

Big data analysis, or the mining of extremely large data sets to identify trends and patterns, is rapidly becoming standard business practice [1]. Companies are always looking for ways to reduce costs, increase revenue, and gain competitive advantages. Capturing and harnessing data is now one of the most crucial ways to accomplish these objectives. From the largest Fortune 100 companies all the way down to local manufacturers, utilization of data is a key component for growth and stability in this business environment.

Analyzing data can hardly be considered a new strategy for gaining business intelligence. The difference today is the amount of information that is readily available; it is mind boggling. With the vast streams of data coming at companies, it is difficult to filter out what information can help grow a business versus what information is just taking up space. A recent study conducted by Forbes stated that 68% of executives are currently investing in data analytics and plan to invest more in the next 12 months [2]. This goes to show how valuable data can be to an organization. The same study also verified that big analytics can have a major impact on companies by improving supply chain performance.

Using Big Data for Supply Chain Management

Appropriate utilization of data within your company can create a powerful competitive advantage by increasing efficiency in your supply chain. For instance, logistics and manufacturing can be slowed or crippled due to delayed shipments, poor inventory planning, and increased costs. Real-time data gives companies visibility into current performance, costs, and trends, whereas in the past that data would have been historical and deemed less useful due to it being outdated [3]. Having access to real-time data can help to reduce these issues and allow insight for future planning.

Improved Customer Service

Data can also improve customer satisfaction, as it can help transportation managers choose the best shipping methods, utilize the best carriers, limit damage, stop delays, and thus, create better service. With this in mind, giving customers access to data, such as real-time tracking and PO information, allows them to see what is in transit and improve inventory management. Increased visibility of shipments allows for better understanding of inventory levels and helps with budgeting during seasonal highs and lows. If companies are able to see and act on these trends, customer satisfaction will increase, as their goods will be more likely to be delivered on time and undamaged.

Reducing Cost

The main driver for data collection is still cost reduction. Having real-time information, as opposed to historical, is crucial. Access to data within your supply chain allows you to set transportation benchmarks, optimize routes, plan loads, and in turn, find opportunities to reduce freight costs. The data collected can give managers a central point of reference to make well informed decisions on these functions, which can lead to a more cost effective supply chain.

Getting Started

Even with knowing how data can benefit your company, some companies still find it difficult to collect and analyze data. Some of the largest companies in the U.S. can afford to have people solely focused on capturing, filtering, and interpreting this data in house. However, smaller companies are experts on what they do—manufacturing, distribution or other business lines—not on data collection. Without making significant capital investments, small and medium sized firms are not equipped to become data miners.

Keeping up with the Giants

So how can smaller companies keep up with giant corporations? The simple answer is to partner with a third party logistics company (3PL) who can gather the information for you, so you can continue to focus on your business. There are a lot of criteria that a 3PL partner should be graded on, but the top three are:

- Up-To-Date Technology
- Data Integrity
- Security

Up-To-Date Technology

Make sure the partner you select has the most up-to-date technology; this is crucial to your success. For example, web access to your freight and tools for reporting are important to have, as these features will allow you to make more informed decisions. The reports give you information to better analyze your choice of carrier, along with what vendors to use to ensure customer satisfaction with delivery requirements. Technology, such as EDI tracking, can provide real-time visibility to what parts are moving to your manufacturing sites and allow your purchasing department to make more concise buying decisions in regards to inventory. For example, with tracking in real-time, a buyer could not only know what raw materials are in transit, but also if they will need to purchase more to fulfill a new sale. They may also be able to see a delay ahead of time and arrange to air freight the

product in to prevent manufacturing lines from going down. With a partner that has access to this type of technology, your organization may decrease costs, while increasing visibility to every aspect of your supply chain.

Data Integrity

Data integrity is one of the biggest hurdles companies have to overcome. With the overwhelming amount of data you can have access to, make sure it is accurate and current. Working with a partner allows organizations to access data and technology, but if the data is inaccurate or late, it can harm the supply chain.

Incorrect data can create numerous problems, but the two biggest are planning and customer satisfaction. Planning and scheduling for manufacturing lines are already difficult tasks. Having inaccurate inventory levels or transit times can make them even more challenging. It can cause manufacturing lines to go down or force the need for expedited transportation at a much higher cost.

Customer satisfaction can take a hit with inaccurate data as well. Using carriers with high damage ratios or being unaware of late deliveries can create dissatisfied customers, and if this lack of data goes unnoticed, they may take their business elsewhere. So when choosing a partner, make sure they understand how important it is that the data is timely and input correctly.

Security

Security is often overlooked when selecting a partner; this is a mistake. Your data is powerful and contains information about vendors, customers, carriers, pricing, etc. It is critical to make sure your partners do not share your data with anyone else without your permission.

Here are some suggested questions to ask a prospective partner.

- What is your security system like (i.e. firewalls, backups, redundant servers)?
- What are your procedures and backup plans if you detect a security breach?
- Who hosts the system that stores our information? Can we host it ourselves?
- If we terminate our relationship, who owns the data?
- If we terminate our relationship and it is on your servers, how can we get access to it and are there fees involved?

Before entering into an agreement be sure to have your partner's answers to all of the above in writing. In the event you terminate your relationship with the partner you select, it is crucial to ensure you have all rights to your data. The last thing you want is to make a change and not be entitled to all of the information your partner collected.

Data is quickly becoming the key to having an efficient supply chain and an overall reduction of costs [4]. It is now standard practice to gather and analyze vast amounts of information to help increase revenue. With more and more companies trying to get a competitive advantage, most are looking for partners to help collect and process their data. Knowing what data you need and how to harness it could set you up for future years of growth.

Footnotes

- [1] Marr, B., "Big Data Facts: How Many Companies Are Really Making Money from Their Data," Forbes, January 13, 2016. Retrieved November 30, 2016 from <<http://www.forbes.com/sites/bernardmarr/2016/01/13/big-data-60-of-companies-are-making-money-from-it-are-you/#63b83e504387>>.
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- [3] Celecki, K., "Ditch the Spreadsheet and Grow Your Business with Quality Data," Inbound Logistics, June 2015. Retrieved November 30, 2016 from <<http://www.inboundlogistics.com/cms/article/ditch-the-spreadsheet-and-grow-your-business-with-quality-data/>>.
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