10 Tracking Tourists' Mobility via the Internet

What this chapter will cover:

- The technique of collecting big data from the internet, where digital traces allow the approximate location of internet users to be tracked.
- The variety of means by which this form of data can be collected.
- The conceptual findings that this form of data has facilitated, including predictions of tourists' behaviour and insights into tourists' behaviour.
- The ethical issues that this form of big data can raise.

Introduction

Tracking tourists' mobility and migratory patterns may be conducted by collating their digital footprints via the web. Data of this sort may be sourced via apps such as Google Maps, or websites that collate IP numbers and their proximity to mobile phone towers. It may also be collected via big datasets such as ticketing websites, via mini programs such as those used by WeChat, and via non-big data sources such as blogs.

This form of location-based tracking is a highly efficient and cost-effective means of understanding where consumers are located. The

devastating impacts of the COVID-19 pandemic upon the tourism industry have clearly indicated the potential for tracking via the internet to assist the tourism industry. Google's analytical data that was released publicly in March 2020 provided an excellent example of this – both in terms of the insights that can emerge from data of this type, and consumers' perceptions of the ethics of this form of data.

This chapter will explore the technique, including the types of location-based data that can emerge from websites, the conceptual learnings that have emerged from this technique, and, importantly, the ethical implications of this form of data.

How tracking via the Internet works

Tracking consumer behaviour on the internet has become big business. Research that tracks mobility via the web has largely been contained to the commercial sector, but examples do exist in academia. The use of internet data and big data requires highly technical economics and forecasting methodological skills. These will not be detailed here, rather the capability of the data in terms of its ability to determine tourism mobility and movement will be explored.

Tracking via the internet may be done in a number of different ways:

- **First-party data**: this form of data has been collated by a business and reveals specific information on the business's existing customers;
- **Second-party data**: is collected by one business and then shared with another – for example one business collects tracking data on its consumers and then shares it with another business;
- **Third-party data**: is collected by businesses – called data aggregators – who intend to sell the information. This data can be useful for identifying new customers as well as tracking current customers. Examples of data aggregator companies include Mobile Walla and peer39. It is important to note that the data that tourism organisations buy from data aggregators is not necessarily unique – the same data can be sold by the data aggregating company to multiple organisations (Mobilewalla, 2020).

Most commonly, research that is publicly available is sourced from first party data. Second and third party data tends to be kept as commercial assets, and only shared in confidence. An example of first party data is the use of cookies, that can be used to track and collate online behaviour. Cookies allow websites to recall individuals' behaviour on websites at the time of their visit – so consumers can add to their shopping cart purchases – (called 'session cookies'), and also long-term recollection of consumers' browsing histories (called 'tracking cookies'). Cookies may be used to collate purchasing data and make predictions on future purchase decisions, plus they can assess how consumers move through cyberspace, *but* they cannot assess how those who make purchases move through physical space. In order to achieve this aim, analysts must collate data from users' IP addresses, that locate users within networks and therefore can be used to determine approximate physical location.

Tracking via second party data was recently conducted by Klepers (2020), who assessed online ticketing purchases to trace tourism mobilities. Klepers assessed 140,000 entries of online ticket purchases from 555 events in Latvia. The researcher assessed the origin and destination of festival goers, which allowed them to differentiate local, non-local domestic and international festival goers. Using this technique they were able to assess the impact that different styles of events had upon attracting attendees from different locations. This use of big data (in this case over 1.2 million cleaned entries were used) was very useful as it allowed the research team to go into far more detail than national tourism statistics, as they could assess local travel, non-local but intra-country travel, and also international travel. However, there were some issues with this method – it was not always certain whether the IP address of an event goer at the time of purchase represented their home – ticket purchases could have been made via a hotel concierge, for example, or as a gift from someone not living near the event goers. The researcher also found that 3% of the data was not useable as it had errors such as incomplete IP address. Despite these limitations the authors noted that this method offered great potential for local and regional Destination Management Organisations (DMOs) and researchers to understand visitor flows, as well as forecasting future travel.