MOBILE CUSTOMER ENGAGEMENT

TRANSPORT INTELLIGENCE
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The Invisible Supply Chain:

The greatest challenge faced by logistics operators is knowing what's happening 'out there' in their extended supply chains. This is not a simple exercise, because supply chains involve a number of different activities, including procurement, manufacture, transport, distribution and delivery.

Within some of these activities, precise, immediate and granular data is available to operators and managers, helping them to control activities and respond to unexpected events. However, they usually exist as 'islands' of clarity within a sea of uncertainty. Therefore attempting to establish a view of the entire supply chain is frequently impossible, due to disconnects, incompatibility and inaccurate or non-existent data flows.

It's fair to say, that the most accurate description of most supply chain activities is that they are 'Invisible'.

Surprisingly, this has been the normal state of affairs for decades. Numerous attempts have been made to reveal the nature, status and location of everything moving through supply chains. Many companies claim that they have resolved this problem and can prove it by demonstrating their advanced track and trace systems. These systems do indeed provide impressive track and trace 'visibility', but only while the items being monitored remain within the custody of the organisation operating the track and trace system. Once items or products are moved through the chain to another party, the flow of data is interrupted and often processed and presented differently. The net result being an imperfect or incoherent picture of what is happening.

The reasons for this are clear (and unsurprising). Supply chains are comprised of many different parties connected in the chain. They may be performing similar or quite different tasks, separated by geography, contractual relationship or some other arbitrary arrangement. They all use different systems, either home grown or purchased 'off the shelf' and, as is often the case, when some of the parties involved in the chain are using systems purchased from the same vendor, they have implemented them differently. These incompatibilities contribute to the challenge of providing a clear, coherent and comprehensive picture of national, regional or global supply chain visibility.

Visibility across and into supply chain operations is vital, because without it, many of the activities involved with fulfilling a customer demand are inefficient or ineffective. This increases costs, causes delays and disappoints the customer, with the consequential impact on brand loyalty. If you have the appropriate levels of visibility across and down into your logistics operations, you have a huge commercial advantage. If you have systems that are adaptable, flexible and easily accessible to your customers and partners, you can respond to their demands faster, more accurately and at lower cost. A compelling scenario.

Improving visibility is not just an exercise in enhancing 'track and trace' capabilities, it requires considered interoperability between many different systems and technologies. This is made even harder as technologies evolve and the systems used within the supply chain become more dynamic and sophisticated. The backdrop to this evolution is the explosion of

data from multiple sources across the supply chain and the most progressive and successful companies will try and exploit this to their advantage.

The incredible success of the Internet has unleashed a torrent of data and information across the world. It is a paradox that this general availability of data has both informed and obscured relevant 'information'. This applies to almost all forms of human activity, sciences, arts, philosophy etc. It is a trend that shows no sign of slowing down and highlights the need for clarity and various forms of filtering that can reveal the significance of some items of information and ignore the irrelevant. Editors and librarians are usually very good at this and it is a skill that might be exhibited by an intelligent machine at some point. Researchers are getting close to this, but fall far short of the cogniscant reasoning of an average librarian.

The amount of data generated across a supply chain is huge and is about to become even larger. To put this in some kind of perspective, consider this: According to Aureus Analytics, 90% of the world's data has been created in the last two years. It is also estimated that by the end of 2015, 4.9 Billion devices will be connected to the Internet, rising to 25 Billion by 2020. Manufacturing and transportation will be the sectors responsible for the largest and fastest growth. These devices will range from simple sensors monitoring heat, light, location to sophisticated processing units capable of making decisions, communicating and initiating actions in response to external stimuli or programmed events.

Many organisations lack the capability, or necessary infrastructure, to manage this tsunami of data, much less exploit it to provide improved visibility to customers and partners.

Consumers in many parts of the world now carry a personal supercomputer for most of the day in the form of a smartphone. Most of these are connected in some way to the Internet and consequently, to huge stores of data and information. This has profound impact on the way they interact with commercial enterprises. As manufacturing evolves into a demand driven, real-time fulfilment activity, the supply chains supporting these operations are changing in response. All of the enterprises involved will require agile and adaptable information systems platforms in order to participate. Alongside such systems, companies will also need change their culture and operational service levels to benefit.

To help organisations understand and respond to these challenges, we are preparing a series of white-papers to explain the challenges and opportunities various technologies present to logistics and supply chain management executives.

The first two subjects are Mobile Customer Engagement and Big Data and Analytics.

-KEN LYON, TI TECHNOLOGY ADVISOR

MOBILE CUSTOMER ENGAGEMENT

In many parts of the world people are carrying a supercomputer in their pocket in the form of a smartphone.

Consider this:

"In 1994 the combined TOTAL number of transistors sold worldwide in PCs that year, was 1.2 Billion."

"In 2015, a single iPhone 6 contains 2 Billion transistors"

(Ben Evans a16z - 2014)

Due to the availability of high-speed wireless networks, access to the Internet is 'almost' universal. The combination of a powerful computing device (smartphone) and ubiquitous connectivity to an infinite data and computing resource, will be profound. It will impact the logistics industry in many unexpected ways.

This universal data connectivity enables activity at the edges of any physical network to function as if they are adjacent to the core. This means that operators and customers are immediately linked into the operational processes. This virtual closeness provides an immediate pathway for data, information, instruction and feedback, amplifying the capability of any organisation that takes advantage of it.

This paper is an attempt to consider the possibilities and implications of this mobile revolution and how the customers of logistics service providers can be engaged and interact as partners.

Accountability

Customers demand to know more - carriers must streamline and improve their technology platforms to support these demands - this will be very challenging in some places.

The value of data increases as accuracy improves, so everyone has incentive to keep it up to date. This improves operations, creates customer trust and builds loyalty.

"Why would we allow customers to access our systems? They would see when we screp up…"

-Ex Customer Services Manager.

Previous generations of logistics information systems were primarily document generation platforms. This was because most of the industry depended on the flow of paper documentation. Some of the more advanced systems introduced the ability to provide price quotations, along with the monitoring of simple process flows. The arrival of the internet completely changed the game and the rapid adoption of the technology by the express

parcel companies illustrated the potential. They connected their Track and Trace systems to the internet and allowed their customers to see the progress of their shipments at any time.

It required huge levels of capital investment by them to create the network of systems and scanners that captured the track and trace data. But, by allowing customers to directly view this information, they transferred the role of customer service agent from the company directly to the customer. This dramatically reduced the number of calls into the call centres and highlighted the advantage of allowing customers to engage directly with the operational systems. It quickly became normal to query pricing information, to book shipments and to obtain proof of delivery confirmations, online.

As a result, increased customer expectations caused logistics service providers to rethink what their systems needed to do. In short, an evolution from essentially document production and process control systems, towards more flexible, agile and collaborative platforms. As this evolution was taking hold, mobile phones began to transform into handheld computers, extending the ability to capture data and access information via any cellular network.

This transformation has occurred in parallel with the move away from production driven sales models, towards demand fulfillment models. In short, from 'pushing' products into markets, to 'pulling' them through, in response to customer demand. The Internet has enabled customers to signal their demand directly to the product source, combined with the ability to immediately switch to another supplier if they cannot get exactly what they want, when they want it.

This approach is a profound challenge to the inherent information systems used by many organisations, many of which were designed to streamline processes and operations for internal efficiencies. Connecting these sclerotic, process centric environments to high velocity, very high transaction customer interfaces (or apps), is not easy and seldom ends well. To meet this challenge requires a fundamental rethink of how a company organises its information systems and operational processes. It puts the customer at the centre of any proposition and is much easier to do if you are starting with a blank sheet of paper.

In the business to consumer (B2C) segment, Amazon is the best example of what is possible when this is done well. They made a clear decision at the outset that the customer would find interacting with the company and using their services, as painless as technology allows. Anything that could prevent or delay a customer from selecting, purchasing and then receiving delivery of their goods was to be eliminated. Ideally a customer should only have to 'click' once and then payment and delivery would just happen. To a large degree they have achieved this and consequently it has been echoed by large numbers of other retailers who have realised what was possible.

This has now created an expectation that all online services should be as seamless as this experience. How companies and specifically in the context of this paper, logistics companies, can support these goals will be crucial to their success in the market. They need to be agile, adaptable and most importantly, customer centric organisations. The goal must be to make customers both allies and evangelists of your extended enterprise.

The agile enterprise

The challenge of scale and adaptability is forcing many companies to examine the advantages of cloud computing. The cost of operating in-house data centres is becoming unsustainable in comparison with using a cloud service provider to do the same thing (except for some very specific instances). Alongside this, the operational applications (the programs that reside and run on the data centre infrastructure) are having to be redesigned to exploit these new and virtually unlimited platforms.

People have been seduced by the utility of many of the apps they use on their mobile devices and PCs. They don't understand or, more significantly, don't care, that these apps are linked to complex data stores and transaction processing systems, often running on the other side of the planet. All they care about is that they can get the answer to their question, or issue an instruction that makes something happen exactly as they want. Customer centric organisations understand this and are adopting the necessary technology building blocks to make it happen.

Logistics operators have seen the results of access to online track and trace systems. Customers now expect any carrier to provide this kind of capability. While this is slightly easier to do when dealing with single shipments moving through the domain of a single carrier, it becomes more complex when shipments are consolidated and moved via several different carriers. But this is just the tip of the iceberg. Freight Forwarders, third party logistics service providers (3PLs) and other players in the industry, need to share information between themselves and out to their customers, partners and stakeholders. Rather than being concerned by the challenges this conundrum presents, they should consider the opportunities.

Starting with the customer, order and shipment information can be shared and augmented throughout the process. It's not unusual to have track and trace information overlaid onto maps to show the location and progress of shipments as they transit the delivery path. With the appropriate systems in place, the operators, (carriers, local drivers, etc.), shipper and consignee are all linked into a quasi-social network where communication can occur.

This is especially vital in dynamic environments where order demand requires shipments to be rerouted, or when there is damage, or unexpected delays, or interruptions to the schedule. The primary mechanisms for this to happen already exist as there are multiple apps performing similar actions in other domains. This is also advantageous to the logistics companies, as customers using these tools are also sharing more information about their operations as a consequence.

As these tools become part of the operational landscape, the volume of data and information accumulated enables logistics operators to create more precise service solutions. The science of big data analytics is moving into the mainstream to support these activities.

The earlier that information about orders and shipments is captured in the process, the more accurate the information is likely to be. This has huge benefits, as more accurate information helps to improve clarity, avoid errors and streamline processes. A practical example of this can be seen when a proof of delivery confirmation automatically triggers payments to the respective suppliers and stakeholders.

By combining all parties into the information loop, problems can be identified quickly helping to bring a resolution as soon as possible. This is in contrast to the alternative scenario of phone calls, emails and queries trying to work out where something might be, what the problem is and who is responsible. This is still very common, raising costs and frustrating customers.

Transparency and access to data across the network helps to establish trust between partners. Trusted networks are generally much more efficient and have higher levels of customer retention. This results in increased revenues and reduced costs.

Network connected mobile devices are very powerful communication and sensor platforms. They are the means to engage every party in the chain. All of the actors can be combined into a virtual partnership tasked with delivering the service to the customer. This is particularly important for the parts of the operation that directly interact with the customer. e.g. delivery drivers and customer service personnel. They can also be incentivised to deliver an enhanced service via the mobile device directly linked to the controlling system.

In many markets, transportation services rely on a large pool of sub contracted owner drivers. Use of these resources lowers the cost of dedicated services, but also reduces the ability to monitor and manage service levels. Thanks to the advances in mobile technologies, these independent contractors can now be linked and managed directly as part of the process.

The taxi business is undergoing a seismic shift in many cities around the world as this principle is adopted on a wide scale. Drivers can download the relevant app onto their smartphone, complete a simple form and are then available as a resource for hire, with the system taking care of the booking and payment automatically. Customers can then rate the driver via their smartphone app and the best performers are highlighted.

In the case of logistics service providers, using this approach to manage their pools of subcontractors has huge potential. They can operate as very agile and adaptable nodes on the network, receiving availability requests and jobs directly on their devices. They are then able to directly schedule the pick-up with the manufacturing facility or DC dock location, coordinating with other actors in the chain and all the while keeping the client updated automatically. Depending on their performance ratings, micro bonuses could be applied to their accounts, encouraging consistent high performance. This should enhance the network performance overall.

The same principles apply to each and every other party in the logistics chain. Where goods are moved through multiple locations and handled by many different partners, whether at a cross dock or consolidation facility, the information 'chain of custody' is in sync with the

physical one. The net result is that customers are encouraged to engage with the logistics service provider as a 'partner' rather than just a supplier.

Huge amounts of data demand investment in better systems

All of these developments present a great opportunity for new logistics service providers, as they can build their business around the idea of information services as a utility. They can do this at cost levels a fraction of what they would have been say 10 years ago. This gives them tremendous flexibility and the opportunity to match the scale and capability of larger, established companies. It enables them to focus systems and resources on customers, with the flexibility to quickly adjust or enhance the solution in response to market conditions.

Established companies who already have large system installations, will have to decide how they can take advantage of these new services and interoperate with them or discard whole chunks of their enterprise technology platforms. This is a considerable challenge, but one they will have to address in order to compete with nimble and effective competitors.

In many emerging markets, logistics service providers can take advantage of these developments to establish systems platforms that deliver unparalleled levels of customer service. Providing relevant information directly to the mobile devices of all participants in the chain will be the operating norm. Customers will use their mobile device to monitor progress, send instructions and query or resolve any issues with their shipments. Over time, the logistics service provider will be able to examine the accumulated data to gain a greater understanding of the customers' shipping requirements and any underlying signals indicating where operations can be improved. This proactive approach to customer service can be seen as delivering on the performance 'promise'.

For the other parties in the logistics chain, the advantages of deploying mobile apps into their operations both increases accountability and enhances service levels. Those companies that may be reluctant to engage with the logistics service provider using these technologies, are also sending the signal that they distrust transparency in operations. This may not make them reliable partners on a long term basis.

For those parties that are prepared to engage in this way, they should also be able to use the data to improve their own operations. Mobile applications can reduce the amount of manual form filling or spreadsheet updates to a minimum. It avoids the need to pass information through numerous parties before it is entered into a system. This frequently results in incomplete or inaccurate data, causing problems and delays further along the information chain.

In some operational environments, especially those in public or general purpose facilities, access to dedicated staff is not possible. But through apps that can be downloaded onto a mobile device, even ad-hoc freelance staff can become an informed dedicated resource. Instructions on the screen of a mobile phone can exploit the cameras, GPS and other sensors they have, so as to ensure shipments are handled appropriately and are consolidated and moved according to plan. Thus all leaving a complete audit trail of date, time, location, action, operator.

With such a rich pool of information available, operational managers can enjoy a real-time view of operations, issues and any problems, even if they are away from their desk. Using their mobile device, they can tap into business intelligence applications to determine the most appropriate options for resolving any issues. Thanks to the direct connection between the app and their operating environment, they can initiate the relevant actions and, at the same time, keep the customer and any relevant parties fully informed.

Access to the rich pool of operational data on mobile devices, enables managers, partners and customers the ability to review the same information, at the same time. This is especially helpful during contract negotiations, but on a day-to-day basis, gets to the cause of problems faster. This ensures the resolution is quicker and more coherent than if it is based on incomplete or inaccurate data spread across numerous spreadsheets, ad-hoc phone calls and disparate systems.

Customer First means Mobile First

When selecting a system, logistics service providers should consider how well any potential vendor incorporates mobile devices. Accessing the vendors systems via a browser from any PC or mobile device is no substitute for a dedicated application designed for that device. Analysis has shown that users tend to spend more time using apps than they do accessing the same functionality through a browser.

Apps can also maximise the other functions of the mobile device such as the cameras, GPS and location sensors and mapping apps. This is not usually available if you use the mobile devices browser. It is reasonable to expect that app developers understand that the mobile device will only increase capability as technologies evolve.

It's an interesting maxim from computer science classes that computers should never have to ask for any information they are capable of collecting themselves. This applies particularly to mobile devices. How logistics service providers take advantage of these developments may well be the key to market domination. Working with vendors who understand this and have developed their solutions with an open customer centric mindset, should be at the top of any selection list.

About the Authors

Ken Lyon is the Managing Director or Virtual Partners and is one of the pioneers of information development and supply chain collaboration within the logistics industry. Ken has over 30 years' experience and is a member of Ti's advisory board.

Mirek Dabrowski, as the president and co-founder of oTMS, is leading the company with his rich experience in the logistics industry and deep understanding of China's transportation industry. With major focuses on project management, planning and execution, Mirek has more than 16 years' experience in the logistics industry and worked for multiple international logistics giants, in charge of their businesses in China. Before founding oTMS, Mirek was the general manager at DSV. Mirek managed DSV's businesses in ten cities and tripled its businesses. Besides, Mirek was the vice president at DHL Supply Greater China, taking full charge of the business development, planning and execution in the fields of consumer product, industry and automobile. Mirek graduated from Poland Cracow University of Economics with a master's degree in international business. After graduation, Mirek joined Maersk China and was the manager of West China region and the operation manager of China.

About Transport Intelligence

Transport Intelligence (Ti) is one of the world's leading providers of expert research and analysis dedicated to the global logistics industry. Ti utilises the expertise of professionals with many years of experience in the mail, express and logistics industry to develop a range of market leading web-based products. Ti reports, profiles and services are used by the world's leading logistics suppliers, consultancies and banks as well as many users of logistics services.

www.transportintelligence.com

About oTMS
oTMS is a leading provider of logistics management platform in China

- oTMS pioneered and commercialized the first community logistics management solution in China
- Over 130 shippers and 3PLS are using oTMS solutions to manager orders every day.
- Compared to traditional TMS, oTMS can help increase the efficiency and reduce the cost both by 10 times.
- oTMS has gained more than 1 million orders on average per month.
- oTMS now covers four major fields: clothing retail, consumer product, industry manufacturing and auto components.
- oTMS can bring benefits to all corporations linked in the transportation process by increasing efficiency, reducing cost and speeding currency flow.
- oTMS gained A+ round investment from Chengwei Capital, Matrix and Baidu in June 2015.

Vision of oTMS

By connecting the whole process of transportation, oTMS is aiming at bringing clients a new management experience and more business opportunities.

Concept of oTMS – Connected Transportation

oTMS creates and develops the "Connected Transportation" solutions at first in the market. Leveraging cloud computing and mobile Internet technologies, oTMS distributes SaaS solutions to connect every party in the transportation process, including shippers, 3PLS, trucking companies, drivers, into a seamless ecosystem with well balanced, mutual benefits and a shared work flow that can benefit everyone.

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To Find Out More

For more information please contact Ti's Commercial Director, Sarah Smith, E: ssmith@transportintelligence.com T: +44 (0) 1423 330736.