WHITE PAPERS

October 2014

'BIG DATA' ANALYTICS FOR EVENT ORGANISERS

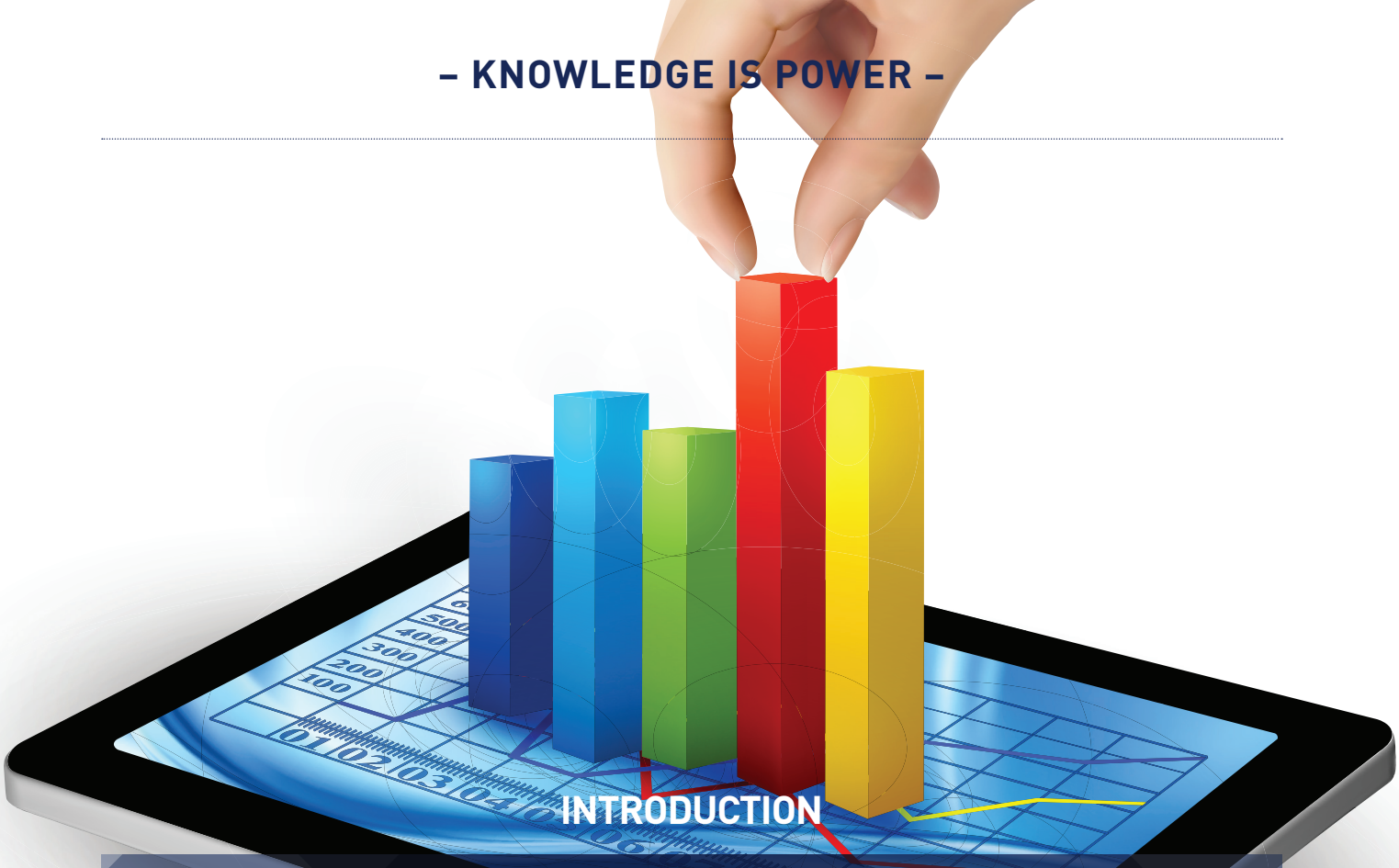
Knowledge is power

Diverse sources of information can unlock new opportunities

Brought to you by

مركز دبي التجاري العالمي

DUBAI WORLD TRADE CENTRE



INTRODUCTION

More than ever before, the data we harvest from customers can help shape the future of our business, as bigger storage, faster processing and smarter analysis turn disconnected facts into a valuable source of strategic intelligence.

When online movie and TV streaming service Netflix wanted to start producing its own programming, rather than purely being a distributor of other people's content, it wanted to make sure it launched with a guaranteed hit. The company could have hired some of the entertainment industry's greatest creative minds. Instead it called in the mathematicians

Since first sending out DVDs by post in 1999, by 2012 the company had created a huge database on the viewing preferences of millions of customers, watching millions of shows every day, delivering millions of viewer ratings, streaming billions of hours of video, plus accumulated device and location data, social media data, and all manner of other information. Looking at this mass of customer knowledge, the data analysts recognised that complex political thrillers were popular with subscribers, as was the actor Kevin Spacey, and a British series from the early 1990s had received a high proportion of positive reviews.

And so Netflix remade 'House of Cards', putting Kevin Spacey in the lead, and got exactly the hit series the numbers had predicted.

The Netflix experience is a perfect example of the way the power of data accumulates; the more bits of information we have, and the more efficiently we can collate and compare those bits with each other, the more they can tell us. For the events industry, bringing together all the tiny facts we collect about our customers – what they like, what they want, and what they do – can create powerful new insights into every aspect of our business.

Information multiplication

This is what people mean by the much-hyped term 'big data'; a collection of information so large and so complex that it is impossible to analyse by conventional means, but which is made accessible by increasingly sophisticated analytical software. Doug Laney, now a consultant with Gartner, effectively defined the term in 2001, breaking it down into three factors: volume, velocity and varie-

NETFLIX: THE NUMBERS ARE EVERYTHING

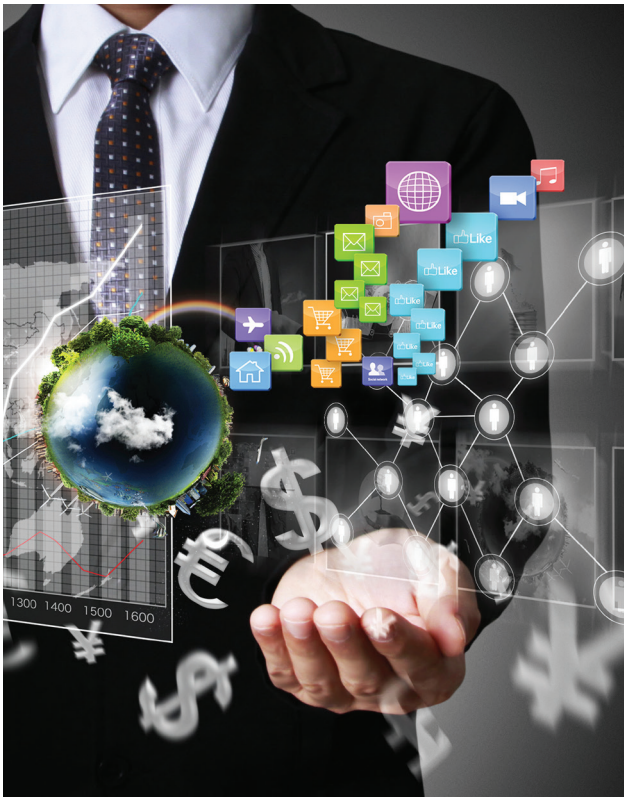
33 MILLION	27 MILLION	30 MILLION	4 MILLION
worldwide subscribers	US subscribers	'plays' daily	viewer ratings daily

2.5 QUINTILLION
Bytes of data produced every day

ONE QUINTILLION
= 10 TO THE POWER OF 18

90%
Of data created in past 2 years

Source: IBM



ty, calling these the three Vs.

Volume is the rising amount of data, such as data from our transactions; automated data harvested via sensors or machine-to-machine communication; and the unstructured (but highly revealing) data streamed via social networking. Velocity is the unprecedented speed at which we collect new data, with information now able to be gathered and examined at close to real time. Variety refers to the diverse styles and sources of data that can be collected and collated.

To use the term 'big data' to describe the information we have in the events industry is possibly an exaggeration – but it is true to say that we are collecting an increasing volume and diversity of information on our customers. The challenge is to find new strategic uses for this information, getting the data out of our servers and deploying the best analytics available to achieve a better return on investment. We want to understand what will bring more visitors or exhibitors through the door, and what will turn them into repeat customers by sending them home happy. To achieve this, we start by looking at the types of data that help us plan a better event, and then structure our data gathering accordingly.

Small details have value

To achieve big results we have to start by thinking small, collecting comprehensive information on each individual customer, and establishing the means to measure what they think of every conceivable detail of an event.

The main portal for data collection should be the registration process, which must look beyond the basics of managing bookings, payments and customer communication, to become an intricate profiling tool for attendees. Current event management software can collect demographic information, purchasing and budget information, tells us which sessions particular guests attend, create logs of which messages they respond to, who they make appointments with, and a wealth of other details. The software should include reporting tools to help us start making sense of this information.

We also need to learn from the unstructured information that comes from broader online activity, and which has added value for being spontaneous rather than prompted by direct questioning. Most businesses today use social networking to speak to customers. Just as important, however, is to use Facebook, Twitter and other networks as channels for listening. By monitoring comments, we can understand and respond to criticisms, both in terms of replying on the relevant thread and also

TYPES OF DATA:

51%
STRUCTURED

27%
UNSTRUCTURED

21%
SEMI-STRUCTURED

Source: Tata Consultancy Services

TOP-SPENDING INDUSTRIES IN BIG DATA:

1. TELECOMMUNICATIONS
2. TRAVEL-RELATED
3. HIGH-TECH
4. BANKING

Source: Tata Consultancy Services

by recognising when there is pattern of dissatisfaction that should be solved. Social networking, if used effectively, helps us discover negative sentiments before they cause commercial damage, and take steps to bring unhappy customers back onside. It also helps us recognise areas in which our audience may feel unfulfilled, opening our eyes to new opportunities.

A related source of information is tracking technology, which allows us to monitor people's actual behaviour. Organisers routinely include QR codes or barcodes on visitors' passes, with staff scanning the code as people enter an auditorium or exhibition hall. A significant step forward is to use RFID tags, which can tell us when someone left a venue as well as when they arrived. These can also provide information on movements within the space, if readers are distributed appropriately.

The current 'next big thing' is geo-positioning, such as Apple's iBeacon technology. These integrate with mobile devices to provide a highly detailed picture of the user's movements, and can also transmit, pushing messages to targeted clients as they move around the venue. This is not just a useful new marketing tool; it also allows us to harvest data on which messages people respond to.

55%
Spending goes to generating and maintaining revenue

Sales
15.2%

Marketing
15.0%

Customer service
13.3%

Product development
11.3%

The learning opportunity

Tata Consultancy Services' Big Data Global Trend Study 2013 examined big data usage for 643 companies worldwide. Several of the areas where companies saw the greatest potential benefits were directly related to sales, such as identifying customers with the most value, as well as monitoring the response to marketing efforts. There were several areas, however, where data analysis was seen as a tool to improve the business itself, including monitoring product quality, identifying customers at risk of defection, and identifying needs for new or improved products.

With the right monitoring, the data we accumulate can draw a complex and nuanced picture of individual engagement at our event. For example, interlinked registration software and mobile apps create a log of conference sessions an attendee signed up for, meetings they attended, structured feedback via surveys, and unstructured comment via social networking pages. Tracking software tells us where people are and when – they might sign up for a conference session, but by scanning people in and out of the venue you can tell whether they actually turn up, and whether they stay to the end.

We discover usable new knowledge by taking individual grains of information and examining the connections between them. For events, we particularly want to find

where people's behaviour forms patterns. As an example, tracking movements in and out of an auditorium can reveal that an unusual number of people left before the end. Cross-referencing that against other data can help us understand why.

Did they rush to another auditorium, which may reveal a clash that should have been avoided, or did they go to a coffee break area, which could be a sign the content wasn't engaging enough? If they were not engaged by this session, how did they react to other sessions, and what feedback did they leave online?

To what extent does comment from one person match feedback from others, and does this indicate that there was a significant problem with attendees being unhappy with the programme, or that some found the content useful and interesting while others found it less relevant? If some found it less relevant, can we recognise patterns when we cross-check their profiles against each other? Are there similarities in terms of job-title, professional specialisation, or even country of origin?

In this hypothetical series of questions, where a particular group has been left inadequately served by our programme, the gathering and analysis of a wide variety of data helps us recognise and understand the problem. If we apply this knowledge strategically, we can improve our offering for the next event, or perhaps discover a potential market for a new series of events aimed closely at the dissatisfied niche. The same process of recognising patterns and drawing conclusions can help improve almost every aspect of our business, from the programme, to the administration, budgeting, right through to whether we had the right mix of snacks available during the coffee break.

That mix of snacks raises an important point: one part of the potential in big data is about how we sell and deliver services, to help us focus our marketing and create a better experience for customers. The other side of the equation looks at how we buy services, analysing our own spending in detail to get the best possible value.

Your analytical toolbox

Alongside the increasing scope for collecting data, we have an increasing ability to store and analyse data. Cloud storage allows even relatively small companies to keep large volumes of information, without needing to invest in servers or IT infrastructure. Cloud-based software-as-a-service gives access to highly sophisticated management tools, also without requiring significant in-house investment.

BIG DATA SERVICES MARKET

Projected Revenues

28.5 billion 2014

50.1 billion 2015

Source: Wikibon

For really big data, there are several very specialised software packages available, including some tightly focused on analytics. Super-specialised systems are most appropriate to organisations needing to process really big data sets for highly complex results. However, any data storage and management service worth its salt, including default names such as Amazon Web Services, IBM, and enterprise management packages such as SAP, include analytics offerings that become more sophisticated and capable with every update.

Analytics are also increasingly a feature of specialised event management systems, the best of which will consistently evolve to incorporate new planning, management, communication and review tools, allowing users to seamlessly implement the latest practices. Typical features now include app development that includes in-app social networking, badge and QR code scanners, features to encourage visitors to 'check in' as they move around an event, and an ever-expanding menu of options.

To extract value from these features, it is essential to ask how we can benefit from them – and along with ensuring a smoothly run event, the benefits should include extensive data capture. When choosing software, always investigate the way in which it collects and collates data, making sure it is able to integrate information from a variety of sources, and assess the effectiveness and versatility of the analytical and reporting tools included straight out of the box.

If you really want to crunch some big numbers, it might still be necessary to use more specialised software, in which case you will want to investigate how easily you can export data from your management system into a proper 'big data' platform. As the tools become increasingly affordable and accessible, the opportunities will only grow.