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The International Network of Customs Universities (INCUI) is an association that provides the World Customs Organization (WCO) and other organisations with a single point of contact with universities and research institutes that are active in the field of customs research, education and training. The *World Customs Journal* provides a forum for customs professionals, academics, industry researchers, and research students to contribute items of interest and share research and experiences to enhance its readers' understanding of all aspects of the roles and responsibilities of customs.

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Contents

Foreword

Editorial

SECTION 1

ACADEMIC CONTRIBUTIONS 1

Emerging issues in European customs law

Hans-Michael Wolfgang and Talke Ovie 3

Supply chain security: adding to a complex operational and institutional environment

Andrew Grainger 17

Voluntary supply chain security program impacts: an empirical study with BASC member companies

Ximena Gutiérrez, Juha Hintsa, Philippe Wieser and Ari-Pekka Hameri..... 31

SECTION 2

PRACTITIONER CONTRIBUTIONS 49

Supply chain security: the Customs community's response

Kunio Mikuriya 51

Authorised Economic Operator (AEO) programs: IBM's perspective

Theo Fletcher 61

Australian Customs Service: working to improve facilitation of international trade and the security of the supply chain within the APEC region

Andrew Hosking..... 67

Singapore's Supply Chain Security Program

Supply Chain Security Branch, Singapore Customs 71

The genesis of the US C-TPAT program: lessons learned and earned by the Government and Trade

Michael D Laden..... 75

SECTION 3

REFERENCE MATERIAL 81

Guidelines for Contributors

Editorial Board

FOREWORD



Launch of the *World Customs Journal*

by

Kunio Mikuriya, Deputy Secretary General, WCO
at the PICARD Conference, Brussels, Belgium, 27 March 2007

The management and operations of today's Customs administrations require a much higher level of knowledge, skills and behaviour than has been traditionally required. This Conference represents a joint recognition by academics and customs practitioners of the need to create a supporting framework of research and professional standards.

Admittedly, customs matters used to remain largely in the hands of practitioners and had attracted limited attention from the research world. However, the heightened awareness of the role customs can play in the rapidly changing trade environment has already generated a growing interest in a number of universities and research institutions. I hope that this trend will result in raising the academic profile of the customs profession through the development and promotion of educational programs, academic and applied research and intellectual input to strategic decision making.

The first PICARD Conference held in 2006 recognised this potential for the research market in customs and border management, and the PICARD partners announced the launch of a research journal for customs matters. Since then, the International Network of Customs Universities (INCUI) has been working on this new venture, and today I am delighted to launch the first edition of the *World Customs Journal*.

I would like to commend the efforts of the INCUI in providing customs professionals, academics, industry researchers, and research students with a medium through which to share insights and knowledge in the customs field. Being released as an e-Journal ensures wider access by those who are interested in trade, development and customs matters.

The first edition of the Journal contains contributions by several academics and customs practitioners on 'Customs in the 21st Century'. The articles examine the challenges posed to Customs by globalisation, trade facilitation initiatives, and security concerns. This means that the Journal will make an immediate contribution to the WCO on a topic that is to be the central theme in discussions at the Council session in June 2007.

For the next edition of the Journal, I understand that the INCUI will focus on the ways in which governments are seeking to ensure the security of international supply chains, including implementation strategies for the WCO Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework of Standards). We hope that academics and practitioners will find this new medium useful to share and publish their insights with WCO members and other stakeholders.

Finally, let me congratulate the Editorial Board through the Editor-in-Chief, Professor David Widdowson, on the birth of the Journal. I hope the *World Customs Journal* will grow as a valuable reference source for the customs community to meet the requirements of the new strategic environment and for the wider international community to deepen their understanding of the customs world.

A handwritten signature in black ink, reading 'Kunio Mikuriya'.

Kunio Mikuriya
Deputy Secretary General
World Customs Organization

EDITORIAL



Let me start by thanking all our readers who have provided such positive feedback following the launch of the *World Customs Journal* in March this year. Judging from the encouragement and support received from around the world, it is apparent that the Journal has already provided the genesis of a robust forum for members of the Customs community to share their research, their experiences, and ‘lessons learned and lessons earned’ (to quote Michael Laden).


Following the second instalment of the comprehensive three-part review of emerging issues in European customs law by Michael Wolfgang and Talke Ovie, this second issue of the Journal turns its focus to supply chain security. In addressing this issue, both the academic contributions and those of practitioners provide insightful and informative results and commentary with particular reference to the WCO’s SAFE Framework of Standards and the concept of Authorised Economic Operator.

Andrew Grainger adeptly identifies the complexity or ‘spaghetti bowl’ of the cross-border environment, and the need for further alignment of institutions to ensure supply chain security objectives are met. The body of knowledge on this important topic is further advanced by Ximena Gutiérrez, Juha Hintsa, Philippe Wieser and Ari-Pekka Hameri whose research, which is based on wide-ranging surveys of BASC member companies, provides useful insights into the benefits, effectiveness and costs of implementing measures designed to enhance security in end-to-end supply chains.

In the section devoted to practitioner contributions, Kunio Mikuriya provides an in-depth overview of supply chain security opportunities and challenges, together with methods of responding to such challenges. This is followed by items from Theo Fletcher, Andrew Hosking, Singapore Customs, and Michael Laden which demonstrate the commitment of both public and private sector organisations in identifying ways to achieve and maintain safer international supply chains whilst facilitating the transportation of goods.

Once again, on behalf of the Editorial Board, it is my pleasant duty to thank each of the contributors for their input – we have found the articles to provide valuable insights into the regulatory and commercial imperatives of securing the international supply chain and we trust that you, too, will benefit from this issue’s research results and shared experiences.

The next edition of the Journal will focus on trade facilitation – I look forward to receiving your contributions.



David Widdowson
Editor-in-Chief



Section 1

Academic Contributions

EMERGING ISSUES IN EUROPEAN CUSTOMS LAW

Hans-Michael Wolfgang and Talke Ovie

This is the second of a three-part article; the final part will be published in the next issue of the *World Customs Journal*.

Abstract

In 1968 the Customs of the six founding Member States of the European Economic Union (EEC) had already been harmonised to such a degree that the customs payable by third countries could be established on the basis of a common customs tariff. Since it was no longer possible to levy customs duties on goods traded between Member States, there existed a customs tariff union between the founding Member States of the modern European Community long before the creation of the European internal market.

However, by itself the creation of a common customs tariff was not enough to realise a customs union as a fundamental characteristic of the European internal market. The EEC Treaty already required customs law to be harmonised in addition to tariffs. For many years rules governing customs law were scattered among a number of Regulations and sometimes differed. However, in 1994 the Community Customs Code (CC) and the Regulation laying down provisions for the implementation of the Community Customs Code created a uniform European Customs Law binding on all Member States. This has now provided a sound basis for achieving uniformity in customs matters of 27 countries.

B. The Customs Code (continued)

II. The structure of the Customs Code (continued)

4. Procedural law – The transit procedure

The transit procedure (Art. 4 (16) (b) and 91 ff. CC, Art. 340a–462a CCIP) allows the trader to transport goods to their place of destination within the Community without delay and without having undergone any alteration. The aim of this suspensive procedure according to Art. 84 (1) (a), first indent CC is the traversal of a distance without the goods incurring import duties or commercial policy measures.

Since the goods transported are neither used nor altered and a primary economic purpose is absent, this procedure constitutes a special case among customs procedures because it is a suspensive procedure without any economic impact. Owing to its subservient character, the transit procedure may be initiated before or after the economic customs procedure and, by means of a transit document, only serves customs supervision during the transportation of goods from the border customs office (customs office of departure) to the internal customs office (customs office of destination).³⁴ However, a security must be provided in respect of the import duties incurred by the goods (cf. Art. 88 sub-para. (1), 94 (1), Art. 189 ff. CC).

Regarding possible legal foundations, a distinction must be made between EC transit law and transit law based on international conventions. Depending on whether non-Community or Community goods are to be transported by the transit procedure, the possible types of transportation under the **external** (Art. 91 (1) (a) CC) and **internal transit procedure** (Art. 163 ff. CC) are exhaustively listed.

a. EC transit law

The external Community transit procedure. According to Art. 91 (1) (a) CC, all non-Community goods, which have been brought into the customs territory of the Community, are to be transported within the customs territory of the Community under the external transit procedure. In this case, there are six possible types of transportation (Art. 91 (2) (a)–(f) CC). The external Community transit procedure (CTP) according to Art. 91 (2) (a) CC is mandatory if non-Community goods are to be transported between two locations in the EC (under cover of the T1 transit document), without touching the territory of a third country. This procedure is particularly suitable if it has not yet been established which customs procedure to assign the goods when they are imported into the Community customs territory, or the goods are to be inspected for any defects at their destination.

The CTP does not apply if goods are moved under cover of the Rhine manifest (Art. 91 (2) (d) CC), by post within the EC (Art. 91 (2) (f) CC) or under cover of a NATO transit certificate (Art. 91 (2) (e) CC). Whilst movement by post is primarily governed by the law on postal services, only certain groups may submit a NATO transit certificate. Since goods on the Rhine can also be transported using the CTP, the Rhine manifest is hardly used.

The internal Community transit procedure. If Community goods are to be re-imported into the customs territory of the Community via a foreign country without the goods losing their status as Community goods (territorial principle) and are re-imported into the EC as non-Community goods, the trader must choose the internal transit procedure. As with the external transit procedure, the standard procedure in this case is also the internal Community transit procedure with the transit document T2 according to Art. 163 (2) (a) CC. Owing to the extraterritorial location of some states in the EU, this procedure becomes particularly important – especially in relation to goods transported through Switzerland.

b. Common transit procedure

The Convention on a Common Transit Procedure³⁵ which entered into force on 1 January 1988 between the EC and the EFTA states (Iceland, Norway, Switzerland, and Liechtenstein), extends the rules of the Community transit procedure to these areas. Accordingly, the transit declarations T1 and T2 in the Common Transit Procedure for the transportation of goods between the Community and an EFTA country or two EFTA countries or through the territory of one of the contracting parties can be used. In 2001, the provisions were approximated to the provisions of the CC which had been in force since 1994. In particular, the main section of the Convention contains the principles of the Common Transit Procedure and important features of implementation. The procedural law is presented in detail in Annex I of the Convention.

c. International transit law

The Carnet TIR – transit procedure. In addition to the common transit procedure, other international agreements on the simplification of goods via several states have been concluded. The most important procedure of this kind is the transportation of goods by the Carnet TIR (Transport International des Marchandises par la Route – International Road Transport). Its legal basis is the ‘Customs Convention on the International Transportation of Goods under Carnet TIR’ of 14 November 1975.³⁶

The transit procedure is distinguished by the fact that it not only affects the implementation of a single transit procedure but also allows the sequence of several transit procedures by different states owing to the simplification of customs formalities. Usually, when goods are transported through several states the

relevant national transit procedure must be initiated in each state, supervised and ended according to the national formal requirements. However, in the TIR procedure, associations in each contracting party are authorised to be a guarantor and to issue transit documents (Carnets). The association providing security is liable jointly and severally with the Carnet holder for any import and export duties in relation to the country in which the infraction leading to the incurrence of a customs debt has been established. Liability is only discharged once the procedure has been properly ended in one of the contracting parties. The Carnet-TIR may be used as a transit declaration for the whole distance (cf. Art. 205 (2) CCIP), which facilitates smooth transportation through several states.

The Carnet ATA – transit procedure. In order to export goods to different countries and re-import them into the Community, a simplified transit procedure can be carried out by means of the Carnet ATA (Admission Temporaire – Temporary Admission) as a transit declaration (Art. 91 (2) (c) CC, Art. 451 (2) CCIP). The Carnet ATA is a paper-based linkage of various customs procedures which are sequential and respond to economic necessity. In particular, goods which are imported temporarily can be transported according to the rules on temporary admission (Art. 511–514 CCIP). This is especially suitable for exhibition goods which are only used for a limited period of time and are to be re-exported after temporary use without having undergone any alteration.

d. Simplification of the Community/common transit procedure

In order to facilitate trade under the Community and common transit procedure, the traders can request to use a 'simplified procedure'. Art. 372 (1) CCIP lists a number of options. Of particular note, the trader can obtain the status of 'authorized consignor' or 'authorized consignee' in accordance with Art. 372 (1) (e)–(f) CCIP. If the trader is recognised as an 'authorized consignor', then the goods do not have to be presented at the office of departure but can be presented directly at the place of packaging or loading instead, for example, on the premises of the consignor's company. In other words, the customs authorities must be informed that the goods are at the intended location. In addition, the customs declaration no longer has to be submitted (Art. 398 CCIP). The declaration must have been prepared beforehand at the customs office of departure, for example, stamped in advance (Art. 400 and 401 CCIP) in order to document the course of the procedure properly.

If the recipient of the goods is deemed the 'authorized consignee', then the obligations incumbent on the principal (as holder of the CTP) according to Art. 96 CC, such as the presentation of the goods at the office of destination, are replaced by the transfer of goods to the 'authorized consignee' (Art. 406 (2) CCIP). The latter can check whether the requirements of the procedure have been followed and can confirm the arrival of the goods at the agreed location by notifying the customs office of destination (Art. 407 (1) (b) CCIP). Should the 'authorized consignee' discover any irregularities, the consignee must immediately inform the office of destination as well as the competent customs authorities thereof (Art. 408 (1) (a) CCIP).

e. The electronic transit procedure

The transit procedure is the first customs procedure for which an electronic solution was found on a pan-European as opposed to a national basis. The electronic transit procedure – abbreviated NCTS (New Computerized System) – applies to Community and shared transit procedures which had hitherto been carried out using the single document as the transit declaration. The traders granted the status as 'authorized consignor' or 'authorized consignee' had to fulfil the requirements of NCTS by 30 April 2004 in order to be able to retain their simplification. If they had failed to do so, the relevant authorisations were revoked.

The general rules for customs declarations by means of information procedures also apply to the electronic transit procedure. Every customs declaration must correspond to a fixed structure and contain the prescribed details (Art. 353 (1), Annex 37a CCIP). If the goods have been submitted at the customs office

of departure, the consignment is allocated a Movement Reference Number (MRN), in order to identify the respective transit procedure, if necessary. In order to document the transit per se, an accompanying transit document (ATD) is drawn up (Art. 358 (1) CCIP, Annex 45a CCIP). According to Art. 358 (5) CCIP, Art. 359 (1) CCIP, this is to be carried out in the same way as the written transit declaration at every customs office of transit. Controls can be carried out on the basis of the pre-arrival declaration and the pre-transit declaration, which are submitted upon the issue of the accompanying transit document to the customs office of destination. By means of electronic border-crossing declarations, the customs office of departure is informed of the fact that goods have crossed the border (Art. 369a CCIP). By means of the electronic confirmation of entry, the customs office of destination informs the customs office of departure of the submission (Art. 370 (1) CCIP). The supervision control report according to Art. 370 (2) CCIP documents the discharge of the transit procedure.

5. Procedural Law – The customs warehousing procedure

The customs warehousing procedure according to Art. 4 (16) (c), Art. 98 ff. CC, Art. 524–535 CCIP is one of the oldest customs procedures having economic impact (Art. 84 (1) (b), second indent CC). The object of this procedure is the unlimited storage of non-Community goods in the customs territory of the Community without the goods incurring import duties (Art. 4 (10) CC) or trade policy measures pursuant to Art. 1 (7) CCIP (Art. 98 (1) (a) CC). Traders use this customs procedure for various reasons. Without the imposition of import duties, the goods can be re-exported from the customs territory of the Community after storage (transit storage) or be stored as supplies (subject to possible import duties) until they are placed under a different customs procedure (credit storage).³⁷ As part of an export storage, the goods can even be placed in the customs warehouse with the aim of discharging an earlier customs procedure. This possibility is often used in relation to goods which have completed inward processing (cf. Art. 89 (1) CC, 128 (1) CC). If the trader has decided on export storage, it may be the case that the goods will be released subsequently for free circulation, if import duties have been paid despite the fact that the goods were placed in the customs warehouse.³⁸

Customs warehouses are places authorised and supervised by the customs authorities at which the goods may be stored under certain conditions (Art. 98 (2) CC). According to Art. 99 (1) CC, Art. 526 sub-para. 1 CCIP, these are premises or other separate places which are divided into public and private customs warehouses. Whereas anyone may use public customs warehouses in order to store the goods, private customs warehouses are limited to storage by the warehouse keeper. Art. 525 (1)–(3) CCIP lists six types of warehouses from (A) to (F), each of which has a different structure and economic performance and which, with regard to specific provisions, address the characteristics of the person responsible for the warehouse.

In all customs warehouses, goods may undergo the usual forms of handling intended to preserve them, improve their appearance or marketable quality or prepare them for distribution or resale (Art. 109 (1) CC), provided that this does not lead to the production of new goods. The list contained in Annex 72 CCIP lays down the actual procedures referred to. The usual forms of treatment listed which require authorisation must be distinguished from warehouse handling, that is, normal warehouse procedures which do not require authorisation. Such procedures are not limited to the storage of import goods per se, which is the purpose of the procedure, but also include the loading and unloading of the means of transport and transport procedures as well as transferring the goods to another place of storage, stock records, the taking of samples, weighing the goods, etc.³⁹ Handling goods by increasing or lowering the temperature also represents a usual form of warehouse handling.⁴⁰

a. Inward and outward processing

Inward processing (Art. 4 (16) (d) CC) and outward processing (Art. 4 (16) (g) CC) represent two identical customs procedures. With the exception of inward processing under the suspensive procedure, both represent customs procedures having economic impact but are fundamentally different regarding the collection of import duties.

Inward processing according to Art. 4 (16) (d), Art. 114 ff., Art. 536–550 CCIP allows the trader (processor), to import non-Community goods in the form of primary products into the customs territory of the Community in order to re-export them into the EC as compensating products, without them being subject (Art. 114 (1) (a) CC) to import duties (Art. 4 (10) CC) or commercial policy measures (Art. 1 (7) CCIP).

This procedure promotes the equality of Community processing operations with competing processing operations abroad. The latter often produce similar goods without being subject to customs import duties. However, the interests of Community producers who produce the same compensating products cannot be ignored. It may not operate in their interest if the primary products needed for production are allowed to be imported free of charge despite the fact that these goods could be acquired in the Community as well. The authorisation of the procedure can therefore only be granted according to Art. 117 (c) CC if its use will not adversely affect important interests of producers in the Community.

All products manufactured by means of the processing procedures are categorised as compensating products according to Art. 114 (2) CC. This only refers to products manufactured under authorised processing operations because processing requires authorisation (that is, the permission of the authorities) according to Art. 116 CC. Consequently, primary compensating products are products for whose manufacture inward processing has been authorised (Art. 496 (k) CCIP). Any other products which have been manufactured during the processing operations are deemed secondary compensating products (Art. 496 (l) CCIP). Such products are usually waste or leftovers although they can sometimes be objects of value. The inward processing procedure is discharged as soon as the compensating products have been assigned a new customs-approved treatment (Art. 89 (1) CC). The customs authorities may not impose a quantitative restriction of goods for release into free circulation.⁴¹ Subject to Art. 115 CC, Community products may be used instead of imported goods to manufacture compensating products. These Community products are defined as equivalent goods according to Art. 114 (2) (e) CC.

The trader can decide how he wishes to benefit from customs relief. For this purpose, the CC provides a choice of two procedures (Art. 114 (1) CC). In the case of the current suspensive procedure (Art. 114 (1) (a) CC), no import duties are collected (Art. 4 (10) CC) and no commercial policy measures (Art. 1 (7) CCIP) are applied *ab initio*. In the case of the drawback procedure (Art. 114 (1) (b) CC), non-Community goods are initially released into free circulation (Art. 79 CC) and any import duties which have already arisen are only waived or reimbursed upon (re-)export. Art. 537 CCIP shows that both procedures are on an equal footing. Whereas the drawback procedure has hitherto only required the possibility of subsequent export, the intention to export is now a compulsory requirement for the application of both procedures.

Outward processing according to Art. 4 (16) (g) CC and governed by Art. 145–160 CC and Art. 585–592 CCIP, constitutes the counterpart to inward processing. A distinction is made between two different types of procedure, depending on whether the exported Community goods or non-Community goods are to be re-imported: the basic procedure and the standard exchange procedure.

The basic procedure. Art. 145 (1) CC governs the basic procedure of outward processing. Goods are exported from the Community customs territory as temporary export goods (Art. 145 (3) (a) CC), in order to be re-imported into the Community customs territory following processing in a foreign country as a compensating product. This approach promotes the use of advanced production methods and the use of foreign capacities. Since this (unfortunately) often happens by exploiting low wage and production costs, more and more work procedures are being transferred to central and eastern Europe.

The compensating products manufactured by outward processing and re-imported (Art. 145 (3) (c) CC) may be released for free circulation with total or partial relief from import duties (Art. 145 (1), 79 CC). If the goods are released for free circulation, customs relief may be granted up to a zero rate of duty in compliance with the requirements laid down under Art. 151–153 CC. The traders may use the differential basis for assessment (Art. 151 ff. CC, Art. 591–592 CCIP) or the taxation basis for assessment (Art. 153 sub-para. (2) CC, Art. 591 CCIP) in order to accurately calculate (partial) customs relief.

Differential basis of assessment: Art. 151 CC lays down how the customs debt is to be calculated using the differential basis of calculation. According to Art. 151 (1) CC, the amount of import duties which applies in relation to the compensating products is calculated by deducting from the amount of the import duties applicable to the compensating products, the amount of the import duties that would be applicable on the same date to the temporary export goods if they were imported from the foreign country in which they underwent the processing operation. The differential between the customs for the temporary export goods and the customs of the compensation products is to be collected in the form of an import duty. This method of calculation ensures that the Community goods transported from the customs territory are not subject to the imposition of duties a second time when they are re-imported. Since the goods may leave the Community permanently as part of outward processing, export duties (Art. 4 (11) CC) must be levied *ab initio* and commercial policy measures (Art. 1 (7) CCIP) and other prohibitions and restrictions observed (Art. 145 (2) CC). This principle currently applies only in relation to a few agricultural products owing to the lack of a consistent collection of export duties.

Taxation basis of assessment: Alternatively, the **processor** can request a partial duty relief from customs duty according to Art. 153 sub-para. (2) CC in conjunction with Art. 591 sub-para. (1) CCIP taking into account the processing costs as a basis for calculating the duties. Provided that the customs rate for the compensating products is higher than for the temporary export goods, this method will prove to be more beneficial for the trader. Art. 591 sub-para. (2) CCIP restricts the application of the taxation basis of assessment. Provided that the temporary export goods do not originate in the Community and they have been released for free circulation at a zero rate of duty, the taxation basis of assessment is ruled out. Whether there is a zero rate of duty results from the customs tariff alone.⁴²

The standard exchange system. According to the identification principle, only temporary export goods may be re-exported. The standard exchange system according to Art. 154–159 CC overrides this system. It is a special procedure that allows the traders to import an equivalent product instead of a compensating product having the status of non-Community goods. According to Art. 145 (2) CC, this only applies in relation to the repair of Community goods. New products cannot be imported as replacement products (Art. 155 (2) sub-para. (1) CC), unless they are replacement products supplied free of charge owing to a guarantee or manufacturing defect (Art. 155 (2) sub-para. (2) CC).

Processing under customs control. Art. 130 CC describes the processing under customs control (Art. 4 (16) (e) CC). Non-Community goods imported into the Community customs territory are not to be released for free circulation immediately and in their original form but only once their nature has been altered (Art. 79 CC). On the one hand, this can serve to reduce the goods to a lower level of production in order to be able to profit from a lower customs rate when releasing the goods for free circulation (cf. Art. 551 (1) CCIP). On the other hand, the elimination of import restrictions and prohibitions can be the aim of processing under customs supervision (cf. Art. 551 (2) CCIP).

As in the case of inward processing, this procedure mainly concerns the working or processing of the goods. However, the compensating products are not re-exported but remain in the Community customs territory by means of releasing the goods for free circulation. Import duties (Art. 4 (10) CC) are therefore not levied for imported goods but for the products resulting from processing under customs supervision (compensating products). The same applies under Art. 509 (3) CCIP to the application of commercial policy measures (Art. 1 (7) CCIP). There is no obligation in the procedure to process the goods under customs supervision. Those who do process the goods under customs supervision must keep within the limits of the authorisation granted to them and may only carry out processing under customs supervision according to the prescriptions in Art. 131–133 CC.

Temporary importation. Art. 137–144 CC and Art. 553–584 CCIP contain further details on the customs procedure of temporary importation (Art. 4 (16) (f) CC). According to Art. 137 CC, this procedure only applies to goods which have not been finally released for free circulation in the customs territory of the Community but are only used there for a limited period, and are destined to be re-exported without

having undergone any alteration following temporary importation under total or partial relief from import duties and without being made subject to commercial policy measures. This principle often applies in relation to professional equipment, exhibition goods or equipment for the press or for sound or television broadcasting, etc. Therefore, the Community uses the 'Agreement on Temporary Admission' the so-called 'Istanbul Convention', which was created by the WCO in 1990.

Temporary importation is based on a dualism of total and partial relief from import duties. This means that temporary importation can be dealt with as a suspensive procedure (Art. 84 (1) (a) CC, fifth indent CC) as well as a customs procedure having economic impact (Art. 84 (1) (b), fourth indent CC). Art. 141 in conjunction with Art. 555–578 CCIP, lists exhaustively the objects which qualify for total relief. Art. 142 CC provides for partial relief in the event that none of the requirements for total relief are satisfied. As a rule, this means that the amount of import duties payable on the goods released for free circulation is set at 3% for every month (Art. 143 (1) CC).

The export procedure. According to Art. 4 (16) (h) CC, the export procedure also belongs to the customs procedures under the CC. It is comprehensively regulated in Art. 161–162 CC and 788–798 CCIP, and enables Community goods to be transported from the customs territory of the Community according to Art. 161 (1) CC. Since export duties are somewhat rare owing to the importance of exporting goods, the export procedure plays an important role in customs supervision (Art. 183 CC). In particular, the traders must observe commercial policy measures (Art. 1 (7) CCIP) in accordance with Art. 161 (1) sub-para. (1) CC. Nowadays, export control is becoming very important in this area. In particular, the export of military goods or goods which can be used for military purposes (that is, dual-use goods) is comprehensively regulated by the Dual-Use Regulation.⁴³

The export procedure is carried out in two stages. The goods are first presented at the customs office responsible for supervising the place where the exporter is established. The exit formalities are checked and the declaration is lodged (Art. 161 (5) CC). The actual export of the goods is carried out at the customs office of exit at the border of the Community customs territory (Art. 793 CCIP).

When carrying out the export procedure, a distinction is drawn between the **declarant** pursuant to Art. 64 (1) and (2) (b) CC and the **exporter** pursuant to Art. 788 CCIP. This distinction is necessary in order to allocate the different export requirements and determine the competent customs offices.⁴⁴ If the terms of the contract upon which export is based show that a person not established in the EC is in fact the exporter, then the exporter shall be considered to be the contracting party established in the Community owing to technical reasons relating to customs control (Art. 788 (2) CCIP).

Other provisions. The declarant is free to choose 'other provisions' instead of customs procedures. In accordance with Art. 4 (15) (b)–(e) CC, this includes the entry of goods into a free zone or free warehouse, re-export from the customs territory of the Community as well as the destruction of the goods.

Free zones and free warehouses. Art. 166 CC determines the fate of goods which enter a free zone or free warehouse. Accordingly, free zones and free warehouses also form part of the customs territory of the Community or premises situated in that territory and are separated from the rest of it. This serves to simulate a foreign country so that non-Community goods brought there are not regarded as being located in the EC. Thereby, centres for the re-allocation of import and export goods have been created in reflection of common commercial policy. According to Art. 166 CC, neither import duties (Art. 4 (10) CC) nor commercial policy measures (Art. 1 (7) CCIP) may be applied in these centres. In contrast to the customs warehouse procedure, which requires authorisation, there is no limit on the length of time that goods may remain there.

In accordance with Art. 167 (1) and (2) CC, the Member States have the power to declare certain parts of the Community customs territory free zones or to authorise and regulate the erection of free warehouses. With regard to terminology, there is hardly any difference between free zones and free warehouses. Since a free warehouse can also be a building or part of a building, there is no longer any justification

for describing it as a free zone.⁴⁵ Any industrial, commercial or service activity is authorised in a free zone or free warehouse. (Art. 172 (1) CC), although it can be restricted (Art. 172 (2) CC) depending on the type of goods (for example, explosive substances). In contrast to customs warehouses, such forms of handling do not require any express authorisation (Art. 173 (b), 174 CC).

Re-export, destruction of the goods. If non-Community goods are properly re-exported from the Community customs territory without being released for free circulation, they are assigned to the re-export procedure according to Art. 4 (15) (c), Art. 182 (1), first indent CC. In such cases, commercial policy measures will be activated in accordance with Art. 182 (2) CC in order to prevent the goods entering economic circulation or a contravention of prohibitions and restrictions according to Art. 58 (2) CC. The re-export of non-Community goods is the parallel procedure to the export of Community goods procedure according to Art. 161 ff. CC.

According to Art. 182 (1), second indent CC, non-Community goods can also be destroyed. The trader may consider this option if the goods entering the customs territory of the Community are damaged, subject to import restrictions or if the burden of duties appears too high and it is either no longer possible or too expensive to return the goods (re-export). The destruction of goods amounts to a deliberate elimination or complete devaluation of the thing in question. On the other hand, the goods merely cease to exist if their properties have been altered.⁴⁶ In the latter case, any valuable waste which accumulates must be assigned a further customs-approved treatment for non-Community goods according to Art. 182 (5) CC. Abandoning goods to the state is only possible if state law provides for this (Art. 182 (1), third indent CC).

b. Common provisions for customs procedures having economic impact

In Art. 85–90 CC, central rules and definitions relating to several customs procedures have been placed before individual specific provisions. Particularly noteworthy are common rules relating to customs procedures having economic impact. They include the customs warehouse procedure, inward processing, processing under customs control, temporary admission and outward processing (Art. 84 (1) (b) CC). Consequently, the release for free circulation, transit procedure and the export procedure are excluded from the following rules.

Authorisation of a customs procedure. According to Art. 85 CC, a customs procedure with economic impact requires authorisation (that is, the permission to use the preferred procedure) by the customs authorities (Art. 496 (b) CCIP). In particular, the authorisation assists in the proper clearance of customs procedures and informs, inter alia, the holder of the authorisation of the issuing authority, the validity, the description of the goods, the period of use, the customs offices involved and, above all, the method of securing the identity of goods.

All measures are deemed to be means of identification which ensure the identity of the goods, that is, the description of the goods in the authorisation. Usually, the goods are transferred to the customs declarant before or during the carrying out of the customs procedure, and it must be ensured that the consignment is not substituted, mixed-up or unlawfully altered. The usual means of identification include plombs, self-closing seals, seals, stamps, self-adhesive stickers, photographs, descriptions, licence plate numbers. These are mainly used to carry out the transit procedure (cf. Art. 357 CCIP; Art. 497 in connection with Annex 67 CCIP). All of the means of identification affixed to the goods or the means of transport may only be removed or destroyed by the customs authorities themselves or with their permission according to Art. 72 (2) CC. Permission is especially relevant if the trader has been granted the status of an ‘authorized consignee’ (cf. Art. 406 (1), Art. 408 (1) CCIP).

Art. 86 CC contains three of the mandatory requirements of the authorisation. Accordingly, authorisation for all customs procedures with economic impact is conditional on personal requirements and administrative requirements. On the one hand, the trader must provide the required security for the conduct of his operations in person (Art. 86, first indent CC). Neither the CC nor the CCIP state the cases in which such security is provided. Since this Article deals with a rule of universal application,

personal security will be assessed at least independently from the customs procedure to be authorised. The assessment may refer to the trader's personal reliability, trustworthiness and regular dealings.⁴⁷ On the other hand, the administration must ensure that the costs of surveillance and customs supervision do not involve administrative arrangements disproportionate to the economic needs involved (Art. 86, second indent CC). The lack of administrative efficiency must not operate to the disadvantage of the traders. As is the case with inward processing, which may not operate to adversely affect the economic interests of Community producers (cf. Art. 117 (c) CC), economic requirements must also be considered in the case of some other customs procedures whose satisfaction is usually presumed under certain circumstances (cf. Art. 539, 552 and 585 (1) CCIP).

The single authorisation. If a customs procedure is to be carried out in several Member States, then a single authorisation (that is, one authorisation valid for all EU internal borders) must be issued (cf. Art. 496 (c), 500, 501 CCIP). As a rule, the relevant application must be presented in the Member State in which the applicant has his main accounting offices (Art. 295 (5) CCIP). However, to date it has only been possible to issue a single authorisation following agreement between the customs authorities (so-called 'consultation procedure'). This will be changed in the future and a single authorisation will be possible for the whole customs territory without another Member State having a right of veto.

Discharge of a customs procedure. A customs procedure with economic impact is discharged when a new customs-approved treatment or use is assigned either to the goods placed under that arrangement or to compensating or processed products placed under it (Art. 89 (1) CC). However, the rule in Art. 89 (2) CC is limited to all suspensive procedures. This means that the transit procedure, inward processing under the draw-back system and outward processing do not fall within the scope of this provision. It simply includes the customs warehouse procedure, inward processing under the suspensive procedure, processing under customs supervision and temporary admission.

6. Procedural Law – Assigning goods to a customs procedure

The conditions under which goods are assigned to a customs procedure are laid down in Art. 59–78 CC. In this respect too, most rules apply to all customs procedures but need to be expanded by the CCIP with regard to the simplified procedures.

a. Customs declaration

According to Art. 59 (1) CC, all goods placed under a customs procedure are to be covered by a declaration for that purpose. According to the definition in Art. 4 (17) CC, 'customs declaration' means any act whereby a person indicates in the prescribed form and manner a wish to place goods under a given customs procedure. This means that, under public law, the customs declaration is the declarant's declaration of intent (Art. 4 (18) CC), by means of which he can exercise his freedom of choice and freedom of formation under Art. 58 (1) CC with regard to the economic use of the customs procedures. According to the wording of the Act, it is irrelevant whether the goods to be declared are Community or non-Community goods.

The customs declarant. A customs declaration can also be lodged by a person other than the owner of the goods. According to Art. 64 (1) CC the **declarant** may be any person who is able to present the goods in question or have them presented to the competent customs authority, together with all the documents which are required for the relevant customs procedure. A 'person' pursuant to customs law refers to every legal or natural person and association of person without its own legal personality but which can effectively perform legal acts in transactions provided that this possibility is provided for in national (for example, OHG, KG in German law) or Community law (Art. 4 (1) CC).

However, the restrictions referred to in Art. 64 (2) and (3) CC must be observed. In particular, the declarant must be established in the Community (Art. 64 (2) (b) CC). This is regulated by Art. 4 (2) CC. In the case of natural persons, it means the place in the Community where the person is normally

resident. If a natural person has personal and professional connections in two countries, the residence is the constant mid-way point between the two locations. If, in consideration of all the facts, it is not possible to determine the place of residence in this way, personal connections can be given priority.⁴⁸

Representation. According to Art. 5 (1) CC, a person can be represented, for example, by a forwarding company. Such representation can be **direct** or **indirect** (Art. 5 (2) CC). The representation is **direct** if the representative acts in the name of and on behalf of another. This is the usual form of representation. Representation is **indirect** if the agent acts in their own name but on behalf of another. In these cases, the agent becomes the customs declarant and, together with the person they represent, the customs debtor (Art. 201 (3) CC). Therefore, indirect representation means that the agent becomes personally liable. In order to avoid unwanted legal consequences, the representation must be publicly declared in both cases (cf. Art. 5 (4) sub-para. 1 CC).

The different types of customs declaration. Art. 61 CC lays down four equally valid methods of lodging a declaration: in writing, using a data processing technique, orally or by any other act. The **written declaration** is normally used for commercial imports and exports. According to Art. 62–75 and Art. 198–238 CCIP, it can be lodged in the **‘normal procedure’** by means of a single document or in the **‘simplified procedure’** in compliance with the requirements of Art. 76 CC in conjunction with Art. 253 ff. CCIP. The documents which must be enclosed with the customs declaration depend on the intended customs procedure according to Art. 218 ff. CCIP. These may be bills, declarations of customs value, certificates of preferential treatment or import or export permits. The declarant will only be allowed to correct or invalidate the declaration under exceptional circumstances (cf. Art. 65 CC; Art. 66 CC).

b. Normal procedure for making a declaration

Written declaration. The Single Administrative Document is the official model for a written declaration of goods in the normal procedure (Art. 62 CC and Art. 205–217 CCIP). If Community legislation refers to a (written) declaration, the Single Administrative Document is always intended.⁴⁹ According to Art. 205 (2) and (5) CCIP, the situation will only be different if specific administrative documents have been introduced by Community law or international conventions, for example, Carnet TIR or ATA (Art. 91 (2) (b)–(c) CC).

The particulars which the Single Administrative Document must contain for the customs procedure in question are drawn up annually as a (optional) maximum and a (compulsory) minimal list as well as in the form of a Community list (Art. 216 CCIP, Annex 37 CCIP). Member States are free to complement this list (Art. 212 (3) CCIP).

Basically, all 54 fields of the eight copies of the Single Administrative Document are the same. However, the eight copies will not always be needed. A number of differently combined sub-sets have been provided which are specifically tailored to the relevant customs procedure and do not always require all particulars (Art. 208 (1) CCIP). The provisions concerning the transit declaration (specimens 1, 4, and 5) and those concerning the customs declaration in other cases (specimens 6, 7, and 8) or the export declaration (specimens 1, 2, and 3) are most important in practice. The codes to be used in completing the forms referred to in Article 205 (1) are listed in Annex 38 (Art. 213 CCIP).

Declaration using a data processing technique. The CC provides that the customs declaration can also be delivered using a data-processing technique as part of the information procedure (Art. 61 (b) CC, Art. 4a–c, 222–224 CCIP). Instead of presenting written documents, the particulars provided in Annex 37 CCIP are transferred electronically. Art. 4a (1) sub-para. 2 CCIP defines both the exchange of standard information according to EDI (Electronic Data Interchange) as well as the entry into customs information systems as part of the information procedure.

In Germany, the **ATLAS Total IT Concept (Automated Tariff and Local Customs Handling System)** is currently being introduced throughout the country. In particular, the declarant has different ways of

making an electronic declaration in order to release goods for free circulation. At present, the trader can make a (simplified) declaration both electronically from their company (trader entry) or in writing with entries in ATLAS by the customs authorities (user entry) at the customs office. Concerning the trader entry, however, the relevant authority must be notified of this beforehand in order to obtain a trader identification number to replace a written signature (Art. 4b CCIP). The Internet Customs Declaration for the release of goods for free circulation has been possible since 1 August 2002 and is subject to less stringent (and cost intensive) requirements. This requires an electronic form on the Internet⁵⁰ to be filled out and provides a satisfactory solution for those economic participants who do not wish to acquire the hardware and software which is required for participation in ATLAS.

c. Simplified declaration procedure

The CCIP provides for simplified declaration procedures on the basis of Art. 76 (1) CC in order to reduce the clearance formalities to a minimum and to reduce the time required for the goods to pass over the border. There are three simplified declaration procedures: the incomplete declaration (Art. 253 (1) CCIP), the simplified declaration procedure (Art. 253 (2) CCIP) and the local clearance procedure (Art. 253 (3) CCIP).

In particular, the **local clearance procedure** (which requires permission according to Art. 76 (1) (c) CC, is of great practical importance for traders if they regularly deal in large consignments of goods. This simplified procedure allows the declarant not only to declare the goods by entering them in the business records but also to enter them for the customs procedure of their choice without having to involve the competent customs authority (cf. Art. 253 (3) CCIP). Accordingly, there is a close connection with the privileges of an 'authorized consignee' on the basis of the external Community transit procedure. This means that the local clearance procedure is especially suitable for consignments which have been transported in the Community or common transit procedure and which can arrive directly at the trader's company without having to be brought to the destination customs office. Thereby, the declarant can dispose of the goods at the earliest possible opportunity. Despite these simplifications, a supplementary customs declaration must be made which contains all the required particulars and documents (Art. 267, fourth indent CCIP).

The verification of the declaration, examination of goods. The provisions of Art. 68 and Art. 73 (1) CC provide that the customs authorities are generally not obliged to verify the declaration which is submitted. The particulars contained in the declaration form the basis for further customs treatment (Art. 71 (2) CC). However, according to Art. 78 CC, a post-clearance examination is still possible, that is, the declaration can still be verified ex post on the basis of the commercial records at the declarant's company.

In addition to the examination of the declaration and accompanying documents (Art. 68 (a) CC) the examination of the goods according to Art. 68 (b) CC forms the core of the examination laid down in Art. 68 CC. The customs authorities must decide on the form the examination is to take and how to carry it out. The examination extends to the quantity and properties and can refer to all goods in the declaration (full examination) or only part of the consignment by way of samples. Art. 69 (1) (b) CC allows samples to be taken if the properties of the goods cannot be determined immediately. Once a complete examination has taken place, its results will be used for further customs procedures (Art. 71 (1) CC). Otherwise, statutory presumptions apply, that is, the characteristics which are not established by the examination are deduced from the declaration. In the case of a partial examination of the goods it is presumed that the part not examined corresponds to the examined part (Art. 70 (1) CC). The findings, that is, the results of the verification must be entered on the declaration or additional document for applying the other provisions in the procedure (Art. 247 (1) CCIP).

The release of the goods. As soon as the particulars contained in the customs declaration have been verified or accepted without verification, the goods will be released to the declarant provided that no prohibitions or restrictions apply (Art. 73 (1) CC). In accordance with Art. 4 (20) CC, 'release of goods'

means the act whereby the customs authorities make goods available for the purposes stipulated by the customs procedure under which they have been placed. If the goods are to be released for free circulation then, according to Art. 74 CC, they will only be released if either the customs debt has been paid or a security provided.

7. Procedural Law – Transporting the goods into the customs territory of the Community: Supervision of imports

The rules governing the transportation of goods into the customs territory of the Community (Title III CC) and from the customs territory of the Community (Title V CC) are arranged around the central provisions of the Customs Code in the manner of a prelude and postlude. In particular, Title III CC plays an important role concerning the physical record of the goods brought into the customs territory of the Community before they are able to be assigned a customs procedure.

a. Supervision by the customs authorities

In order to be physically recorded, the goods are subject to customs supervision from the time of their entry into the customs territory of the Community (Art. 37 (1) sentence 1 CC). From this moment, the customs authorities may take action, in general pursuant to Art. 4 (13) CC with a view to ensuring that all customs interests are secured. Art. 4 (14) CC lists the possible customs controls by way of example. In particular, the goods are subject to customs routes and opening times. Accordingly, the customs authorities may determine how and where the goods are to be transported for purposes of presentation.

b. Presentation

According to Art. 40 CC, any goods which are subject to customs routes must be presented. One such presentation is the communication to a servant of the competent customs office that the goods are at the location provided for this purpose (Art. 4 (19) CC). At this moment, the customs office is notified of the existence of the goods in the customs territory of the Community for the first time. If the goods are presented, then at this time, the traders may, on request, be allowed to view the goods in order that they may be assigned a customs-approved treatment or use later (Art. 42 CC). As part of this pre-inspection, the trader may examine the goods and take samples in order to ascertain the material composition (Art. 42 CC).

c. Summary declaration

In accordance with Art. 43 sub-para. 1 CC, a summary declaration must also be submitted for all goods once they have been presented to customs. The customs authorities may require the declaration to be submitted within one working day (Art. 43 sub-para. 2, sentence 2 CC). This summary paper is not the same as the customs declaration. Rather, its delivery is meant to ensure compliance with the period for placing goods under a customs procedure according to Art. 49 CC. In accordance with Art. 44 (1) CC the summary declaration, as a rule, requires a certain form. The corresponding printed form is to be used but the customs authorities may allow the use of any commercial or official document (Art. 44 (1) sentence 2 CC). The requirement of the form can even be completely dispensed with on the basis of Art. 45 CC. The most frequent exception is the submission of a transit certificate which qualifies as the summary declaration under Art. 183 (3) CCIP.

Once the summary declaration has been lodged, the declarant then has 20 days to lodge a customs declaration for the goods or to declare any other customs procedure (Art. 49 (1) (b) CC). A period of 45 days applies if the goods were carried by sea (Art. 49 (1) (a) CC). According to Art. 49 (2) CC, an extension may be requested. However, this will only be granted under special circumstances.⁵¹ If the trader has not chosen a customs procedure within 20 days, the customs authorities may, as a rule, sell the goods, store them under their supervision or destroy them (Art. 53, 56 CC). In addition, a customs debt arises owing to the breach of a duty relating to temporary storage (Art. 204 (1) (a) CC).

d. Temporary storage of goods

From the time the goods are presented until they are assigned a customs procedure, the goods are in temporary storage (Art. 50–53 CC, Art. 185–188 CCIP). During this time, the goods may only undergo such forms of handling as are designed to ensure their preservation in an unaltered state without modifying their appearance or technical characteristics (Art. 52 CC).

The customs office makes decisions relating to the temporary storage of goods. The possibilities available are not further defined by the provisions of the CC. Normally, the goods will be released to the importer or a warehousekeeper in order to save space. According to Art. 51 (2), Art. 189 CC, security may be demanded. The customs authorities can also store the goods themselves (cf. Art. 51 (1), Art. 53 CC). Places used on a permanent basis for the placing of goods in temporary storage are designated ‘temporary storage facilities’ (Art. 185 (1) CCIP). Existing customs warehouses can be used as temporary storage facilities (cf. Art. 98 ff., Art. 526 (1) CCIP). The goods may only be taken from this storage facility once they have finally been assigned a customs procedure by being released.

8. Transporting goods from the customs territory of the Community: Export supervision

Title V CC regulates the export of goods from the customs territory of the Community in order to satisfy the formal procedural requirements. Art. 183 CC and Art. 843 CCIP include the principle that goods which are exported from the EC are also under customs supervision. It is irrelevant whether these are Community goods which are in the export procedure or non-Community goods which have been assigned to re-exportation. Temporary exportation is also under customs supervision (cf. Art. 183 CC).

Endnotes

- 34 The Customs Office List (COL) lists the customs offices which are equipped with specific powers in the transit procedure concerned. The COL available at: www.europa.eu.int/comm/taxation_customs/dds/de/csr/home.htm.
- 35 Official Journal (EC) L 226, 13/08/1987, p. 2.
- 36 Official Journal (EC) L 252, 14/09/1978, p. 1.
- 37 Lux, Guide to Community Customs Legislation, p. 348.
- 38 ECJ judgment of 21 March 2000, Case C-217/98, *Hauptzollamt Hamburg-Jonas v. LFZ Nordfleisch AG*, ECR 2000, I - 1619.
- 39 Lyons, EC Customs Law, p. 323.
- 40 ECJ judgment of 28 April 1999, Case C-405/97, *Mövenpick Deutschland GmbH für das Gastgewerbe v. Hauptzollamt Bremen*, ECR 1999, I - 2397.
- 41 ECJ judgment of 29 June 1995, Case C-437/93, *Hauptzollamt Heilbronn v. Temic Telefunken Microelectronic GmbH*, ECR 1995, I - 1687.
- 42 Witte, Zollkodex, Art. 153 ZK p. 29.
- 43 Council Regulation (EC) No. 1334/2000 of 22 June 2000 setting up a Community regime for the control of exports of dual-use items and technology (Official Journal L 159 of 30/06/2000, p. 1).
- 44 Lux, Michael, Guide to Community Customs Legislation, p. 434.
- 45 Hebenstreit in Witte/Wolffgang, Lehrbuch des Europäischen Zollrechts, p. 289.
- 46 Witte/Prieß, Zollkodex, Art. 182 ZK p. 8.
- 47 Dorsch/Krüger, Zollrecht, Art. 86 ZK p. 9; Witte/Henke, Zollkodex, Art. 86 ZK p. 7.
- 48 ECJ judgment of 12 July 2001, Case C-262/99, *Paraskevas Louloudakis v. Elliniko Dimosio*, ECR 2001, I - 5547.
- 49 Lyons, EC Customs Law, p. 284; Witte/Henke, Zollkodex, Art. 62 ZK p. 1.
- 50 www.internetzollanmeldung.de (accessed on 30 September 2004).
- 51 ECJ judgment of 11 November 1999, Case C-48/98, *Firma Söhl & Söhlke v. Hauptzollamt Bremen*, ECR 1999, I - 7877.

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SUPPLY CHAIN SECURITY: ADDING TO A COMPLEX OPERATIONAL AND INSTITUTIONAL ENVIRONMENT

Andrew Grainger

This paper builds on research data, tables and diagrams which formed part of Andrew Grainger's (2007) PhD Thesis 'Trade Facilitation and Supply Chain Management: a case study at the interface between business and government'.

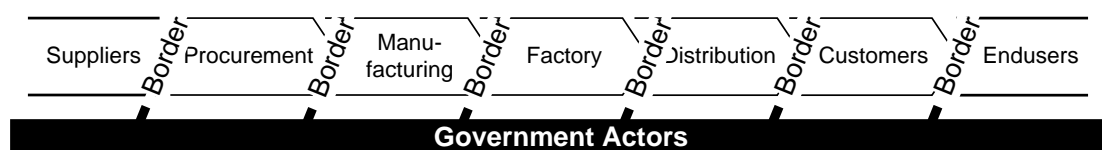
Abstract

There has been an avalanche in new supply chain security focused controls. The aim of these controls is to seek cooperative arrangements between regulatory agencies and businesses, and to identify security risks before goods move. This paper shows the complexity of the cross-border environment, including the operational frustrations experienced by interviewed representatives at United Kingdom (UK) ports. It also maps out the institutional mechanisms between public and private sector actors shaping cross-border procedures. It is argued that current mechanisms for shaping governing rules and procedures are insufficient. Further alignment of institutions with operational requirements is required to ensure that supply chain security objectives are met.

Introduction¹

Over the last few years – especially in response to the terrorist attacks in the USA on 11 September 2001 – there has been an avalanche of supply chain security motivated control regimes. Programs include: the US-led C-TPAT (Customs-Trade Partnership Against Terrorism) and CSI programs (for example, Browning 2003); the European Union's Security Amendment to the Customs Code (648/2005/EC); the Swedish *StairSec*® program (Tullverket 2006); the Canadian Partnership in Protection program (Canada Border Service Agency 2006); the New Zealand Secure Export program (New Zealand Customs Service 2003); the Australian Frontline program (Australian Customs Service 2004); the ISO/PAS 28000 standard for supply chain security systems (Piersall & Williams 2006); the IMO's security amendment to the SOLAS convention and the newly drafted ISPS code (IMO 2002; IMO 2003); various IATA initiatives including the known shipper concept (IATA 2006); and the WCO's framework of standards to secure and facilitate global trade (WCO 2005). The aim of these supply chain security programs is to identify security risks before goods move. Underlying them is the desire by government agencies (such as customs administrations) to make efficient use of finite enforcement resources, enhance controls at the border, ensure that wealth-generating trade continues while extending controls up and down the supply chain. To meet these objectives, enforcement agencies (like Customs) aim to become an integral thread within the supply chain (Figure 1).

Figure 1. Government actors - a new thread running across the supply chain



Source: Grainger 2007

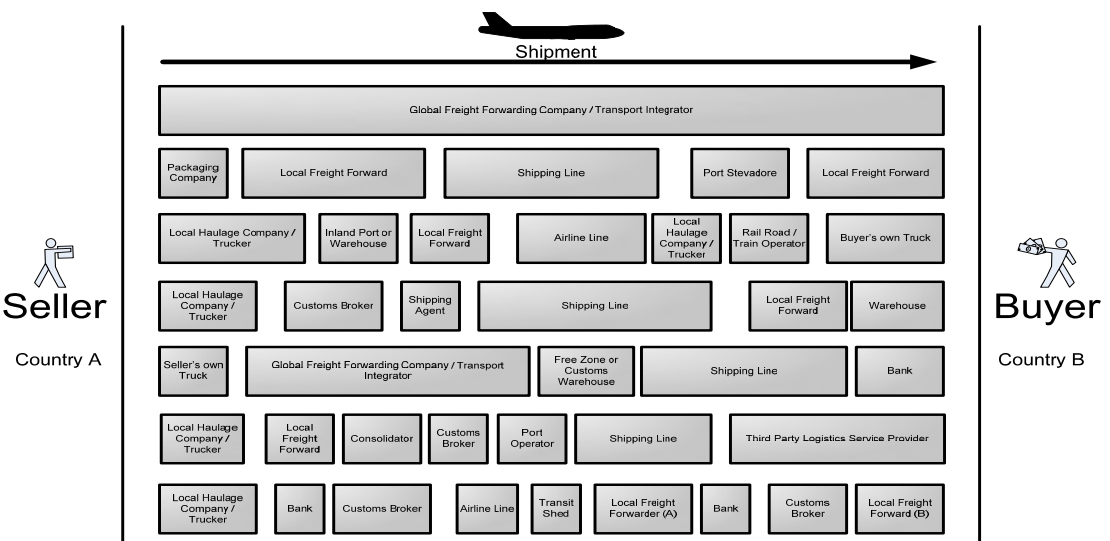
However, the supply chain is an operational arrangement that government agencies do not physically own. Effective control, as acknowledged by most supply chain security programs, is only achieved through collaboration with business actors. Any type of collaboration will normally require incentives. Sufficient incentives in supply chain security programs would need to be able to offset the additional regulatory and operational burden. Yet, the cross-border environment is littered with operational frustrations and transaction costs. This paper argues that the mechanisms for shaping governing rules and procedures are insufficient in overcoming many of the operational frustrations experienced by business and government actors in cross-border controls. Subsequently, institutional limitations in removing transaction costs reflect poorly on supply chain security programs. A closer alignment of the institutional capabilities with operational requirements is required to remedy these limitations.

The cross-border operational system

In the majority of academic research material the cross-border environment in the international movement of goods is depicted as a line (or ocean) on the map. It is a relatively unexplored research field (Ackleson 2003; Garcia 2003). Research activity is only beginning to emerge. The cross-border environment holds many unasked and unanswered questions. Even practitioners directly involved in day-to-day cross-border operations will, due to the commercial and regulatory complexities, struggle to give a bird's eye account of the cross-border environment. Depending on the Incoterms used, commercial and regulatory obligations can lay with the buyer (EXW), the seller (DDP) or both (any of the remaining 11 Incoterms) (ICC 1999). In most commercial relationships a wide range of intermediary and agency services will be used to enable the transaction. The form and shape of a supply chain can vary from one transaction to the next.

Typically, intermediaries include a transport operator or freight forwarder, a commercial bank, and a range of specialist agents – even where buyer and seller are part of the same organisation, for example, in instances of inter-firm trade.² Adding to this complexity, intermediaries are likely to further subcontract specific tasks to specialists. For example, a trader may use the services of a freight forwarder who will then contract the shipment to a shipping line, the customs declaration to a specialist broker, and inland transport to a separate haulage company. In Figure 2, each of the rows of boxes, describing a type of intermediary or agent service, provides illustrative examples of possible intermediary combinations in a transaction between a buyer and seller.

Figure 2. Examples of intermediary combinations in trade transactions



Source: Grainger 2007

The picture is equally complex when examining government involvement in controlling the cross-border environment. For example, the UK trade environment includes more than 60 distinct trade procedures³ (Grainger 2007). These procedures may target goods, the vehicles that move them (for example, ship, plane, truck) or their operators (for example, driver, seafarer, flight crew). A summary of trade procedures is provided in Table 1 and Table 2 below. The listed procedures fall into the broader categories of revenue collection and fiscal protection, public safety and security, environment and health, consumer protection, and trade policy. Some of these regulatory activities may take place while goods are under customs controls, while others are independent of UK Customs' executive powers. The compounded complexity of commercial operations and regulatory controls sets a truly complex trade environment.

Table 1. UK Trade Procedures, Agencies and Departments

Procedures governing trade in or out of the UK						Department with Main Policy Responsibility		Control Objective	Control Target	Procedure tied into HMRC Control
1	British Arab Certificate of Origin	British Arab Chamber of Commerce	British Arab Chamber of Commerce	Customer Focusing Body	Middle Eastern Governments	Trade Policy	Goods	No		
2	Dangerous Goods (A/R)	Civil Aviation Authority	Civil Aviation Authority	DTI Import Licensing Branch	Department for Transport	Safety & Security	Goods	No		
3	Import Licensing Applications	DTI Import Licensing Branch	DTI Import Licensing Branch	Environment Agency	DEFRA	Trade Policy	Goods	No		
4	Movement of Waste	Forestry Commission	Forestry Commission	Forestry Commission	Forestry Commission	Environment & Health	Goods	Yes		
5	Forestry Controls and Certificates (e.g. wood packaging)	Forestry Commission	Forestry Commission	Forestry Commission	Forestry Commission	Environment & Health	Goods	Yes		
6	Immigration Controls (passengers)	HM Immigration	HM Immigration	HM Immigration	Home Office	Safety & Security	Vehicle & Operator	No		
7	Immigration Controls (vehicle operators)	HM Immigration	HM Immigration	HM Immigration	Home Office	Safety & Security	Vehicle & Operator	No		
8	Horticulture and Marketing Standards	Horticulture & Marketing Inspect.	Horticulture & Marketing Inspect.	DEFRA	DEFRA	Consumer Protection	Goods	Yes		
9	Marketing Conformity	Horticulture & Marketing Inspect.	HMI (PEACH System)	DEFRA	DEFRA	Consumer Protection	Goods	Yes		
10	ATA Carnet	HM Revenue and Customs	Chambers of Commerce	ATA Convention (DTI/HMRC)	DEFRA	Fiscal	Goods	Yes		
11	Pet Passport	HM Revenue and Customs	DEFRA	DEFRA	DEFRA	Environment & Health	Goods	Yes		
12	CITES Certificates (endangered species)	HM Revenue and Customs	DEFRA	DEFRA	DEFRA	Environment & Health	Goods	Yes		
13	Ozone depleting substances - Import Licences	HM Revenue and Customs	DEFRA/European Commission	DEFRA/European Commission	DEFRA/European Commission	Safety & Security	Goods	Yes		
14	Export Controls (National Heritage)	HM Revenue and Customs	Dept. for Culture and Media	Dept. for Culture and Media	Dept. for Culture and Media	Safety & Security	Goods	Yes		
15	Anti-Dumping	HM Revenue and Customs	Dept. for Trade and Industry	Dept. for Trade and Industry	Dept. for Trade and Industry	Trade Policy	Goods	Yes		
16	Import Licensing Controls (e.g. trade policy measures, small arms and nuclear materials)	HM Revenue and Customs	Dept. for Trade and Industry	Dept. for Trade and Industry	Dept. for Trade and Industry	Trade Policy	Goods	Yes		
17	Export Controls (Dual Use & Military)	HM Revenue and Customs	DTI - Export Controls Organisation	DTI - Export Controls Organisation	DTI - Export Controls Organisation	Safety & Security	Goods	Yes		
18	Tariff Quota and Suspension Applications	HM Revenue and Customs	DTI Import Licensing Branch (+ EU Commission Databases)	DTI Import Licensing Branch (+ EU Commission Databases)	DTI - European Commission	Trade Policy	Goods	No		
19	Cardiogenic substances - Import Licences	HM Revenue and Customs	Health and Safety Executive	Health and Safety Executive	Health and Safety Executive	Safety & Security	Goods	Yes		
20	Binding Tariff Informations (Applications)	HM Revenue and Customs	HM Revenue and Customs	European Commission	European Commission	Fiscal	Goods	No		
21	Bidding Origin Informations (Applications)	HM Revenue and Customs	HM Revenue and Customs	European Commission	European Commission	Fiscal	Goods	No		
22	Community Transit Procedures (NCTS)	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	Fiscal	Goods	Yes		
23	Excise Duties and Controls	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	Fiscal	Goods	Yes		
24	HMRC Export Procedures	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	Fiscal	Goods	Yes		
25	HMRC Import Procedures and Simplified Procedures	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	Fiscal	Goods	Yes		
26	HMRC Procedures with Economic Impact (there are several)	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	Fiscal	Use	Yes		
27	Import Vat	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	Fiscal	Goods	Yes		
28	Red Fuel Checks	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	HM Revenue and Customs	Fiscal	Vehicle & Operator	No		
29	Illegal Meat Controls	HM Revenue and Customs	HMRC/FSA/DEFRA	HMRC/FSA/DEFRA	FSA/DEFRA	Environment & Health	Goods	Yes		
30	Export Controls (Precursor Drugs)	HM Revenue and Customs	Home Office	Home Office	Home Office	Safety & Security	Goods	Yes		
31	Veterinary Medicines - Import Licences	HM Revenue and Customs	Medicines and Healthcare Products Regulatory Agency	Medicines and Healthcare Products Regulatory Agency	DEFRA	Consumer Protection	Goods	Yes		
32	Medical Equipment Import Licence	HM Revenue and Customs	Medicines and Healthcare Products Regulatory Agency	Medicines and Healthcare Products Regulatory Agency	Medicines and Healthcare Products Regulatory Agency	Consumer Protection	Goods	Yes		
33	Medicines and healthcare products Import Licence	HM Revenue and Customs	Medicines and Healthcare Products Regulatory Agency	Medicines and Healthcare Products Regulatory Agency	Medicines and Healthcare Products Regulatory Agency	Consumer Protection	Goods	Yes		

Table 2. UK Trade Procedures, Agencies and Departments (continued)

	Procedures governing trade in or out of the UK	Executive Agency	Customer Focusing Body	Department with Main Policy Responsibility	Control Objective	Control Target	Procedure tied into HMRC Control
34	Kimberly Certificate (Diamonds)	HM Revenue and Customs	Overseas Issuing Bodies	Dept. for Trade and Industry	Safety & Security	Goods	Yes
35	Radio Equipment - Import Licences	HM Revenue and Customs	Radio Communications Agency	Radio Communications Agency	Consumer Protection	Goods	Yes
36	Detergents and Chemicals Product Standards	HM Revenue and Customs	Dept. for Trade and Industry	Dept. for Trade and Industry	Consumer Protection	Goods	Yes
37	EUR1 Document	HMRC (for express service: British Chambers of Commerce and Institute of Chartered Shipbrokers)	HMRC (for express service: British Chambers of Commerce and Institute of Chartered Shipbrokers)	HM Revenue and Customs	Fiscal	Goods	Yes
38	Aviation "Known Shipper"	Industry; TRANSEC	Industry; TRANSEC	Department for Transport	Safety & Security	Operator	No
39	Dangerous Goods (Rail)	Industry; TRANSEC	Industry; TRANSEC	Department for Transport	Safety & Security	Goods	No
40	Maritime "ISPS"	Industry; TRANSEC	Industry; TRANSEC	Department for Transport	Safety & Security	Operator	No
41	Maritime "SOLAS"	Industry; TRANSEC	Industry; TRANSEC	Department for Transport	Safety & Security	Operator	No
42	Certificate of Free Sale	many, depending on product	many, depending on product	many, depending on product	Consumer Protection	Goods	Yes
43	Dangerous Goods (Sea)	Maritime Coast Guard Agency	Maritime Coast Guard Agency	Department for Transport	Safety & Security	Goods	No
44	Organic Certificate	Port Health Authority	DEFRA	DEFRA	Consumer Protection	Goods	Yes
45	Veterinary Controls	Port Health Authority	DEFRA	DEFRA	Environment & Health	Goods	Yes
46	TRACES (Live animals and products of animal origin)	Port Health Authority	DEFRA - EU Commission	DEFRA / European Commission	Environment & Health	Goods	Yes
47	Labelling (Food)	Port Health Authority	Food Standards Agency	Food Standards Agency	Consumer Protection	Goods	Yes
48	Plant Health Certificates	Plant Health Inspectorate	Plant Health Inspectorate	DEFRA	Environment & Health	Goods	Yes
49	Phytosanitary Export Certificates	Plant Health Inspectorate	Plant Health Inspectorate	DEFRA	Environment & Health	Goods	No
50	Ship's Waste	Port Authority	Port Authority	Department for Transport	Environment & Health	Vehicle & Operator	No
51	Gosstandard (Russian Product Standards)	Private Testing Companies in the UK	Private Testing Companies in the UK	Russian Customs	Safety & Security	Goods	No
52	Border Inspection Posts	Private UK companies (usually port stevedores)	Private UK companies (usually port stevedores)	DEFRA / European Commission	Environment & Health	Goods	No
53	Preshipment Inspections	PSI Companies	PSI Companies	Third Country Governments	Fiscal	Goods	No
54	TIR Carnet	Road Haulage Association and Freight Transport Association	Road Haulage Association and Freight Transport Association	International Road Union	Fiscal	Vehicle & Operator	Yes
55	CAP Refunds	Rural Payment Agency	Rural Payment Agency	DEFRA	Fiscal	Goods	Yes
56	Fishery Controls	Sea Fisheries Inspectorate	Sea Fisheries Inspectorate	DEFRA	Environment & Health	Goods	Yes
57	Veterinary Export Certificates	State Veterinary Service	State Veterinary Service	DEFRA	Environment & Health	Goods	Yes
58	Port Community Systems	There are five UK providers	Community System Providers	Business, but HMRC is a major stakeholder	Fiscal	Goods	Yes
59	Labelling (Products)	Trading Standards	Trading Standards	Dept. for Trade and Industry	Consumer Protection	Goods	Yes
60	Bio Terrorism Controls for US	US Food and Drug Administration	US Food and Drug Administration	US Food and Drug Administration	Safety & Security	Goods	No
61	Container Security (CSL)	US Customs	US Dept for Homeland Security	US Dept for Homeland Security	Safety & Security	Goods	Yes
62	Dangerous Goods (Road)	Vehicle Operator Service Agency; Police	Vehicle Operator Service Agency; Police	Department for Transport	Safety & Security	Goods	No
63	Road Vehicle and Weight Checks	Vehicle Operator Service Agency; Police	Vehicle Operator Service Agency; Police	Department for Transport	Safety & Security	Vehicle & Operator	No

Source: Grainger 2007

Operational frustrations at UK ports

In today's supply chains, the management objectives focus on the creation value and the reduction of costs (Christopher 1992). Any wasteful transaction costs will ultimately place businesses at a competitive disadvantage (Porter 1998). It should not be a surprise that those practitioners involved in ensuring the movement of goods up and down the supply chain are particularly sensitive to transaction costs. Between 2002 and 2004 several UK ports (Britain's borders) were visited and 41 representative actors from business and government organisations were interviewed. These very detailed interview sessions yielded a collection of 223 comments on concerns and perceptions. While all interview respondents were able to give details on electronic port and customs systems that over the last two decades have helped to significantly reduce transaction costs, interview respondents also described the UK's cross-border environment as a complex system where operational frustrations and subsequent transaction costs prevail (Grainger 2007).

Business and government actors who were interviewed, addressed topics of behaviour, technology, performance of government, capabilities, trade procedures, cooperation between and amongst actors, the performance of business, and uncertainty. Respondents were able to give illustrative examples of operational frustrations and subsequent transaction costs for each of these topical areas. Underlying many of the described frustrations was the perception that regulatory controls are not always compatible with operational needs. This can give rise to wasteful transaction costs and inefficiency. The following paragraphs highlight some of the concerns described where operations amongst actors have been frustrated because of failing rules and regulations.

All interviewed traders, for example, reported instances where customs and veterinary controls are enforced to different levels or in different ways, depending on the port and the officers on the ground. Subsequently, some interviewed parties gave accounts of where traffic had been actively diverted to an alternative port. This practice was also confirmed in a later survey of UK importers⁴ in which 19% (N=131) of respondents admitted to actively diverting traffic cargo to an alternative port because of actual or perceived differences in the enforcement of rules and procedures (Grainger 2007).

Similar concerns about rules and regulations were also shared by some of the government inspectors. For example, a port health officer complained that he had to regularly check consignments of tinned tuna from a reputable food importer because of legislatively set inspection quotas – even though, from his point of view, the public-health risk was negligible when compared to other food categories or types of traffic. Traders and government inspectors also reported instances where official controls were uncoordinated, for example, a veterinary inspection that was followed by a customs inspection and vice versa.

Another example of operational frustrations given by interview respondents was that procedures and systems do not always align. For example, while most UK customs declarations can be submitted and processed electronically, the vast majority of non-customs procedures still rely on paper documents. Subsequently, many paper documents need to be laboriously matched to entries in electronic systems – especially in instances where non-customs procedures take place while under customs control and Customs needs to verify that the other government department has met its control obligations.

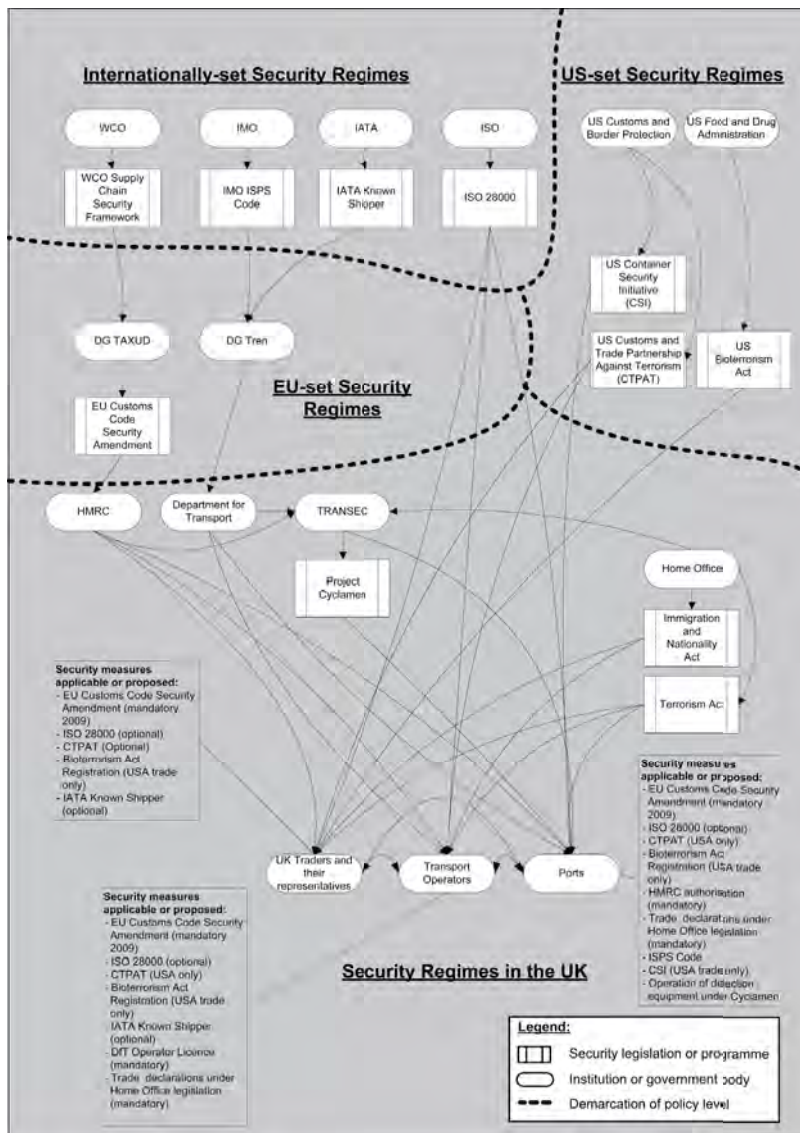
To give one further example, a problematic area cited by a port health officer was the use of seals. The officer is often bound by regulation to take samples of goods and submit these to laboratories for further analysis. However, to open the consignment this officer not only breaks the veterinary seal, but must also break any other seals (such as a customs seal) that prevent a sample being taken, which can have immediate fiscal consequences for the trader.

There are many more examples (Grainger 2007), but those cited above give some indications of what the collection of concerns and perceptions through an interview series can reveal.

Adding supply chain security to the equation

So far, this paper has described a very complex commercial and regulatory environment with many actors. As evidenced through research at UK ports, transaction costs amongst actors occur – especially where regulations and operational practices do not align. With the addition of supply chain security measures a further burden is placed on trade compliance and on regulatory enforcement. These new security regimes have been developed by a range of institutions that have an interest in the control of goods, vehicles and people. Subsequently, in the UK, one can find a multiple of overlapping security regimes. Each one of them places additional requirements on traders and their intermediaries. The illustration of overlapping transport (IMO, IATA), business standards (ISO) and customs control regimes is reminiscent of a spaghetti bowl (Figure 3). In the UK example, it includes international, regional (EU), third country (for example, USA) and national policy levels.

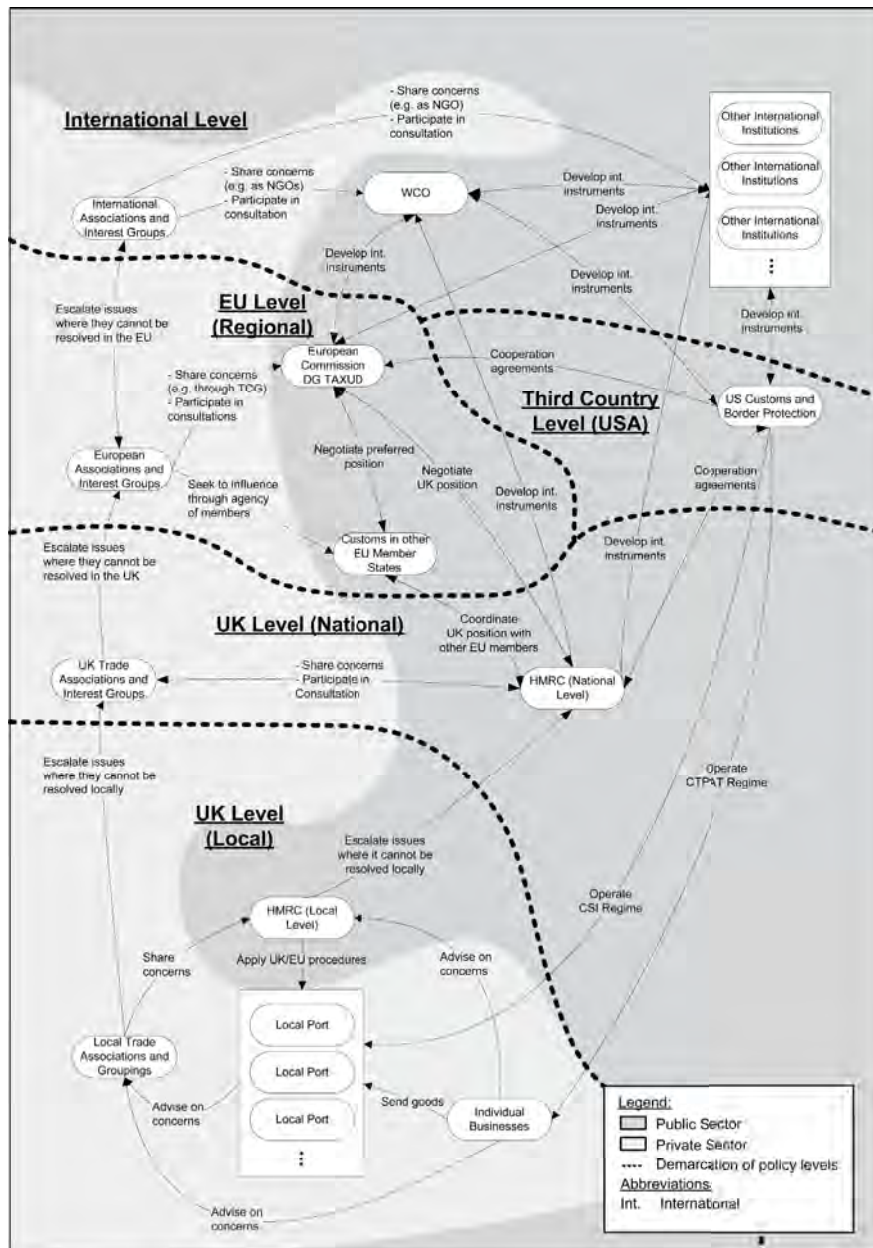
Figure 3. Security spaghetti



Source: Grainger 2007

If one considers the resulting and remaining frustrations at UK ports, there are few avenues for traders and enforcement officers to feed their day-to-day experiences directly into the legislatively defined controls and procedures. Feedback normally takes place through the agency of trade associations and the policy executives of national administrations. Figure 4 maps out some of the paths that are available to public and private sector actors. Where operational problems in the application of customs procedures cannot be resolved at the port level, they inevitably need to be escalated to that level where policy is set. As most customs and trade procedures are international in nature, this means an escalation of issues to national, regional, international and bilateral policy levels.

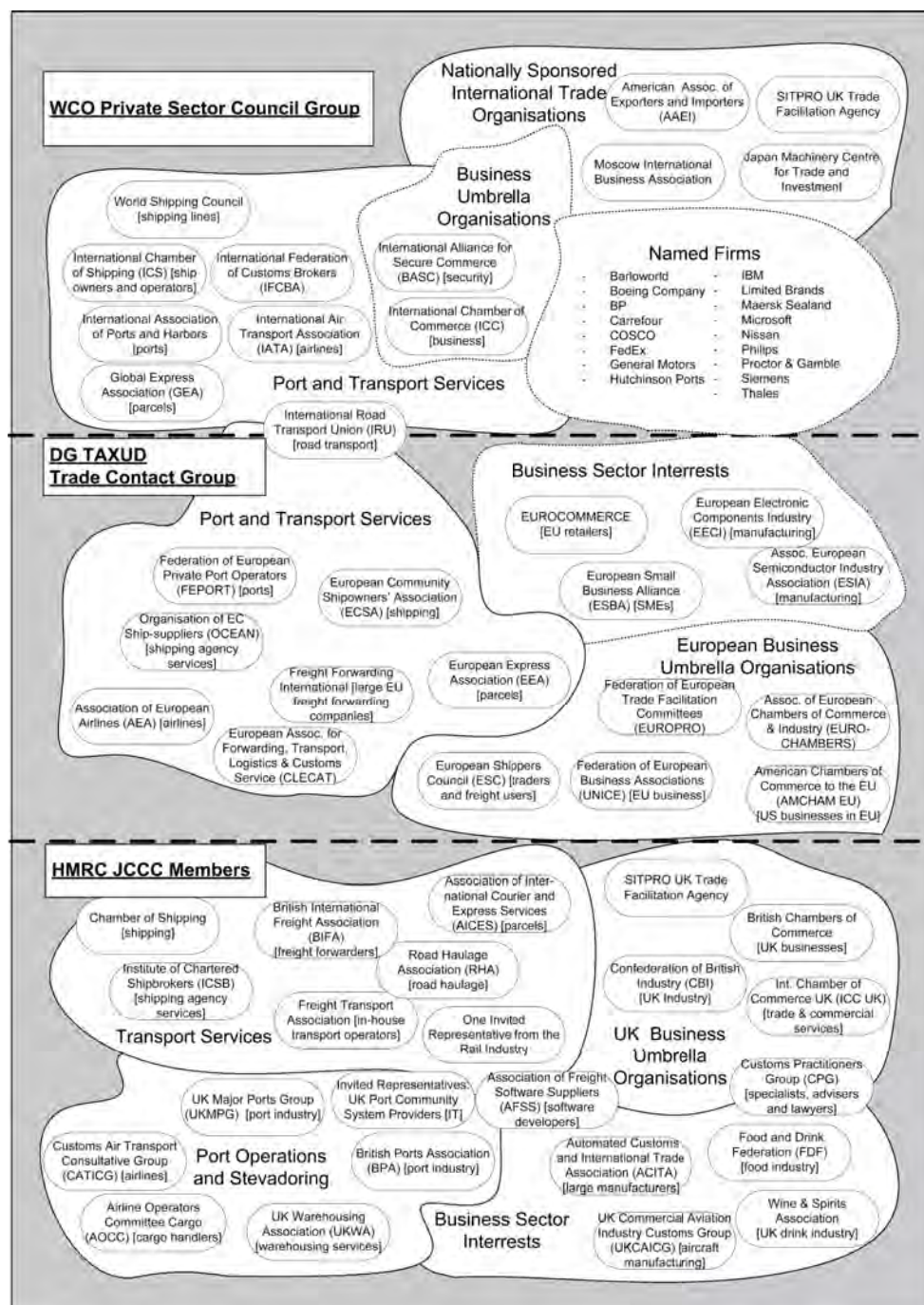
Figure 4. Relationship spaghetti



Source: Grainger 2007

Private sector interests, through the agency of trade associations and interest groups, tend to be organised accordingly. For example, Figure 5 maps out those business interests active in UK Customs' (HMRC) consultative committee (the JCCC), the European associations active in the Commission's Trade Contact Group, and those groups active in the WCO's private sector council (Grainger 2007).

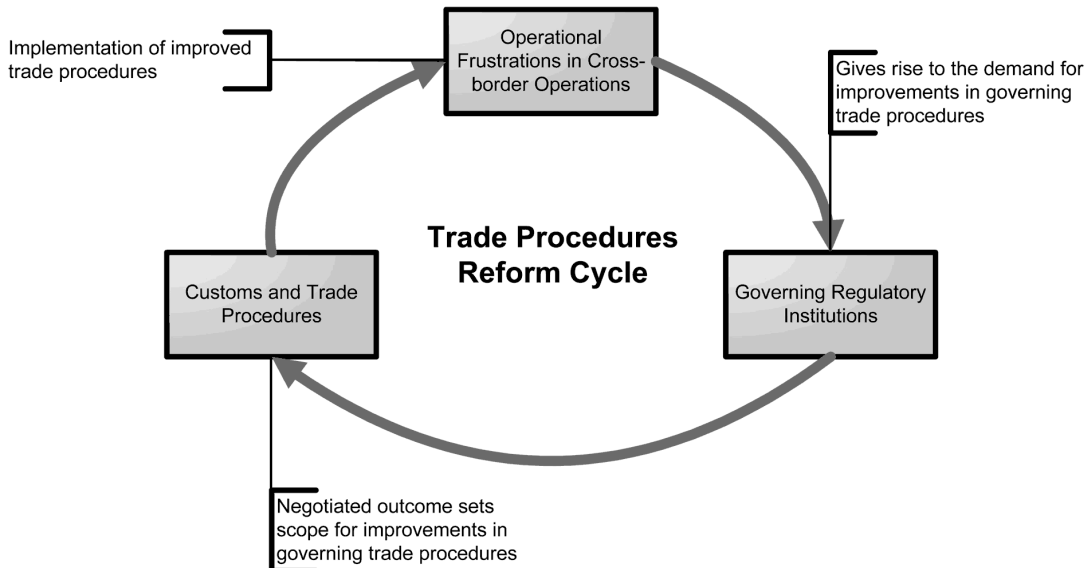
Figure 5. Trade association spaghetti



Source: Grainger 2007

In the previously described arrangements, trade procedures are set by regulatory institutions, which usually (at least in the UK) includes consultation with representatives from various interests' associations. When new regimes – like those covering the area of supply chain security – are implemented, the operational frustrations experienced (or anticipated) by traders and enforcement officers may give rise to sufficient lobbying that instigates reform (Figure 6). However, this feedback cycle is slow and it usually takes many years to effect change whereas business operations in a competitive world tend to be very fickle. As outlined earlier, the shape and form of a supply chain can vary from one transaction to the next. The institutional arrangements that are currently maintained by business and government actors appear to be out of step when compared to the responsiveness and agility that is so often prevalent in day-to-day supply chain management operations.

Figure 6. Trade Procedures Reform Cycle



Source: Grainger 2007

Institutional challenges

The challenge in reducing transaction costs and meeting regulatory control objectives – like those of increased security – is to consider how best to align the institutional framework with operational requirements. For government agencies, as set out earlier, it is to make efficient use of finite enforcement resources, enhance controls at the border, extend controls up and down the supply chain, and to ensure that trade continues. For businesses, the management objective in supply chain management is about reducing costs and increasing value.

In light of the current environmental complexity and institutional overlap, neither the business supply chain objectives nor the regulatory control objectives are likely to be served. Government controls and their institutions appear visibly out of step with the practices of modern day supply chain management. Any meaningful incentives by regulators to offset additional burden appear to be thin. The subsequent challenge is one of realigning a complex arrangement of regulatory institutions to fit the needs of stakeholders. In an international business environment this inevitably includes the full cross-section of traders and their intermediaries.

However, as was explained earlier, commercial arrangements in international trade operations can be complex. Power amongst stakeholders in the cross-border environment is not equally distributed. For

example, interviewed port users reported that larger shipping lines, stevedores, and those regulatory agencies that offset inspection costs against fee income (for example, Port Health Authorities) are able to pass on cost burdens to their customers with relative ease. By contrast, many of the interviewed freight forwarders described a very competitive business environment where any additional costs hit their own margins first. Subsequently, business interests are not always aligned. Quite often they are conflicting or opposing – especially where it gives rise to market positioning strategies (Mintzberg 1990).

Moreover, in the current institutional set-up, some types of business interests may be under-represented or not represented at all (Figure 5). For instance, research by Verwaal and Donkers (2002; 2003) and Grainger (2007) suggests that economies of scale apply to cross-border operations. Traders and operators with larger operations are able to offset the predominantly fixed costs associated with regulatory compliance over larger volumes of trade. This means that those traders with smaller volumes are more likely to rely on the services of intermediaries and be less inclined to invest in developing their own compliance capabilities. However, as regulatory institutions are overhauled, changed or amended – like through the introduction of supply chain security regimes – the economics change, too. This gives rise to new actors and may make other actors redundant or less relevant. While this gives cause for concern (and resistance) amongst some interest groups, it also gives rise to innovation, scope for transaction cost reductions and better utilisation of resources.

An obvious approach to finding alignment between government and business interest is to apply trade facilitation principles. These are the simplification, standardisation, harmonisation and modernisation of trade procedures. The trade facilitation program is nothing new, and many customs administrations already subscribe to some of its prescriptions (UN/CEFACT and UNCTAD 2002). However, many procedures take place outside of customs control (see Tables 1 and 2). Subsequently, trade facilitation programs such as the Single Window (UN/CEFACT 2004) do appear to offer a particularly enticing solution to meeting both business and government control objectives in supply chain security.

Points to consider in supply chain security

This paper leaves a number of points to consider. These have research and policy implications. Much of the cross-border environment and its operational and institutional complexity remains little understood. Subsequently, there are many actors and many underlying interests which add to the environment's complexity. As the precedent of the Authorised Economic Operator (AEO) concept suggests, one can witness a process of rapprochement between executive agencies and business. However, much of the focus is still on submitting declarations and complying with procedures. Moreover, many of the frustrations currently experienced at the border (ports) are likely to be further compounded by the addition of supply chain security measures – especially when one considers the overlap resulting from all the security spaghetti. Alternative approaches may involve greater emphasis on the definition of objectives, leaving individual businesses the freedom to consider how they wish to meet these objectives. However, such an approach would require different types of organisational capabilities than those currently displayed by the many regulatory agencies at the border. It is also likely to call for a greater effort towards the simplification, harmonisation and modernisation of trade procedures – the core principles of trade facilitation (WTO 1998).

This gives rise to a research and policy agenda that considers the operational and institutional framework in the current cross-border environment as well as the consideration and evaluation of the various interests (political, institutional, commercial and industrial) at work. In this context, unexplored research areas include: the operational interface between business and government; the institutional and regulatory overlap in the control of goods (akin to Tables 1 and 2 and Figure 3); the development of a regulatory framework that is aligned to modern day supply chain management practices; the negotiation process between public and private sector actors in defining trade procedures (akin to Figures 4 and 6); the interests of actors and the implementation of trade facilitation concepts (for example, by building on Figure 5); and, human and organisational capabilities necessary to enable closer cooperation between business and government actors in supply chain security.

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Endnotes

- 1 A helpful list of frequently used acronyms in international trade and customs procedures, including those in this paper, can be viewed at <http://www.tradefacilitation.co.uk/content/view/30/44/>
- 2 Peter Dicken (2003, p. 53) suggests that the 'ball park' figure for inter-firm trade lies at around 1/3 of world trade. Unfortunately, aggregated data, with the exception of Japan and the USA, is still very rare (OECD 2002). UK specific research has found that nearly one-half of all merchandise exports to the USA (the UK's single largest export market) are by UK based US owned affiliate companies and by UK parent companies to their US affiliates (Pain 2005).
- 3 Most procedures that were listed have multiple components. For example, they often include pre-notifications and full declarations. Similarly, Customs import and export procedures often include a number of additional control measures (for example, see WCO 1999). If these are considered, the number of listed procedures can be significantly inflated.
- 4 This Web-survey was conducted by Andrew Grainger as part of his PhD thesis (Grainger 2007). It was hosted on the SITPRO website in autumn 2004. Publicity for the survey was raised by the Chartered Institute for Logistics and Transport, the British International Freight Associations and SITPRO policy groups.

Dr Andrew Grainger



Dr Andrew Grainger is the founding director of Trade Facilitation Consulting Ltd. Andrew holds a PhD from Birkbeck College, University of London where he submitted his thesis on trade facilitation and supply chain management. Prior to setting up his own firm Andrew worked for SITPRO, the UK Trade Facilitation Agency. Other experiences include consultancy with PricewaterhouseCoopers and freight forwarding in Germany and Southeast Asia. He can be contacted by email at: grainger@tradefacilitation.co.uk.

VOLUNTARY SUPPLY CHAIN SECURITY PROGRAM IMPACTS: AN EMPIRICAL STUDY WITH BASC MEMBER COMPANIES

Ximena Gutiérrez, Juha Hintsa, Philippe Wieser and Ari-Pekka Hameri

This paper is an abridged version of presentations given previously at conferences and meetings about supply chain security.¹

Abstract

Managing security in global supply chains has been gaining increasing attention in business and governmental agendas since the terrorist attacks in the United States in 2001. Since then several new voluntary government-business partnership programs have emerged to enhance security in end-to-end supply chains. However, a few programs have existed for a longer time, one of them is the BASC (Business Alliance for Secure Commerce) program, active as a business alliance in Latin America since 1996, originally fighting narcotics smuggling, and later converted into a holistic supply chain security management program. Understanding the implications – costs, trade-offs, benefits, etc. – of security management programs is a complicated task, with very limited existing literature. This paper, being the first survey of its kind, presents the results of the survey carried out with 102 BASC member companies, including: (1) the most commonly implemented security measures; (2) the most (and least) efficient security measures; (3) the relationship between the cost and effectiveness of the measures; and (4) the benefits obtained while implementing these security measures. Finally, the paper provides recommendations for governmental and company decision makers on designing future ‘win-win’ supply chain security programs.

Introduction

The paradigm of managing and regulating security in global supply chains is changing. Before 2001, security management decisions – security measures, investments, documentation, etc. – were primarily taken at individual company level, with no or very limited interaction with other supply chain participants or governmental agencies. Since 2001 the situation has changed: governmental agencies, mainly the customs administrations, have entered the field, with their vested interest to protect their respective nations against terrorism and other serious international crime. The first country to move was the US (C-TPAT program since 2002), followed by Australia, New Zealand, the European Union, and a few others, later on.

One exception to the ‘pre-9/11 era’ is the BASC (Business Alliance for Secure Commerce) program, which was established in 1996 to fight narcotics smuggling, exploiting existing supply chains and logistics networks, from some Latin American countries, mainly to North America. The abbreviation ‘BASC’ stood originally for ‘Business Anti-smuggling Coalition’, and was later converted to ‘Business Alliance for Secure Commerce’. The mission statement of the BASC organisation is to ‘facilitate and stimulate agile international trade through the implementation and management of security standards

and procedures applied to the international supply chain'. BASC has around 1,500 member companies, located in 13 Latin American countries, which are grouped in six organisational chapters: Colombia, Ecuador, Peru, Costa Rica, Pacific region and Dominican Republic.

The following questions were considered in a survey of BASC member companies:

- Which security measures are commonly implemented by the BASC member companies?
- What is the cost for companies to join the BASC program?
- Which security measures turn out to be most appealing, that is, low cost and high efficiency?
- Which types of benefits the member companies have obtained while implementing the BASC program?

This paper provides an overview of the survey questionnaire and the survey sample. The study findings follow by describing the implemented security measures, the cost of implementing the BASC program, the expected benefits versus obtained benefits related to the program, and a qualitative cost-benefit analysis. Next, the relationship between the number of security measures and the number of obtained benefits is analysed, followed by the analysis of the relationship between implemented applicable security measures and obtained benefits. A 2x2 matrix for classifying security measures in high-low cost versus high-low effectiveness is provided. Finally, other study findings are summarised, followed by conclusions.

The study was carried out by two doctoral assistants at Ecole Polytechnique Fédérale de Lausanne (EPFL) and Hautes Etudes Commerciales (HEC) University of Lausanne, supervised by two professors at those universities. The President and several Directors at the BASC organisation played a critical role in facilitating the study process between the research team and the BASC member companies.

The survey questionnaire

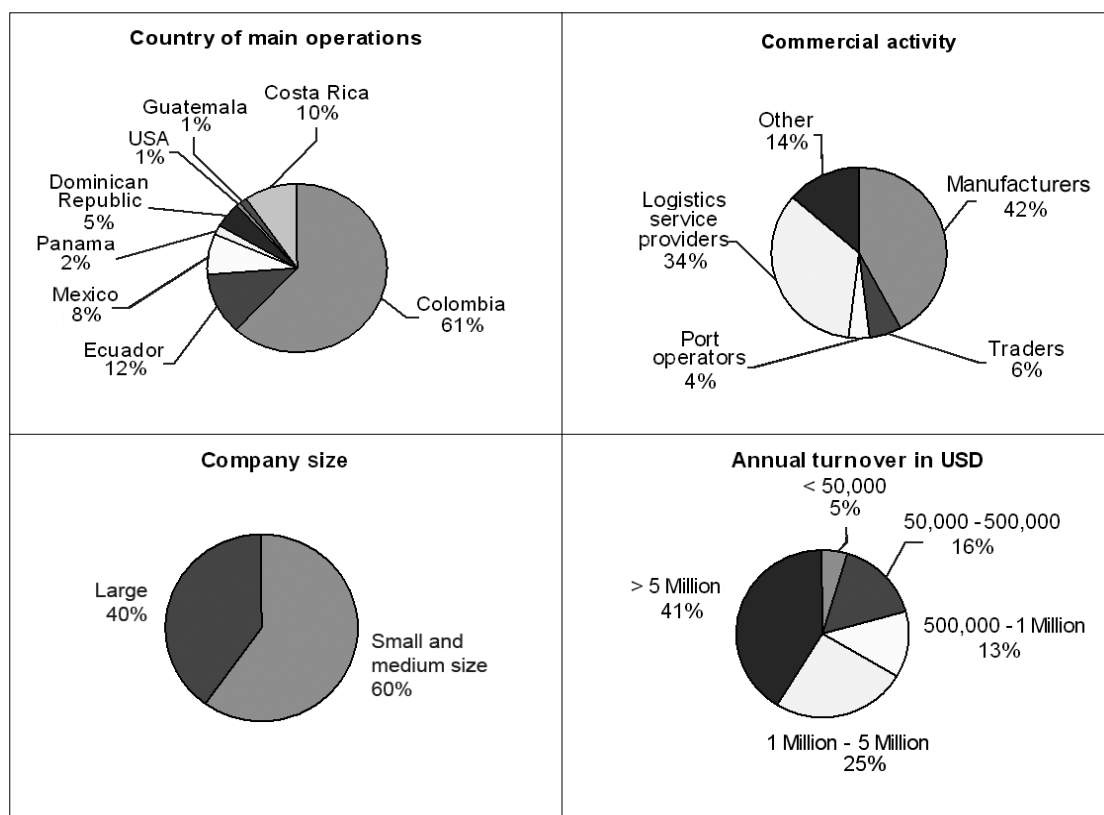
The study involved a five-page questionnaire, addressed to 800 BASC member companies in ten different countries. The questions were created in collaboration with BASC management and fine-tuned in a validation exercise with five BASC chapter directors from different countries. The final document contained 20 questions which followed the structure presented in Figure 1 below.²

Figure 1. *Summary of questionnaire structure*



Sample characteristics

Out of 800 companies contacted, 102 completely answered surveys were received (response rate of 13% and sample error of 10%). The survey covered 78% of the member countries; represented companies involved in different international trade-related operations (that is, manufacturers, traders, port operators, logistics service providers and others providing support services such as security monitoring and rental vehicles); covered different company sizes, and annual turnovers; and included companies which were certified in different years. Figure 2 presents the distribution of respondent companies in terms of four different categories: country of main operations, commercial activity, size, and annual turnover.

Figure 2. *Distribution of study participants*

Implementation of various security measures

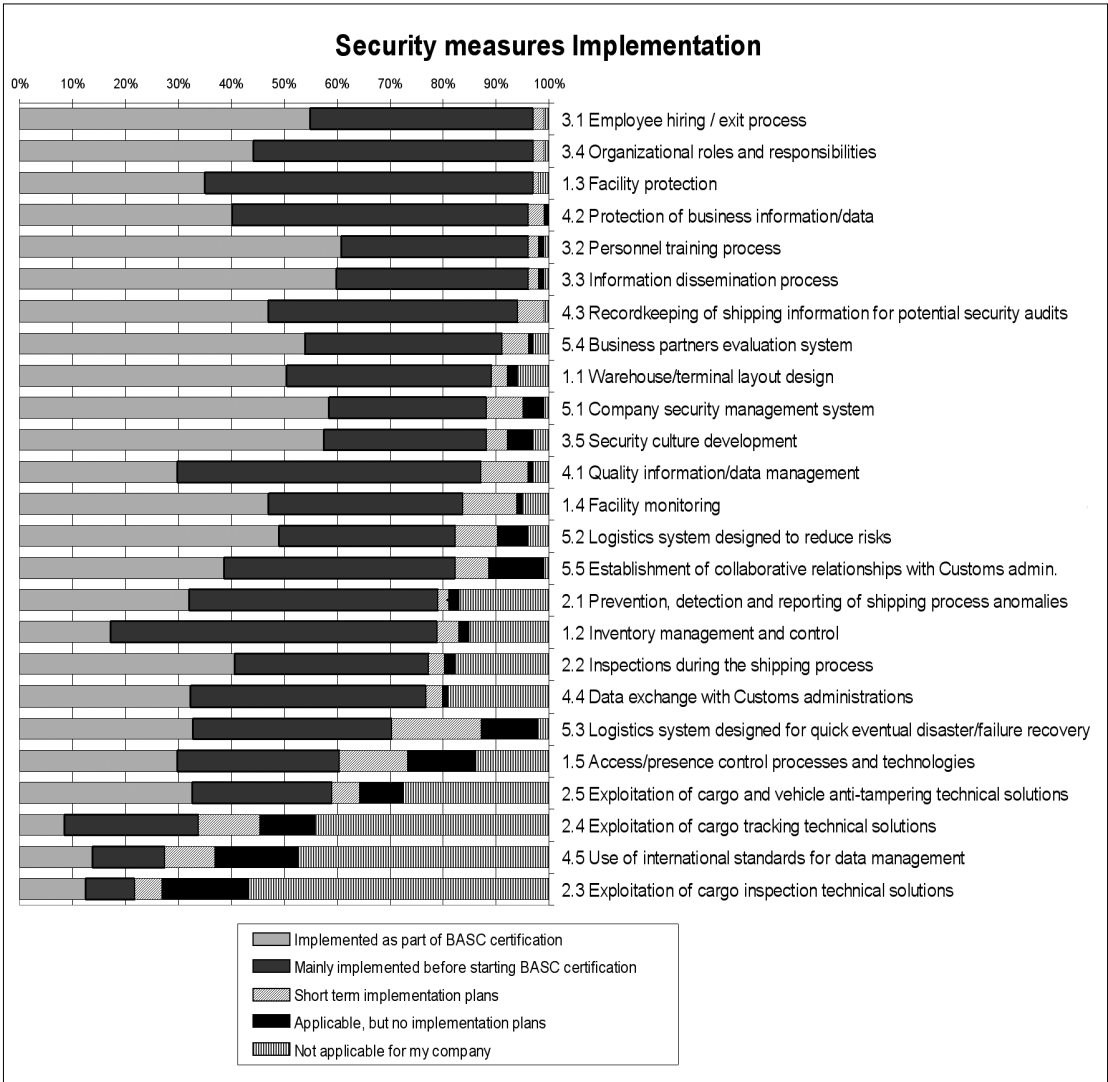
Most of the existing voluntary supply chain security programs comprise general guidelines which describe the security measures that should be implemented to become a certified company. However, there is much variability regarding the level of detail in which these measures are presented. For instance, BASC is a program with one of the most highly detailed security standards lists, with approximately 100 security measures. Nevertheless, the researchers believe that most of the security measures can be implemented in different ways. There is still a great degree of freedom in the implementation of security standards, depending on each company's particular situation.³

A consolidated list of security measures which summarised the most recurring measures in nine different security initiatives worldwide was established. The resulting 25 measures were classified into the following five categories: Facility management, Cargo management, Human resources management, Information management, and Business network and company management systems. It should be noted that the list contains some measures that are not explicitly required in BASC security standards guidelines (the use of cargo inspection and tracking technology, the use of international standards for data management, etc.). However, they may contribute to the creation of an appropriate supply chain security management system within companies or as part of other existing or future security programs.

Respondents specified which security measures from the consolidated list were implemented by their companies. For each implemented measure, they were asked to explain if it was done as a requirement for obtaining BASC certification, or if it was in place prior to the certification process. For each of the non-implemented measures, respondents were asked to explain if they had plans to implement them in the near future or if the measures were not applicable for their company.

Figure 3 below presents the implementation reasons and the future plans for each security measure and ranks them from the most to the least implemented by BASC companies.

Figure 3. *State of implementation for set of security measures (sample size 102)*



The most popular measures include employee hiring and exit processes, which cover background checks, exit interviews, etc. Defining organisational roles and responsibilities regarding security management; protecting the facilities with basic tools and methods; protecting the business information; and arranging security training programs belong also to the top five most popular implemented security measures. At the other end of the spectrum, one has more technology orientated security measures, including access/presence control technologies; cargo and vehicle anti-tampering and tracking technologies; international data standards; and using cargo inspection technologies. One possible reason for their unpopularity could be the higher cost than in some of the more popular measures; in addition, a large number of companies claimed that these five least popular measures are not applicable at all for their companies.

BASC implementation costs

Respondents were asked to estimate the total cost incurred to implement the security measures required by the BASC certification and the annual cost of maintaining these measures. These costs include expenses caused by the implementation of the security measures themselves (security training courses, investments in technology or facility reinforcement, etc.), and the administrative fees that the World BASC Organization charges their members for covering organisational running costs. These administrative fees can vary from 800 USD to 2,500 USD for the certification and from 800 USD to 2,000 USD for annual maintenance. The tariff varies according to the socio-economic situation of the country and the economic sector to which the company belongs. BASC certification is valid for one year and can be renewed after passing a second security audit.

Table 1 below presents the average certification and annual maintenance cost for companies with different turnovers.

Table 1. *Certification and maintenance average cost for different turnovers (sample size 90)*

Annual turnover	Number of companies	Average value in USD			
		Implementation Cost	Annual Maintenance cost	Maintenance/certification cost	Certification cost/ Turnover
< 50,000	4	28,625	2,888	10%	≥ 57%
50,000 - 500,000	13	17,176	8,539	50%	3% - 34%
500,000 - 1 Million	13	13,585	6,698	49%	1% - 3%
1 Million - 5 Million	25	61,820	15,826	26%	1% - 6%
> 5 Million	35	52,742	28,484	54%	≤1%
Total	90	34,790	12,487	38%	

Except for companies with a turnover between 50,000 and 500,000 USD, the average cost of certification appears to be positively related to turnover (increase in turnover, higher cost of certification). However, the increase in the cost of certification is not proportional to the increase in turnover. For instance, for companies with an annual turnover of less than 50,000 USD the certification cost was on average more than 57% of their turnover, while for companies with a turnover between 50,000 and 500,000 USD this percentage decreases drastically to a range between 1% and 34%. One more relevant result is that the maintenance cost in relation to the certification cost (see column: Maintenance/certification cost) appears to be smaller (10%) for companies with turnovers of less than 50,000 USD per year and higher (on average 45%) for companies with higher turnovers. It could be concluded that the certification cost appears to be more expensive for companies with small annual turnovers (less than 50,000 USD) while the maintenance cost is proportionately more expensive for more companies with higher turnovers.

The company internal work required throughout the certification process, average values for time required and human resources spent are presented in Table 2 below.

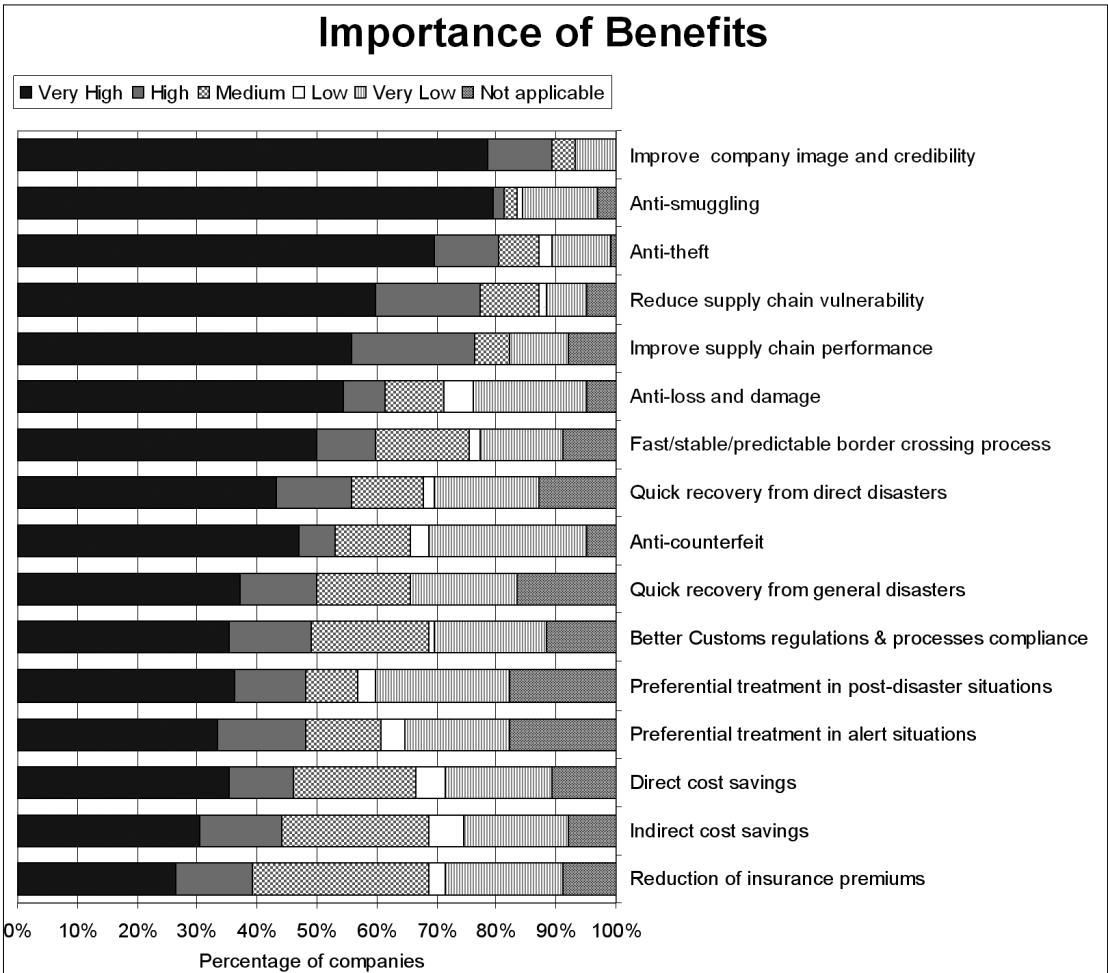
Table 2. *Measures of time and resources required to implement BASC (sample size 90 complete answers)*

Time	Average Values
Months necessary for certification process	8
Total hours of work for certification	2,337
Resources	
Number of employees involved in certification process	48
Number of employees involved / Total employees	23%
Time per resource	
Hours per person	49 (~ 6 working days)

Benefits of joining the BASC program

Based on an exhaustive supply chain security literature review, 16 potential benefits related to voluntary supply chain security programs were identified and classified in the following three categories: (I) Direct security benefits (II) Benefits for the company's efficient functioning, under normal conditions, and (III) Benefits for the company's efficient functioning, under high alert or post-disaster conditions.⁴ Respondents were asked to evaluate the degree of importance of these benefits for their companies. Figure 4 presents the list of benefits ranked from the most to the least important based on the respondents' answers.

Figure 4. *Potential security programs benefits ranked by degree of importance (sample size 102)*



There was general agreement regarding the most and least important benefits. More than 70% of respondents considered that the top five most important benefits belong to categories I (Direct security benefits) and II (Benefits for the company's efficient functioning, under normal conditions). An average of 60% of companies considered the direct, indirect cost savings and the reduction of insurance premiums benefits of medium or low importance.

On the other hand, there is certain disagreement concerning benefits such as quick recovery from general disasters and better Customs regulations and processes compliance, where 50% of respondents believed that these are highly important and the other half believed that their importance is medium, low or not applicable for their company.

Furthermore, respondents were asked to explain which benefits they were expecting when the company engaged in the certification process versus which benefits they gained after the certification was complete. Figure 5 presents, as percentages, the expected and obtained benefits.

Figure 5. *BASC expected vs obtained benefits (sample size 102)*

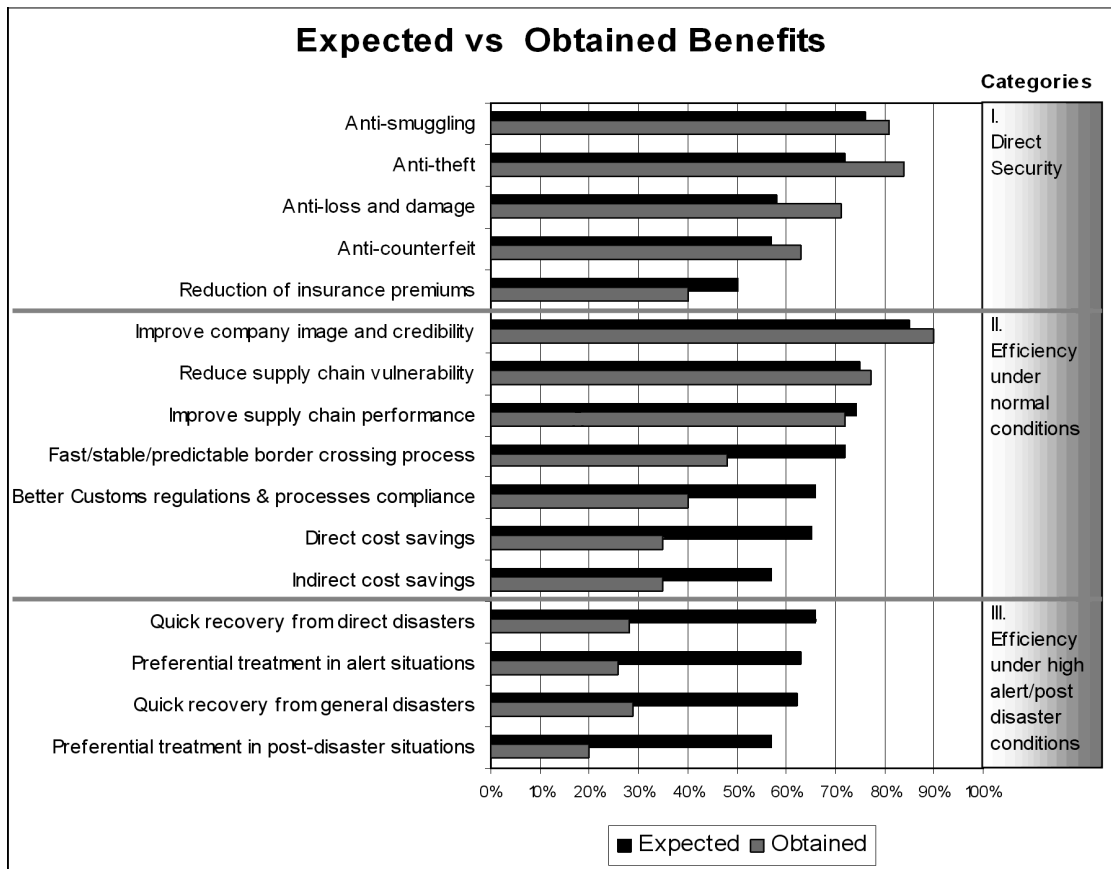


Figure 5 shows that attainments were higher or very close to expectations for most of the direct security benefits – excluding for reduction of insurance premiums; for some supply chain efficiency related benefits (such as the reduction of the supply chain vulnerability and the improvement of the supply chain performance) and in particular, to improve company image and credibility, which was the most expected and the most attained (expected by 85% and obtained by 90% of the respondents).

In contrast, it seems that benefits related to cost savings, direct and indirect, efficiency under high alert/post disaster conditions and facilitation of border crossing operations (fast/stable/predictable border crossing process and better Customs regulations and processes compliance) were on average less attained than expected. These results show that although the implementation of the BASC program has been useful in increasing security and, as a consequence, in improving corporate image, it is difficult to translate this apparently less risky situation into cost savings.

For those benefits where expectations were met, the main interest is to understand which security measures contributed to achieving them; this will be discussed in the next section. For those benefits where the expectations were not met, three potential explanations can be considered: the benefits would in reality require broader security investments than the companies had made; the benefits would require different security investments than the companies had made; companies had not been exposed to disruptions or alert situations where they would have been able to prove the effectiveness of the security measures.

Qualitative cost-benefit analysis

There is an analogy between investing in a supply chain security management program and paying insurance fees, that is, one can choose to invest in preventing security incidents as well as in developing a fast recovery capability in case of an incident – one where the company could have had a say in, for example, theft; or one which is independent of the company's actions, for example, port closure. With the insurance instruments, by investing in advance one can become (economically) better prepared for fast recovery after an incident happens, naturally subject to the insurance terms and conditions. However, carrying out an accurate, quantitative cost-benefit analysis for security investments is not an easy task, due to several reasons, such as quantifying the investment returns in case 'nothing happened anyway' is difficult; and being able to show exactly which security measure contributed to which benefit is not an exact science.

One way to categorise the types of possible benefits for security investments is to determine:

- cost savings from reducing the probability or avoiding the occurrence of undesirable events (that is, decrease in theft, counterfeit, loss or damage rates, reducing supply chain vulnerability, avoiding customs fees, loss of goodwill)
- secondary positive effects on existing operations (that is, improving supply chain efficiency due to better control and traceability, indirect cost savings)
- improvements to the company's situation in relation to external actors (that is, acquisition of new clients, preferential treatment at borders).

Benefits for the first category result in avoiding costs; therefore, their quantification requires the calculation of the potential costs that could be incurred if an undesirable event occurs. For the second and third categories, quantifiable benefits should be the result of more income, due to an increase in turnover or a decrease in operational costs. In both cases, the quantifiable benefits are not easy to estimate. In the first case, the estimated benefits will never be exact if the undesirable event never occurs, and in the second case, the benefits will be the result of other interacting variables (marketing function of the company, product quality, etc.) so it will be difficult to identify which part of the increased income corresponds to the security investments.

BASC member companies illustrate the existing difficulty in quantifying security investment benefits: while 93% of the respondents were able to estimate the total cost of implementing and maintaining BASC, only 40% were able to quantify some benefits and very few were able to explain where they originate.

Large variations were found when comparing the value invested in security with the value of the obtained benefits of the companies that quantified their benefits. Out of this set of 34 respondents, half obtained benefits which were inferior or equal to their investment and the other half obtained benefits which vary from double to ten times the total cost of implementation and maintenance. Additionally, although several companies invested similar amounts of money in security, they obtained significantly different quantifiable benefits. Even if some respondents were able to explain the reasons for such benefits, it did not sufficiently explain why companies making apparently the same effort obtained very different results.

Despite these difficulties, the researchers provide some explanations for the variation in the results:

- There are significant obstacles when quantifying benefits stemming from the prevention of an undesirable event. The estimation of these benefits depends on the perceived degree of risk faced by the company and the program's capacity to reduce the probability that this risk will occur. For instance, the same security measure will reduce the probability that an undesirable event will occur within companies facing high risks and others facing low risks to the same extent. However, the riskier companies will perceive higher benefits because the potential savings from preventing undesirable events are higher than for the low risk companies.

- There might be relevant differences in the items that were considered to calculate the cost of implementation and maintenance by each company.
- The relationship between costs and benefits might depend on the situation of the company. For instance, a company where several security standards were implemented prior to starting the certification process will incur reduced costs in comparison to that which starts from zero level.
- The size of quantifiable benefits can depend on many variables. For instance, on the implemented security measures, on the maintenance activities or on the execution of any additional efforts. Better understanding of the connections between such variables could provide important insights to analyse the relationship between costs and benefits for security investments.

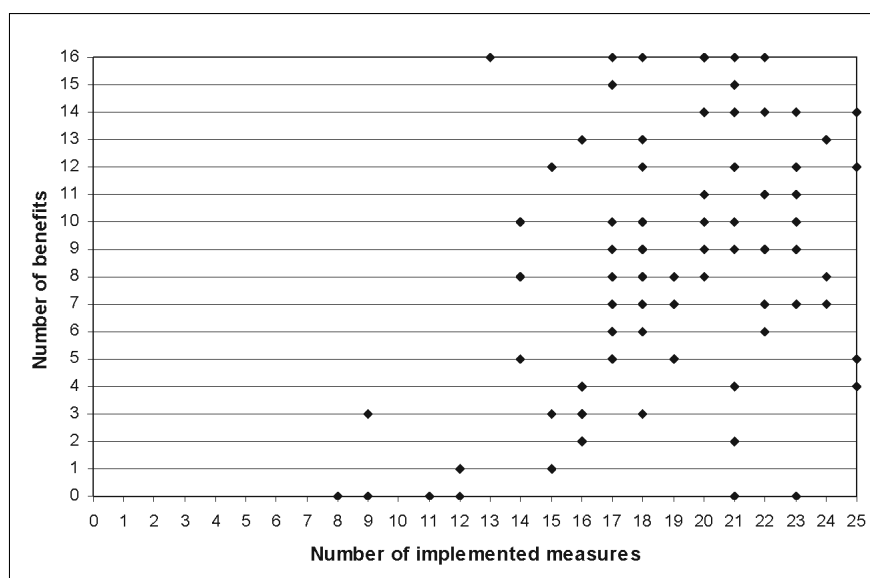
Relationship between number of security measures and obtained benefits

As discussed in the previous section, there are multiple barriers to quantifying and explaining the potential benefits derived from the investments in security programs. Not being able to quantify the benefits creates obstacles to justify the investments. Not understanding the connections between cost, security measures and benefits makes it difficult to create cost-effective security programs. In this section, this problem is assessed by exploring whether any relationship exists between the number, type and cost of the implemented security measures and the number and type of obtained benefits.

In simple terms a security program consists of a list of security measures. Given that, in principle, each security measure reduces the probability of occurrence of a certain identified risk, it could be argued that the more security measures are implemented, the more benefits will be obtained. Results presented in previous sections indicate that BASC member companies have followed this same logic while trying to implement as many measures as possible.

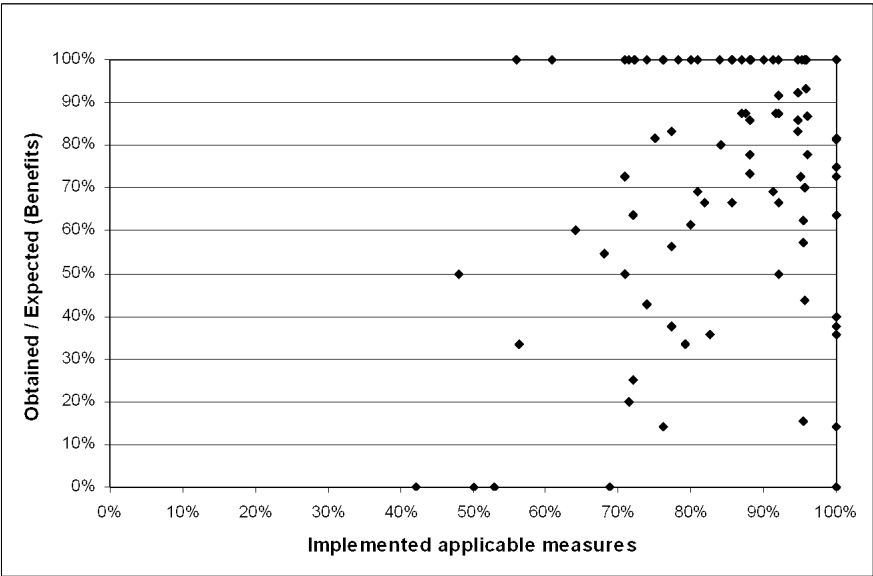
To test this hypothesis, the number of implemented measures was graphed (Figure 6) against the number of obtained benefits for each company. However, the graph shows that it is not possible to establish any significant positive or negative association between these two variables. For instance, there are several companies which implemented the same number of measures and while one obtained the maximum number of benefits (16), the other obtained zero benefits.

Figure 6. Relationship between number of security measures and number of obtained benefits



In order to avoid the potential bias given by the fact that not all benefits and not all measures are applicable for all companies, the following two percentages were graphed one against the other: the number of implemented measures out of the total applicable for each company, and the number of obtained benefits out of those that were expected by each company. Figure 7 shows that, in this case, neither is it possible to say that there is a positive relationship between the number of security measures and the number of obtained benefits.

Figure 7. Relationship between implemented applicable security measures and obtained benefits



The same graphic was done adding several control variables such as company’s main activity (Logistic service provider or manufacturer), size (large or SME), main reason to implement the program (security or image), commercial relationships with US and/or EU, and number of measures implemented from each category (facility, cargo, human resources, information and business partners management). Once again, it was not possible to establish any pattern or significant association for any of the analysed groups of companies.

Given that it was not possible to establish any robust connection between the global efforts made in security (represented as number of implemented measures) and the global effectiveness of these efforts (represented as the number of obtained benefits), the next step was to analyse independently the potential connection between effort (represented as cost of implementation) and effectiveness for each security measure.

Classification of measures in terms of cost and effectiveness

Respondents were asked to qualify each measure in terms of their implementation cost and efficiency in improving security. Two five-point Likert scales were used by respondents to qualify each security measure in terms of these two properties. Table 3 presents the different values and the corresponding meaning.

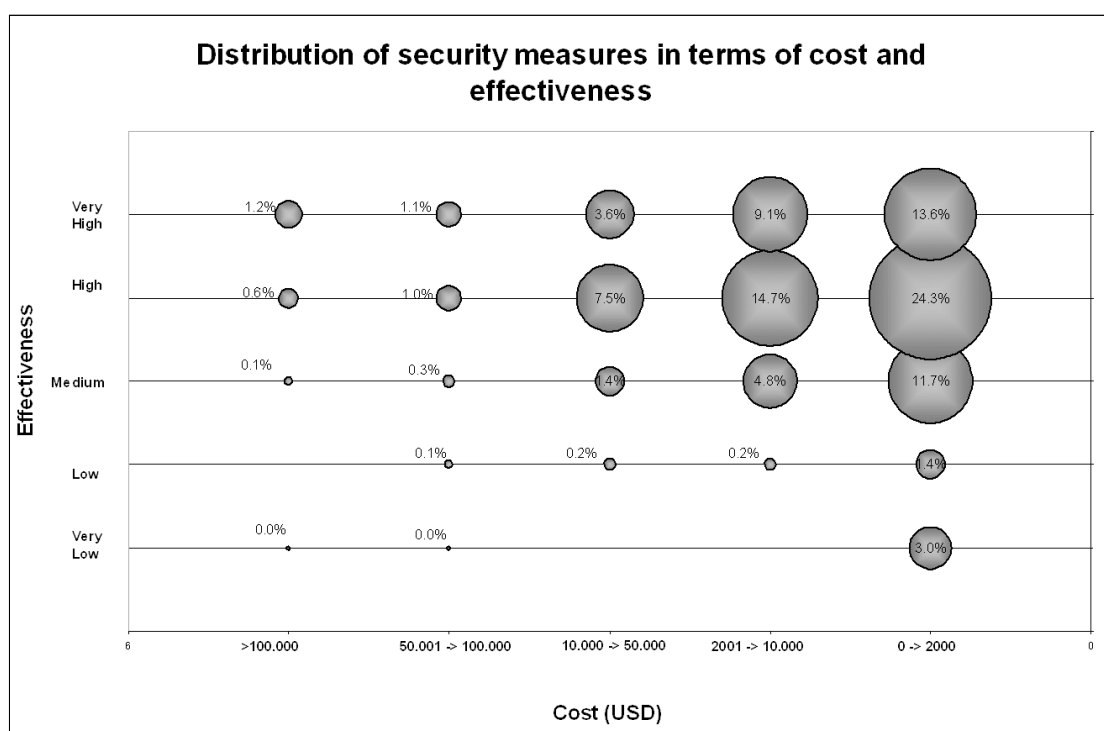
Table 3. Qualitative scales to qualify security measures in terms of cost and effectiveness

Implementation cost	Effectiveness to improve security
1 = 0 – 2,000 USD	1 = Very low effectiveness
2 = 2,001 – 10,000 USD	2 = Low effectiveness
3 = 10,001 USD – 50,000 USD	3 = Medium effectiveness
4 = 50,001 USD – 100,000 USD	4 = High effectiveness
5 = > 100,000 USD	5 = Very high effectiveness

Once each measure was evaluated separately in terms of cost and effectiveness, analyses were carried out to establish which type of relationship exists between the cost of implementation and the effectiveness of security measures. Providing answers to this question could provide essential insights to designing cost effective security programs. For instance, if effectiveness is positively related to the cost of the measure, companies with higher investments in security will be more likely to achieve higher security enhancements. On the other hand, should such relationships not exist, the creation of a cost effective supply chain security program would only require implementing low cost and effective security measures.

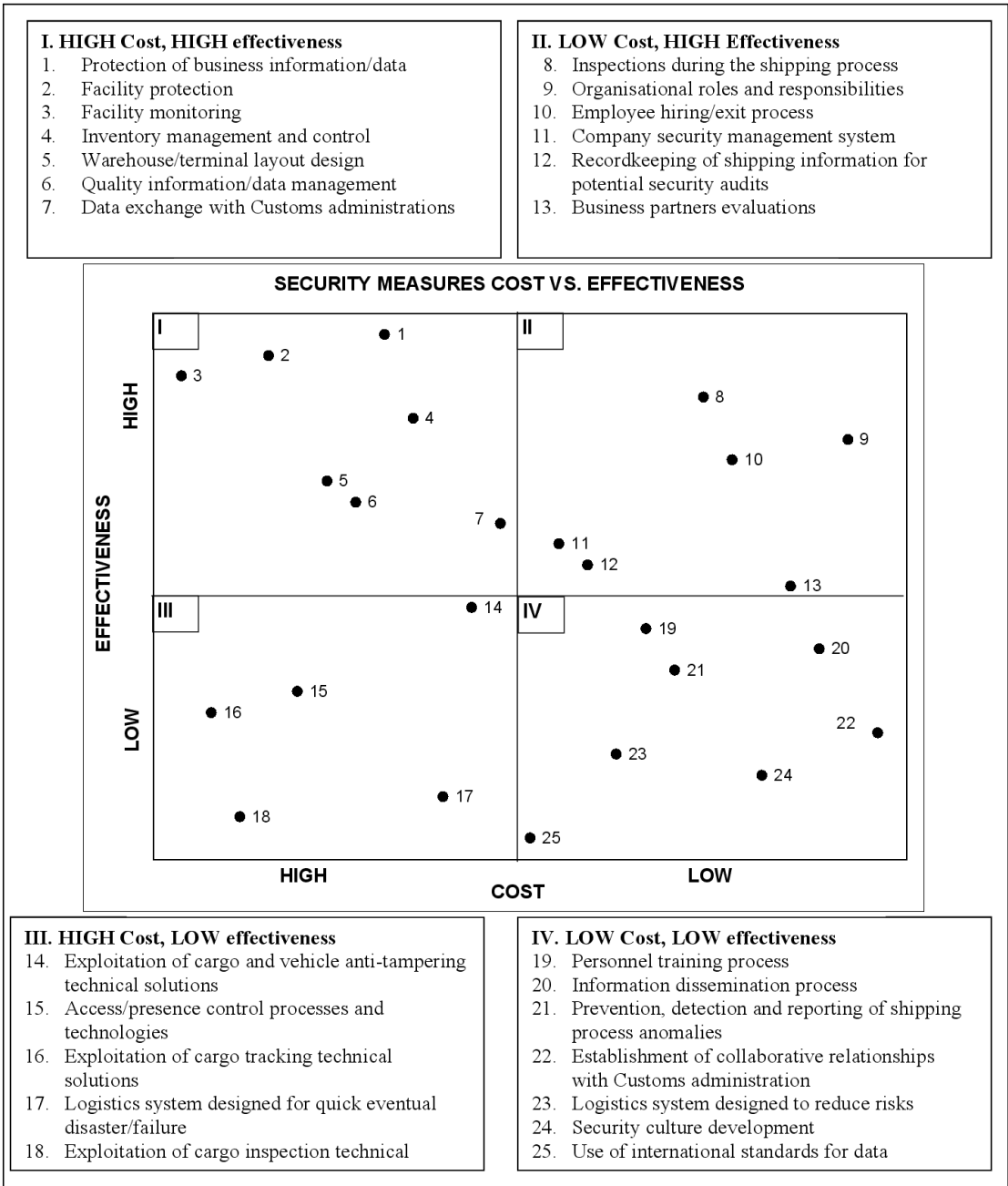
Most of the answers indicated that all the 25 measures are low cost and high effective. Figure 8 shows the percentage of answers for each possible combination between cost and effectiveness for all the 25 measures. It can be observed that 61.7% (= 9.1% + 13.6% + 14.7% + 24.3%) of the answers point out that all the measures cost between 0 and 10,000 USD and are highly or very highly effective.

Figure 8. Number of answers per possible combinations of cost and effectiveness



The analysis of joint cost and effectiveness answers doesn't provide much information about the differences in cost and effectiveness for the 25 security measures. However, by studying the cost and the effectiveness separately, it was possible to establish how cost-effective each security measure is in relation to the others. In order to do this, each security measure was ranked in terms of cost (from the one which was considered more expensive to the one which was considered cheaper by the higher percentage of companies) and effectiveness (following the same logic as for cost). Then these two ranks were combined in Figure 9, where the measures are classified into two levels of cost (low and high) and two levels of effectiveness (low and high).

Figure 9. Classification of security measures in terms of cost and effectiveness

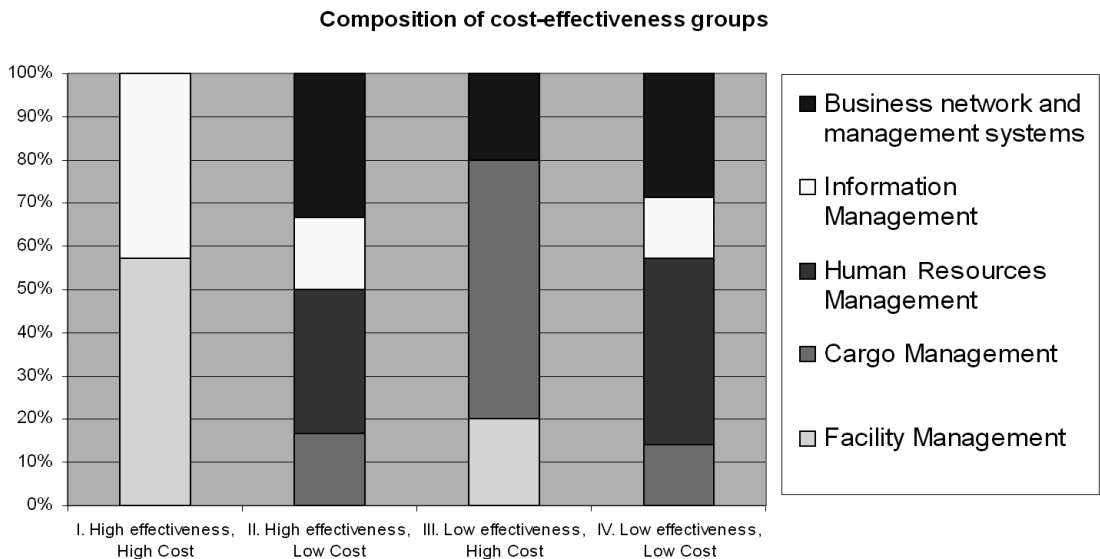


No linear positive relationship between cost and effectiveness was found. On the other hand, four main groups of security measures which account for inverse and identical combinations of cost and effectiveness levels were identified. For instance, there are six of the 25 security measures which present a LOW implementation cost and HIGH effectiveness in relation to the others (for details, see measures in group II). In contrast to this group, five of the 25 measures present the opposite combination: HIGH implementation cost and LOW effectiveness (for details, see measures in group III).

Types of measures comprising each cost-effectiveness group

A closer analysis of the type of measures that comprise each of the identified cost-effectiveness groups shows that there are certain types of measures which dominate for some groups or are completely absent. For instance, the HIGH cost and HIGH effectiveness group is comprised only of facility management and information management measures. The LOW cost and HIGH effectiveness, as well as the LOW cost and LOW effectiveness group are comprised of measures from all categories, except from facility management. Finally, the HIGH cost and LOW effectiveness group is comprised mainly of measures related with cargo management, and some related with business networks and management systems and facility management. Figure 10 presents the percentage of different types of measures that comprise each cost-effectiveness group.

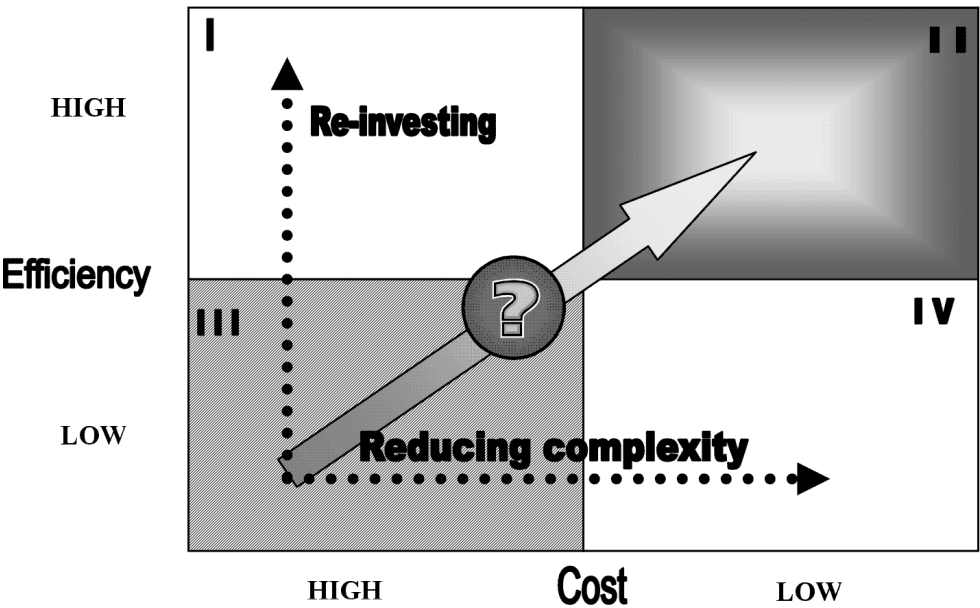
Figure 10. *Types of measures comprising each cost-effectiveness group*



It is interesting to see that those groups where the cost is high have higher concentrations of measures from the same type, contrary to the low cost, which tend to have measures from almost all the categories. These results suggest that measures related to facility management are more likely to be costly to implement and less effective than the others.

In addition, understanding why certain measures are less effective or more expensive than others, and understanding if it is possible to transform them into better performing security measures, could provide important insights for the design of future cost effective supply chain security programs. Figure 11 illustrates the potential strategies to enhance a set of measures which comprise a security program.

Figure 11. Identification of low cost effective security measures



Up to this point, some insights have been presented regarding the relationship between the effort (cost) and effectiveness of the investments in security. However, the successful implementation of a supply chain security program should not only aim to identify the lowest cost and most effective security measures, it should also give priority to those measures that can contribute to creating the benefits that are of highest importance for the company. In order to achieve this goal, it would be desirable to identify any existing strong connections, that is, statistically significant associations, between certain benefits and security measures.

Sample connections between security measures and benefits

It should be noted that the necessary statistical analysis used in this study is not included in this paper. However, Table 4 presents some potential connections that were reported by respondents when asked about the most important benefits obtained by their companies and the corresponding measures that were implemented to achieve them.

Table 4. *Samples of connections between benefits and measures identified by some respondents*

Measures implemented	Obtained benefits	Type of benefit
Logistics process control, information management on-time and collaboration with authorities	Anti-smuggling and anti-theft	Direct security
Supply chain traceability, identification and control of process responsibilities (knowing who does what, at what moment)	Anti-loss and damage	
Document revision and training employees to detect and report anomalies	Decrease containers theft	
Document protection and process supervision	Better process control, processes bottlenecks and mistakes reduction	Supply chain efficiency
Use of security seals, supervision of deviations in vehicles travel times, access control with bar code system	More control over operations, personnel, documents and cargo	
Access control (working with closed doors), registration of visitors, adequate information management, monitoring of vehicles 24 hours, use of security seals	Improve internal organisation, decrease in disruptions and hence, insurance premiums	
Creation of strategic alliances, risk evaluation of clients and suppliers, adequate employee selection process, establishment of security best practices agreements with clients	Increase of 24% of the business, increasing the turnover by around 2 million US dollars	Company image
Inspection of containers and vehicles while in storage (this company has used this extra security activity to sell their clients a corporate image which promotes very high security standards)	Client recognition of improved security level; differentiation from competitors	

These results suggest that supply chain efficiency related benefits are the result of certain security measures which contribute to security and at the same time, create operationally desirable conditions that are essential for improving efficiency. For instance, some respondents explained that certain security measures reduced the time and variability of certain logistics operations and improved cargo visibility and control, which together contributed to the reduction of the vulnerability of the supply chain. Others reported an improvement in logistics processes and level of service, which contributed to the improvement of supply chain performance. In spite of these examples, which connect certain measures and benefits, there were several respondents who argued that the obtained benefits were the result of all the implemented measures and they were not able to establish any relevant connections between single measures and single benefits.

Conclusions

This paper presents the first broad survey study carried out within a voluntary supply chain security management program. The BASC program appears to be a successful sample of a business alliance, which was initiated with a specific security goal of reducing narcotics smuggling from a high risk geographic area to the rest of the world, and later expanded to become a general supply chain security management program. The paper shows empirical data about the costs, efforts required and effectiveness of this sample security management program.

The study concluded that benefits of such a program are not likely to depend on the number of security measures, and that security effectiveness is not linearly nor positively related to the cost of security measures. However, it was possible to identify security measures which appear to be highly effective and low cost in comparison with the other measures, and vice versa. Estimating the quantified cost of implementing the BASC program was done to some degree, but quantifying the benefits turned out to be a more difficult task, clearly subject to future studies.

The documented experience of BASC member companies provides an important reference document for the future development of supply chain security standards for global, end-to-end supply chains. The lessons learned with the BASC program should be carefully analysed by the ongoing regional and global standardisation initiatives, including the European Union's Authorised Economic Operator (EU AEO), the World Customs Organization's Framework of Standards to Secure and Facilitate Global Trade (the SAFE Framework of Standards), and the International Standards Organization's Supply chain security management system (ISO28000).

In order to have successful future supply chain security management standards, it must be ensured that the participating companies get tangible benefits for their efforts, with one of the main benefits being preferential treatment at border crossing points, both in normal conditions and in high alert and post-disaster situations. How to do this remains a key topic for future supply chain security research as well as governmental policy development work.

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The study preparation and results were presented on slides at :

BASC 2005 and 2006, (Business Alliance for Secure Commerce, formerly Business Anti-smuggling Coalition), Gutiérrez introduced the new study to BASC Management and members: 'Voluntary supply chain security program – Case: BASC in Latin America, Panama City, Panama, May 2005, and Cartagena, Colombia, March 2006, www.wbasco.org.

The study results were presented on slides at PICARD 2007, 2nd Conference on WCO Research Network, Hintsa presented study results, Brussels, Belgium, March 2007.

For a copy of the full version of this study, please contact either the Editor-in-Chief at editor@worldcustomsjournal.org, or basc-study@cross-border.org.

- 2 See Gutiérrez, Wieser & Hintsa 2006 for the detailed questions.
- 3 See Gutiérrez, Wieser & Hintsa 2006 for more details.
- 4 See Gutiérrez, Wieser & Hintsa 2006 for more details.

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Section 2

Practitioner Contributions

SUPPLY CHAIN SECURITY: THE CUSTOMS COMMUNITY'S RESPONSE

Kunio Mikuriya

Abstract

The international customs community has developed measures to secure and facilitate global trade which have been transformed into international standards for global implementation. These standards are designed to improve customs operations through enhanced risk management that is built upon Customs-to-Customs cooperation and Customs-to-Business partnerships. The standards are supported by existing WCO instruments, including the Revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures, and fulfil the requirements of enhanced security and facilitation for legitimate trade in the 21st Century global trading system. The majority of WCO Members are currently implementing these standards through the development of Authorised Economic Operator (AEO) programs, ensuring that they have the capacity to do so by requesting appropriate capacity building assistance.

Introduction

As is often pointed out, the role of Customs has evolved over time from its original revenue collection function to one that encompasses a range of missions at national borders. The basic function for customs officers remains essentially the same however, as they control the cross-border movement of goods and examine accompanying documents. Through this border control function, Customs plays a role in protecting society from the inflow and outflow of prohibited or controlled goods that pose a threat to the health and safety of nationals, such as drug trafficking. Meanwhile, there is growing recognition that Customs plays an important role in promoting economic prosperity by facilitating international trade. Therefore, it is imperative for Customs to maintain effective and efficient control without hindering the smooth flow of legitimate trade.

To improve border control whilst discharging a variety of responsibilities, the international customs community has developed a range of standards and best practices. They recommend the maximum use of information technology and the adoption of risk management and other modern techniques, which are embodied in the Revised Kyoto Convention¹ and other WCO instruments. Moreover, the WCO has made every effort to promote international cooperation and provide technical assistance and capacity building to its members in need of help to implement its standards.

Following the terrorist attacks that occurred on September 11, 2001 in the United States, there was a heightened recognition that the global trading system is vulnerable to possible exploitation by terrorists and organised crime. Located on the borders and knowing those involved in international trade, Customs was expected by the international community to contribute to enhancing the security of global trade. The new mission of security has shifted the focus of Customs from its traditional 'place of import' to encompass the entire trade supply chain that covers the movement of goods from origin to destination. It has also heightened the awareness of the need to enhance cooperation among customs administrations to cover the global supply chain. On the other hand, while supporting the enhanced security measures, the trade community expressed a concern over possible setbacks for trade facilitation efforts. In response, Customs perceived the need to enhance partnerships with compliant businesses in strengthening the security of the supply chain while preserving facilitation for legitimate trade.

This article reviews the development of the WCO standards on supply chain security and the WCO's efforts to promote their implementation effectively. In 2002, in response to the new challenges, the international customs community embarked on an initiative to develop security measures, through the WCO Task Force, in close consultation with business and relevant international organisations. After completion of the package of measures, the WCO began focusing on their implementation at the global level, and it did this by transforming its guidelines into standards through the guidance and direction of the WCO High Level Strategic Group. In 2005, the WCO finally adopted the Framework of Standards to Secure and Facilitate Global Trade, (the 'SAFE Framework of Standards' or 'SAFE Framework') to secure and facilitate global trade. The SAFE Framework is based on the two pillars of Customs-to-Customs cooperation and Customs-to-Business partnerships and is aimed at improving customs operations, supported by existing WCO instruments.

Finally, WCO members are jointly making efforts to effectively implement the SAFE Framework. The Authorised Economic Operator (AEO) Guidelines have been developed and are expected to be used by WCO members to launch their own individual national AEO programs. Progress towards mutual recognition on AEO status and customs control results is another challenge. Most of all, many members have expressed their need to build customs capabilities in implementing the SAFE Framework. To this end, the WCO established a Capacity Building Directorate within the Secretariat and launched the Columbus Program to prioritise this task. Moreover, coordination with other border agencies has emerged as a critical way forward to achieve the goal of supply chain security.

Development of supply chain security measures

Establishment of a task force

In early 2002, in the aftermath of the terrorist attacks on September 11, 2001, the US Customs launched its Container Security Initiative to increase the security of US-bound sea cargo. The vulnerability of the international supply chain was recognised as a global problem rather than the problem of a specific country. This heightened awareness of the need to secure the supply chain at the global level was epitomised by the G8 Kananaskis Summit in June 2002. The G8 leaders announced that they would work expeditiously, in cooperation with relevant international organisations, to develop and implement an improved global container security regime to identify and examine high-risk containers and ensure their in-transit integrity.² They also pledged to begin work expeditiously within the G8 and the WCO to require advance electronic information pertaining to containers as early as possible in the trade chain. Based on the US initiative, and spurred on by the Summit declaration, in June 2002 the WCO Council recognised the importance of enhanced supply chain security by using advance transmission of standardised customs data to identify those goods and conveyances that may pose a security risk. It therefore adopted a resolution creating a Task Force to develop guidelines necessary to secure and facilitate global trade for adoption by the WCO Council.

The Task Force was mandated to deliver a package of measures, which included three priorities to be completed by June 2003, namely:

- to re-examine the WCO Customs Data Model to ensure it includes a standardised dataset necessary to identify high-risk goods
- to develop guidelines to assist WCO Members in developing a legal basis and other necessary steps to enable the advance electronic transmission of customs data
- to develop guidelines for cooperative arrangements between WCO Members and private industry to increase supply chain security and facilitate the flow of international trade.

Data elements for risk assessment

Subsequently, the Task Force worked in close consultation with the trade and other international organisations to develop a package of measures. As a result, the list of essential data elements for identification of high-risk consignments, amounting to 27 data elements, was finalised and adopted by the WCO Council in 2003 to address the first priority. At the same time, the WCO Customs Data Model, aligned with the data elements contained in the above list, was adopted as version 1.

The Customs Data Model³ was originally initiated by the G7 in 1996 to standardise and reduce the data requirement by Customs across the G7 countries, and thereby improve the flow of goods across international borders and reduce costs and complexities associated with meeting government requirements. The Model was transferred to the WCO in February 2002 to broaden its application to the current 171 WCO Members. The WCO Customs Data Model defines common datasets and uniform electronic messages for the accomplishment of export and import formalities. This will be the maximum data requirements for the routine exchange of information between Customs and trade. In terms of supply chain security, the Customs Data Model provides a common platform for Customs-to-Customs and Customs-to-Business data exchange, enabling Customs to obtain advance cargo information. The Customs Data Model will be reviewed in a cycle of three years, and version 2 was approved by the WCO Council in June 2005. Currently, the work on version 3 is ongoing and efforts are also under way to enlarge its scope to include the data requirements by other government agencies which will support a Single Window environment.

Johannesburg Convention

As to the second priority, in order to provide the legal basis for the collection and exchange of advance cargo information at international level, in June 2003 the WCO Council adopted the International Convention on Mutual Administrative Assistance in Customs Matters (Johannesburg Convention).⁴ Based on the principles of a received request and of course reciprocity, the Convention facilitates customs cooperation by providing a legal basis for the exchange of information and provision of administrative assistance between Contracting Parties for the proper application of Customs laws. It also provides for the exchange of information in advance of the shipment of goods.

Integrated Supply Management Guidelines

Moreover, it was found necessary to develop new customs processes to enable customs administrations to obtain advance information from non-traditional sources, including producers and suppliers, earlier in the supply chain. After agreeing on the principles of the draft guidelines addressing this concern in June 2003, the WCO Council finalised and adopted in June 2004 the Customs Guidelines on Integrated Supply Chain Management (ISCM Guidelines).⁵ Since the supply chain consists of the physical origin-destination movement of the goods and the parallel movement of commercial data, it is essential for customs to receive the necessary information to perform risk assessments as early as possible in the global supply chain. The ISCM Guidelines provide implementation guidelines on who has to provide which information to whom for risk assessment, when and how the information has to be provided, used and protected, and what facilitation customs should provide to those security partners in the private sector.

In more detail, to achieve the objective of gaining the necessary time for risk management and to receive quality information, customs administrations throughout the supply chain should develop and agree on an integrated customs control chain, commencing at the time goods are being prepared for export by the exporter, and through the verification of consignment integrity, throughout the supply chain. To enable such an integrated customs control, Customs will have to agree bilaterally or multilaterally on customs control and risk management standards, the sharing of intelligence and risk profiles as well as the routine

exchange of customs data. This control system requires harmonised customs procedures, including a seal integrity program as detailed in the WCO Revised Kyoto Convention Guidelines, standardised data requirements as defined in the WCO Customs Data Model, and a Unique Consignment Reference (UCR)⁶ to establish an origin to destination information and documentation trail. As an integral part of the integrated customs control chain, the ISCM Guidelines outline the authorised supply chain concept under which all participants in an international trade transaction are approved by customs as observing specified standards in the secure handling of goods and relevant information, defined as Authorised Economic Operators (AEOs). In return, customs administrations should generally grant rapid release to AEOs. This concept is based on 'special procedures for Authorised persons', as defined in the Revised Kyoto Convention. In addition to the detailed description on integrated customs control procedures, the ISCM Guidelines specify data privacy and data protection, as well as the IT systems.

Additional measures

With regard to the third priority, in June 2003 the WCO Council adopted the High-Level Guidelines for Cooperative Arrangements between Members and Private Industry.

In addition to the Guidelines on the three priorities, in June 2003 the WCO Council adopted additional guidelines and recommendations which consist of a package of measures.

From guidelines to standards

Need for global implementation of security measures

As described above, the WCO has produced a package of measures, including legal, procedural and risk-assessment instruments to protect the supply chain at the early stage. These measures are essentially guidelines of a non-binding and voluntary nature. They can only become effective when customs administrations:

- agree on bilateral or multilateral arrangements
- have implemented the common guiding principles described in the Guidelines.

While significant progress has been made by some countries in implementing supply chain security and facilitation measures, WCO Members recognised the need for all members to introduce and apply such measures in accordance with their capability to enhance security at the global level. Various trade associations that participated in the Task Force meetings also demanded the establishment of international standards on supply chain security, rather than being faced with a plethora of national regulations and requirements in security which might not be compatible or consistent with each other. They suggested the swift implementation of measures required and the realisation of facilitation through efficiency gains.

Additionally, it was pointed out that it would be necessary to keep pace with the development of security measures by related transport and trade areas. In fact, international organisations in transport, such as the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO), have already taken initiatives to enhance transport security, in response to the call from the G8 and other stakeholders. The IMO has amended its 1974 Safety of Life at Sea (SOLAS) Convention, through the creation of an International Security Procedures (ISPS) Code,⁷ to enhance maritime security measures applicable to ships and port facilities, implemented in July 2004. The ISPS Code provides for a standardised framework to assess and address the risks, involving ships and ports, and the control and compliance measures are well defined for its implementation. This mandatory approach can be contrasted with the WCO's voluntary mechanism based on Guidelines.

Establishment of a High Level Strategic Group

In June 2004, the WCO Council considered this implementation aspect of supply chain security measures and decided to transform the guiding principles contained in the Guidelines into formal standards which can be implemented. Standards are considered to provide a normative nature to the guidelines, in that they should be adhered to by the stakeholders. They are expected to increase predictability, assurance and uniformity of approach for each participant in the supply chain and will therefore offer meaningful facilitation to those commercial entities applying the Standards.

Following these deliberations, in June 2004 the WCO Council created a High Level Strategic Group to prepare a WCO framework for the security and facilitation of global trade. The Group, which consisted of a small number of Customs Directors General, was assigned to build upon and consolidate the work of the Task Force. In this connection, capacity building was viewed as a critical aspect of any successful security regime for those administrations that have insufficient resources to successfully implement all security standards. Accordingly, the WCO Council decided to establish a Capacity Building Directorate to help members in need to achieve effective implementation.

SAFE Framework of Standards

Based on the subsequent work of the High Level Strategic Group, in June 2005 the WCO Council adopted the WCO Framework of Standards to Secure and Facilitate Global Trade, which was later referred to as the SAFE (security and facilitation in a global environment) Framework of Standards.⁸

Objectives

The SAFE Framework of Standards aims to enhance security and facilitation of global trade and improve customs operations. Modern customs principles include risk management, use of technology and a partnership with the trade. They are well developed by the WCO and are incorporated in the Revised Kyoto Convention, adopted by the WCO Council in 1999. Based on past efforts, the SAFE Framework of Standards further improves customs operations and addresses the security concern by expanding the customs focus to the entire trade supply chain and setting the necessary security requirements. Enhanced cooperation between customs administrations and strengthened Customs-to-Business partnerships are recognised as the key to achieve this goal. These Standards enable Customs to receive cargo information for security risk assessment as early as possible in the trade supply chain. This enables Customs to concentrate on a small percentage of cargo that poses a genuine security risk, while promoting the free and smooth flow of legitimate trade. Security and facilitation are thus combined as two sides of the same coin, because only efficient and effective Customs can meet these requirements. Moreover, the establishment of global standards will avoid an unnecessary burden on the trade as it obviates the risk of different sets of requirements by different customs administrations and improves coordination with other governmental agencies. In this way, the new WCO Standards will enhance the role, functions and capabilities of Customs to meet the challenges and opportunities of the 21st Century. This feature will help governments to improve revenue collection and the proper application of laws and regulations to protect society while continuing trade facilitation efforts, thereby contributing to economic and social development.

Content

In substance, the WCO SAFE Framework consists of the following four core elements:

- harmonisation of the electronic cargo information requirements by Customs
- a consistent risk management approach
- an outbound inspection of high-risk cargo, preferably using non-intrusive detection equipment, at the reasonable request of the receiving nation
- partnership with trade.

These core elements are achieved through the two-pillar approach: Customs-to-Customs network arrangements and Customs-to-Business partnerships. The first pillar encourages cooperation among customs administrations on the basis of common and accepted standards to facilitate the use of advance electronic information to identify high-risk cargo. The second pillar encourages the establishment of Customs-to-Business partnerships by enabling customs to identify businesses with a high degree of security guarantees as Authorised Economic Operators (AEOs).

Pillars

Pillar one: Customs-to-Customs

The first pillar on Customs-to-Customs network arrangements consists of the following eleven standards, many of which are accompanied by technical specifications with reference to the available WCO tools (attached as Annex 1 to the Framework):

- Standard 1 provides for the use of ISCM guidelines, which is supported by technical specifications that outline the requirements for the submission of data and the Authorised Supply Chain. The former requirements include the list of standardised data elements for assessing security risk as well as the time limit for their submission.
- Standard 2 provides for the customs authority to inspect outbound, inbound, transit and transshipment cargo.
- Standard 3 provides for the use of modern technology in inspection equipment, such as large-scale X-ray machines and radiation detectors.
- Standard 4 provides for the establishment of risk management systems, including automated selective systems.
- Standard 5 provides for the identification of high-risk cargo or containers.
- Standard 6 provides for advance electronic information in time for risk assessment, supported by information and communication technologies, as outlined in the Revised Kyoto Convention Guidelines and other WCO tools.
- Standard 7 provides for joint targeting and screening based on standardised criteria and information exchange, which will lead to mutual recognition of control between customs administrations.
- Standard 8 provides for the maintenance of reports of customs performance, to be compiled by the WCO.
- Standard 9 provides for cooperation with other competent authorities to identify security gaps.
- Standard 10 provides for employee integrity of customs and other competent authorities, based on the WCO Revised Arusha Declaration, which contains the guiding principles to establish anti-corruption systems.
- Standard 11 provides for the conduct of outbound security inspection of high-risk cargo at the reasonable request of the importing country.

As described above, the eleven Standards, together with their technical specifications, outline the basic and common requirements for enhanced risk management, using advance electronic information. They are the basis for future customs cooperation to ensure security and facilitation of global trade. It is therefore important to improve the competencies of customs administrations through capacity building to assure the compatibility of customs systems in the global supply chain. This should lead to mutual recognition of customs control, upon which customs cooperation should be further developed.

Pillar two: Customs-to-Business

The second pillar on Customs-to-Business partnerships consists of the following six standards, each accompanied by technical standards (attached as Annex 2 to the Framework):

- Standard 1 provides for the partnership program with AEOs who will carry out a self-assessment to ensure security in their business model.

- Standard 2 provides for the incorporation of pre-determined security best practice into the business practice of AEOs.
- Standard 3 provides for the validation and accreditation process of AEOs.
- Standard 4 provides for the encouraged use by AEOs of more advanced technologies to maintain cargo and container integrity.
- Standard 5 provides for Customs-to-Business communication to promote security.
- Standard 6 provides for the joint efforts of Customs and AEOs to maximise security and facilitation.

As described above, the six Standards focus on the identification of private businesses that offer a high degree of security guarantees with respect to their role in the supply chain as AEOs. To the extent that Customs can rely on its partners in the trade community to evaluate and address threats to their own supply chain, the risk confronting Customs is reduced. Therefore it is essential to define the tangible benefits that the AEOs reap from their status. These benefits should include quicker cargo through customs with reduced examination rate and priority clearance in case of trade disruption or high security threats.

Implementation issues

When the WCO Council adopted the SAFE Framework in June 2005, it adopted the Resolution on the Framework of Standards, resolving that Members should notify the WCO of their intention to implement the Framework. A vast majority of WCO Members expressed their intention to begin the process of implementing the Framework. In fact, within three months of the adoption of the Framework, 90 members signed the letter of intent to implement the Framework and 25 EU members also indicated that they would apply the Framework. To date, 147 WCO Members have expressed their intention to implement the Framework.

Authorised Economic Operator (AEO)

In recognition of the urgency to launch the new AEO program, the WCO Council directed the High Level Strategic Group to develop more detailed implementation provisions for the AEO concept, in close consultation with business. A Private Sector Consultative Group comprising 30 business members was established to advise the WCO on implementation of the Framework, including the development of AEO Guidelines. Based on the work of both groups, in 2006 the WCO Council adopted the AEO Guidelines that provide technical guidance on the implementation of AEO programs at global level. Incorporated in the Framework, they are designed to serve as a starting point for national AEO program implementation and support the effective application of the Standards outlined in Pillar two (Customs-to-Business partnerships) of the Framework. It sets the conditions and requirements for Customs and the AEO, benefits to the AEO, as well as validation and authorisation procedures. There are already several AEO programs that have been launched at national and Economic Union level.

Mutual recognition

The Resolution of the SAFE Framework of Standards that the WCO Council adopted in June 2005 calls upon customs administrations to work with each other to develop mechanisms for mutual recognition of AEO validation/authorisation and customs control results, in order to eliminate or reduce redundant and duplicated efforts. Mutual recognition is a concept whereby an action or a decision taken or an authorisation that has been properly granted by one customs administration is recognised and accepted by another customs administration. The standardised approach to AEO authorisation, as outlined in the AEO Guidelines, provides a solid platform for developing an international system of mutual recognition of AEO status at bilateral, sub-regional, regional, and in the future, global level. Mutual recognition is an essential element for consideration in developing a national AEO program. It is expected that bilateral,

sub-regional and regional initiatives under development will gradually pave the way for a global system of mutual recognition of AEO status, although it will require some time to accomplish along with the phased approach of implementing the Framework. Likewise, mutual recognition of customs controls presents a challenge to customs administrations, as it involves relatively new measures, such as routine sharing of information and control results. WCO Members are encouraged to use WCO forums to share reports of pilot projects and progress made towards the goal of mutual recognition.

Capacity building

The June 2005 Resolution also suggests that WCO Members implement the Framework in a progressively ‘phased approach’, in accordance with each administration’s capacity and necessary legislative authority. In this respect, customs capacity building is of prime importance because the implementation of the Framework requires necessary improvements in customs capabilities and integrity to provide a comprehensive framework for global trade security. The WCO established its Capacity Building Directorate in 2006 and launched the Columbus Program to support its members in their implementation of the Framework. The Columbus Program consists of three phases: diagnosis (Phase One), Implementation (Phase Two) and Monitoring (Phase Three). At Phase One, the WCO diagnostic team will help each member in need to produce a country report showing the current situation, a gap analysis and recommendations. During Phase Two, the WCO will help members implement the recommendations included in the country reports, including action planning and donor coordination. Whilst in Phase Three, the WCO will help members monitor and assess their progress. The WCO has almost completed Phase One and has provided assistance to more than 100 members in producing country diagnostic reports. Based on these diagnostic missions, the WCO Secretariat drafted the WCO Trends and Patterns Report which identifies implementation challenges for the SAFE Framework and presented this Report to the WCO Council in June 2007.⁹ Now, the focus of the Columbus Program is shifting to Phase Two.

Integrated Border Management

Finally, it is important to note that Customs has to involve other border agencies to ensure and improve integrated border management and control. In this connection, the WCO has been working in cooperation with other international organisations – including the United Nations, IMO, ICAO, and ISO – as Customs is only one part of the trade supply chain. It is therefore essential to strengthen partnerships with all stakeholders to achieve the common goal of supply chain security. The WCO SAFE Framework of Standards, together with other international standards, will provide an excellent opportunity for all major players in the supply chain to develop best practices for facilitated and seamless movement of goods in a transparent and secure transaction environment.

Conclusions

The WCO SAFE Framework of Standards provides a structured framework for Customs and business to secure the international supply chain and facilitate the movement of legitimate trade. It will enable Customs and business to gain better insight into the supply chain from point of origin to the arrival of cargo for customs clearance purposes. A more secure supply chain will increase transparency and predictability of the movement of goods and reduce the opportunity for theft and pilferage too. This will act as a deterrent to potential terrorist threats, trans-national organised crime and smuggling whilst protecting revenue collection. In order to realise this global trade scheme of the 21st Century, customs administrations around the world will have to work in partnership with the business community and other stakeholders. It is only through commitment, dialogue and close cooperation between all role-players that we will be able to jointly address the issues associated with supply chain security.

Endnotes

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Kunio Mikuriya



Kunio Mikuriya had spent 25 years with Japan's Ministry of Finance before he was elected Deputy Secretary General of the WCO in June 2001 and 2006. He has been leading an effort to promote Customs' role in securing and facilitating global trade and co-ordinate the work of the WCO Secretariat with other international organisations such as the WTO and the World Bank.

AUTHORISED ECONOMIC OPERATOR (AEO) PROGRAMS: IBM'S PERSPECTIVE

Theo Fletcher

Abstract

Globalisation is placing new demands on today's corporate leaders. As organisations continue to expand and operate in a global economy, companies face an increasingly dynamic environment prone to risk. IBM believes that the continued threat of global terrorism requires companies to secure assets as they move through the supply chain, and that the cooperative approach among those involved in the supply chain as contemplated by Authorised Economic Operator (AEO) programs is the right approach for strengthening overall supply chain security. Corporations can demonstrate their leadership by investing in security that protects their supply chain while providing a competitive advantage.

IBM's perspective

Being a large, globally integrated enterprise that conducts business in 170 countries around the world doesn't come without a certain level of risk. To reduce and potentially eliminate this risk, and recognising the value and importance of government and industry partnerships, it has been IBM's strategy from the very beginning to partner with academia and governments to solve this common problem collaboratively. Within IBM, supply chain security is not just viewed as a cost of doing business, it is a competitive differentiator. Companies that understand this will lead in this new 'flat' global business environment. For companies to succeed they need to be resilient and agile, to mitigate risks and to understand and plan for a broader set of possible supply chain disruptions or risk losing customers that have more options today than ever before. IBM's participation in supply chain security programs is part of the company's holistic approach to mitigating risk and maintaining a globally integrated supply chain.

Many acknowledge the critical role that industry plays in securing individual supply chains. IBM encourages industry to take its supply chain security game to the next level by playing an active role in shaping security and trade facilitation initiatives worldwide. Industry leaders have a unique perspective and experience that can be leveraged by governments to achieve desired security goals without imposing onerous mandates that stifle competitiveness. Both security and trade facilitation can be achieved through mutually beneficial government/industry partnerships – partnerships that deliver meaningful, measurable business benefits to both parties.

Within IBM, *supply chain security* is defined as protecting products, facilities, equipment, information, and personnel from theft, damage, or terrorism, and preventing the introduction into the supply chain of unauthorised people, contraband, or weapons of mass destruction or effect. Such weapons, for example, are capable of inflicting grave destructive, psychological and/or economic damage, and include chemical, biological, nuclear, radiological, or explosive weapons.

IBM's definition of *trade facilitation* is the enhancement of supply chain efficiency and predictability by reducing supply chain costs related to customs clearance time, inspections, and inefficient or country-unique customs processes. Supply chain security and trade facilitation are not viewed by IBM as mutually exclusive – indeed, we believe that trade facilitation should be one of many benefits bestowed upon companies that have demonstrated good supply chain security.

Industry outreach: A little help from our friends

From the outset, customs officials envisioned supply chain security partnership programs that begin at the point of origin of the goods – well beyond the limits of their regulatory reach. Collaboration, at the corporate level, was a necessity. Unlike governments, companies *could* require their suppliers and business partners to meet security requirements globally. To accomplish their goal, Customs partnered with industry to create voluntary supply chain security programs that provide benefits to both the government and trade participants.

In June 2005, the World Customs Organization (WCO) enhanced global security by unanimously adopting the Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework), a global strategy for safeguarding supply chains and facilitating trade. The SAFE Framework seeks to reduce complexity and country-unique requirements by establishing a common set of supply chain security and customs standards. The SAFE Framework incorporates the concept of the Authorised Economic Operator (AEO), that is, parties involved in international trade (for example, importers, exporters, carriers, manufacturers, warehouse keepers, freight forwarders) that have implemented required security measures and ‘Best Practices’. AEOs receive benefits such as reduced risk-targeting assessments and inspections, and expedited processing of their goods by Customs in return for their security investments. In June 2006, the WCO adopted the international guidelines for Authorised Economic Operator (AEO) status. Over 140 WCO members have indicated their intention to implement the SAFE Framework. Under the Columbus Programme, the WCO has completed over 100 capacity-building diagnostic missions to determine the needs of the local customs organisation in order to implement the SAFE Framework. It has also provided an opportunity for Customs and industry representatives in some countries to share their supply chain security and trade facilitation goals and concerns in a non-confrontational arena.

IBM and other global corporations have publicly advocated international supply chain security programs that implement a common, global set of supply chain security measures via voluntary programs. Establishing common requirements across numerous countries represents a significant efficiency opportunity that is a key benefit to global corporations. Common requirements also facilitate mutual recognition of supply chain security programs – another key benefit to participants and Customs alike.

IBM’s AEO pilot program experiences: Let’s talk!

Security has always been an area of major focus within IBM and the company has undertaken numerous initiatives to strengthen its supply chain and those of its suppliers – none more important than working with governments and customs organisations worldwide to develop and implement new security programs. IBM was one of the first companies to participate in the US Customs-Trade Partnership Against Terrorism (C-TPAT) program and the Canada Border Services Agency (CBSA) Partners in Protection (PIP) initiative.

IBM’s AEO experience has taught us four things. First, the threat of terrorism is a global threat. Terrorists are seeking economic targets like corporations, putting all business at risk – large and small. Second, supply chain security is end-to-end. It’s a partnership. Everyone stands to gain and everyone stands to lose. Any gaps or deficiencies will affect all of us, not just some of us. Every hand off needs to be secure throughout the supply chain – not just the last hand off. Supply chain security isn’t only for large global companies. Companies of all sizes must step up.

Third, security investments represent a competitive advantage. Recent research completed by Massachusetts Institute of Technology (MIT) and Stanford University indicates that innovative leaders in supply chain security have received key benefits from their security investments, including increased efficiency, improved asset visibility, enhanced supply chain resiliency, and better inventory management and customer relations. Fourth, a lot of supply chain security work is under way globally at the WCO and within many customs organisations. IBM strongly encourages companies to participate in AEO programs and partner with Customs and industry to help secure the global supply chain upon which we all depend.

Earlier this year, IBM participated in pilot AEO programs in Singapore and Australia that were based on the WCO SAFE Framework and AEO Guidelines. Customs in both countries embraced the opportunity to *engage* industry in planning the implementation of their AEO programs versus *delivering* AEO programs developed without input from the trade. Focus group meetings were held with national and multinational companies of all sizes and from many industries – sessions in which companies could share questions, concerns, and AEO experiences with each other as well as with Customs. Any proposed country-unique requirements were discussed and ultimately, revised to be consistent with the SAFE Framework or categorised as a ‘Best Practice’. Eliminating country-unique AEO requirements is key to industry, as these requirements drive ‘one-off’ procedures that add complexity and implementation costs, and potentially endanger mutual recognition by other countries.

Currently, member countries of the European Union (EU) are establishing their AEO programs consistent with the recent European Commission AEO regulations. Innovative companies that recognise the benefits of early program participation are now meeting with customs authorities and preparing their EU AEO applications.

Getting ready for AEO: IBM’s Lessons Learned

IBM strives to learn and apply our ‘Lessons Learned’ as we prepare for new AEO programs. Comparing our AEO experiences with those of other companies leads us to appreciate the executive support IBM’s supply chain security has received. The best efforts to implement global supply chain security measures will be challenging, at best, if executive team support is lacking. Completing partnership applications and security profiles requires internal collaboration of multiple internal stakeholders, detailed review of procedures and practices, and true collaboration with supply chain partners. Knowing your executive team is backing your efforts is critical to your success.

Continual awareness education, process review and improvement are key to avoid complacency and to assure that new threats can be properly mitigated. Internal controls or processes that were a ‘Best Practice’ three years ago may be considered a supply chain security standard by Customs today. AEOs must be able to demonstrate proof of process execution – both within their enterprise and by their trading partners.

IBM’s AEO validation meetings have been a two-way learning experience. Both Customs and IBM have openly discussed vexing issues and shared industry ‘Best Practices’. The voluntary nature of AEO partnerships promotes stronger relationships and open communication and enables the flexibility needed to adapt programs quickly.

AEO benefits for Industry and Customs

Like IBM, many companies have implemented security measures to prevent theft, deter illegal access to facilities, or protect intellectual capital. However, as companies evolve from traditional asset protection to end-to-end supply chain security, additional security investments are likely to be required. Regardless of size, companies have limited resources and many AEOs want their benefits to be commensurate with their level of investment. The ability to demonstrate collateral (indirect) or direct benefits to your executives will justify past expenditures and will facilitate future security investment requests – a challenge in an area where ‘nothing happened’ justifies further investment.

Customs acknowledges the need to provide business benefits to AEOs who have made supply chain security investments and some research is under way. IBM commissioned white papers from the Massachusetts Institute of Technology (MIT) and Stanford University to capture and quantify the business benefits companies have realised from their supply chain security investments. These studies provided some important insight regarding both collateral (indirect) and direct benefits that resulted from security

investments, but IBM strongly encourages Customs organisations to regularly report quantified benefits to AEO participants. Quantified benefits from an external source can be an invaluable confirmation of investment pay-back.

AEO benefits with the highest significance to IBM include its basis on common, global standards, the voluntary nature of AEO programs, and its collaborative partnership where both parties make investments and receive business benefits relative to those investments. Adoption of common AEO requirements by Customs prevents conflicting requirements and unnecessary inefficiencies in a global supply chain. The voluntary status of AEO programs is crucial to maintain the ability to implement security measures based upon risk assessments versus rigid regulatory requirements. AEO participants employ diverse business models throughout their global supply chains, and programs need to recognise that ‘one size does not fit all’ environments. Voluntary programs encourage collaboration with Customs and allow for flexibility of security policies and procedures that would not be possible under a regulated program.

In exchange for industry investments that improve the security of shipments, Customs organisations in many countries have agreed to provide prioritised cargo processing and release, reduced cargo inspections and ‘head of the line’ priority use of non-intrusive inspection techniques when examination is required. Such measures will decrease cycle time, increase supply chain predictability and potentially lower storage expenses while facilitating on-time deliveries and customer satisfaction.

In some countries, Customs may provide access to the name and contact information of other AEO participant companies (with their prior consent) that will facilitate verifying program participation by trading partners. AEO program participation is a key selection criterion for many companies when selecting new or assessing current suppliers. Customs may also offer AEO participants first consideration when new cargo processing or trade facilitation programs (for example, Accredited Client Programs) are announced, thus acknowledging company internal controls while focusing customs’ resources on less known entities.

Consideration of a company’s AEO status when threat levels are elevated or prioritisation of an AEO’s exports when business is resumed at ports following an incident provides a competitive advantage and enhances business continuity. For companies whose shipments are rarely inspected, business resumption benefits represent valuable incentives for AEO participation.

Finally, AEO programs established under the SAFE Framework provide mutual recognition – where Customs in one country ‘recognises’ and provides benefits based upon a company’s AEO status in another country. Common requirements and mutual recognition are important concepts for a global economy, as they drive supply chain efficiencies and reduce administrative burdens for companies that do business in many countries. For Customs organisations, uniform criteria and consistent risk management guidelines facilitate mutual recognition and eliminate the need to conduct onsite validations in every country in which the AEO applicant conducts business.

Next steps: What you can do

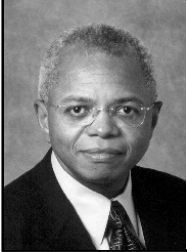
Industry needs to take the lead in shaping the future direction of supply chain security. It’s our supply chains that will be affected in the event of a terrorist act and it’s our supply chains that will be slowed by inefficient, onerous government mandates. Industry leaders need to actively collaborate with governments to balance supply chain security and trade facilitation by implementing common, global security and customs declaration data requirements, and by encouraging their trading partners to participate in AEO programs that provide business benefits.

Governments need to realise that AEO programs represent an opportunity to form valuable partnerships with industry. Governments can accelerate the implementation of the SAFE Framework by establishing joint government-industry consultation groups that can help drive AEO program participation. Customs

should start AEO pilot programs with major trading countries and openly collaborate with your trusted industry partners.

In today's global economy, companies locate their operations based on the right cost, the right skills, and the right business environment. Countries that develop secure, efficient cross-border processes that allow businesses to reduce costs will thrive.

Theo Fletcher



Theo Fletcher is the Vice President of Import Compliance and Supply Chain Security for IBM Corporation. In this role, he is responsible globally for establishing the relationships with government officials and internal processes necessary to ensure the efficient, compliant and secure importing of IBM's goods into over 160 countries where IBM conducts business.

AUSTRALIAN CUSTOMS SERVICE: WORKING TO IMPROVE FACILITATION OF INTERNATIONAL TRADE AND THE SECURITY OF THE SUPPLY CHAIN WITHIN THE APEC REGION

Andrew Hosking

Abstract

Australian industry involved in international trade wants predictability, speed and efficiency in the movement of cargo. If industry's legitimate expectations are unreasonably compromised community support will be lost. In meeting the needs of industry, the challenges faced by any customs administration in the 21st century are multi-faceted, however the fundamental role is community protection, and to prevent prohibited, harmful or illegal goods or people from entering their economy.

Australian Customs is actively pursuing improvements in the facilitation of international trade, the security of the supply chain and community protection through major initiatives and implementation strategies consistent with the World Customs Organization's (WCO) Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework of Standards).

Authorised Economic Operator (AEO)

In response to international developments in supply chain security, Australian Customs has established an Authorised Economic Operator (AEO) pilot program based on the model provided by the World Customs Organization (WCO), through the adoption of the WCO's Framework of Standards to Secure and Facilitate Global Trade, known as the 'SAFE Framework of Standards' or 'SAFE Framework'.

In late 2006, five companies agreed to work in collaboration with Australian Customs to assist in testing the foundations of an operational AEO program and to explore future opportunities for trade facilitation built on a platform of security conformance.

As part of the AEO pilot program, Australia and New Zealand have agreed to collaborate with the trading community to look at how a Trans-Tasman Supply Chain Security arrangement, and the mutual recognition of an AEO, can be turned into a reality.

Asia-Pacific Economic Cooperation (APEC) Sub-Committee on Customs Procedures Single Window Working Group

The Asia-Pacific Economic Cooperation (APEC) Sub-Committee on Customs Procedures (SCCP) Single Window Working Group (SWWG) was chaired by Australian Customs for the APEC 2007 meetings.

The SWWG has developed a single window ‘Strategic Plan’ and a single window ‘Development Report’ incorporating contributions from all 21 APEC economies. The involvement by all 21 APEC economies is indicative of the importance that economies at all stages of development are placing on building single windows to facilitate trade.

The initiative builds upon solid work that Association of Southeast Asian Nations (ASEAN) countries have undertaken in developing the ASEAN Single Window and that organisations such as the World Customs Organization and United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) have completed in setting relevant international standards. The challenge for all APEC economies now is to move forward from the ‘Strategic Plan’ and prepare a roadmap and implementation plan to achieve the single window vision.

Australian International Trade Single Window

The International Trade Cluster (ITC) was the Australian Customs-led component of the Standard Business Reporting (SBR) Program led by Treasury. The program is in response to the report ‘Rethinking Regulation: Report of the Taskforce on Reducing Regulatory Burdens on Business’ (known as the ‘Banks Report’) submitted to the Government on 31 January 2006.

The ITC was established on the preliminary work of the Australian Customs-led Standardised Data Set (SDS) that established that over 41 agencies directly collect trade-related data from industry. The SDS, a precursor to the development of any single window functionality, demonstrated the potential to develop a harmonised international trade data standard to enable the linking of trade data across government and industry, and to facilitate data reuse and pre-population. The SDS is based on the World Customs Organization (WCO) Data Model and the United Nations Trade Data Elements Directory (UNTDDED).

The SBR program objective was to measurably reduce the regulatory reporting burden of industry through the elimination of duplicated data entry and by maximising the re-use of information across government agencies.

As a result and consistent with Australia’s commitment to implement the SAFE Framework of Standards, Australian Customs has formed an International Trade Single Window (ITSW) Project team to research and consider global electronic trade initiatives and investigate current projects to assist in the preparation of an electronic trade vision and strategy paper. The paper will examine ways to position Australia and Australian businesses to take advantage of emerging global trends. Underpinning this ‘vision’ paper, Australian Customs will conduct several proof-of-concept trials that will provide practical outcomes for Government and propose development options for the future.

Given this environment and with the concept of ‘reducing reporting burden’ at the forefront of the strategic development, Australian Customs will work together with other trade-related Government agencies, overseas Customs administrations and interested industry representatives to test electronic trade processes based on the use of international data standards. The results of this activity and the outcomes of a number of other pilot projects currently under way, will directly inform and impact on the vision and strategy development.

Conclusions

These initiatives involve cooperative arrangements between customs administrations and other government agencies involved in international trade. They aim to facilitate the seamless transfer of international trade data and to exchange risk intelligence at both the domestic and international level. This will allow the importer or exporter (or agent) to electronically submit the required information once (the international trade single window concept) to a single designated authority (in Australia, this would be Australian Customs) while at the same time securing the supply chain.

Australian Customs and the international trading community in Australia are well advanced with regard to the first three core elements of the SAFE Framework of Standards, that is, advanced electronic cargo reporting, application of risk management, and non-intrusive examination of cargo.

Our focus is now on developing partnership arrangements between Customs and the business sector to support supply chain security. In addressing implementation of the SAFE Framework of Standards, Australian Customs is ensuring the Australian AEO program achieves the complementary goals of improving security over international trade while at the same time facilitating the legitimate movement of goods.

The success of the initiatives is reliant on the recognition that these complementary goals can only be achieved through cooperative arrangements between government and industry. Trade in the APEC region continues to grow and Australia's geographic location as an island nation poses particular challenges in managing the security of the supply chain. Supply chain security is and must remain a joint responsibility between the government and the operator.

Australian Customs recognises the opportunity that is created by working more closely with other customs administrations. It encourages the sharing of information between administrations as a key facilitator in customs services around the world delivering on their mandate to facilitate legitimate trade while maintaining border security.

Andrew Hosking

Andrew Hosking is currently National Manager for the International Trade Single Window Branch with Australian Customs in Canberra. He has been with Customs for 34 years and has worked in a range of areas in Canberra including in Human Resources, Tariff and the ACT Sub-Collectorate, as well as in Investigations in Sydney, before heading abroad as the Senior Australian Customs Representative in Washington, DC in the early 1990s. Subsequently, he began a posting with the US Department of the Interior, based in San Francisco, as the Australian Customs Liaison Officer before returning to Australia in 1996. Since his return to Australia, Andrew has worked in Sydney in Commercial Compliance, Exports and Compliance Assurance prior to a move to Cairns in 2004 as Director Regional Queensland. Andrew returned to Canberra in early 2007 as National Manager Trade Policy and Regulation prior to his current engagement. Andrew has a Master of Management from the Macquarie Graduate School of Management.

SINGAPORE'S SUPPLY CHAIN SECURITY PROGRAM

Supply Chain Security Branch, Singapore Customs

Abstract

Singapore Customs is one of the first countries in the world to implement a national supply chain security program, Secure Trade Partnership (STP). The goal is to raise the level of supply chain security by creating awareness of the importance of adopting a total supply chain approach to cargo security, with companies encouraged to play their part in securing their own processes within supply chains. It is envisaged that this would enhance the security of global supply chains and prevent disruptions to the smooth flow of goods, and in turn, raise Singapore's profile as a secure trading hub. Certification of companies under the STP program is voluntary, however, eight companies have achieved certification and others are working with Singapore Customs to enhance their existing security practices. Closer cooperation with and between countries to achieve robust supply chain security programs will facilitate the movement of goods of certified companies across international borders, and ensure the smooth and efficient flow of trade even during times of greater security risk.

Introduction

Located at one of the major crossroads of the world, Singapore's strategic location and excellent network of connectivity have made us a compelling global logistics hub and supply chain management nerve centre. About 3,000 international and local logistics and supply chain management companies operate in Singapore. We are the world's largest container port. Some 200 different shipping lines have daily sailings to every major port of the world. We are also one of Asia's largest cargo airports. Eighty-three scheduled airlines are operating out of our Changi Airport with more than 4,000 flights per week. Seventeen out of the world's top 25 third-party logistics (3PLs) have a substantial presence here. Singapore, therefore, is heavily dependent on international trade for our economic survival and growth.

Total Supply Chain Security

In today's globalised world, countries and businesses are increasingly interconnected and interdependent. The traditional production process of many goods has been totally transformed. Raw materials originating from multiple locations are brought to manufacturing facilities in other locations to be processed. The products are further assembled and repackaged in yet other locations, and the finished goods are then distributed all over the world. The entire process typically involves multiple border crossings, spanning many countries. As a result, the robustness of the global supply chain has become critical for international trade.

Along with globalisation, supply chains are also becoming increasingly complex, rendering them vulnerable to security breaches and disruptions. Any major disruption in the global supply chain would have serious consequences on international trade, shaking the economic confidence of many countries.

It is not enough for a single country or a single port or border checkpoint to be secured. The supply chain is only as strong as its weakest link. Given that cargo supply chains are highly interconnected and complex, and involve multiple players, we believe that each and every player along the supply chain — from the point of origin to the point of final destination — should take responsibility for securing their part of the supply chain to achieve total supply chain security. These players include both the public and private sectors.

It is heartening to note that many countries around the world have taken up the challenge to implement or are implementing their own national supply chain security initiatives. Through such supply chain security programs, all players along the supply chain would be able to enjoy greater confidence and assurance of the predictability of supply. With every player taking responsibility for their part, trade can continue to flow even in times of a security alert.

As a key player in the global supply chain, Singapore is one of first few countries in the world to have implemented a national supply chain security program, called the **Secure Trade Partnership (STP)** and designed to raise the overall level of supply chain security standards in Singapore. The STP will ensure that we are not just an efficient and connected port, but also a safe and secure trading hub.

The Secure Trade Partnership (STP) Program

Singapore Customs launched our STP program on 25 May 2007. It is a voluntary certification program that encourages companies to adopt robust security measures in their trading operations. This program has been developed in line with the WCO Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework). It recognises companies that offer a high degree of security in the supply chain.

Through the program, Singapore Customs seeks to:

- create awareness of the importance of adopting a total supply chain approach to cargo security
- encourage companies to play their part in securing their own processes within supply chains
- enhance the security of global supply chains and prevent disruptions to the smooth flow of goods
- profile Singapore as a secure trading hub.

The STP program is open to companies in Singapore that are involved in supply chain activities. It spells out a set of security guidelines which the players in each node of the supply chain should seek to achieve to enhance the security of their operations. The guidelines are meant to help the various players to identify and focus on any security gaps in their overall operations so that they can undertake the necessary measures to plug the gaps. This would raise the level of security for their operations and provide their customers with the assurance that their operations are safe and reliable. The STP also seeks to leverage other security programs and industry best practices, and build partnerships to strengthen the global supply chains.

Singapore Customs administers a validation and certification process to certify companies that wish to participate in the STP. Certified companies under the STP would be viewed as trusted partners of Singapore Customs and enjoy trade facilitation benefits.

A pioneering group of eight companies has been certified at the launch of the STP and Singapore Customs is currently working with other companies to enhance their existing security practices.

Trade recovery

In the event of a security breach or disruption to the supply chain despite the preventive measures, actions need to be taken to address the resumption of trade and infrastructure repair.

Singapore has been instrumental in promoting the concept of developing a program within the Asia Pacific region to facilitate recovery of trade in the event of a terrorist attack. This trade recovery program advocates adopting a risk management approach in responding to an attack, taking into consideration the need to balance security requirements and the need to keep trade flowing. It also recognises that unilateral piecemeal efforts, such as placing the onus of security checks on only one or two nodes in the supply chain (for instance, at the ports or border checkpoints), could be counter-productive. The program will help prepare economies to respond to disruptions by providing a framework for coordination to facilitate the resumption of the flow of trade. Economies that are ready to participate have been encouraged to explore pilot projects as early adopters.

Mutual recognition arrangement

Besides implementing supply chain security programs at the national level, close collaboration between countries will be necessary to ensure the security of the entire supply chain. Singapore Customs has been talking with other customs administrations to explore possible mutual recognition of our supply chain security programs. This mutual recognition of each other's programs will further facilitate movement of goods of certified companies across international borders. We believe that it is only through such collaboration on mutual recognition, as well as participation in the trade recovery program, that the likelihood of trade disruptions would be minimised.

Conclusions

Given Singapore's heavy reliance on international trade, we are committed to play our part in securing the global supply chain. However, for the entire chain to be secured, every node along the supply chain must play its part. Businesses and governments must also work together to achieve the common goal of securing the supply chain. It is only through such collaboration that trade can continue to flow smoothly and efficiently even during times of greater security risk.

THE GENESIS OF THE US C-TPAT PROGRAM: LESSONS LEARNED AND EARNED BY THE GOVERNMENT AND TRADE

Michael D Laden

Abstract

The US Customs-Trade Partnership Against Terrorism (C-TPAT) program is nearly six years old and is hailed as the single most important and successful public and private partnership ever created in the US. The insightful lessons learned in designing, implementing and maintaining this critical supply chain security program are discussed.

Today, as the European Union moves to implement Authorised Economic Operator (AEO) programs, and other signatories to the World Customs Organization's Framework of Standards to Secure and Facilitate Global Trade, (the 'SAFE Framework of Standards' or 'SAFE Framework') develop regimes for their supply chain security programs, they might stop to consider some of the important points raised in this paper.

Prologue

I have often been accused of being overly enamoured of my friends at US Customs & Border Protection (CBP). The fact is, however, that I have a love/hate relationship with the US agency charged with collecting duties and securing trade. They are an agency of enigmas. One moment they can go out of their way to accommodate a 'hot' shipment or utilise common sense on a particularly complex issue and thus prove themselves adept at trade facilitation. At the same time, they also have a reputation for making processes unnecessarily complex and can be overly aggressive in their enforcement tactics. Truth be known, the professionals at CBP are my friends and I have worked with some of them my entire career. So, while I might be critical of them at times (call it tough love, perhaps), I have always made myself available if they ever needed my help.

On September 10, 2001, I had responsibility for the second largest retail import supply chain in the US market, moving more than 300,000 forty-foot containers annually from 84 countries. My employer at the time, a US 50 billion dollar Fortune 100 company, encouraged a culture of innovative collaboration to solve difficult problems. As part of my commitment to service, I was also honoured to hold a position on the Commercial Operations Advisory Committee (COAC), a 20-member advisory committee mandated by Congress and (at the time) appointed by the Secretary of the Treasury. I also was privileged and fortunate to have forged important relationships with a number of influential US trade associations, among them the American Exporters and Importers Association (AAEI), and the Business Alliance for Customs Modernization (BACM).

On September 11, 2001, the landscape of global trade changed forever. Shortly after the personal numbness of watching the looped video of planes hitting the World Trade Centers in New York wore off, I began to contemplate what these events meant for global supply chains and international trade in general. My heart went out to my friends at Customs who were suddenly working extraordinarily long shifts and struggling with serious operational issues at the borders. The US Customs Service had moved to the highest level of alert in their history: **Alert One**.

In the days immediately following 9/11, I reached out to the Assistant Commissioner of Field Operations at CBP, a bright, sensible, yet tough lady named Bonni Tischler (who would later pass away at an age much too early). In part, my e-mail to her stated, 'From my platform in private industry, as a COAC member, or as an ordinary citizen, if there is anything I can do to help, please do not hesitate to contact me'. Within twenty minutes of sending that e-mail, my phone rang.

And so began the project of building what is hailed in the US today as the single most successful private and public partnership ever created. There are important lessons to be learned on both sides from this experience. In this paper I will share and discuss some of those revelations.

Background

The legacy US Customs Service was founded in 1789 as one of the first acts of a newly formed US Congress. It is a proud and dedicated agency of the Federal Government, steeped in tradition. Tasked with the customary responsibilities of determining admissibility, protecting and collecting revenue, processing passenger and commercial traffic, detecting contraband and fraud, over the years the customs service grew with the globalisation of the world economy and given the US penchant for imports. Another contributor to growth within the customs service was the expanding influence and proliferation of the criminal element that were continually looking for ways to exploit the system to import contraband or otherwise evade the intricate laws governing trade to commit commercial fraud.

In the US, the Commissioner of Customs is a position appointed by, and serving at the pleasure of, the President. Of course each Commissioner brings a different perspective to the position and, over the years, the enforcement pendulum has swung both ways. In the late eighties and early nineties the US trade community had an adversarial relationship with the US Customs Service. It was also during this period, however, that Customs adopted a leadership position in forcing the trade to automate trade processes. In fact the *exact* words used by then Customs Commissioner William von Raab to the trade were, 'Automate or perish'. Customs, much to their credit, had been reviewing trends and trade data and could see that US trade was on the verge of a period of volatile growth. Customs was a visionary then, just as they are today in finding unique ways to protect and secure the US homeland. In my humble opinion they are the most forward-looking and critical-thinking department within the US Federal Government. Additionally, I would characterise the relationship that Customs has today with the trade community in the US as one of partnership and mutual respect. While there is still passionate and vocal disagreement at times and, as there should be, the lines of communication are open and Customs frequently engages the trade on a variety of issues.

The Power of Partnership

The catastrophic events of September 11, 2001 changed everything. It altered many perspectives and served to reinforce the necessity that Customs and the trade must work in partnership toward a new and common goal of securing the supply chain from terrorism. Shortly after 9/11, the US Customs Service as we knew it ceased to exist. They were given a new name, US Customs & Border Protection (CBP), and a complete new set of priorities and mission. No longer was protecting and collecting the revenue the number one mission of the service as it was when they were established. An expedient paradigm shift by CBP from compliance and enforcement to engaging the trade in a partnership was necessary. This was a radical departure and big leap of faith from their 'See a crook behind every lamppost' view of the world. CBP was required to inject some new words into their vocabulary, *trust, partnership and supply chain*.

CBP also had a new Commissioner, Robert Bonner, who was awaiting confirmation when 9/11 occurred. Under his immediate leadership, and directly managed by Bonni Tischler, Assistant Commissioner for Field Operations, CBP convened a group of fifty (50) renowned international trade experts representing every sector of the supply chain under the guise of the Commercial Operations Advisory Committee (COAC) to study supply chain security. This group of dedicated individuals met more than 25 times and

sat through hours of conference calls between October 2001 and April 16, 2002 when C-TPAT (Customs-Trade Partnership Against Terrorism) was inaugurated and launched. The ceremony was held on the Windsor Bridge in Detroit and was attended by executives from the seven charter members (Ford, GM, Chrysler, Sara Lee, BP, Target Corporation and Motorola) and Secretary of the Treasury Paul O'Neill, Director of Homeland Security Tom Ridge and CBP Commissioner Robert Bonner. This group was later dubbed 'The Magnificent Seven' by Commissioner Bonner.

CBP must be given a great deal of credit because they took the initiative while our Government was still struggling with the realities and general aftermath of 9/11. A power grab was also under way within the US Government as Congress created the Department of Homeland Security (DHS). This new department was established by merging twenty-two (22) other federal agencies, of which the US Customs Service was one. When they were merged into the new department, CBP was bifurcated and the enforcement branch, now known as Immigration and Customs Enforcement (ICE), was made a separate agency under DHS. According to well placed sources, this caused significant infighting and a number of jurisdictional issues. That, in turn, had a negative impact on morale within the service. It must not have been easy to keep focused while all of this political wrangling and manoeuvring was occurring within the young department.

But once again, much to their credit, CBP quickly realised two important things. The first was more of an awakening. CBP did not know how an international or multinational supply chain really worked. What data was available? Who are the stakeholders? What are the mechanics and touch points? Prior to 9/11, most CBP inspectors and personnel only knew that a consignment had presented itself at a port of entry into the US; and now their job in determining admissibility and collecting duties began. They knew very little about what had happened upstream with the consignment before the cargo arrived. CBP had a huge learning curve ahead and needed to rapidly acquire detailed knowledge about the intricacies and inner-workings of an international supply chain.

The second thing CBP realised is that most legitimate companies *want* to do the right thing. They are corporate citizens whose employees and customers live, work and play in the communities that they serve. They have a vested interest in keeping their businesses running and in keeping safe the community they operate in. CBP also realised that sometimes the private sector can do things much quicker and, in many cases, better and less expensively than the government. CBP recognised that when you force new rules or enact laws, companies will typically do the bare minimum to comply; on the other hand, when you engage companies in the spirit of partnership, the collaborative effort results in a more robust and versatile program.

So, armed with a recommendation from COAC that CBP build C-TPAT as a voluntary program, CBP crossed the first hurdle and declared that the C-TPAT program would in fact be strictly voluntary. The US Congress has from time-to-time challenged the voluntary nature of the program but CBP has stood steadfastly by their decision. The thinking was to separate those US importers who would pledge to use their own assets to protect the supply chain. It was a way to separate those companies who really wanted to do the right thing, from those who did not. Or perhaps a better way to put it is: separating the *known* from the *unknown*.

The benefits of building a true public and private partnership cannot be understated. Today, the CBP C-TPAT Program is lauded as the most successful public and private partnership ever created. Both sides, CBP and the trade, have put aside their differences on technical and compliance issues to address a common threat and concern: the scourge of terrorism.

C-TPAT Lessons Learned

Initially, the US C-TPAT program was partially victimised by its own success. Once word of the new program circulated through the trade and C-TPAT was being discussed at trade conferences, CBP was inundated with applications. The initial surge of applications caused several operational difficulties and long work queues hampered efforts to keep up. The US Congress and other agencies of the Federal

Government pressured CBP to ‘trust but verify’, so CBP began designing validations whereby they would visit C-TPAT applicants to ensure they had lived up to the commitments made in the C-TPAT profile/application. CBP was also criticised for initially granting benefits to applicants without reviewing the C-TPAT applicant’s security program.

As the program was rolled out, a new position was developed within CBP called the Supply Chain Security Specialist (SCSS). People appointed as these Specialists were charged with learning all about supply chains and would ultimately be tasked with conducting validations and re-validations of companies that join C-TPAT. Today, the validation process is clearly the Achilles heel of the C-TPAT program. Most SCSS validators have only enough knowledge and experience to complete a very cursory review of security protocols at a certain facility. In fact, the validation program has earned a reputation of being more of a ‘feel good exercise’ than a true validation and test of a company’s supply chain security program. Many validations take two hours or less, and are generally held in one of the more desirable travel destinations, rather than where the risk actually lies within a particular supply chain. Unfortunately, this reputation deprives customs compliance groups within companies the ability to leverage the compliance aspect of the program with their senior management. If C-TPAT is seen as a ‘paper tiger’, then companies will not devote the necessary resources for a successful supply chain security program suited to the risks of their particular operation. The potential result is the downfall of the partnership paradigm that has been established by CBP and its trade partners.

Furthermore, one must question the validity of how CBP prioritises companies to be validated. Most recently, CBP spent valuable resources validating an importer whose entire import volume moves by air courier from a manufacturer in the United Kingdom. Is such an importer really a security risk for unknowingly importing a military grade nuclear weapon?

The success or failure of any program depends upon the frequency and quality of communication, and in the early years of C-TPAT, CBP did a wonderful job of communicating their new program to the trade. Today, however, they would receive less than favourable marks for their internal communication to the CBP field staff in the 300+ ports of US entry. Two years into the C-TPAT program there were still significant numbers of CBP personnel in various ports who had little or no knowledge about C-TPAT and the impact it had on the importation of goods into the US.

From a benefit standpoint, CBP has not drawn a bright enough line of distinction between C-TPAT members and non-C-TPAT companies, or the *known* and the *unknown*. The original idea of making C-TPAT a voluntary program for purposes of separation has not worked as first envisioned. In short, the idea was that if a large number of importers into the US would agree to take responsibility for and use their own assets to secure the company’s supply chain, this should increase the confidence level in CBP, allowing them to reduce the number of inspections as a benefit for being in the program. And the natural consequence of reducing the number of physical inspections required for compliant C-TPAT importers is that it should free-up enough CBP resources to conduct a much higher level of examination on the non-C-TPAT importers, or the *unknown*. This does not appear to be the case and while the quantitative number of inspections has increased, non-C-TPAT members have largely been unaffected. This leaves little incentive for them to join the program. Today, if you are a non-C-TPAT importer into the US, it is my opinion that a company should be experiencing an extraordinarily high examination rate, perhaps 50% or more. This may sound a little callous, but if a consignment for a non-C-TPAT importer sits at a CBP examination site for several weeks while other C-TPAT members are moved to the head-of-the-line, so be it. In fact, there’s a good sound bite: call your Senator or Congressman and tell them you think CBP is being too tough on terrorism. The pain and supply chain delay caused by increased examinations and congested inspection stations might very well be the motivation that it takes for a non-C-TPAT importer to consider strengthening their supply chain security program.

Finally, while CBP seems totally transfixed on identifying and capturing data elements these days, they have completely taken their eye off the ball on intelligence; at least so far as the trade is concerned. This might be a big mistake and oversight. The trade has a wealth of intelligence that CBP could effectively mine and leverage into actionable intelligence. Such a model for intelligence sharing between the private and public sectors already

exists within the US Government; it is known as OSAC (the State Department's Overseas Security Advisory Council). The site acts as a fusion centre for intelligence contributed by the private sector. That information is reviewed, sanitised for public consumption and then broadcast to the other OSAC members. In the late 1990s, when Indonesia was engulfed in economic turmoil and riots were becoming an increasingly popular form of dissent, the power of intelligence in the right hands was again evident. While the US Government was able to provide high-level intelligence to vetted OSAC members in the region, those same OSAC members were able to provide on-the-street intelligence to the State Department. The result was a comprehensive view of a rapidly evolving situation. Years ago, when speaking to a high level CBP official, they stated that I would be 'completely underwhelmed' by the amount of intelligence CBP has at any moment in time. My reply was well, 'You might be completely *overwhelmed* by the amount of intelligence that the trade has'. CBP should make an effort to figure out how to develop a shared intelligence fusion centre and repository. Shared intelligence reports would be a big benefit for the trade and would strengthen the overall partnership.

C-TPAT Lessons Earned

For their part, when C-TPAT was formally launched on April 16, 2002, the trade responded with dynamism. Building a C-TPAT program from the ground up was both a revealing and rewarding experience. In our particular case, we thought that we knew our supply chain inside and out. In reality, however, when it was subjected to a comprehensive review and vulnerability assessment we learned many new things. In fact, one of the proverbial challenges related to creating a C-TPAT program offered by senior management was, 'How much is this going to cost?' In an expense driven business, the answer to this question is crucial. During our review of the supply chain in preparation for designing a C-TPAT program, we actually found things that allowed us to *save* money, versus increasing expense. This was welcome news to management and once our C-TPAT program had been successfully launched, we began capturing those savings. I would be remiss if I did not emphasise the importance of obtaining senior management buy-in before developing a supply chain security regime. Senior management approval and support are imperatives.

When first developing the blueprint for our C-TPAT program, we leveraged all available internal assets and other stakeholders within the supply chain: vendors, agents, carriers, consolidators and freight forwarders, customs brokers, and banks. Since we were a relatively large company, we had significant resources that we could dedicate to the effort. A governing corporate council including Internal Audit, Assets Protection, International Operations, Information Technology, Vendor Operations, Quality Assurance, Legal, International Transportation, Corporate Risk, Business Continuity, and Social Compliance was established. In our case it was nice to have all of those resources at our disposal given the depth and breadth of the supply chain we were attempting to secure. Smaller and less complex supply chains do not require the same amount of resources and are often well served by consultants who can assist and provide specific expertise that may not be available internally.

The initial supply chain analysis was completed by Internal Audit, International Operations and International Transportation. As a parallel effort, Assets Protection completed a risk and vulnerability assessment. It was this analysis that allowed us to develop our risk model and helped us focus our resources based upon countries and suppliers with the highest levels of risk.

One of the first big challenges that we faced was data. We recognised that it would be necessary to survey each of the more than 15,000 vendors and foreign suppliers we had operating in 84 countries. This became a significant obstacle and we had to rely on our Information Technology department to design such a system. Today, fully functional 'off the shelf' software is now available as well.

The next challenge was 'boots on the ground'. For this task we recruited Quality Assurance (QA) who had a small army of inspectors visiting producing factories on a daily basis. With comprehensive cross-training on factory security and armed with lengthy questionnaires, QA inspectors would visit facilities on a daily basis recording information and comparing it to the electronic report previously submitted by the vendor.

From the risk assessment, we also learned that the most vulnerable point in our supply chain was the dray between the origin factory and the terminal. To tighten up this process, we changed our terms of sale to FCA (Free Carrier). This allowed us to control the inland transportation at origin and reduced our dutiable value on the goods purchased. The result was a consolidated drayage process, reduced expenses, and a more secure supply chain.

By experimenting with Radio Frequency Identification (RFID) and Global Positioning Systems (GPS), we learned that our cargo does not always take the route we anticipated it would. As a result, we worked closely with our carriers to correct certain anomalies and we were able to take several days out of the supply chain in certain lanes. For a major retail importer, with an average of US\$60,000 of inventory in every container, this translates into greater cash flow, reduced interest expense and quicker inventory turn.

By hardening our supply chain and increasing its velocity, we were also able to reduce pilferage and better protect the corporate brand image that the company had spent millions of dollars creating. This was also appealing to the insurance companies and in some instances, lower incidences of theft resulted in reduced cargo insurance premiums.

We also involved our Business Continuity department to help us augment our resiliency and help us think about and plan for potential supply chain disruptions. We used the US west coast labour disruption of a few years ago as a mock exercise for what would happen in the event of the port closure as a result of a terrorist incident.

We developed training programs, not only for internal partners but for the vendors and suppliers as well. Capitalising on this opportunity to communicate with our vendors, we also discussed and reinforced other customs compliance objectives during this training and used the forum to introduce new programs like the change to the terms of sale.

Conclusions

The US CBP C-TPAT program celebrated its fifth anniversary in April of 2007. It is a mature program and other customs administrations around the world endeavouring to construct a supply chain security program would be well served to heed some of the lessons learned by their US counterparts.

Likewise, companies engaged in foreign commerce who are just beginning to deal with new security programs would be well served to be innovative when designing their program. The key is to develop a paradigm of partnership and transparency. A good supply chain security program should retain the flexibility to achieve the goal of a more secure system of global trade...not simply become another 'paper tiger'.

Michael Laden



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Section 3

Reference Material

GUIDELINES FOR CONTRIBUTORS

The *World Customs Journal* invites authors to submit papers that relate to all aspects of customs activity, for example, law, policy, economics, administration, information and communications technologies. The Journal has a multi-dimensional focus on customs issues and the following broad categories should be used as a guide.

Research and theory

The suggested length for articles about research and theory is approximately 5,000 words per article. Longer items will be accepted, however, publication of items of 10,000 or more words may be spread over more than one issue of the Journal.

Original research and theoretical papers submitted will be anonymously refereed. This process may result in delays in publication, especially where modifications to papers are suggested to the author/s by the referees. Authors submitting original items that relate to research and theory are asked to include the following details separately from the body of the article:

- title of the paper
- names, positions, organisations, and contact details of each author
- bionotes (no more than 50 words for each author) together with a recent photograph for possible publication in the Journal
- an abstract of no more than 100 words for papers up to 5,000 words, **or for longer papers**, a summary of up to 600 words depending on the length and complexity of the paper.

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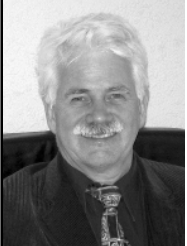
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