



What's The Impact Of Big Data In The Cold Chain?

Anywhere you look these days, people talk about big data. Whether you are in the technology industry, the retail industry, the supply chain and logistics industry, or any other industry, there is no doubt that big data plays a part. But what does big data actually mean for the cold chain industry? And how can we make sense of it, and can it be profitable?

Let's put it into perspective first. There are two global trends that feed into this specific trend in the supply chain and cold chain sector. First we have the ubiquity of mobile connections. And second, we have the ability to put all the data gathered from these mobile connections into the 'cloud' (in other words, in web based storage).

According to the global mobile industry association GSMA's data, there were almost seven billion mobile SIM-enabled connections in 2012, of which three percent were classified as 'M2M' or machine to machine communications. The number of SIM-enabled connections is expected to grow to around 9.8 billion connections in 2017, of which 13 percent would be M2M connections.

The M2M connection is the key part of the data gathering process in the supply chain industry. This helps generate data on any parameter of a supply chain process – for example temperature, humidity, CO2 level, energy consumption and even whether a door is open or closed. The fact that this data can be transmitted via mobile means key processes can even be monitored in real time. And all the time it is doing this, it is generating more data – both current and historical as a shipment moves through the supply chain.

So in what ways is this data useful? The GSMA has given a good macro-economic perspective on one aspect of this. For example it says that in developing countries, the use of fleet telematics to track trucks and monitor storage could save enough food to feed 40 million people annually! This is equivalent to the entire population of Kenya.

Taking this down to company level, most executives in supply chain and logistics already think big data will have a significant impact on their company's performance, according to the Executive Insight into Supply Chain Big Data in 2013 report (see [infographic](#)). These executives are looking at big data analytics because it will not only improve supply chain efficiency, but also reduce supply chain costs. They also believe it's important to move towards real-time decision making as opposed to basing decisions on historical data. The greatest return on investment on using big data in the supply chain will be in visibility of the supply chain.

In Dyzle's experience, the data is really important in the movement of temperature-sensitive products both in terms of visibility as well as the ability to take remedial action. For example, the data can tell you instantly if something is wrong in the supply chain, if a temperature excursion has occurred. The data is analyzed, and experience of many such situations allows personal dashboards to be generated with relevant information for the supply chain manager, accessible in the cloud via mobile or internet, in order to provide real time visibility of what's going on in the supply chain.

In addition to the instantaneous real-time data, the data recording and analytics also enables the generation of relevant data for GDP and HACCP compliance reporting. This allows supply chain managers to assure their customers that a product travelled within a specified temperature range and that the product integrity is therefore guaranteed. This is important in both the food and pharmaceutical industries.

These issues will be discussed at the roundtable entitled, "How to collect and still make sense of cold chain temperature data from multiple sources", chaired by Rene Tjong Tjin Tai, CTO of Dyzle, at 13:25 hours on 3rd October 2013 at the 11th Annual Cold Chain GDP & Temperature Management Logistics Global Forum in Chicago.