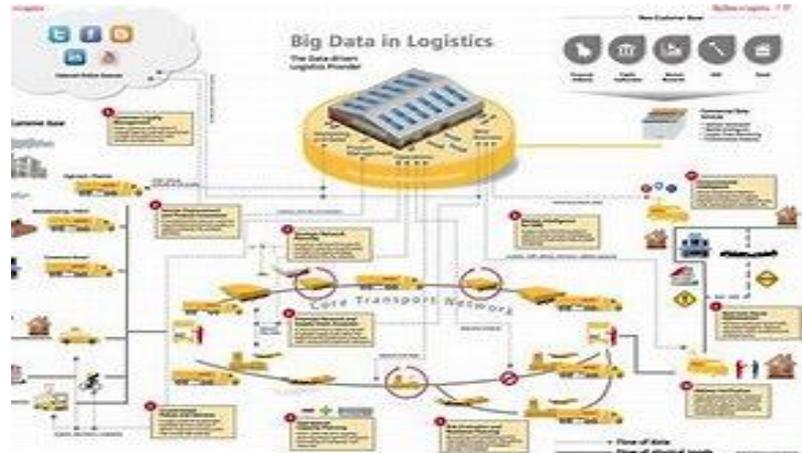


BIG DATA REPORTING FOR SUPPLY CHAIN LOGISTICS

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TRANSPORTATION, LOGISTICS AND DISTRIBUTION INDUSTRY



Information Architecture

Information architecture has long been a critical element to Supply Chain, an industry dependent on managing time, distance and cost to optimize service. Constant improvements to efficiency and performance require ongoing inspection of data gathering at multiple points and across multiple routes and providers. The advent of newer technologies requiring less human touch provide easily implementable solutions to automate data collection and management.

Many challenges still face the Supply Chain industry. The integration of e-commerce, plus newer technologies, such as PDAs, IoT sensors, and GPS devices, generate a huge amount of actionable data. Both structured (numbers, words) and unstructured (tweets, social media), are making the science of Big Data management and analytics not just a nice to have, but rather a business imperative.

Labor Force Takeaway

Associates must be both data and reporting literate to assist businesses as they begin to take full and immediate advantage of data mining opportunities.

CompTIA A+, and Fundamentals certifications, aimed at the IT beginner, are an excellent starting point for associates to gain knowledge in the area. Intermediate associates can delve deeper into the discipline with certifications in Cisco Network Administration (CCNA), CompTIA Server+, IBM Certified Specialist, and others like OCA, OCP, VCP, and MCSA.

Advanced certifications like MCSE and CCNP prove valuable for associates running a data shop full time, and expert level certifications like ASE/CSE and OCM render associates fully capable of not only gathering, concatenating and interpreting data, but also managing large network installations as well. In-state major universities, like NJIT and Rutgers, also offer advanced degrees in Big Data Science for intensive practitioners.

Logistics Interoperability for Greater Route Efficiencies

There are a number of frequently used [data sources](#) already in place that provide a treasure trove of information useful to supply chain planning and management. Enterprise data from existing systems already available include customer profiles, vendors, and historical data. Other data which includes traffic and weather data is available from external sources. Vehicle diagnostics, essential data found on newer vehicles with computer driven systems already aboard, provide location output and other key data which can be drawn upon.

Additional structured data sources include financial business forecasts, advertising response data, web site browsing information and cookies, and social media. These are some of the major data sources Supply Chain managers can and should draw upon for network management intelligence.

All this data, gathered by the minute, can be combined and reported for key business insights using computational platforms like [Apache Hadoop](#), and reporting tools like MySQL, No SQL, and Crystal.

The logistics industry is undergoing a fundamental [transformation](#) with the explosion of data and devices, complex regulatory laws, emission concerns and changing industry models.

Some other major technology trends that use Big Data technology in the logistics space include:

- **Logistics interoperability models** – Provides for standardized data exchanges between frequent partners, making information exchange easier, faster, and more reliable
- **Collaborative BI on cloud** – Gives scalable visibility in cloud by looking across providers and processes
- **Internet of Things analytics** – GPS, RFID tags, and sensors gather and submit data without human intervention, providing real time actionable information for improved management decision making
- **Environmental intelligence (CO2)**– Tracks and reduces emissions real time to manage carbon footprint

The [benefits](#) of incorporating a Big Data strategy into Supply logistics cannot be overstated. [Reduced costs](#) arising from better identified routes, reliable suppliers and better negotiations with same can be realized. Simplified chain structure, using optimized route patterns, lead to faster/more-predictable deliveries, generating improved customer service. Partner diversification for last mile is also possible, with localized intel gathered from data sources like the ones mentioned above. Anticipated demand forecasting for better availability also becomes a reality, and interoperability between suppliers and drivers can be realized with the use of Big Data.

Logistics companies accordingly need to rethink, evolve and achieve [Supply Chain success](#) in the new technology economy through the utilization of available and information sources, pervasive analytics at every critical function juncture, and the implementation of a more agile, non-traditional governance model. The benefit is that these models can be organized around processes that can be measured incrementally, rather than interdependent vertical stacks that only look at output. By rethinking and rearchitecting support structures in this manner, Big Data and advanced analytics can be implemented most effectively, and with optimal results for the savvy provider.