

# SUPPLY CHAIN MANAGEMENT AND REGULATORY CONTROLS: A CASE FOR TRADE FACILITATION

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## **Abstract**

The paper aims to introduce the operational implications of regulatory controls to the supply chain management debate. Supply chain efficiencies may be frustrated through requirements set by organisations like Customs authorities, revenue authorities, immigration services, security forces, health and safety legislators, food and environment legislators and transport regulators. Recent security scares and public health concerns have echoed calls for tighter regulatory controls across supply chain operations and at national frontiers in particular. Regulatory control is nothing new in international trade and non-tariff barriers remain an operational challenge in international supply chain management. Trade facilitation looks at how trade procedures can be simplified to improve operational efficiency while ensuring that the needs of regulators are met. Regulatory control and operational efficiency need not stand at odds with each other. The challenge is to combine the needs of regulators with supply chain management principles. The UK gives some illustration of regulatory complexity at national frontiers and ports. While some degree of simplification has been achieved, there is scope for considerable improvement. Given imminent security fears resulting from terrorism or food, animal and plant health concerns, the well-established concept of "trade facilitation" needs to be included in the wider supply chain management debate.

**Keywords:** supply chain management, trade facilitation, trade procedures, customs, port health, united kingdom, ports, national borders

## **Introduction**

Within the existing global production structure the role of regulatory requirements in trade between nations has received remarkably little attention in the supply chain and logistics debates. This paper aims to introduce the operational impact of regulatory control on supply chain management and make a case for trade facilitation. Given recent security fears in terrorism as well as concern in protecting the UK environment since outbreak of the Foot and Mouth Disease there appears to be heightened political pressure to safeguard national borders. In the UK border controls, due to its island status, are largely focused on ports. The data presented in this paper, unless otherwise referenced, is based on over 25 interviews with senior managers and directors in shipping lines, freight forwarding companies, shipping agents, port operators, UK traders, Customs offices and Port Health authorities at the ports of Felixstowe, Southampton and Liverpool Freeport and other sea and airports as well as personal working experience as freight forwarder, Customs consultant and employee of SITPRO (the UK's trade facilitation agency). While research has been conducted in the UK, many of the issues documented are familiar to practitioners outside of the UK.

In the past, the international trade agenda was predominantly concerned with customs tariffs and non-tariff barriers. At present, with declining customs duties, increasing volumes of trade and sophistication of supply chain management as manifested by the advent of global production structures, the cost of complying with trade procedures (as opposed to paying customs duties) becomes increasingly exposed. In international operations, supply chain management doctrines would argue a degree of resistance to duplication of efforts (e.g. import and export declarations or multiple reporting of identical information), inefficiencies (e.g. conflict of trade procedures with commercial practices or backlogs at inspection facilities) and limited predictability (e.g. uncertainty whether goods will be physically inspected or delayed) in successfully moving goods across a border within competitive time frames.

Trade facilitation, as understood in this paper, is the "simplification and harmonisation of international trade procedures" where trade procedures are the "activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade" (WTO, 2003). Trade procedures include both Customs procedures as well as technical regulations concerning issues such as health safety and the environment (Messerlin and Zarrouk, 2000). For many practitioners the term also includes the procedures applicable to making

payments (e.g. via a commercial bank) (SWERPRO, 2003). It is argued that by encouraging trade facilitation and adopting supply chain management principles, the burden of complying with regulatory controls, despite increased political pressures, can be significantly reduced.

### **Current Regulatory Environment at UK ports**

As the UK is a member state of the European Union, most trade procedures are based on European Union Directives and Regulations. To this extent rules and regulations enforced in the UK are largely similar to those in all other EU member states. However, as will be outlined, the degree of enforcement, control and institutional capabilities will vary. Even within the UK businesses will point out that local variances in procedures, institutional capabilities and practices between ports exist.

In the UK a range of national institutions will seek to verify and control imports and exports. The most dominant organisation is HM Customs & Excise (Customs) which concerns itself with international trade related controls and law enforcement. All imports and exports require a formal declaration to Customs. The International Trade side of Customs has responsibilities for collecting customs duties, excise duties, import VAT, anti-dumping duty, countervailing duties, CAP levies and compensatory interest (Grainger, 2000). As such, the nature is largely fiscal and trade policy related. This part of Customs will also collect a large array of trade related statistics. Customs' Law Enforcement on the other hand is concerned with smuggling, the prevention of terrorism (which includes money laundering, weapons and explosives), illegal meat imports and weapons of mass destruction. Almost as visible as Customs are the Port Health and Local Health authorities (health authorities) whose executive responsibilities lie with products of animal origin (e.g. meat, poultry, hides, fish, live animals), plants and plant products, food and products marketed as organic. Policy by contrast is usually defined by the European Commission, the Department for Environment Food and Rural Affairs (DEFRA) and the Food Standards Agency (FSA). At UK container terminals it is estimated that 70% of all physical inspections relate to health authorities.

In addition to Customs and health authorities, further controls and procedures may be governed by a number of institutions. DEFRA's Horticulture and Marketing Inspectorate may check that fruit, vegetables and nuts comply with marketing standards. The Forestry Commission may wish to satisfy itself that timber and timber products, including packaging and wooden pallets, satisfy phytosanitary requirements. The Maritime Coast Guard Agency may wish to ensure that dangerous goods have been appropriately declared, packaged and labelled. HM Immigration may have concerns regarding crew passports and visas. The Police and Special Branch could be investigating or building up intelligence in fighting crime and international terrorism. Trading standards agencies may wish to check that packaging, labelling and marking conform with legal requirements. The rural payment agency is involved where traders claim CAP refunds. The Export Control organisation is involved where exported goods have potential for dual-use (e.g. a four wheel drive that by installing a machine gun could be converted into an armoured vehicle), works of art and chemicals that could be used to manufacture illegal drugs. Independent pre-shipment inspectorates may need to be employed to verify goods and documentation where goods are exported to countries with pre-shipment requirements. In addition to UK government sponsored institutions, commercial banks may stipulate trade documents to be endorsed in a pre-prescribed manner to safeguard payment. Shipping conference may wish to check whether their members are compliant to the agreed conference terms. Even if goods are not subjected to all controls, regulators may wish to verify that they are not letting a consignment slip. Similarly, where one agency decides to increase its level of inspection, it can cause a backlog within the limited space available at ports causing considerable operational disruptions for all goods handled.

In interviews it was often pointed out that a number of the government sponsored institutions listed do not have the same degree of skill and capabilities as Customs to target and stop goods. As such, they may choose to work together with Customs, the governing health authority or one of the commercial parties (e.g. port, shipping line, importer or exporter) to safeguard their objectives. However, individuals interviewed will point out that in many instances specific institutions like the Police, the Horticulture and Marketing Inspectorate and HM Immigration will undertake to stop goods or vehicles on their own accord.

Given the complexity of institutions with an interest at UK borders the operational challenge has several dimensions. It is argued that these relate to a) collecting information, and b) presenting and examining goods to authorities. The list of paper documents is extensive and will vary as to whether

the movement through the port is an import, transshipment or export. It will also depend on what the goods are, their origin and value. Adding to complexity, the required information may need to be sourced from different parties. Depending on the trading terms used (Incoterms, 2000, ICC, 2000), responsibilities for ensuring compliance will vary from party to party. Some information, e.g. certificates of origin or veterinary certificates, can only be sourced in the country of origin. Other information, e.g. a VAT number or request for entry to a specific Customs procedure, will be supplied from the UK customer or his agent. Details relating to container seals, vessel registration, weight, volume and container number may come from any range of contracted intermediaries like shipping lines, logistics service providers, freight forwarders, ship brokers, liner agents, customs brokers, consolidators, warehouse keepers, stevedores and distributors. In interviews with a number of freight forwarders it was explained that a large proportion of delays at UK ports (and consequent demurrage charges) relate to traders not having provided the correct or adequate information needed to process and clear the goods. Necessary documents or instructions were not provided on time. While larger companies have experienced shipping departments, interviewees noted that many non-UK and smaller and medium sized traders face disproportionate difficulties in finding their way through the web of documentary requirements and responsibilities within the myriad of institutions.

Addressing presentation and examination, in order for a port to be allowed to handle goods its premises need to be approved by Customs. Requirements include the obligation for port operator to provide suitable facilities. Similarly, ports handling live animals or products of animal origin are required to provide a border inspection post (BIP) where the health authority can conduct its specific controls. While at some ports significant effort is undertaken to co-ordinate Customs and health controls, current legislation makes it difficult for these two institutions to share facilities. As such duplication of activities is not uncommon. Equally, interviewees point out that official controls often duplicate internal control mechanisms, e.g. when assessing supplier quality. For example a UK retailer may check whether meat products are suitable for the EU market before shipment. Once goods arrive in the UK health authorities may conduct exactly the same checks again. Putting these structural concerns of good practice aside, traders can help improve their lot by providing better quality information. For example, ambiguous cargo descriptions like "group age" and "parts" will increase the risk of exposure to official inspection significantly.

### **Trade Facilitation**

The concept of trade facilitation is nothing new and organisations like SITPRO, financed by the Department of Trade and Industry to champion the issue, have been around for more than 30 years. Discussion and negotiations at international institutions like the WTO, the World Customs Organisation, UNCTAD, the UNECE/CEFACT, APEC, the IMO and the ICAO are well ahead and the topic will be part of the next Doha trade round discussion.

However, common concerns amongst parties interviewed and observations made are excessive documentation requirements, lack of automation and use of information technology, lack of transparency (e.g. of import and export requirements), inadequate procedures and operating practices as well as lack of modernisation. A further point that is often made is that even within the UK and EU local practice can vary. In the UK a number of traders reported that they will divert or have actually diverted traffic to alternative EU ports where procedures are perceived to be more efficiently operated. In this light, there is considerable scope for simplification and harmonisation of international trade procedures as well as alignment of procedures with modern supply chain practices.

To some extent individual institutions, trade and industry groups promoting trade facilitation have had considerable degrees of success over the last few decades. Through negotiations at the World Customs Organisation some progress has been made to international harmonisation of customs procedures in accordance to the Kyoto Convention. Similarly, much agreement has been made on classification systems, valuation rules and origin rules. However, more significant harmonisation of customs procedures has been achieved through the proliferation of regional trade agreements and Customs Unions, most notably in the EU, which shares a single body of customs legislation and to a large extent a single body of technical regulations. However, the requirement for extensive documentation and reporting to different institutions remains.

In an attempt to harmonise trade documents (Customs, commercial, health, safety etc.), the UNECE developed the aligned document recommendation. Compliance to this recommendation ensures that

all trade documents follow the same layout. As such photocopiers (through the use of templates), laser printers and word processors can be utilised to print different trade documents from a single dataset. Moreover, documents in compliance to the recommendation can be mapped to the UN electronic messages standard (EDIFACT), ensuring compatibility with a wide range of commercial systems. As will be outlined, such electronic message standards are crucial to the sophisticated electronic community systems operated at UK ports as well as between international parties (Mulligan, 1998). Similarly, the World Customs Organisation in various initiatives (e.g. the harmonised tariff system, the valuation code, the UN/G7 data model) is seeking international agreement on the type and format of data required by customs authorities.

Thanks in part to the existence of electronic message standards it is possible for most port users to communicate electronically via EDI and/or the Internet. In the UK it is also possible to make most Customs declarations electronically, directly into Customs' CHIEF systems. The existing electronic Customs clearance systems are often described as revolutionary (Appels and De Swielande, 1998) and most UK practitioners will verify that speed for Customs clearance, putting requirements by other institutions aside, has much improved over the last decade. Although, parties are often still required to keep paper records for audit purposes. If all information has been collected and presented in the right manner, often prior to the arrival of the physical goods, consignments can be cleared through a UK port within minutes, if not seconds. However, while UK Customs' commitment to trade facilitation is not disputed (Customs, 2002), the burden placed by demands other than Customs controls remains very visible. For example few UK health authorities have any electronic infrastructure, which is able to accept electronic declarations. At best capabilities allow for the analysis of shipping manifest data provided electronically by port community systems. Actual declarations, which contain the bulk of data remain paper based. It is argued that despite wide use of electronic communication, there remains scope for significant improvements by integrating regulatory authorities further.

An increasing trend to aid facilitation by some institutions is to shift the focus of control away from the goods and on to specific business involved in the trading and movement of goods. The concept is generally known as "trader authorisation". For example, Customs may grant authorisation to a trader to make electronic declarations, produce Customs documents requiring an official endorsement, operate a Customs warehouse, defer duty payments or clear goods at trader's premises (instead of in the port). In such event Customs trusts the authorised trader sufficiently to manage its obligations. Instead of regularly inspecting the goods as they move through ports, Customs will audit the records that the trader is compelled to keep under the conditions of his authorisation. Such authorisations generally provide legitimate businesses with greater degrees of control over operations, reduced cost and allow Customs to free up resources to target illegal activities. To operate authorised trader systems, providing legislation allows it to be adopted, requires degrees of trust (sometimes aided by the provision of revenue guarantees) and capabilities between enforcing authority and trader/operator. In specific health regulations, certain regimes may provide for blanket authorisation to goods imported from "authorised countries". Here, overseas institutions have been audited by EU inspectors and deemed sufficient for safeguarding EU interests. In certain instances third country authorisation can reduce the level of control to which the trader is exposed. However, the trader may still be held to provide evidence on the origin of the goods and certification of goods in the country of export and physically present the goods for inspection at the border. From an operational point of view, obtaining and presenting required information is often described as a challenge.

Another method of aiding, instead of inhibiting the movement of goods, is the adoption of risk-based controls. Rather than enforcing blanket controls at 100%, control levels are determined in accordance with the degree of risk. For example, Customs' law enforcement side use this method to detect smuggled goods. Based on criteria such as intelligence, available data and trader's track record, officers will select specific consignments. In a very large proportion of physical examinations conducted by Customs, officers will pre-select consignments at the time, or even before the vessel lands the goods. Risk profiles are often compiled by using specialist software interrogating electronically submitted information e.g. shipping manifests, legally required pre-notifications and formal entry declarations. Again, while Customs seems to be leading the way, other institutions and their reliance on paper documentation do not have the means to apply risk-based methods with similar sophistication. In fact, under many technical regulations EU law still requires 100% check levels. As a result UK health officers may be checking identical consignments of tinned tuna, from reputable traders with no record of being a threat to public safety, on a day-to-day basis.

## **The National Border and Supply Chain management**

“An undeniable axiom of supply chains is that they can only be as efficient as their constitution links/channels and nodes that support the flow of goods from point of origin to point of consumption “ (Haughton and Desmeules, 2001). As such the national frontier and its associated regulatory controls such as Customs procedures, but also those applied by health authorities and other institutions, are defining nodes in the international movement of goods and supply chain management. It is proposed that the analysis of national frontiers and trade procedures may be viewed from two perspectives. One is the logistical challenge of presenting and clearing goods at the national frontier (i.e. at the port); the second is the supply chain challenge of meeting regulatory objectives. In this context logistics is understood to be that part of the supply chain process, which plans, implements and controls the efficient movement of goods while supply chain management is the systemic and strategic co-ordination of businesses and, as will be proposed, the co-ordination with regulators.

As outlined earlier, the logistical challenge of clearing goods at the border includes the involvement of a myriad of institutions but also the consolidation of information collected by importers, exporters, shipping lines, freight forwarders and agents. In the UK this challenge is met with different degrees of sophistication, depending on the ports used for entry, the mode of transport, nature of cargo and vessel as well as specific capabilities of port users and the importer and exporter. To give an illustration, the larger UK container ports operate sophisticated port community systems to which all port users (including Customs and health authorities) subscribe. These systems collect all information required for processing and clearing goods, centrally into a single database. Data submissions include an electronic shipping manifest submitted by the shipping line (usually generated by the lines in-house booking system), Customs declarations made by freight forwarders on behalf of traders, instructions from Customs and health authorities to the stevedore (e.g. to deliver goods to inspection facility) and to freight forwarders (e.g. request for paper support documents or more information) as well as between the shipping line, the freight forwarder, the stevedore and haulier (e.g. to arrange loading of vessel or collection of container by a waiting truck driver). Although improvements can still be made (e.g. by improving capabilities of health authorities), container terminals enjoy a large degree of automation. In comparison, airports tend to have more fragmented systems. Often, one of the first tasks that operators need to do once an aircraft lands, is to unload and process the airfreights accompanying paper documents before clearance through Customs and health authorities can be arranged. This has been described as very cumbersome, especially if not all documents can be immediately located. By contrast, parties involved in maritime bulk cargo operations often report that existing trade procedures provide little burden, as they only have to process a very small number of entries in comparison to the volume they move. Nevertheless, the legal requirement to report and present goods moved across national frontiers constitutes a real cost, especially if difficulties translate into demurrage charges or missed business opportunities. International estimates of trade compliance cost seem to range from anything between 2% and 15% of the value (OECD, 2001). Initial findings of SITPRO's INTERACT project which seeks to establish industry benchmarks on regulatory costs, suggests that even within the EU where rules and regulations are largely identical, cost patterns can be very different from trader to trader and country to country. Initial evidence suggests that significant supply chain efficiencies can be gained by aligning regulatory considerations with business processes.

Given ever increasing volumes of trade and internationalisation of production, there is growing pressure on the national frontier for regulatory authorities to safeguard their objectives with the resources available. Arguably, this has been amplified by recent terrorist concerns and a security conscious international trade agenda. To give anecdotal evidence on the degree of concern, a US diplomat in a conversation argued that one of the most precise delivery mechanisms for weapons are the services offered by express carriers. The challenge is to meet this regulatory demand with greater facilitation. Electronic systems certainly allow for improved efficiencies, as is evident at UK container terminals. However, it is argued that much of the regulatory demand could be met without the need for increased control at national frontiers. Concepts like 'authorised traders', as outlined earlier, certainly indicate a strong trend toward this direction and as Appels and De Swielande (1998) and Messerlin and Zarrouk (2000) point out, constitute a way forward in Customs administration that is being gradually pursued – including UK Customs (Customs, 2002). Rather than formally submitting and presenting data and goods at the national frontier, control mechanisms seek to verify that the trader's intents are legitimate and compliant with regulatory demands. Rather than physical inspections, regulatory controls focus on audits and accountability. As political pressures emphasis tighter controls, it is suggested that long-term focus ought to be on the overall supply chain instead of the border.

Many supply chain concepts are familiar with security issues that threaten overall operations; however, the label may be different. For instance, a manufacturer operating in a lean manufacturing paradigm may be particularly averse to quality defects. In ensuring that no spanner is found in the works, the label would be "quality assurance". Similarly, a food manufacturer will seek to eliminate any contamination of raw material and produce. The label here may be hygiene and supplier performance. Rather than stopping and checking goods at the frontier, it is suggested that it may be more efficient for businesses and institutions alike to focus controls on supply systems. For example, it could be argued that resources are better deployed if health authorities vet a company's quality program instead of inspecting the physical goods as they are brought into the UK. Similarly, Customs may use systems utilised by traders to minimise risk of pilferage and theft in combat against terrorism. It is argued that there is considerable scope for integrating the needs of regulators with supply chain practices and this could provide a fruitful topic for further exploration.

## **Conclusion**

We have viewed a number of initiatives, which look at improving both the logistical process involved in clearing goods at frontiers and the supply chain challenge of integrating regulators. Given the increased pressure for control, this can be met by improving procedures and cooperation at the border (port) in the first instance. Customs provides a number of forums in which traders can participate in the policy process. Gradually improvements are made and nearly all parties interviewed speak well of Customs efforts. It would be helpful if this progress can be expanded to include all other regulatory agencies involved at UK ports. For closer co-operation at the border to be successful, it requires clear guidance to traders as to what the regulatory objectives and perceived risks are. It also requires regulators to face business in a co-ordinated fashion and not duplicate demands. Likewise, traders need to be committed to participating coherently in the policy process.

Supply chain management needs to involve the interests of regulators. In many instances, as long as regulation is sufficiently modernised to reflect supply chain practices, this gives scope for considerable improvements, especially where duplication of efforts and the need to physically stop the movement of goods is averted. The view that this paper hopes to encourage is that regulators and regulations are part of the supply chain. In this context it needs to be remembered that trade is international and there is a strong case for regulatory rapprochement (Jacobs, 1994). Exports from one territory are imports in another. As such, current export and import controls represent a duplication of effort. Harmonisation and mutual recognition would considerably reduce the level of operational impact and cost on supply chains, especially when focus is on the supply chain overall instead of two (or more) national borders.

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