Big data is gradually becoming the new game changer in the global supply chain industry

Claire Umney, General Manager, AEB (International) Ltd, explores how the big data revolution is reshaping business by making 'databases flow across the network'

Moving away from the technology worlds of centralised data warehouse models and data management, today's big data revolution is reshaping businesses by literally making the database flow across the network. From data which enables raising product manufacturing quality to the next level, to the use of tracking data from store shelves to recalibrate supply chains, businesses and the processes are being completely transformed by big data and big data analytics.

Advanced analytics allow companies to make real-time decisions, leading to bottom-line profitability increases and risk mitigation. The impact on reducing cost and manufacturing value chains will be phenomenal, as companies see a bigger need to invest in data processing in order to respond to demand and address possible fluctuations caused by today's volatile economy.

According to the International Data Corporation (IDC) forecast, big data is slated to grow to 40 trillion gigabytes by 2020, offering unparalleled opportunities for enterprises willing to invest to analyse and utilise the data available. As per a 2013 study[1] on supply chain trends by a leading global supply chain network organisation, 60 per cent of respondents, who were global supply chain executives, plan to invest in big data analysis within the next five years. Moreover, the biggest applications of big data are in research and development, production and supply chain functions. Clearly, big data is very likely to play a major role in transforming the future of business.

Relevance to global supply chains

In today's complex supply chains massive quantities of data are being produced every day and are growing exponentially in terms of volume, variety and velocity. While the structured data and the systems that use them will not go away, the new forms of data offer fresh opportunities for companies looking to solve previously unanswered problems. Taking today's rapidly developing technology into consideration, companies can expect more data streams coming their way, including from basic items such as voice recognition in warehouses and data pooled in security systems

Adopting the big data approach will help instil higher efficiency into the supply chain. Productivity, collaboration, speed, sustainability and visibility can be maximised while simultaneously minimising time and resources spent. In addition to successfully improving order picking for retailers, one extra benefit that big data brings to the table is its ability to enable real-time management by reviewing vendor performance against a set of KPIs. These real-time analytics solutions ensure that the quality of the vendors is maintained at the desired levels without requiring any additional effort. This approach also benefits the vendors, as they know exactly what is required from them to retain business with their customers.

Big data analytics is one of the key catalysts that is instrumental in benefitting demand-sensing, an integral part of the supply chain management process. It helps companies improve the global supply chain performance while quantifying the risk factor between demand and supply plans. The ability to capture and analyse enormous amounts of data concerning shipment and transport events as goods travel through the global supply chain will continue to improve goal-setting and gain significance.

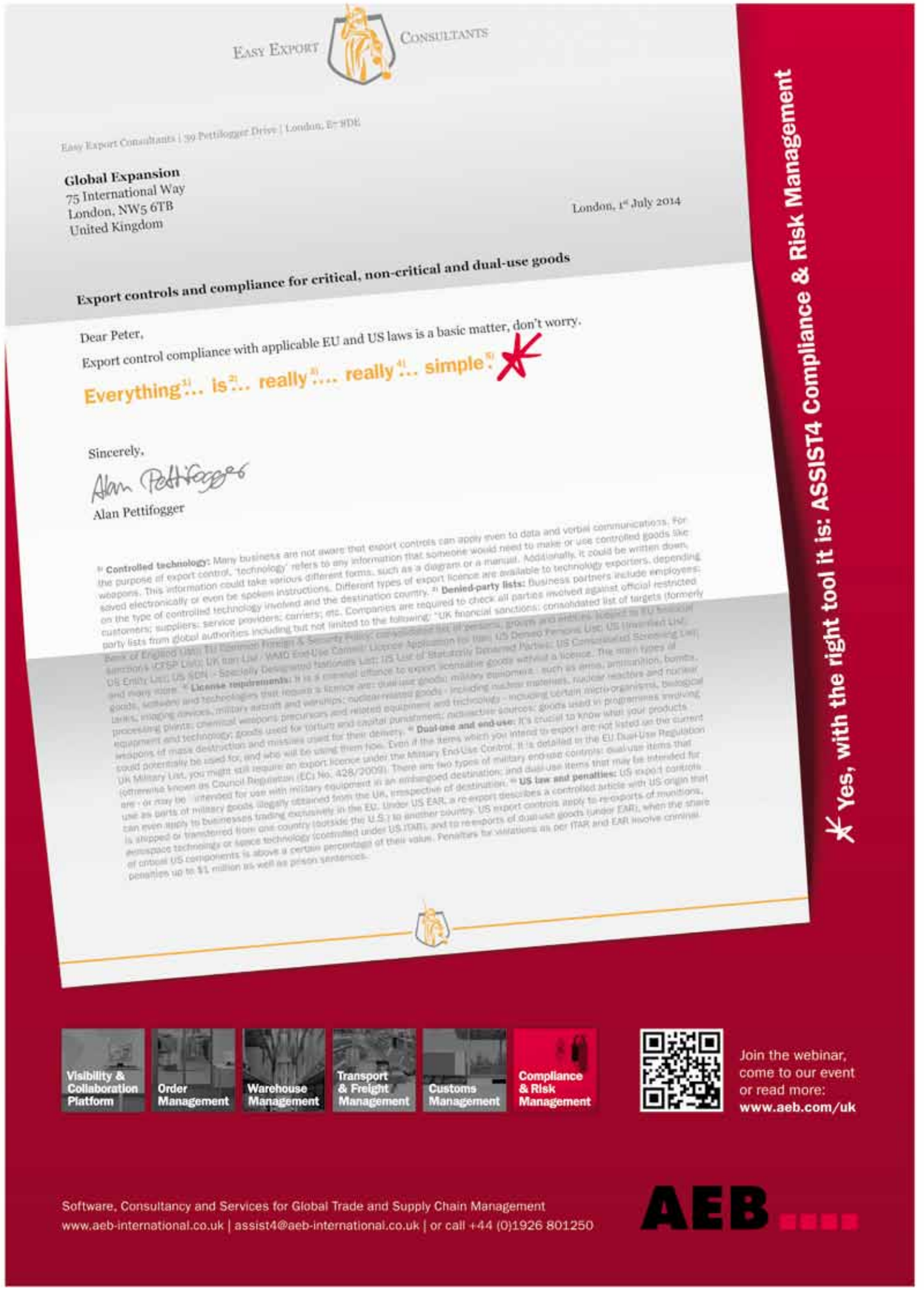
Value for business

Big data's strength is that it enables analysing data on a scale never known before and transforming linear supply chains into agile networks, especially in logistics, picking up structured data from sensors like GPS or unstructured data from sources such as social media, customer service departments, different sales channels (both traditional and online) and even new data, e.g. voice recognition in warehouses.

Certain information can help companies to identify and address issues proactively before problems affect the operation's efficiency. Better data visibility also translates into better relations with stakeholders, including vendors, suppliers and customers. It can be utilised as a tool to analyse customer behaviour and helps managers make better informed decisions and offer more tailored, customer-oriented services.

With big data analytics, organisations can gain greater visibility into inventory levels, order fulfilment rates, deliveries and other critical information. For instance, real-time RFID and SKU reports from delivery trucks allow organisations to time inbound shipments more precisely and improve manufacturing productivity.

At a juncture where supply chains are moving more and more into the digital world through multiple initiatives, big data and its analyses are well-poised to underpin most network initiatives. The convergence of new technologies has fuelled the need to adopt big data and business analytics. Big data is a game-changing trend for the supply chain industry: by engaging big data business analytics, organisations can make better decisions, create more efficient supply chains, gain competitive advantage and increase overall profits.

[1]BVL "Trends and strategies in logistics and supply chain management" http://www.bvl.de/en/knowledge/publications/studies-to-download

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