

RACONTEUR

Managing the Unpredictable



 Columbus

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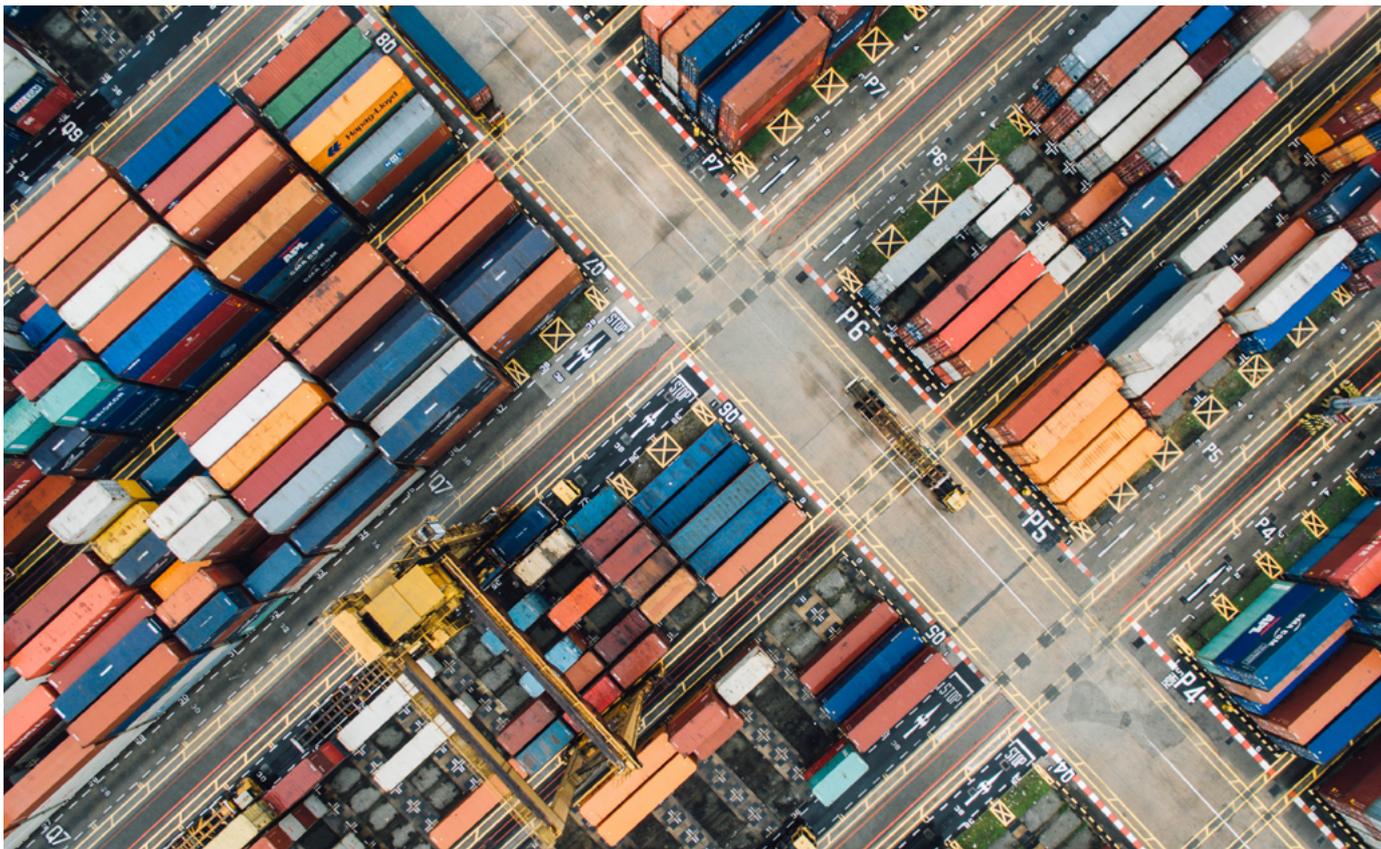
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VISIBILITY

Map your supply chain from first tier to last

A rash of research has highlighted the dire lack of visibility companies have over their supply chains, despite the increasing availability of technology that can help

Tim Cooper

As globalisation increases, supply chains of large companies have proliferated and scattered across the globe. Many large firms now have up to 20 tiers contributing to their end products. This increases the risk that one weak link in the chain can disrupt supply with major consequences.

But research by Deloitte has shown that two in three procurement leaders have limited or no visibility beyond tier one of their supply chain and several other studies show similar results or worse.

According to the 2018 Business Continuity Institute (BCI) Supply Chain Resilience Report, 14 per cent of disruptions cost companies more than \$1 million. Lack of visibility into the supply chain also often impacts reputation, logistics and can cause costly over or understocking.

Visibility of sub-tiers brings opportunities too. For example, technology that tracks suppliers in real time can help retailers supply products to customers more quickly, and improve their corporate and social responsibility credentials.

Jolyon Austin, partner at EY, says: “Visibility is no longer a nice to have, but a foundational

capability to remain competitive. Visualisation and mapping help companies see new strategic opportunities and ways to improve performance in the supply chain.”

Mr Austin says one reason for poor visibility is that knowledge about supply chain tiers often sits with individuals and is not institutionalised. But burgeoning pressures on service, cost and inventory, and the accelerating pace of operations, increase the need for companies to visualise supply chains at strategic, tactical and operational levels.

“This is enabled by increasingly capable technology,” he says. “Blockchain [digital ledger technology] is hyped and will find its place. But we also see an increasing prevalence of so-called control towers [central hubs that provide a global view of the supply chain] in global freight, logistics and planning.”

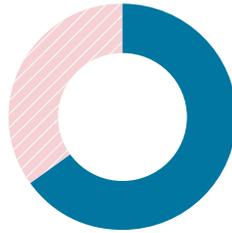
According to the BCI report, 52 per cent of reported supply chain disruptions were in tier one, 23 per cent in tier two, 11 per cent in tier three or lower, while an alarming 30 per cent of respondents did not identify the disruption source. This means that anything between 34 per cent and 64 per cent of disruptions could be in tier two or lower.

So far, the three main types of software that companies use to track supply chain incidents are spreadsheets, business continuity software and financial solvency models. But a plethora of new software solutions, including control towers and blockchain platforms, are launching to help them map, visualise and track their supply chains across tiers globally.

These solutions enable companies to map their supply chains in more detail and foster relationships with each tier. How many tiers they map depends on the risk at each level, but the technology means they can theoretically go all the way to tier 20 if necessary.

Companies that are more successful in this area combine this information with analytics solutions to profile suppliers in each tier, including resilience and areas of risk. They can address any areas of weakness by helping suppliers build resilience and/or diversifying supply sources.

Another solution, already in use with some major manufacturers, improves visibility by identifying risk events such as typhoons or terrorist attacks every hour. It then classifies and geo-positions the event, superimposes it on their subscriber’s global supply chain map and alerts them.



6%

of companies believe they have full supply chain visibility

Geodis

7/10

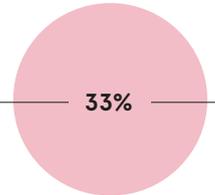
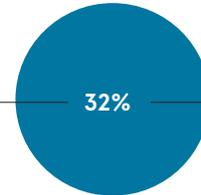
business continuity and risk management professionals do not have full visibility of their supply chains

Business Continuity Institute

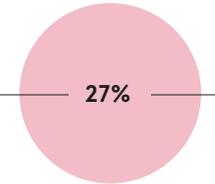
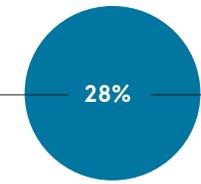
TOP MARKET CONSTRAINTS ACCORDING TO SUPPLY CHAIN PROFESSIONALS

● 2017 ● 2015

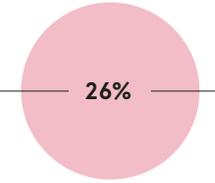
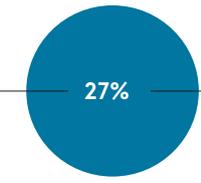
Contain cost increases (raw material, labour etc.)



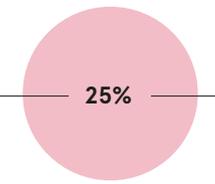
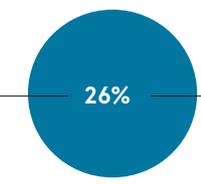
Face global competition



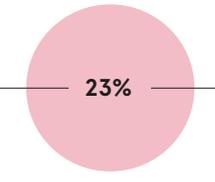
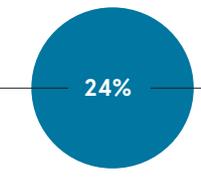
Meet customer expectation on reduced transit times



Adapt to changes in customer expectation on quality



Develop reliable logistics infrastructure



Geodis, 2017



Visibility is no longer a nice to have, but a foundational capability to remain competitive

Jolyon Austin
Partner, EY

Another big challenge is companies have limited resources to achieve all this across large, complex chains, especially given that external risks are much harder to manage than internal ones.

Douglas Johnson-Poensgen, chief executive of Circular, a supply chain platform that uses blockchain to help manufacturers track components from mine to finished product, says: “The technology can reach every tier. The difficulty is engaging each tier with all the challenges of due diligence, audit and monitoring of suppliers.

“Most large organisations have close relationships with tier-one suppliers, but until recently a chain of custody from source, which could be tier six or seven, to consumption has been anathema.

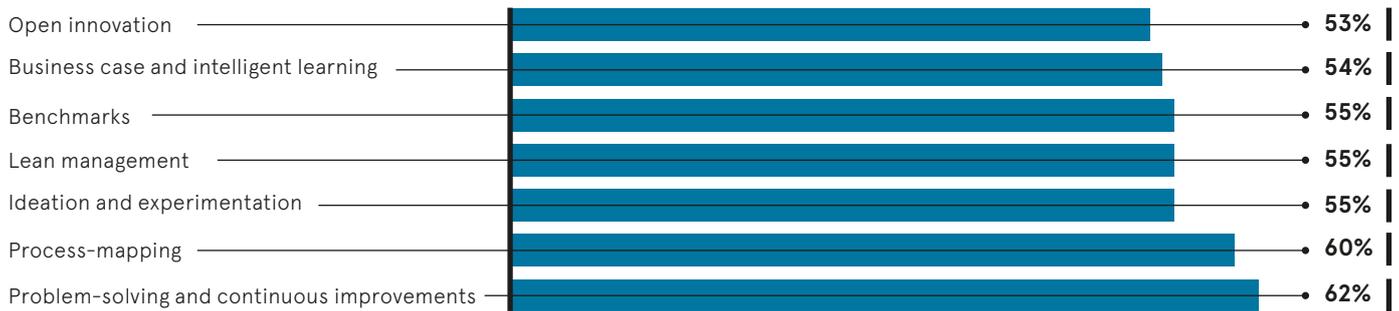
“However, business conduct has become a mainstream issue. For example, car manufacturers want to demonstrate 100 per cent

certainty over provenance of the cobalt in their batteries. Mapping technology can also do things like measure carbon intensity, which is essential for showing carbon neutrality.”

Showing the blockchain data in a user-friendly dashboard enables users to spot supply chain anomalies quickly, adds Mr Johnson-Poensgen.

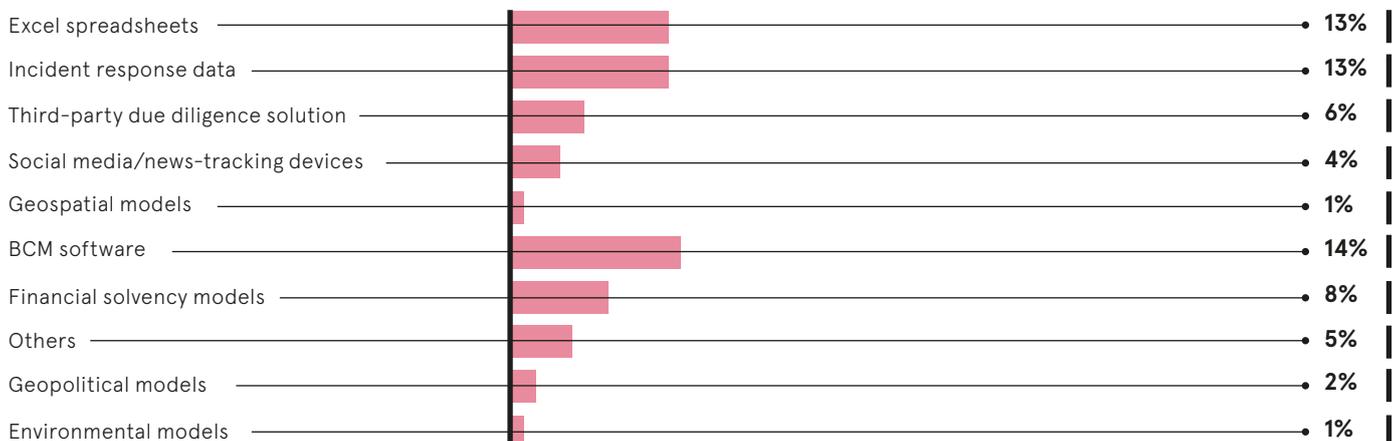
“Blockchain has found its niche in supply chains,” he says. “It lends itself to a system that can exchange digital representations of commodities, in our case. Another example is tracking containers and linking that information to trade finance. “[Systems like this] will become the way supply chains work. If you want a route to car manufacturers, you will have to play by those rules. It’s relatively new technology, but manufacturers have been surprisingly engaged in the process. It bodes well.” ●

PROCESS IMPROVEMENTS PRACTICES IMPLEMENTED IN THE GLOBAL SUPPLY CHAIN 2017 ACCORDING TO SUPPLY CHAIN PROFESSIONALS



Geodis, 2017

WHAT TYPES OF INDICATORS DO SUPPLY CHAIN PROFESSIONALS RELY ON TO PREDICT, MONITOR, RECORD, MEASURE AND REPORT ON PERFORMANCE-AFFECTING SUPPLY CHAIN DISRUPTIONS?



BCI, 2018

PREPARATION

Seize your FX advantage

Why a fluid supply chain built on analytics is key to negotiating exchange rate volatility



Christine Horton

In these times of economic and political uncertainty, we have come to expect the unexpected.

Nowhere is this more relevant than in an organisation's supply chain. While globalisation provides access to new markets, new technologies and expanded sourcing opportunities, businesses must also be prepared to react quickly to events outside their control.

For example, new research shows that more than a quarter of UK and US businesses suffered a negative impact in the last five years on their supply chain due to a natural disaster, while cyberattacks hit one in five supply chains.

In addition, foreign exchange (FX) rates can fluctuate dramatically over the course of a supply agreement. In response to this, successful businesses have found that building and maintaining a fluid supply chain allows them to act quickly to FX changes, as well as manage risk and seize commercial opportunities.

"With today's global markets characterised by uncertainty and volatility, procurement networks linked to a single-source of supply may not be advantageous. Instead, businesses should ensure their supply chains are as nimble and reactive as possible," explains Roy Williams, co-founder and managing partner at technology-led management consultancy Vendigital.

Mr Williams says that as well as allowing businesses to protect themselves against exchange rate fluctuations, flexible sourcing can help organisations make the most of market opportunities by keeping their options open. For example, transitioning to a dual or multi-sourcing strategy might make it easier to build strategic stock or respond to new markets.

"As well as having a choice of suppliers, it's also important to consider how readily the business can switch between them," he says. "As part of this process, it's vital to understand fully any product or service specifications and aim to ensure that alternative suppliers are pre-approved and ready to use. Pre-existing knowledge of which suppliers have overseas facilities could also prove valuable when seeking to mitigate the effects of FX volatility."

Antony Lovell, vice president of applications at Vuealta, which specialises in connected planning services and support, says businesses should think about implementing an advanced

planning system to handle this uncertainty and identify any piggybacking opportunities. He argues that real-time, collaborative and event-based planning allows organisations to connect, analyse and verify different data sources quickly.

“For example, if freight rates, exchange rates or some other factors have made alternate sourcing cheaper, businesses can ensure they are not blindsided and are fluid enough to quickly switch supply,” he says.

“Working with an advanced planning system, businesses can respond to all potential ‘what ifs?’ with ease. Those that do will be in a much stronger position to not only survive the chaos, but seize the opportunities, which will inevitably appear, ultimately gaining much greater competitive advantage.”

As seen across the entire business landscape, leveraging analytics can also help organisations make better informed decisions such as when to export and when to hold goods back or stockpile material.

“Through flexible, distributed supply chains that are tightly interconnected, coupled with

5.3%



trading range of GBP against EUR in 2018

Caxton FX, 2019

-11%



GBP/EUR in the two weeks following Brexit referendum in 2016

BoE, 2019

\$839bn

currency exposure for UK businesses in 2018

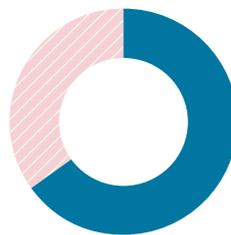
ONS, 2019

“

Through flexible, distributed supply chains that are tightly interconnected, coupled with predictive analytics, organisations can get greater insight into market needs

Jonquil Hackenberg

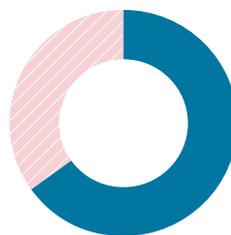
Head of C-suite advisory, Infosys Consulting



57%

of business decision-makers say either political or market uncertainty is holding them back from expanding into new markets

Geodis



44%

believe real-time information across the supply network would improve supply chain efficiency and financial performance

Geodis

predictive analytics, organisations can get greater insight into market needs. This means they can take advantage of both FX changes as well as energy price fluctuations,” says Jonquil Hackenberg, head of C-suite advisory at Infosys Consulting.

For example, Ms Hackenberg says that knowing their order book means businesses can plan when to buy parts, potentially in another currency, and do so at a time when the buying currency is at its strongest. Similarly, knowing the single unit energy cost of production means an organisation can buy excess power on the energy spot market when prices are lowest, reducing outlay.

“By using analytics to assess predictive buying patterns from customers, an obvious upside is cost-savings through reduced inventory, as well as faster time to market and therefore more satisfied and more loyal customers,” she says.

“With analytics predicting downtimes for maintenance in discrete manufacturing and consumer goods industries, the triple bottom line can be ensured through lower waste and predicted energy usage. If you are able to calculate the energy requirements to produce a single unit, you can maximise lean manufacturing and cost-reduction.”

Analytics also enable more accurate demand planning through accurate prediction of buying patterns, resulting in a better balance of supply with demand, which means more accurate forecasting for the market, leading to greater stakeholder satisfaction, notes Ms Hackenberg.

Predicting the future is impossible. But market volatility and economic uncertainty are the new normal. Ensuring your supply chain is flexible and fully optimised to absorb these risks, and potentially benefit from them, is vital in a competitive business landscape. ●

FLEXIBILITY

Embrace an elastic workforce

Companies are increasingly turning to a concept known as elastic demand to help make their workforce more flexible and responsive in a less certain world

Tim Cooper

Elastic demand uses a range of tools and techniques to enable companies to scale up and down, and react quickly to external events, while avoiding some of the associated risks.

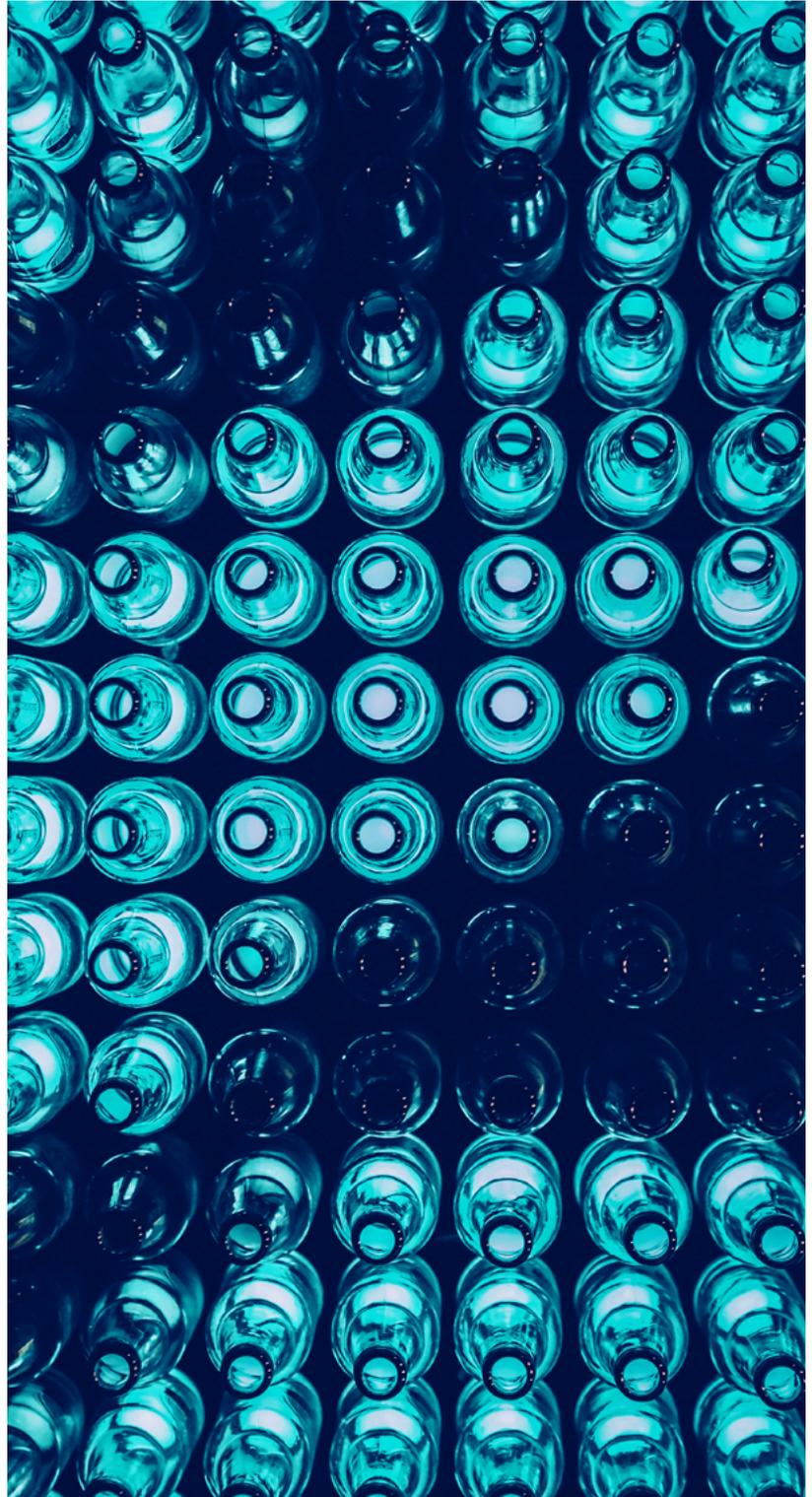
The concept has existed for a few years, but is gaining popularity due to the enabling effects of technology. However, many companies are still misinterpreting elastic demand or using it ineffectually. Effective approaches rely on sophisticated technology such as business intelligence and analytics.

Finding talent to react to external events, while also supporting long-term strategy, is one of the biggest challenges that companies face. This has been exacerbated by dramatic increases in uncertainty over the last few years, as measured by the World Uncertainty and Global Economic Policy Uncertainty indices, and longer-term changes such as ageing populations, shrinking birth rates, automation and digitisation.

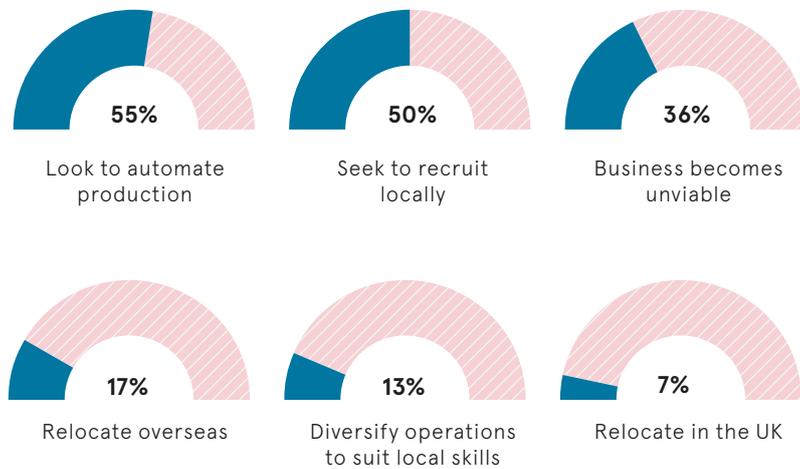
But elastic demand can help organisations optimise their workforce planning processes and even turn these changes to their advantage.

To plan their workforce needs, many businesses still rely on spreadsheets, which are time consuming, error prone and difficult to analyse for strategic insights.

So-called smart human resources and workforce planning and analytics packages now claim to enable faster, more informed people decisions.



HOW WOULD FOOD AND DRINK MANUFACTURERS IN THE UK ADAPT IF THEIR COMPANY DID NOT HAVE ACCESS TO (NON-UK) EUROPEAN NATIONALS



Food and Drink Federation, 2017

And many other technologies enable elasticity, from cloud-based remote working to talent pooling consortiums (a database of individuals created during the application process), cross-skilling, which allows workers to shift to where there is peak demand, freelancer platforms and other adaptive working tools designed to manage workforce flexibility.

Workforce planning can embed business intelligence tools into all HR processes from recruitment to retention, assessment and learning. These systems analyse HR measures such as vacancies compared with budget, attrition rate, hiring of early talent by location and learning activities' return on investment.

Providers claim they can analyse trends in hiring, churn, retirement, diversity and performance. Also, by accurately and rapidly forecasting talent supply and demand, creating what-if? scenarios and building financial models, these systems can ensure companies stay ahead of hiring trends and have the right people with the right skills at the right time and cost.

Workforce planning can model scenarios to see how potential decisions impact staffing levels and available budget. In turbulent times, there is a more pressing need for such timely information, providers claim.

Ralph Fernando, author of *Agile Strategy*, says elastic demand is seeing much greater uptake as technology enables far greater

possibilities and introduces new mindsets and management practices.

"The elastic demand concept is coming of age, especially for sectors that experience varying demand over different periods, for example healthcare services in winter or toy brands around Christmas," he says.

With the growth of freelancing and the jobbing economy, enabled by remote working, freelancer platforms and specialist interim agencies, the potential for accessing flexible staff has increased significantly, says Mr Fernando. Using all these through cloud computing enables organisations to increase capacity at the flick of a switch.

Management practice is also changing to allow decisions to be delayed to the last responsible moment.

"Elastic demand requires responsiveness and adaptability. Responsiveness is the speed of reaction to organisational or market stimuli, for example Zara producing clothes from catwalk to shop floor in four to six weeks," he says.

"Adaptability is the ability to change processes, structures, systems and people to enable responsiveness. An example is changing a traditional casual dining model to respond to digital disruptions from delivery companies."

Yvonne Sonsino, partner and innovations leader at consultant Mercer, says the concept of elastic workforces in particular is gaining traction, though some call it "liquid" or "adaptive" workforces.

However, she was also more cautious about how successful the concept has been so far. "Some companies handle it badly by hiring and firing at will, which is costly," she says. "Others don't handle it at all. But a few smart companies are carefully planning organisational structures that can give them adaptivity and flexibility."

More companies are starting to examine their contingent workforce strategy and labour demographics, and finding some interesting results when they look closely, says Ms Sonsino. Results differ by company, so the secret is to explore your own data and dynamics, and plan accordingly.

"However, elastic demand is hard to plan and to do," she concludes. "You have to get very specific. Using strategic workforce planning and analytics is the smart way to do it. Real-time analytics dashboards can use scenario planning to forecast outcomes. This is the future of work." ●

FORESIGHT

Stay ahead with predictive analytics

At some point in our lives, most of us have wished we could see into the future. **Martin Clothier**, technical director at Columbus UK, explains how in uncertain times such as these, the requirement for businesses to 'predict the unpredictable' has never been greater

Martin Clothier

Organisations are now connected on a global scale, which means more complex supply chains that leave them exposed to more risks. Whether natural disasters, political upheaval, cyberattacks or market volatility, these events can cause ripples affecting suppliers and customers alike.

In the UK, Brexit has prompted companies of all sizes to consider how any number of potential outcomes may affect their operations, and how they can best identify and manage risk to their business.

Recent research by Vuealta shows that uncertainty over Brexit has caused more disruption to

supply chains in the last five years than natural disasters and cyberattacks combined. Against this backdrop, is it possible for businesses to not only react to events beyond their control, but use them to their competitive advantage?

The answer lies in the ability of predictive analytics to manage supply chain risk. For example, enterprises can leverage machine-learning techniques, such as regression analysis, which looks at historical demand to help forecast product sales, enabling them to adjust production accordingly.

But in 2019 predictive analysis can and should combine traditional analytics with other external sources, such as labour, weather, exchange rates or commodities markets, to enable you to ask smarter questions of your data.

So, if you're a company that relies on migrant labour in your workforce, you can run scenarios based on labour costs and other data to determine the impact to the business should cross-border working be negatively affected by Brexit.

Elsewhere, we're seeing a greater number of bad weather events around the world; meteorological data is a novel data source that can help inform your decisions alongside your transactional data. Every enterprise resource planning (ERP) system has a vendor database which will be tagged with a geographical location, so you can start to question the likelihood of things like a typhoon hitting Asia in the next six months, for example, and how it will affect your supply chain.

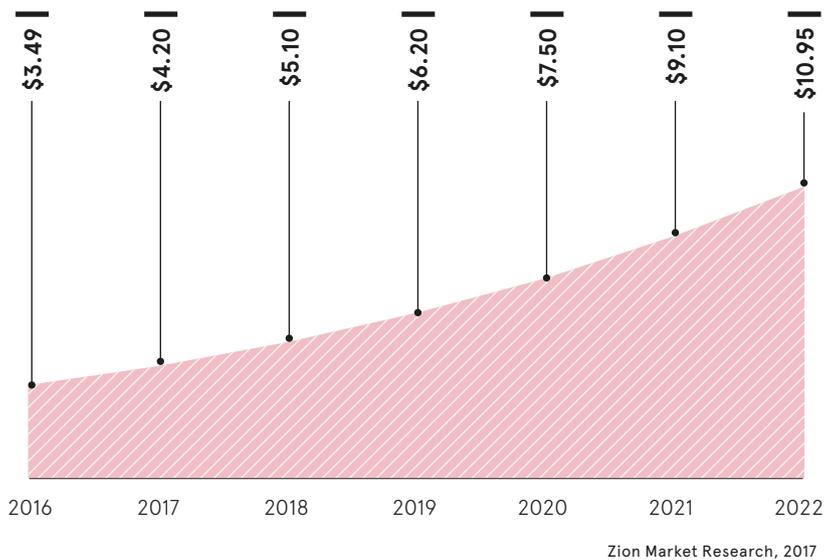
You don't need to be a data scientist to extract value from your data either; any business decision-maker can ask natural language questions, like 'What's the average order quantity of this product in March?' and get those answers back quickly.

You can also leverage your existing ERP system to create map-based visualisations and tools such as Microsoft PowerBI mean this "single source of truth" is readily available to any stakeholder across your organisation. It's even possible to build a supply chain dashboard, which identifies any risk in the supply chain, and attribute the risks to a traffic light system based on their severity.

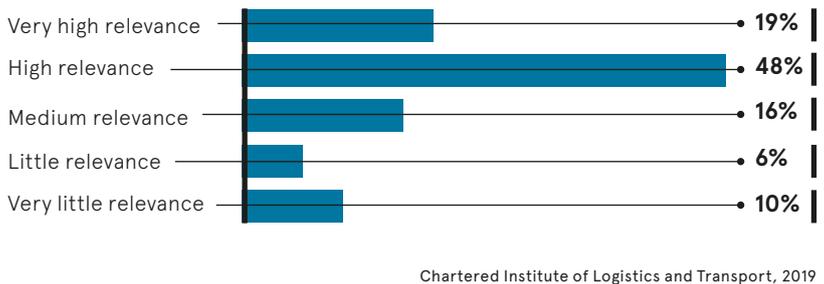
As we've seen, machine-learning is comparable to a digital crystal ball, which can help predict the future, and artificial intelligence can enable you to ask smart questions in a natural language and create data insights. But the third pillar of effective predictive analytics is just as important: having a modern data repository that can sit in the cloud and act as a data hub between your different applications.

As more organisations implement both their ERP and customer relationship management, or CRM, solutions in the cloud, they need this single repository for both transactional data and

PREDICTIVE ANALYTICS REVENUES/MARKET SIZE WORLDWIDE, FROM 2016 TO 2022 (BN)



HOW DO LOGISTICS PROFESSIONALS RATE THE RELEVANCE OF PREDICTIVE ANALYTICS FOR THEIR BUSINESS?



“
At Columbus we can provide customers with a common data model that sits between cloud applications

aggregated analytics data, which they can use to extract actionable insights.

If you take the Microsoft Power Platform, as an example, at Columbus we can provide customers with a common data model that sits between cloud applications. The customer can use this central data hub, not only for reports, but to make data available to employees in the field that wasn't easily available to them before. The customer is now enabled, through the platform, to create their own power apps that expose this data.

Again, this democratisation of data means the worker on the shop floor, or in the warehouse or out on road, has visibility of the data they need to make relevant business decisions.

All these advances mean you may not be able to see into the future, but you can help your organisation navigate and even stay one step ahead of what's to come. ●

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