

# Data gathering and subsequent analysis

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### **What role does the gathering of data and subsequent analysis play in the management of the logistics industries?**

The collecting and processing of data is an essential component in all aspects within the management of the logistics industry. Companies have been able to use data in a number of contrasting ways to assist them in pursuing and trying to interpret a customer's demand effectively. This is achieved mainly through a higher expanse of increased data visibility (Robinson, 2020), which enables companies to make necessary improvements and considerable enhancements to their supply chain. Nestlé is one such company that has utilised this philosophy and has allowed them to make consequential progression in their application of demand forecasting. This has allowed them to make meticulous “multi-million-dollar reductions” (Pierce, 2013) in their supply chain by discarding the need for any form of human intuition, and therefore, allows them to conceptualize any future demand.

Moreover, the flow of real-time data has also played a critical part by enabling companies to dramatically reduce cycle times and the means to make sudden on the spot decisions concerning necessary changes and alterations in product demand. Intel has successfully increased its productivity margins whilst systematically reducing its cycle times (Sheehan, 2017). The implementation of order process capabilities within logistics has subsequently enabled companies to see extensive improvements through the integration of data from existing orders and key performance indicators (KPI'S). The application of KPI'S has allowed companies to work out the average time it takes to carry out a delivery while remaining consistent. Having this detailed and efficient information from the KPI'S means that companies can make improvements to their inventory management by being able to free up significant space for new orders (Kerr, 2020).

Amazon has been very successful in reducing its space through data optimisation within its warehouses, which in turn has allowed them to increase their productivity for new orders and keep their stocks to a minimum. This has also resulted in vast improvements for Amazon's inventory management system, which has been able to remove any unsold goods. Continuing on, the gathered data has also permitted them to aid manufacturers and warehouse providers with the ability to see if an order is conducted in a swift and ultimately efficient manner (Montgomery, 2018). From this, a substantial rise in orders being shipped occurs, which

eventually advances the demand for service requirements. The use of data has also allowed for companies to input Enterprise Resource Planning (ERP) procedures, which will enable them to have increased visibility. This ultimately provides them with a broader scope and more generalised overview of how processes are being conducted through the use of real-time generated reports, which could outline ways to facilitate better and handle inventory, warehousing, manufacturing, and shipping.

The drive of data has also assisted the aviation sector of logistics which has helped to remain prosperous from a commercial perspective. Airlines can remain competitive by applying data that they have outsourced from an external enterprise through the use of Artificial intelligence. The Airlines Reporting Corporation (ARC) is one such enterprise. From the AI gathered data by ARC, an airline company can make accurate approximations in relation to the amount of fuel that is required for a flight. Additionally, the information from ARC then able analyse trends and authenticate performances, which in turn had allowed them to obtain an authorised transaction of some 2.2 billion flights annually (Corporation, 2020), which subsequently means that an airline company is able to prosper significantly. The gathered information from The Airlines Reporting Corporation is then fed back to the airline carriers, which assists them in remaining cost-effective.

Additionally, the importance of data has allowed companies to remain flexible, especially those associated with time constraints. The Universal Parcel Service (UPS) works in conjunction with Orion, which is an on the road integrated optimisation and navigation software to aid in real-time route planning. That has helped to ensure that the UPS vehicles can get to their final destination efficiently and swiftly by the fastest possible means. Alongside this, UPS managers can make use of the data by being able to vigorously oversee driver habits such as an excessive use of the foot pedals (Staff, 2018). A recent interview that was conducted with UPS's Mr. Dave Barnes concluded that with the introduction of more proficient drivers and related data analysis, they are able to make savings of 1.5 million gallons of fuel annually and collectively save 50 million dollars as well (Dataflog, 2014).

Furthermore, data gathering and analysis have played a critical role in logistics, particularly in the HGV sector. Many firms have inputted the use of telematics boxes. The 'black box' as it is more commonly known as a tool used for collecting vehicle data. The gathered data can be hugely beneficial for logistic companies in a number of different ways as it allows them

to review both the company and driver performances. As is often the case, drivers often over time succumb to bad driver habits when they are behind the wheel of a vehicle. Such problems most often occurred through harsh acceleration, speeding, or a significant amount of time where a vehicle remains in an idle position in addition to this insufficiently inflated tyre which can potentially diminish fuel by as much as 10 percent (Folger, 2019). These consistent complications contribute heavily on the persistently poor over-consumption of fuel (Mitchell, 2020). From such findings, companies are then able to enforce stricter measures through the introduction of driver training, which will mean that they will be able to attain higher fuel consumption in the foreseeable future. Which will fundamentally lessen the amount of associated environmental issues surrounding harmful vehicle emissions.

**(citation)**

In addition to this, the obtained data can be used as a tool to dramatically improve the safety of the driver as well as other road users. This because the driver is increasingly aware of the fact that they are being assessed by there on a regular basis, so therefore their level of self-discipline improves, which ultimately means the chances of that driver having an accident are significantly reduced. Research conducted by the European Commission highlighted that having a black box fitted to a truck has led to an average decline of "twenty percent in the number of crashes and related damage"(Commission, 2020). Finally, through eh implementation of a 'black box,' logistics companies are able to see if a vehicle is being handled correctly and not been used in an erratic way through excessive steering, for example. From this acquired data, a logistics manager can begin to implement changes and take appropriate action. As a result, the manager is able to make sure that the functionality of a vehicle remains of an acceptable and roadworthy standard.

Maritime shipping has now started to begin to make changes in the way and which that they deal with data to elevate those issues surrounding inconsistencies and delays from poorly made decisions. World-leading container shipping company Maersk and IBM have formed a partnership to create a statistical program platform known as Tradelens. Tradelens capabilities currently extend across "twenty port and terminal operators around the globe" (IBM, 2020). The program will be used as a means to allow both importers and exporters to oversee the multiple phases of distribution from shipment level searches, which will record

and produce lading numbers. This will then provide detailed information about the shipment, as well as providing ways of making the unloading of stores at the ports swifter and less time-consuming. The data gathered from Tradelens has enabled Maritime companies to reduce their transit times during import and export proceedings significantly. As well reduce the impacts surrounding monetary losses (Hadim, 2019), this has primarily been achieved through considerably high levels of visibility (Tradelens, 2020).

Some companies have been able to create their own data management systems with one such company being Merck. A global leader in healthcare, Merck became mindful of the fact that their application of using Enterprise Resource Planning was not fulfilling their requirements and reported that their engineers were spending anywhere between 60 to 80 percent of their time and effort searching for and collecting useful data (Tradelens, 2020b). This then led to the introduction of MANTIS (Manufacturing and Analytics Intelligence), which is an advanced warehousing system made up of an in-memory database and open source tools. Through the use of MANTIS, Merck has seen significant declines of thirty percent in its average lead time and a fifty percent reduction in its inventory carrying expenditures (Corker, 2019). This results in a more proficient just in time (JIT) scenario, thus allowing Merck to export their goods in a more lively manner provide a tremendous level of customer service. By subsequently ensuring that they are able to maintain a high level of production consistency.

To summarize, this essay has provided a plethora of compelling evidence on the critical level of importance data plays in modern-day logistics industries. From the circumstantial evidence outlined from numerous large scale logistic based companies, such as Amazon and giants in the healthcare profession, Merck. It has also highlighted and addressed how that data is a crucial element within the logistics industry, as well as addressing how information is being implemented effectively throughout the entirety of a company's ever-growing supply chain. In addition, pinpointing on how that data allows the efficient systematic processes to run more smoothly. Logistics companies would ultimately be unable to reduce costs and remain competitive in a forever changing and ruthless marketplace.

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