

Revolutionising the Supply Chain Through IoT – How it Impacts Operational Efficiency and Revenue Opportunities

By David Rogers

IoT is already impacting supply chains from one end to the other. When we're talking about IoT, of course, we're referring to the [internet of things](#) – the wireless digital connection between a series of physical devices that allows them all to communicate with each other, and they can be remotely monitored and controlled. This allowance of free-flowing communication enables organisations across all industries to increase efficiency and save money along various points of their supply chain.

By implementing an IoT network into your supply chain, and utilising all of its capabilities, your supply chain can run more smoothly than ever. Companies like Amazon have set the bar high for quick order fulfilment, short shipping times, and complete transparency from end to end. Eventually (and possibly sooner than you think), the success of your business will depend on your ability to utilise the IoT in your supply chain.

IoT and Revenue

There are sensors throughout IoT that can detect things like environmental temperature, humidity, air pressure, and sunlight. With this kind of insight distributed throughout the supply chain, decision makers can operate in ways that save time and product, therefore saving them money.

Furthermore, the IoT can communicate from end to end the status of a product, including:

Location – Item location is a vital aspect of supply chain management whether your supply chain has a warehouse that belongs to your organisation or to a third-party. There is often little visibility into an item's location when third-party warehouses are utilised. Some organisations may find that products are stuck somewhere in the warehouse or simply have not been scanned into the system yet. This is no longer an issue for organisations with an IoT that uses product location sensors.

Damage detection – Sensors throughout IoT have the ability to detect external conditions and alert decision makers if those conditions are unsafe for the product. This has the ability to stop damage before it occurs and save a significant amount of product loss. Furthermore, sensors can also detect if and when a product has been damaged. This communication can save time and money by avoiding returns and exchanges.

Fraud Prevention – Before the IoT it would be nearly impossible to pinpoint exactly where a fraudulent item came from or where it was inserted into the supply chain. It may come as a surprise, but the Australian Institute of Criminology has found that a significant amount of fraud comes from within an organisation, with the most dangerous employees being those who have been employed for longer than seven years. Preventing this type of fraud can save a significant

amount of money in legal fees and product loss/replacement, not to mention prevent reputational damage that could result in a loss of business.

IoT's Impact on Operational Efficiencies

There are more products ordered online today than ever before. So many, in fact, that there are people in the United States who are [still waiting for packages](#) to be delivered that were mailed out in December of last year – many of them left without an estimated delivery date.

The fact that the United States Postal Service is ill-equipped to deal with the massive influx of packages (or communicate how packages are traveling) is a clear indicator that IoT is a necessary aspect of an organisation's infrastructure. With effective IoT implementation, organisations will be able to deal with a massive number of orders, as well as shipping, tracking, and customer account management, giving their customer a clear picture of what is happening with their package every step of the way.

Let's take a look at how [UCOT Australia](#) is utilising the IoT in revolutionary ways:

- A manufacturer can see into their supply chain in real time – even when a third party is scanning their packages down the line.
- Information gleaned from IoT sensors is recorded directly onto their blockchain ecosystem, which is decentralized, so none of the information can be hacked or altered. It is 100% safe and accurate.
- Their customers are able to scan their received product, confirm that they've received exactly what they expected, and communicate with the organisation in the event that they are unsatisfied.

Because all of these elements are tracked and recorded on the internet of things, and multiple devices are connected to it, decision-makers can have a clearer view into what is happening within their supply chain from end-to-end. This insight allows each player to make the best decisions for their position and run as efficiently as possible.

In addition to the impact that IoT has on operational efficiencies, there are opportunities to save and increase revenue by using the IoT.

IoT As an End-To-End Solution

An organisation can have more transparency and control over their supply chain than ever before by utilising an IoT network. Starting from the moment a product is manufactured to the moment it is placed in a consumer's hands, the IoT is tracking and recording all of the data that is necessary to make important decisions. This can lead to

- Increased productivity
- A better customer experience
- Enhanced business models

Increased productivity - Products that are connected can communicate their condition and report on how they are used. This data can be used across the extended supply chain. For example, it can schedule preventative maintenance on a production line when equipment is not in use, rather than reactive maintenance when it breaks down. Usage and performance data can also be fed back into the R&D process to improve the performance and usability of a product.

Improved customer experience - A great example of improved customer experience is in the automotive industry where vehicles are already capable of providing real-time diagnostic and location data, as well as usage data, such as vehicle speed, fuel consumption, and trip lengths.

Bringing this to other industries, logistics companies can provide location data in real time to their customers, helping customers keep track of when their shipments will be delivered, and truck drivers can receive instant alerts when they need to bring their vehicles in for service based on remote diagnostics.

Enhanced business models - Older business models are built on a path to profit that relies on selling products. More products sold equals more profit. Thanks to the IoT, profits are more heavily reliant on recurring income. The business model needs to be based upon how the products and the data they produce can generate additional income streams.

Personalisation, additional services, and usage-based pricing are all becoming the norm, as is understanding how the additional partners in the ecosystem make money and support each other's efforts. The IoT has the potential to increase revenue, but only when businesses are willing to embrace a new way of thinking and look at new options for income generation.

Organisations that rely on manual data reporting, manual data entry, and trial-and-error are going to find that they are falling behind the curve. Implementing IoT into your supply chain management strategy will help your organisation save time and money by automating processes, predicting outcomes, and preventing loss before it occurs.

It's time for your organisation to make a step in the right direction by utilising IoT in your supply chain.