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Making a connection



Type 'Tim Berners-Lee' into a Google search, and a box in the top-right hand of the page informs you that he invented the World Wide Web, when and where he was born, who his children are and where he was educated, with links to each.

The concept underpinning this, graph analytics, is one of several techniques being tipped to take the enterprise data analytics market by storm over the coming years.

Exclusive transatlantic research undertaken for this Special Report confirms the scale of the channel opportunity for data analytics right now.

Some 40 per cent of channel partners taking part in the research run a dedicated data analytics business, with another 33 per cent offering data analytics on a more ad-hoc basis. Of those that offer data analytics, about 70 per cent expect to see sales in this area grow by over 10 per cent in 2017, with 88 per cent also seeing data analytics as an investment priority.

Data analytics is regarded as being equally hot on

both sides of the Atlantic, but the research exposes some intriguing geographic differences when it comes to what is driving spending. Digital transformation (DX) appears to be top of mind in the UK, whereas in the US, compliance is the overriding issue.

Graph analytics is being touted as one new technique resellers can employ to help end users gain a better insight into their customers; something that gels perfectly with the DX agenda.

So far, the concept of graph databases — which was actually pioneered by Berners-Lee himself — has caught on mainly among consumer tech giants such as Google, Amazon and eBay. Indeed, our research found that only a quarter of resellers offering data analytics incorporate graph techniques into their offering.

But with vendors now moving to bring graph and other new analytics techniques to the mainstream, channel partners that get on board sooner rather than later may well stand to benefit.

■ Doug Woodburn is editor of CRN

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■ Mark Taylor is senior vice president, software solutions — software channels at Pitney Bowes



Analytical advantage

*Some four in 10 resellers now operate a dedicated data analytics practice, joint CRN and Channelnomics research has found. **Doug Woodburn** examines what the findings reveal about where this booming market is moving*

You may not know it, but every time you Google something, or receive a recommendation from Amazon about what to buy based on your last purchase, you are making use of a graph database.

Graph technology is currently not something used widely by enterprise organisations, but it is being touted as one of several emerging niches within an already booming data analytics market.

According to IDC, the big data and analytics market is set to mushroom by 11.3 per cent annually between 2016 and 2020 to hit a cool \$203bn (£161.7bn).

Research conducted by CRN UK and Channelnomics, in conjunction with Pitney Bowes, sought to uncover how important data analytics is as a revenue stream for the channel, what insights clients are generally seeking, and what new analytics techniques are poised for take-off.

Conducted in February 2017, the research quizzed 208 resellers, systems integrators, consultancies, MSPs, ISVs and cloud service providers in the US and the UK.

The findings show that data analytics is big business for the channel, but also unearth some intriguing differences between the two markets, particularly when it comes to what is driving data analytics investments.

Forty per cent of those questioned said they run a dedicated data analytics practice, although the figure is slightly higher for the UK (43 per cent) than the US (38 per cent) (see figure 1). In total, 73 per cent of respondents offered data analytics on at least a casual basis.

Even more illuminating, the lion's share of respondents see data analytics as both an investment priority and double-digit growth area.

Of those who said their business offers data analytics,

the vast majority (86 per cent in the UK and 91 per cent in the US) view it as an area of increasing investment for their business (see figure 2). Moreover, 36 and 30 per cent of UK and US respondents, respectively, saw it as their top, or one of their top, investment priorities for 2017.

Next, we asked about how quickly their data analytics sales are growing. In the US, 65 per cent of respondents are counting on double-digit growth in the coming year, with the figure even higher for the UK (73 per cent), backing up the current analyst fervour around data analytics.

The DX agenda

Resellers are unlikely to exploit the full growth potential of data analytics without having a game plan for which customers to target, and why.

In light of this, we wanted to probe the main drivers behind data analytics projects, as well as the vertical markets that are giving off the most heat.

We asked respondents what insights their clients are generally seeking in data analytics projects. They were able to check between one and three from a series of nine options.

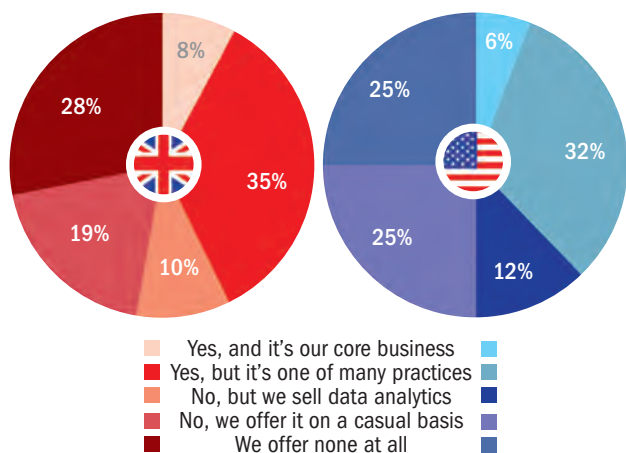
In the UK digital transformation (DX) emerged top (see figure 3, p30).

Some 57 per cent picked 'how to improve customer experience' – the key goal of many DX projects – as the primary insight sought. 'How to transform their business into a digital enterprise' finished fourth, on 33 per cent.

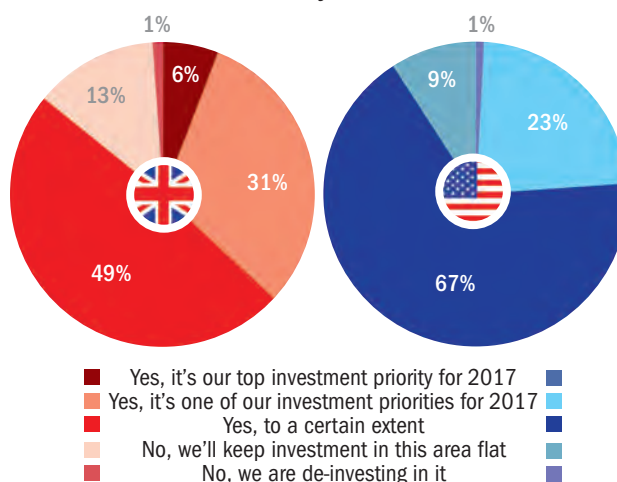
In the US, however, compliance topped the pecking order, with 53 per cent selecting 'how to ensure their operations and their data are in line with governance, risk and



1. Does your business have a data analytics practice?



2. Do you see data analytics as an increasing area of investment for your business?





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compliance policies' as an option. In the UK, just 35 per cent cited compliance as a key driver.

Richard Simmons, chief technologist for information management at global systems integrator Logicalis, said compliance — particularly the General Data Protection Regulation (GDPR) — is often just the starting point for data analytics projects.

He said Logicalis recently rolled out a data virtualisation solution for a high-street retailer that allowed it to put a level of data governance and control over its data assets.

"We've worked with them on the idea that IT shouldn't view that just as a cost," Simmons said. "We have helped them engage with the business to say 'by doing this, it is also going to start driving business value' — so we have been working with people like the e-commerce and marketing team to say 'if you get a better view of the customer, you can start doing these things'."

Analytics and data is "one of the most important strategic investments" Logicalis is making at the moment and the firm recently created a separate business unit to focus on this market, Simmons said.

"It's strategically important for two reasons," he said. "One is in its own right, in that we have a lot of customers that are struggling to get value from data. Equally, as a traditional SI delivering datacentre, security, mobility and collaboration solutions, data is becoming an increasingly important part of that, and a way to differentiate the services we offer in that space."

A desire to "curate" data is often the overarching driver for projects, Simmons added.

"If you go back five or 10 years, most businesses' focus was on trying to get more data," he explained. "The challenge for a lot of businesses is they now have too much data; data is a cost for them to store and manage, but they are not getting any value out of it. So curation for us is making sure you understand what data you are capturing, and understanding the value you can get from that but — equally — deciding that some data may not have value."

Banking and finance was regarded as by far the most lucrative vertical market for data analytics by UK respondents, with 56 per cent checking it from a menu of 11 options (see figure 4, above). Retail came second on 43 per cent.

But in the US, professional services topped the pile jointly with banking and finance, on 38 per cent.

A significant minority of respondents are incorporating newer analytics techniques into their offerings, potentially boosting their customers' understanding of their businesses still further, the research also discovered.

A full breakdown can be seen in figure 5 (above right) but as a snapshot, 57 and 40 per cent of UK and US respondents incorporate real-time information into their offerings, respectively, with 43 and 22 per cent doing so for social

media activity and preferences. Underscoring the fact that many resellers are working at the market's cutting edge, 25 and 15 per cent of UK and US partners, respectively, incorporate geospatial information, with the equivalent figures for location intelligence at 20 and 19 per cent.

Respondents were also given the opportunity to share

details of the success or otherwise of projects they have carried out in new areas of the analytics market, such as predictive, geospatial and graph analytics. One UK respondent said predictive analytics "should always deliver demonstrable RoI if the project is clearly defined at the outset". One US solutions provider, meanwhile, said their firm's graph-based dashboards had been well received by its customer base, while another said they "are looking at geospatial targeting on social, but have not done it yet".

Bringing graph analytics to the enterprise

Graph analytics — while pervasive in the consumer technology we use every day — appears to be near the start of its adoption

curve in the channel. Just 28 and 26 per cent of UK and US respondents working in the field of data analytics, respectively, said they had carried out a project involving graph technology.

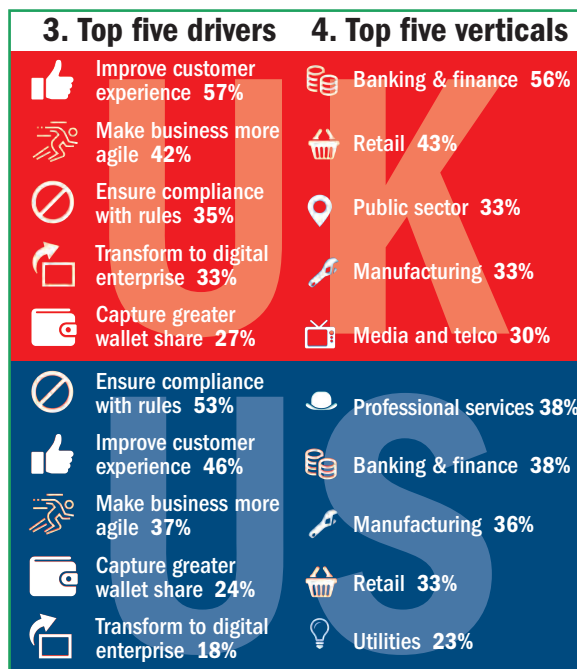
The challenge for vendors and suppliers is to help enterprises of all sizes use the same graph techniques currently used by the likes of Google, eBay, Amazon, LinkedIn and Facebook.

Navin Sharma, vice president of product management, data management and analytics software at Pitney Bowes, said: "Google has coined the term 'The Knowledge Graph'. Microsoft has evolved its technology stack to be structured and linked up in a graph data structure. And we're trying to bring that same idea to an enterprise, where they can begin to structure their customer information in much the same way, to better understand those entities and relationships, and more importantly use that to drive recommendations, like what you see with Amazon and Netflix.

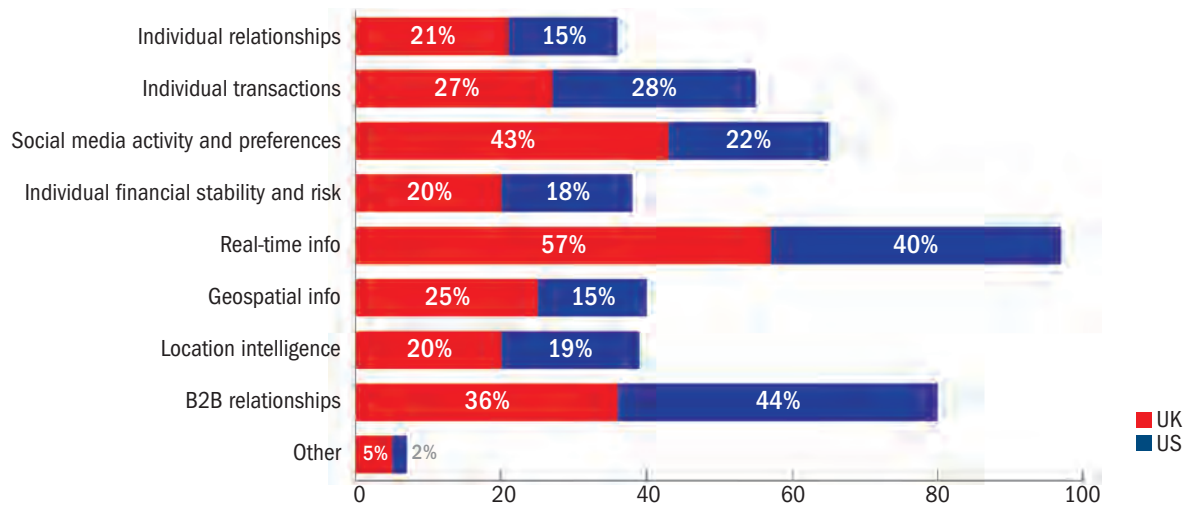
"Everything underpinning it is a graph data structure — graph databases are built to handle the notion of things being heavily connected in that connected world we live in."

Simmons at Logicalis, however, said he is already starting to see customer traction for graph technology, adding that it can give end users a complete view of their customers.

"In a relational database, you have to define what those relationships are upfront and then load data into those defined entities. With graph databases, you're allowing the data to build those relationships for you," he explained.



5. Which of the following do you most often incorporate into your data analytics?



“We’re seeing a lot of interest [in graph databases] around data exploration. We are looking at it within Logicalis. We could, for instance, create a customer pack so that when a salesperson sees a customer, rather than looking in a CRM, I can give them an app that tells them what opportunities they have with the customer, which other account managers have engaged with them and what they have sold them.”

While still in their infancy when it comes to enterprise uptake, the concept of graph databases stretches back well over a decade, with Nokia and NASA among the early adopters (see box, below).

In fact, Tim Berners-Lee’s notion of the ‘Semantic Web’ — his vision of how the World Wide Web should evolve so that it is easier for its users to share data — is an early example of a graph database, explained Dr Phil Ashworth, owner of In4mum, a consultancy specialising in graph databases.

“RDF [resource description framework] and the Semantic Web is really a graph database because the subject and object are two nodes connected by a predicate,” Ashworth said.

He explained that graph databases solve the limitations of relational databases — which can only answer the questions initially asked of them — when building data warehouses.

“If I were writing a transactional system, I would still go for a relational system, but for analytics and building warehouses, I would go for a graph system,” he said.

“Graph databases allow you to keep adding data, and by doing that you are building a 360-degree view of your data.

“So rather than writing a relational warehousing system to answer some specific questions, you keep adding into your graph database. Graph databases give you two advantages. Firstly, they give you the ability to ask far more complex and far more relevant questions across your data. And secondly, they allow you to explore the data and answer questions you didn’t know they wanted answers to.

“There is absolutely value for this in the enterprise, and it doesn’t matter what vertical or horizontal. It helps you sort your data, it helps you with analytics, it helps with data exploration and it helps you make better decisions.”

Celebrated graph database users

NOKIA One of the first — and largest — examples of a graph database was the **Nokia** customer support database.

“It was an RDF triple store, but it was a graph database,” explained In4mum’s Dr Phil Ashworth.

“In the days of the mobile phone, Nokia had a new model coming out every month,” he said. “They had so many new features in so many phones that they couldn’t keep a relational system up because it was constantly changing. By using a graph database, they were able to use one database and to keep adding new properties of phones, without having to redesign the database every month.”



NASA is another organisation that has put its faith in graph databases for its 50-year mission to Mars.

“All their data goes into a massive triple store because they don’t know if relational systems will exist in 50 years, but they know they will have the fundamental aspects of RDF there for always and that they can then do anything with that data that they want,” Ashworth explained.

Google Most of the consumer tech giants rely heavily on graph technology, including **Google**.

“When you used to go on Google, you got a number of pages back,” said Simmons at Logicalis. “Now, in the top right, if you search for Elvis Presley, you get a picture of Elvis and some information about him, which you can then highlight and click on. That’s the graph technology: it is allowing you to store the relationships between different kinds of data attributes.”



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