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Smart Tourism
The destination is always ahead
A GovLab report
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Transforming the visitor experience with predictive analytics

Tourism is an industry but, in many ways, it might be better described as an ecosystem. The players in this ecosystem include – but are not limited to – visitors, governments, tourism businesses, as well as a whole range of supporting industries such as food and beverage, retail, and transportation, which experience the direct and indirect, knock-on effects of tourism.

Fuelled by increasing connectivity and the rise of Smart technologies, these players are constantly collecting and generating copious amounts of data – each holding on to bits of a larger puzzle.

Imagine if all these data fragments could be pieced together to form a single, unified view of the ecosystem. Not only will the players gain access to critical data that they may require in order to improve their processes, but with the right use of predictive analytics, such a cohesive system can also uncover a number of sometimes unexpected, actionable insights that players can act on to generate greater value for their businesses and the ecosystem as a whole.

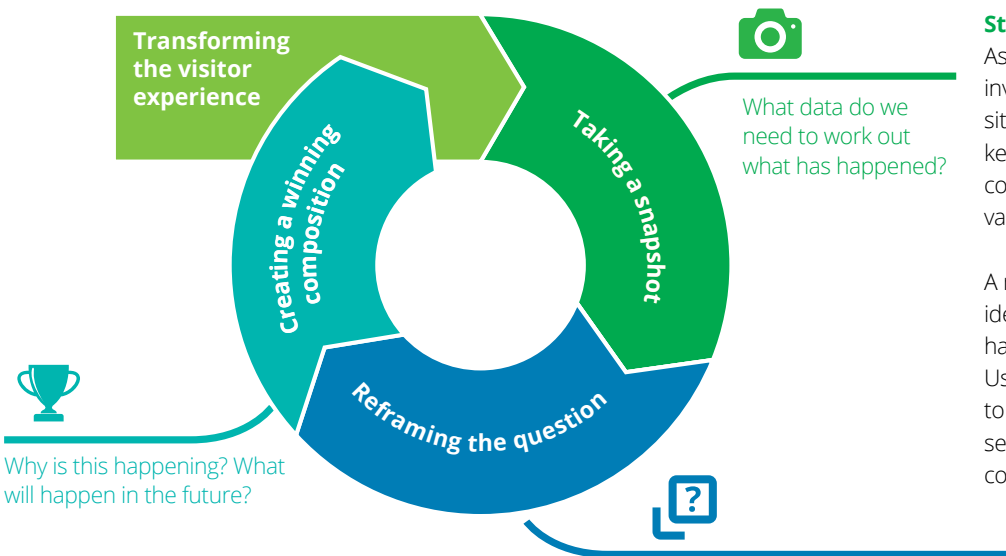**Towards a differentiated visitor experience**
A differentiated visitor experience is one that is seamless from end to end, with a connected set of attractions where visitors can readily access information and services across attractions, events and hotels at any point during the visitor journey[1].

Realising this vision will require the deployment of a repository of information and content that will enable businesses and partners to contribute and exchange information about their offerings. With the use of data analytics and cloud technology, the consolidated data can also shed insight into the visitor experience and reveal areas for intervention.

A three-step methodology was developed to offer a glimpse into the vast potential that an aggregated database repository, combined with predictive analytics abilities, can have for a central managing authority. Collectively, the accumulated data from individual businesses and enterprises would be able to provide a more complete and holistic understanding of the visitor's journey, and in turn, generate better leads and enable more conversions for a tourism destination.

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1   "Tourism Industry Conference 2016 - Speech by Mr Lionel Yeo, Chief Executive, Singapore Tourism Board". Singapore Tourism Board.
26 April 2016. https://www.stb.gov.sg/news-and-publications/lists/newsroom/dispform.aspx?ID=654

A three-step methodology

Step 1: Taking a snapshot
As the first step, the analysis at this stage involves taking stock of the current situation by reviewing historical data, while keeping an eye on the macro trends that could influence specific dependent variables.

A root cause analysis is then conducted to identify all the possible factors that could have an impact on purchase patterns. Using a layered approach, we dive deeper to try to uncover its root causes by asking a series of "why" questions to drill a possibly confounding question down to its core.

Step 3: Creating a winning composition
Finally, in this phase, the focus shifts from prescriptive to predictive. It is important to keep in mind that despite the largely standardised approach towards data cleansing, population modelling and the interpretation of statistical output, the approach of arriving at predictive outcomes is as much a science as an art, as the process of variable transformation and model selection still require a certain degree of human judgement.

Step 2: Reframing the question
With the use of statistical methods, the second step attempts to verify and explain the factors that possibly contributed to the occurrence of the trends identified in the previous step. The validity of the hypotheses is tested with two methods.

Firstly, an analysis is conducted using a combination of statistical tests that are employed depending on the distribution of the data and the type of variable tested. Then, each hypothesis is validated against the tacit knowledge of subject matter specialists in order to gain insights from the ground and to verify the logic of each hypothesis. The combination of these two methods will help to develop strong rationales for the results that will later be generated in the third phase.

Contact us

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