

# Defining the future of travel through intelligence

Smart decisions for smart  
destinations using big data

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A discussion paper from Amadeus Travel Intelligence



# Foreword

## There is much talk of disruption in the travel sector.

New entrants are disrupting all facets of the travel industry. New traveller expectations of the service experience are challenging all of us to continually improve how we operate. New sources of data and information are challenging each travel brand to innovate in terms of how travel is sold, how travellers are serviced and how disruption is managed.

Over the last ten years, we have seen two important trends. Firstly, the exponential rise of data and information on everything from traveller behaviour, spending patterns, weather events, systems efficiency and much more. Secondly, the increasing scale of computing power, which is able to assimilate, process and work with multiple and complex data sources to generate insights and action.

This is exciting because the potential for innovation, disruption, and new ideas is limited only by our imagination. It is exciting because instead of strategising for months on end, we can instigate testing of new ideas quickly, and roll them out at scale within a shorter timeframe than ever before. It is exciting because the future that so many of us have talked about for years is closer than we think, and in many cases it is here today.

Last year, we looked at experimentation and travel intelligence from the perspective of airlines. Travel Intelligence refers to next-generation business intelligence solutions and services, designed primarily for the travel industry. Such solutions transform raw travel data into meaningful information to facilitate strategic, tactical and operational decisions. This paper explores how destination marketing organisations (DMOs) can benefit from analytics, both today and in the future.

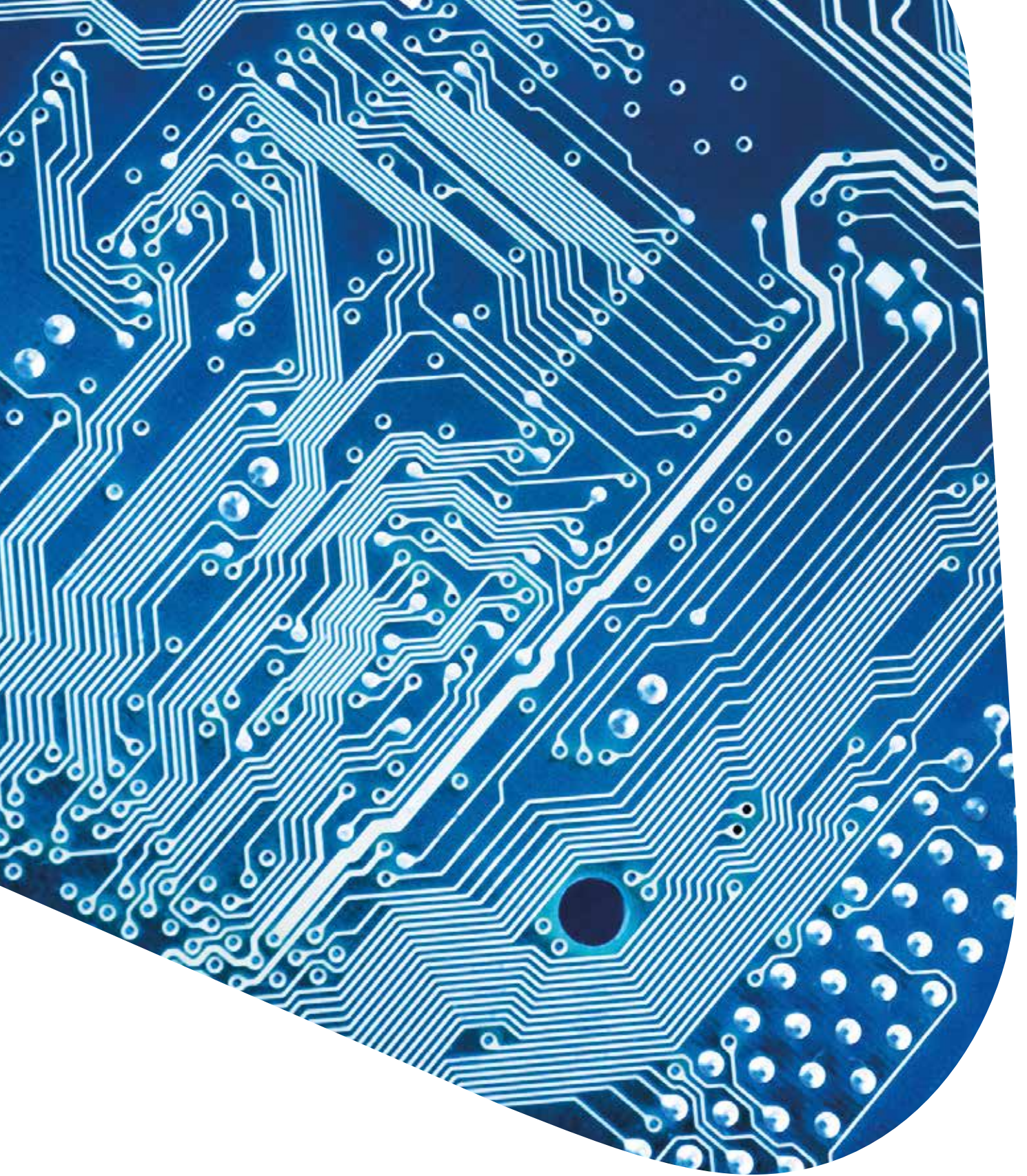
Companies that succeed will be those that embrace this new age. But in addition, those that succeed will also be those that ensure that their systems and processes allow for the rapid generation of insights, as well as the rapid deployment of the actions needed to capitalise on those insights.

The key to unlocking the potential of today is identifying the quick wins across the business to ensure incremental and impactful changes, as well as an open mind about what is possible in the future.

**Pascal Clement**

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## A new age of intelligence and insight

Big data and advances in computing power have transformed the world's biggest industries, and travel is no exception. Data analytics has become the strategy of choice for organisations of any size looking to secure competitive differentiation and seek out new revenue opportunities.

Using data to identify actionable insights is just one way technology is disrupting the travel sector, and it is making waves across the industry. In 2013 Amadeus commissioned a report, *At the Big Data Crossroads*<sup>1</sup>, written by Professor Thomas Davenport, a world-renowned expert in data and analytics, to examine the benefits and challenges for travel providers seeking to use big data and predictive analytics. In 2016 Amadeus released a discussion paper, *Defining the future of travel through intelligence*, which assessed how harnessing the power of data could create new opportunities for airlines.

In the short time since these papers were released, the landscape has changed. As consumers become used to a recommendation-led experience across other industries, their expectations of the travel experience increase. Chatbots and artificial intelligence are just some of the new technologies travel companies are using: Thomas Cook last year began using virtual reality in its marketing to allow travellers to "try before [they] fly." There is an ever-greater need for travel companies to employ sophisticated personalisation techniques and intelligent merchandising.

Travel companies must move past getting people from A to B, but think about collecting information to build a 360° view of the traveller to create a tailored and memorable experience – right from the moment they are inspired to travel, to the time they return home from their trip.

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<sup>1</sup><http://amadeusblog.com/wp-content/uploads/Amadeus-Big-Data-Report.pdf>

As Francisco Pérez-Lozao Rüter, SVP, Strategic Growth Businesses at Amadeus comments, *“At every moment in the traveller’s journey, from the time they make an air booking or search for a train timetable online, to their hotel check in, their actions create data. This data, picked up from hundreds of points across the travel ecosystem, presents a valuable opportunity for travel companies to provide better-individualised services to the traveller and improve his or her experience.”*

Travel providers have access to unprecedented amounts of data, both from travel data and external data such as weather, geographical, social, media consumption, and spend data. Successful companies will understand how to integrate and act upon all this data to optimise what they’re already doing, transforming their operations and customer experience. Thanks to increased computing power, travel companies are in a position to unlock the benefits of analytics and automation better than ever before.

We have entered an *“age of experimentation”* where travel companies must test new ideas and take an analytics-enabled approach to innovation. It is no longer enough to continue with the products and services that have been effective so far: innovation requires travel companies to imagine ways to do things differently, or do new things altogether.

Experimentation often involves failure. To be truly innovative, companies will need to accept this possibility, and learn from it. Machines will also learn, driving much of the innovation we will see in the coming years. As Pascal Clement, Head of Travel Intelligence at Amadeus, says: *“We don’t teach the machine, and we don’t give it rules. We feed the machine data, and we let it discover the pattern, with the computing power facilitating the work. This is the move from rules-based learning to pattern-based learning, which allows for a much higher ratio of confidence in output.”*

In this big data, machine-learning world, almost anything is possible. The rise of data may at first seem unnerving, but it provides the raw material for real innovation. Travel brands must encourage an openness and willingness to use the insights from this and experiment with new ideas and approaches. Disruptive ideas – though some will fail – will define the future travel experience.









# Unlocking business benefit for destination marketing organisations

## Adapting to the pace of change – and preparing for the future

DMOs play a vital role in the global travel and tourism industry, raising awareness and helping to shape consumer interest and demand in both new and established destinations across the world. They are responsible for building destination management plans and developing marketing strategies to attract visitors to specific destinations, and vary greatly in scope and size, ranging from national tourist offices, to those representing regions and individual cities.

In 2015, the direct contribution of travel and tourism to global GDP was USD2,229.8 billion (3.0% of GDP), and this is forecast to reach USD3,469.1 billion (3.4% of total GDP) by 2026<sup>2</sup>. Against this backdrop, DMOs are taking centre stage in driving economic growth through tourism in their markets.

However, today's travel and tourism marketplace is changing at an unprecedented pace. DMOs of all sizes face common challenges, not least when it comes to targeting new consumer segments. With millennial behaviours, such as preferences for 'authentic' local experiences, blending business with leisure travel,<sup>3</sup> and the use of ride-sharing over renting a car<sup>4</sup> increasingly adopted by those of all ages, DMOs need to arm themselves with greater insight into the new traveller.

*"In the past, the traveller segments a given destination needed to target were fairly clear. But the fragmentation of people's needs and desires is making targeting more difficult,"* says Eduardo Santander, CEO of the European Travel Commission. He continues, *"For the new traveller, visiting certain destinations is a personal aspiration – rather than seeking status through being well-travelled, they are looking for experiences that enrich their lives. It's no longer about how many countries or places you visit, but what you do when you're there."*

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<sup>2</sup>World Travel & Tourism Council, *Travel and Tourism Economic Impact 2016: World*, <https://www.wttc.org/-/media/files/reports/economic%20impact%20research/regions%202016/world2016.pdf>

<sup>3</sup>Huffington Post, *4 Ways Millennials Are Changing The Face Of Travel*, [http://www.huffingtonpost.com/sarah-clark/4-ways-millennials-are-ch\\_b\\_10503146.html](http://www.huffingtonpost.com/sarah-clark/4-ways-millennials-are-ch_b_10503146.html)

<sup>4</sup>Concur, *The sharing economy expands to business travel*, <https://www.concur.com/newsroom/article/the-sharing-economy-expands-to-business-travel>

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## What is a destination marketing organisation?

The mission of a destination marketing organisation (DMO) is to grow tourism-generated revenues for their destination, be it a town, city, region or country. DMOs coordinate the various stakeholders involved in the visitor economy in their country, region or city.

### DMOs are responsible for:

- Promoting their destination to attract both domestic and international visitors
  - Curating and co-creating the tourism offer and services
  - Creating employment in tourism
  - Attracting investment to the destination
  - Creating strategies for sustainable growth in tourism-generated revenues
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Jennifer Iduh, Head of Research at the European Travel Commission, adds: *“Today’s new generation of travellers have developed stronger critical thinking and consumption skills and they are consequently much more informed and demanding. The changes in their desires need to be identified and assessed. DMOs should understand and embrace the real, key shifts impacting on travellers’ behaviour and preferences, to be able to exceed their expectations in the future.”*

At the same time, a growing middle class in emerging markets is driving growth in travel volumes and represents a huge opportunity for destinations across the world. Understanding what motivates these travellers, the kinds of travel experiences they are looking for, and the other destinations that appeal to them, is essential for DMOs to respond with targeted marketing campaigns.

*“Destinations are at the heart of a travel and tourism marketplace that is changing faster than ever, thanks to an increasingly connected global audience, emerging new middle classes and rapidly changing global economics,”* says Pascal Clement, Head of Travel Intelligence at Amadeus. *“DMOs need the tools that highlight new opportunities as they arise and enable them to shape their strategy even as it’s in progress – so they can keep up with this pace of change.”*

In such a fast-changing environment, DMOs need new approaches to identify and capitalise on opportunities. *“It’s becoming increasingly necessary to be flexible in your strategies,”* says Steven Valcke, Business Intelligence, Marketing at Visit Flanders, a DMO based in Brussels, Belgium. *“If you look at the wider landscape, factors like environmental issues and even currency changes have an impact on traveller behaviour and demand. Right now, for example, there’s a lot of volatility and fluctuation in currency values. DMOs need to be able to adjust quickly to these developments.”*

Historically, however, this flexibility has been a problem for DMOs. As Eduardo Santander explains, *“The problem we’ve traditionally had is that we haven’t been able to look into the future, because we’ve always received visitor numbers and other data after the year is finished. So DMOs are always working retrospectively, not forecasting – you might know that last year went well, but it doesn’t tell you much about this year. This limits the opportunities for innovation.”*

Over the last decade, a rise of data sources – including traveller behaviour, spending patterns, social media activity, and weather events – has coincided with a massive increase in computing power, allowing companies to process and work with complex sources of data and generate actionable insights. This is now a time of incredible innovation through intelligence.

It's no longer enough to rely on traditional sources of information, such as modelled historic data and survey results – not least because survey data, whilst highlighting traveller intentions, doesn't necessarily match up with outcomes. Thanks to data analytics, we are no longer focused on the past, reviewing historical data and trying to match it up with future outcomes.

The opportunities around data analytics revolve around using real-time data for real-time decision making. The value of data comes not from collecting it, but from contextualising it and understanding what is most important to the business.

To see the best opportunities, DMOs need a clear view of what is happening now, and what will happen soon: *“Travel intelligence tools can give DMOs insight into intention itself – not actual bookings, but knowing that a certain number of people are planning to visit a particular location. This will help DMOs become more proactive, rather than reactive, in understanding traveller needs,”* says Eduardo Santander.

As more and more travel companies rely on data, it will become vital for DMOs to embrace business intelligence to remain competitive. Equally important will be ensuring the analytics tools can fit into their current business model: *“All tourism organisations are looking for tools that are easy for anyone to use and understand, without needing specialised personnel,”* says Eduardo Santander.

Data analytics also presents a huge opportunity for DMOs to connect the dots between the different stakeholders who serve and manage various aspects of the traveller experience – from airlines to cruise companies, to hotels and tour companies, to attractions and public services. Today, the traveller experience across these stakeholders is extremely fragmented.

As more data becomes available and data analytics become more sophisticated, however, DMOs will be better equipped to understand the needs of the global traveller as they evolve: from what they are inspired by, to what and how they purchase services both pre- and on-trip, and how they feel about their stay. By connecting all of these real travel insights, DMOs will become more effective in measuring how well the destination as a whole is addressing needs, preferences and demands throughout the full traveller experience.





## Effective marketing campaigns

Whilst the evolution in traveller behaviour presents challenges for DMOs, there are also significant opportunities on offer. Destinations that can understand today's travellers, predict their behaviour through data, and respond with innovative, effective marketing campaigns, will be well-placed to capitalise on the appetite of an ever-wider range of travel consumers.

Today's sophisticated data analytics help DMOs understand their main origins of traffic and track those that are declining and growing. This information provides the foundation upon which they build marketing campaigns, aimed at securing traveller volumes.

*"Technology shifts are impacting the ways that people discover and book new destinations," explains Pascal Clement. "Data has become the bedrock for destinations to effectively track and target shifting audiences through cross-channel marketing strategies. Thanks to data analytics, DMOs can now easily set realistic, quantifiable KPIs and truly measure the impact and ROI of their marketing campaigns."*

In the past, DMOs had to wait until travellers arrived at the destination to know if their campaign was successful. Today, analytics can help them understand, for example, searches as well as bookings for their destination on a daily basis – so the DMO can understand the impact of a campaign, even as it's in progress. This means they are equipped to take appropriate steps to enhance the effectiveness of the campaigns, focusing the timing and target markets of campaigns to ensure maximum impact.

*"The most exciting thing for destinations when it comes to data and analytics is having tools that can forecast the future, even if this is simply the next two or three months. Many different factors can impact visitor numbers, and in some cases this is a matter of common sense – natural disasters, for example. But in other cases it's not so obvious," says Eduardo Santander.*





He continues: *"In December 2016, Alpine regions in Europe didn't see much snow, which has an impact on those travellers who might be considering booking a skiing holiday. But after Christmas, it started snowing heavily, and bookings rocketed. If we know there is snow coming to the Alps, we need to see how people react in real time, so that destinations can plan accordingly. This is something that is essential, but DMOs don't have today."*

As Pascal Clement explains: *"One of the most game-changing aspects of big data is that it enables organisations to look into the future and anticipate the needs of customers. Now, DMOs have unprecedented insight, not only into future arrivals, but also into customers' wishes, thanks to analysis of billions of traveller searches. With this information, destinations can tailor their offer in line with demand."*

Combining search and booking data with additional third-party data sources, such as weather data, oil price data (which affects air fares), user generated content or currency exchange rates could help further augment a DMO's ability to predict traveller demand.

Sometimes, it's even possible to see excessive traveller demand, and the DMO needs to take anticipatory action to promote alternatives to a particular city or region: *"One of the big objectives for our organisation is managing the flow of tourists so this is spread across the whole country and doesn't exceed comfortable capacity – Bruges, for example, can be very crowded with tourists during peak seasons. Marketing campaigns have an important role to play in managing demand,"* explains Visit Flanders' Steven Valcke. He continues: *"For the last couple of years, we've used our campaigns to promote Bruges as a winter destination, when it's not so crowded and we can help increase demand and therefore revenues for hotels in the city. During the summer, we also highlight other places in Flanders to visit, so the city itself doesn't get too busy."*

However, the role of analytics in shaping DMO marketing strategies doesn't stop at identifying demand and traffic flows. *"One vital use of analytics for DMOs should be as a tool for measuring return on investment from marketing campaigns. It will be especially exciting if we can incorporate economic insights, for example identifying jobs in hotels and restaurants created by an effective marketing campaign,"* says Eduardo Santander. As DMOs are typically publicly-funded, this accurate evaluation of ROI is increasingly important.









## Visit Flanders and Amadeus Destination Insight

Flanders, in northern Belgium, attracts visitors from all over the world who are keen to sample its world-famous chocolate and beer, or explore its history, architecture and art. Founded in 2004, Visit Flanders' mission is to increase the economic return, employment and welfare of tourism for the population of Flanders.

Visit Flanders wanted to make more effective use of data to inform its marketing strategies. The organisation chose Amadeus Destination Insight to help it achieve timely, relevant and accurate insights from data. By analysing billions of real, up-to-date, global air travel transactions, Amadeus Destination Insight highlights hidden opportunities to optimise a destination's growth.

Visit Flanders has gained greater visibility of market developments, resulting in faster, better decision-making: *"A lot has changed throughout the whole organisation in the way that we use data,"* said Steven Valcke, Business Intelligence, Marketing at Visit Flanders.

For example, Visit Flanders used Amadeus Destination Insight to analyse how bookings fluctuated throughout the year. Its marketing team discovered that travellers start making bookings earlier in the year than they had previously thought: they had been missing out on a high booking season in January, assuming instead that target visitors started to search and book in the spring. This insight prompted Visit Flanders to shift its marketing activity towards the start of the year to meet this demand, at the same time getting ahead of its competitors.

Advanced data analytics also equip Visit Flanders to understand the impact of external events on consumer confidence. For example, Visit Flanders used Amadeus Destination Insight following the March 2016 terrorist attacks in Brussels. The organisation monitored, on a weekly basis, the impact of this event on traveller demand on each of its target source markets, adjusting or postponing marketing campaigns in response.

*“Having this kind of detailed data allows us to be more responsive to developments,”* added Steven Valcke. In an increasingly uncertain world, flexible decision making will be crucial to success.

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## Understanding the competition

Today, it is a significant challenge for DMOs to understand which other destinations they are competing with for visitors. However, sophisticated data analytics provide them with the tools they need to identify who their competitors are, and, in turn, what they must do to 'win' the traveller. This will become increasingly important as the diversity and range of tourist destinations worldwide continues to expand, and DMOs find themselves needing to stand out in a marketplace where travellers are presented with a rich variety of trip options.

*"One of the primary challenges for Europe as a destination is the increasing and unprecedented complexity of the competition: Asia and South America in particular are increasingly developed as tourism destinations," says Eduardo Santander. "If European destinations don't find new promotion strategies, south-east Asia could leapfrog the Mediterranean as the most-visited destination in the world."*

Data analytics empowers unprecedented understanding of the competitive landscape: DMOs can use analytics to not only identify the source markets travellers come from, but also to identify the other destinations that travellers from this same mix of markets are looking at for similar dates. This is the most accurate way of gauging competition, and can reveal unexpected results, with some DMOs realising they have been monitoring and matching the wrong destinations in their battle to attract visitors. Accurate, timely insight allows DMOs to refine their strategies to compete more effectively for traveller attention in the right place, at the right time.

As Steven Valcke explains: *"The data analytics from Amadeus showed us that the main competitors for Brussels are Paris and Amsterdam, with travellers from the same mix of source markets looking to book travel to these destinations for similar dates."*

He continues: *"This surprised us, as we felt our natural competitors were cities like Copenhagen and Vienna, which we believed to be similar in terms of offer and size. But the data shows that travellers actually book trips to those cities at a completely different time of year!"*



## A data-driven future for DMOs

Data analytics is already transforming business for DMOs. New technologies emerge every day, helping DMOs understand trends in visitors, forecast behaviour from origin markets, and identify and benchmark their performance versus competitors'. Having these insights ensure DMOs can build a comprehensive, strategic plan for growth, optimising their marketing campaigns to reach the right people at the right time. It can also help DMOs measure ROI, a requirement for publicly-funded organisations.

As Jennifer Iduh explains: *"Some DMOs are making good use of data analytics, while others are merely touching the surface. But we are a very innovative industry. The latest trends show that DMOs are changing. They are spreading out and making use of new technologies. Where in the past they were more like tourist offices, they are adapting to the needs of the industry and using data to become centres of excellence."*

This will create innovation opportunities for DMOs in the future. For example, with Big Data technologies like Hadoop, which can process huge amounts of unstructured data from social media such as Twitter, Facebook, and Instagram, destinations could identify trends – as they emerge and develop - in how people feel about the destination, whether potential visitors, current visitors or past visitors.

Destinations could then use this powerful information in many ways: for example, to update communications, in real time, to reassure potential and current visitors in times of disruption; to identify brand attributes that they may not be aware of – perhaps visitors associate the destination with food or adventure – so that the DMO can tailor its offer accordingly; and to understand the attitudes of past visitors, to develop marketing campaigns that entice them to visit again.

This kind of sentiment analysis becomes especially powerful when connected with real travel insights, giving destinations a much more effective way of knowing the real cause and effect of both external events and their marketing campaigns, rather than having to take a 'best guess'.

*Steven Valcke adds: "The winners will be those who can use data to become proactive, basing decisions on insight rather than external market developments. This will really disrupt the way DMOs work, for the better – today, it's typical to develop action plans for the year ahead, but with sophisticated data analytics, DMOs will be much better placed to adapt strategies as-and-when needed, and will benefit from much more flexible decision-making."*

The growth of data analytics can be unnerving, but it sets the framework for real innovation. The revolution unleashed by digital will only intensify. DMOs are in the inspiration business, and must prioritise meeting the traveller's needs. Technology and data will become more important than ever in helping DMOs connect with and inspire travellers.

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