotel services companies. Great National Group supports two separate brands totaling 140 independently-owned hotel properties in Ireland and the UK: Great National Hotels & Resorts and Classic British Hotels, which the Group acquired in 2018.

Not pleased with the third-party solutions available for digital marketing, call center support, OTA and GDS channel management, and yield optimization, Great National Group took the bold step to build its own solution suite, Revanista. In 2019, feeling it needed a new-generation rooms revenue management solution that was more agile, future-proofed, and better able to scale than existing products, Revanista launched its own product. This currently entails an enterprise-level solution available for multiple property sites but will shortly include a lighter application for single business owners.

To learn more about Revanista's rooms revenue management capabilities, Atmosphere spoke

with the company's co-founder, David Collins. In addition to pointing out the need for a "new-gen," highly nimble revenue management solution, Collins shared that Revanista was also expressly tailored to serve the unique needs of small to mid-size independent hotels.

Though 'soft' hotel brands exist, such as Hilton Worldwide's Curio by Hilton and Marriott International's Autograph Collection, the hotels Great National counts among its client base are typically firm about remaining independent. However, Collins says these same hotels acknowledge that to remain independent "they know they have to overcome significant market challenges and competitive pressures." It's here that Revanista can add value in terms of enabling these same hotels to unlock the latent room revenue potential that exists within their businesses.

Revanista is designed for three-, four-, and five-star properties that have 50-plus rooms. Though the three-star properties offer fewer room types and a slimmer selection of on-site amenities and services, the four- and five-star hotels are generally more complex. Even so, Collins said most independent hotels, regardless of category, typically operate with small management teams so Revanista's role here through its range of services including its new revenue software application is to provide a proven in-sourcing solution to help a hotel punch above its weight. These properties'

management teams may lack the ability to focus on every detail, including the many details associated with revenue management, since some hotels may have just one person managing its rooms revenue. It doesn't help that IT at these hotels is often overlooked. Collins told Atmosphere that "Independent hotels as a rule don't invest a lot in IT. Much of what they do in IT is focused on their PMSs. A lot of what these hotels do in revenue management is manual."

This is where Revanista starts to help these independent hotels prepare to compete in the world of Complete Retailing. The Revanista software automates the process of reviewing a hotel's existing room rates, recommending suggested rates and rate changes, and implementing those changes seamlessly across multi-channels, reducing revenue management time by up to 50%.

As Collins pointed out, manual revenue management practices tend to be data deficient, made worse by the key information not being instantly accessible. When you blend this with independent hotels' vulnerability to revenue management staff turnover, the result can be sub-par revenue management decisions. Revanista, according to Collins, is able to "shine a bright white light on the data that exists within the hotel, not to mention turning on latent revenue potential." Deploying machine

"The Revanista software and booking engine have helped hotels increase direct bookings 25% or more after implementation."

learning and ultimately combining both real and artificial intelligence, the software can "drill down into this same data by month, week, day, or guest segment," identifying "underlying trends in demand and supply," and producing "a more frictionless, more effective revenue management process."

As Collins told Atmosphere, "Everything is connected. And rate decisions are no different." With this in mind, Revanista integrates multiple data points, such as a guest's propensity to buy, competitor hotel data (even if that property is located miles away), booking windows, seasonality, and customer segment, which it then analyzes and interprets to produce property-specific booking curves, room and rate type recommendations, and revenue management algorithms for a hotel. The results can be impressive. According to Collins, within 24 hours of implementing Revanista at one hotel, the software generated and implemented more than 7,000 rate and inventory changes without any manual handling. Another hotel saw its RevPAR and ADR each increase by 19% without any additional spending on advertising, promotions, or search engine marketing after implementing Revanista.

So how does all this relate to the new era of Complete Retailing in travel? Revanista's Collins points out how consumers interact on a daily basis with myriads of brands, especially those in online banking and retailing that excel in their use of data and insights to create personalized experiences. He suggests that's where the customer experience "bar" is set, that when a traveler visits a hotel website, she or he expect the same sophisticated, intuitive experience they would enjoy at Amazon, Airbnb, or Barclays Bank. And hotels have a lot of work to do. As Collins said, "You have to be good to get consumers to bookmark your brand on their browser or mobile phone. Hotels simply can no longer afford to provide a lackluster customer experience."

Revanista has been designed to democratize revenue management for accommodation providers. Revanista enables hotels, whether a 4-star city centre hotel or a five bedroom self-catering property, to optimize their distribution mix, profitably manage their rate strategy by driving more direct revenue, and deliver a magnetic experience for their customers.

Conclusion

The era of Complete Retailing offers enormous promise to travel sellers, provided travel sellers plan their strategies effectively and execute them with commitment and creativity.

The era of Complete Retailing offers enormous promise to travel sellers, provided travel sellers plan their strategies effectively and execute them with commitment and creativity. Complete Retailing relies in part on travel sellers building out their ancillary product portfolios, including the use of travel-related services that comprise travel's 'long tail'. If executed well, Complete Retailing can provide travelers with a clearer understanding of different travel brands' offerings and value propositions, more convenient and satisfying digital shopping experiences, and better value. For travel sellers, Complete Retailing offers the promise of higher ancillary product attachment rates, larger average orders, and more sales – including sales through a brand's digital direct channels.

Complete Retailing's success also hinges on having the right partners, whether operating 'behind the scenes' or in more direct customer-facing roles. Enterprise Ireland offers an extensive portfolio of market-proven, well-run travel technology companies, including the 10 firms profiled in this report, that can help build out an airline's or hotel's ancillary product mix, improve its business effectiveness, and help the airline or hotel become more of a true 'travel brand' in its customers' eyes. The 10 companies profiled in this report illustrate why Ireland has become such a thriving technology hub. Each has the leadership, energy, creativity, and focus necessary to succeed in digital travel, and contribute to their business partners' success in numerous, meaningful ways.

"Enterprise Ireland offers an extensive portfolio of market-proven, well-run travel technology companies."
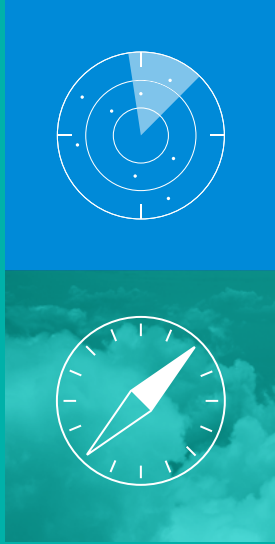
About Atmosphere Research

Atmosphere Research is an independent, objective travel industry strategic market research and advisory firm based in San Francisco, California. Through proprietary consumer research conducted in 15 countries and industry research with executives and managers worldwide, Atmosphere provides its clients with trustworthy, forward-looking, actionable insights and guidance on critical commercial topics, evolving traveler behaviors, and emerging technologies.

About Enterprise Ireland

Enterprise Ireland is the Irish government organization responsible for the development and growth of Irish enterprises in world markets. With 39 offices worldwide, its local and overseas sectoral specialists work with clients to understand their unique challenges and match them with Irish suppliers that can deliver leading edge products and services. Its goal is to simplify and enhance the purchase process for customers and build successful, long-term business relationships between international companies and Irish suppliers.

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