Flex your apps: mobile technology, e-commerce and logistics growth

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Supply Chain Management (SCM) is all about getting your product to the right place at the right time. And in this digital age there's a new kid on the block that helps achieve that goal: mobile technology. Claire Umney, General Manager, AEB (International) applies her thoughts to the benefits of apps.

While email is still the supply chain manager's main tool, many are already using their smartphones to manage tasks. So far, mobile technology is mostly used as a way to improve information flow around the supply chain, e.g. for transmitting tracking data and reports or sending alerts as soon as a process deviates from the schedule. But adopting mobile technology can do a lot more than that – it can help companies to improve efficiency, accuracy, performance and cost-control across the supply chain.

As the name implies, smartphones – such as Blackberry, iPhone, tablet computers as well as handheld and GPS devices – are very smart indeed and capable of running complete operating system software. They provide a platform for applications, or 'apps' – computer software designed to help the user to perform singular or multiple tasks. Some of the most popular applications are location-based (e.g. social networking applications), others use maps and transportation information. These functions – monitoring, controlling, tracking, messaging and timekeeping – are also very useful for SCM and execution. Mobile Resource Management (MRM) helps to make the most of mobile technology by capturing and analysing useful data, such as hours of service, engine and driver performance, even fuel consumption. The latter hints at the role mobile technology can play when it comes to reducing fuel bills and CO_2 emissions. More generally, the data can be used to make the supply chain more efficient, e.g. by enhancing productivity, improving responsiveness to customers and reducing employee downtime. That's good news at a time when customers' expectations go beyond real-time tracking. Shippers of perishable goods, for example, require temperature controlled environments for their cargo, so the temperature needs to be tracked and recorded throughout the journey. The range of potential smartphone applications is seemingly endless – from basic visibility and traceability via order and warehouse management solutions through to transportation management systems.

Let's take the example of an express delivery. The driver arrives at the customer's premises. He dials his logistics telephone server and types his delivery round and branch number into his smartphone. Once the delivery is complete, he uses the smartphone again to record the delivery status. The system confirms his entry and delivery time and processes it. All details are immediately available on the respective platform via the logistic company's interface, and all relevant partners in the supply chain can access it. Allowing drivers to input information and submit data from anywhere en route, in real-time, increases productivity and improves visibility, as every item is tracked at every point in the supply chain.

Smartphones could also prove an ideal solution for various areas of the freight forwarding industry, where subcontractors tend to change quite frequently. It wouldn't make sense to issue them with expensive equipment to ensure live data accompanies each delivery, but the subcontractor could simply use the client's smartphone application and telematics solution to ensure uninterrupted supply chain information flow. And because smartphones have a camera, they can also serve as a more user-friendly version of the barcode scanner, reducing costs further (particularly for SMEs). But that's not all. Built-in GPS and audio headsets mean that pick rates in the warehouse can be calculated via iPhone and pickers can be quickly navigated through the warehouse using voice instructions.

Smartphones are easy to use, so theoretically they seem ideal for operational SCM activities. But their scope of use in operational supply chain environments remains limited so far. For example, they're not yet perfectly equipped for certain warehouse operations, where more ruggedised equipment would work better. And they can't be integrated with all systems, such as the navigation system of a truck.

There are also growing security concerns over data manipulation on smartphones, due to the increasing amount of business-critical data stored on typical handsets. Malfunctions can bring additional drawbacks. Most smartphones are targeted at the consumer market and are unsuitable for a number of logistics requirements. Damaged hardware would delay processes and pose a risk to supply chain execution. Chances are there will soon be special smartphone versions for the sector, perhaps similar to the more sturdy mobile phones known as rugged mobiles.

Generally, smartphones are always required to feed back the data they gather into a central system for further processing, distribution, data completion and archiving. Even though in recent years the role of mobile devices and mobile computing has gained more importance for their support of efficient supply chain processes, their most valuable feature continues to be the capability to integrate into the respective ERP/operational systems and to gather and share data in various forms and formats. So, while it's possible and – in some areas – crucial to deploy mobile devices to support IT processes throughout the supply chain, mobile computing at this stage cannot fully replace existing ERP/operational systems, which offer more complex functionality, customisation options and stable system environments.

While smartphones probably won't ring in a logistics revolution, if you'll excuse the pun, they're likely to get a lot faster, and will increasingly be used for operational tasks such as picking, packing, pick-up and delivery instructions, carrier selections, or – on the compliance side – for performing regulatory tasks such as screening business partners against restricted-party lists.

Today's smartphones and mobile data networks already have functionalities well beyond the rudimentary mobile tracking solutions that are being used to manage the flow of goods. Network providers have greatly improved mobile data coverage and the infrastructure required to deliver broadband speeds over ever greater distances. The cost of mobile technology has also dropped over the past years.

Apps enable supply chain executives to react quickly to operational issues, make informed decisions based on up-to-date information and take appropriate actions. And there are other options, such as supporting warehouse tasks, carrier management or freight cost control. SCM apps will continue to improve our ability to manage supply chains from just about anywhere, as long as there is a Wi-Fi or mobile signal. By integrating wireless, RFID and other mobile technologies into their supply chain operations, market leaders achieve real time SCM and visibility – and gain a competitive edge in the process. The supply chain of the future is likely to be very mobile (and smart) indeed.

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