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The Impact of Information Technology in Trade Facilitation on Small and Medium Enterprises in the Philippines

By

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Focusing on electronic lodgment through web-based applications of value-added service providers as the IT-based trade facilitation measure, the survey of Customs Brokers conducted in this study revealed that lodgment time in the Philippines dropped to one hour or less as a result, compared to previous lodgment times of ½ to one day. However, total clearance time of 1-2 days remained unchanged, implying that manually performed tasks within the lodgment-to-clearance interval may be slowing down overall procedures.

Electronic lodgment allows registered clients to use any computer with internet connectivity, making it easily accessible. Prior to this, importers/brokers had to go to the EEC for lodgment or be EDI- or DTI-enabled, the investment and maintenance costs of which deterred usage. Similarly, the EDI-capable requirement for SGL users limited its accessibility, so that its full trade facilitating impact could not be realized. SGL conditions precluded SMEs from participating, putting them at a further disadvantage. Electronic lodgment now makes it easier and cheaper for all importers/brokers, regardless of size, to file entries. Since small importers account for over half of the 800,000 import entries lodged annually, the number benefiting from electronic lodgment is substantial.

In the face of the global economic downturn that has depressed trade everywhere, SME trading capacity is likely to have been affected more by poor demand than by access, technology, other size-related, or procedural difficulties. For 90 percent of survey respondents, most of which are SMEs, web-based lodgment made transacting convenient and efficient, lowered time and resource expenditures, or ensured reliable information. Since compliance costs for SMEs are disproportionate to their size, these benefits translate into lower unit operational costs and total cost burdens that make them more competitive. Considering that the export industry grew in the face of global recession, that majority of exporters are SMEs and their share in export revenue is not insubstantial, and export share in GNP is large and growing, the contribution of SMEs to exports is enhanced by lower transactions costs that mitigate the impact of depressed demand.

The main difficulty encountered by respondents in adapting to electronic lodgment is poor connectivity and frequency of server breakdown, a result of inadequate infrastructure or systems. Insufficient preparation by the government is perceived to have hampered implementation of IT-based measures. System improvements with the greatest impact would be adjustments to accommodate peak hour traffic and 24/7 server availability. The infrastructure should be set up in all ports. Updated and clear guidelines must also be immediately provided in view of fast changing procedures.

The study finally recommends some IT-based interventions along the transaction chain to facilitate SME participation in trade: (a) complete the computerization improvement program in all ports; (b) address the constraints occurring prior to lodgment and during the lodgment-to-clearance interval, especially those amenable to IT solutions; (c) implement fully a National Single Window, which requires that difficulties on the ground must be confronted by decision-makers.

I. Introduction

This paper describes the impact of information technology (IT)-based trade facilitation measures on small- and medium- scale enterprises (SMEs) in the Philippines. The definition of SME varies across countries, and the Philippines adopts one that includes micro and cottage enterprises. Thus the government classifies establishments into four categories of micro/cottage (1-9 workforce with asset limit of P3 million), small (10-99 workers with asset limit of P15 million), medium (100-199 workers with asset limit of P100 million), and large (more than 200 workers and more than P100 million in assets). On this basis, micro/cottage enterprises have dominated the economy, accounting for 92 percent in 2006, with small and medium sized ones comprising another 7.3 and 0.4 percent of all enterprises, respectively; altogether MSMEs employ 70 percent of the total workforce (DTI 2009). A large concentration is found in the domestic sector, i.e. wholesale and retail trade, manufacturing, and hotels and restaurants, with 50 percent in wholesale and retail trade alone. An estimated 70 percent of 1000 firms engaged in exporting are SMEs (Berida 2008), SME exports made up 19 percent of SME output and 17 percent of industry exports (NSO 2003), and MSMEs accounted for 25 percent of the country's total exports revenue, mainly through subcontracting arrangements with large firms or as suppliers to export companies (DTI 2009).

Size is not the only factor that inhibits the internationalization of SMEs and their active participation in international trade. The Global Facilitation Partnership for Trade and Transport lists 14 barriers to internationalized SMEs[1] (GFPTT 2005). Size however makes SMEs more vulnerable to such barriers, i.e. many of the barriers are correlated with firm size. For instance, specific concerns of Philippine SMEs have to do with their difficulty accessing markets, finance, technology, and information, the widening technology gap, aside from their small and receding role and minimal share in industrial exports (Hernandez 2005). Of these major constraints, market access or supply chain efficiency is most affected by policies and procedures governing the movement of goods.

Trade facilitation is defined by the WTO as "the simplification and harmonisation of international trade procedures" where trade procedures are the "activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade". [2] Such measures thus logically focus on requirements enforced by Customs, being the main border agency, although they include the requirements of other government entities that issue permits for particular goods, banks that accept payments, or transporters and cargo handlers, which are all subsumed under Customs' workflow.

SMEs are the main beneficiaries of trade facilitation because trade transactions costs fall disproportionately on them (UNECE 2003). Compliance with both direct and indirect transactions costs has been found to have an asymmetric effect on SMEs and little relationship with the value of goods they trade. Complicated trade procedures entail a greater need for manpower to undertake

[1] These are namely: 1. lack of entrepreneurial, managerial and marketing skills, 2. bureaucracy and red tape, 3. lack of accessibility to information and knowledge, 4. difficulties accessing financial resources/lack of capital, 5. lack of accessibility to investment (technology, equipment, and knowhow), 6. non-conformity of standardization, lack of quality awareness and lack of mutual recognition schemes, 7. product and service range and usage differences, 8. language barriers and cultural differences, 9. risks in selling abroad, 10. competition of indigenous SMEs in foreign markets, 11. inadequate behavior of multinational companies against domestic SMEs/lack of government supply-supporting programs, 12. complexity of trade documentation including packaging and labelling, 13. lack of government incentives for internationalization of SMEs, and 14. inadequate intellectual property protection

[2] Such required data consists of commodity characteristics, origin and destination, transport details, permits and issuing agency, trader/broker/supplier information, valuation, payments and exemptions, packing information.

them, implying an adverse impact on SMEs because they typically do not have the manpower or their productivity in complying is low. Lengthy processing times affect the cost of money, a larger burden for small capital-deficient firms. Unpredictable or non-transparent rules and procedures put SMEs at a disadvantage as they need to spend extra resources to obtain information. Unreasonable border delays and demand for bribes to expedite the movement of goods exact costs that undermine their competitiveness. Since these costs do not vary with the value of output, they increase the unit operational costs of SMEs.

Information technology (IT) has an obvious significant role in simplifying and harmonizing border and administrative procedures that ultimately facilitate trade. Customs data validation, cargo inventory control, goods declaration processing, electronic notification of release, revenue accounting, and Customs enforcement readily benefit from IT. From the viewpoint of government, IT secures revenue collection through various means, e.g. reduction of fraud, remote access to information, improved reporting and collection of statistics, control of file transfers, automatic reconciliation of Customs declarations. Automation connects the regulatory authorities involved in trade. Paperless declarations save time that is better spent inspecting high-risk shipments. Pre-arrival clearance, risk analysis, and separation of release from clearance are made possible.

From the viewpoint of businesses, IT reduces the cost of doing business by raising the efficiency of Customs controls while ensuring the uniform application of legislation, and promotes transparency in the assessment of duties and taxes and predictability of clearance times. Automation reduces corruption by minimizing direct contact between Customs officers and traders and significantly lessening the potential negative impact of physical inspections. "ICT applications can reduce waiting times at border crossings and at ports, secure appropriate processing of fees and Customs duties, simplify formalities, and provide timely information to transport operators. …(They) reduce transaction costs, enhance supply capacities, and increase global market access." (UNCTAD 2006a and 2006b).

Customs reform or modernization programs thus inevitably include automation, as it induces transparency, predictability and reliability, and allows alignment with international standards. Where other government agencies with border responsibilities such as the issuance of licenses and permits, granting of certificates (e.g. origin, compliance), and other related functions similarly adopt IT in their procedures, the trade facilitating impact is enhanced. Hence efforts towards national single windows and interactive feedback between customs and these agencies are likely to have a positive multiplier effect on efficiency.

Increased emphasis on the wider use of IT in promoting trade facilitation[3] as reflected in many of the proposed measures in the WTO Negotiating Group on Trade Facilitation (NGTF) is therefore not unexpected. Considering that the transactions costs of complying with trade regulations and procedures are higher for smaller firms, this study attempts to ascertain whether the use of IT in trade facilitation inhibits or encourages the participation of Philippine SMEs in foreign trade.

The required information would have been collected through a survey of SMEs about their experience with Customs procedures. However, the establishment-level trade transactions

[3] Trade facilitation in general can lead to (a) more efficient production and allocation of resources as TF increases competition through reduced transactions costs of trading, i.e. allowing increased efficiency in the use of existing resources, encouraging specialization and activities that reflect comparative advantage, and making use of scale economies through exports; and (b) cheaper consumption as TF reduces inefficiencies and obstacles to trade thereby lowering domestic prices. (UNECE 2003)

information necessary for sampling SMEs is either unavailable from the Bureau of Micro, Small and Medium Enterprise Development of the Department of Trade and Industry, or confidential in the case of the Bureau of Customs. The information was therefore collected from Customs brokers since: (a) an estimated 90 percent of importers, regardless of size or frequency of transaction, use Customs brokers to transact with the Bureau of Customs, hence brokers know how their clients are affected by procedural changes at the Bureau; (b) brokers make the necessary adjustments to procedural or system changes in order to maintain their clientele, such adjustments ultimately determining how easy or difficult it would be for their client to import/export; (c) the majority of brokers are SMEs themselves.

The next section describes the use of IT in cargo clearance as the core IT-based trade facilitation measure confronting SMEs within Customs automation and modernization programs. This is followed by a brief background on Customs brokers and the survey respondents in Section III.

Section IV discusses the results of the survey and the implied characteristics of SME traders. The discussion is guided by the following key questions: What IT-based trade facilitation measures are implemented in the Philippines? To what extent are they accessible and utilized, and by whom? What are the barriers to the use of these measures, particularly by SMEs and new/small traders? Did the operator/provider/regulator of these IT services undertake activities to reduce these difficulties and were these effective? Did the institution of these measures result in more trade and increased participation in trade by SMEs?

Conclusions and some recommendations are given in Section V, in answer to the questions: Which components of the IT-based trade facilitation measures along the transaction chain seem to be most important in facilitating SME participation in trade? What interventions related to their implementation may be required to ensure that the IT-based trade facilitation measures do not discriminate against the participation of SMEs in international trade? Additional information about Customs procedures and Customs brokerage are found in the annexes together with the survey instrument.

II. Use of Information Technology at the Bureau of Customs

The Bureau of Customs' first serious attempt at automation was through the installation of a mainframe computer system in 1976 for the purpose of capturing transactions data and generating databases of customs bonds, orders of payment, and customs declarations to inform management. The manifest clearance system remained up to the 1990s, encoding paper cargo manifests into electronic files for the posting of declarations and cargo claims and generation of shipment reports. From 1992 to 1998, a Customs Reform and Modernization Program was undertaken, initially to plug revenue leakages, and later broadened through a "Blueprint for Customs Development" to cover such objectives as a better business and investment environment, protecting public health and the environment, and streamlining the bureaucracy. Extensive use of information and communication technology was a major strategy, mainly to advance customs processes ahead of arrival of cargo, automate processes, and minimize human intervention. Systems and procedures were reengineered in the following ways: (1) processes were automated to reduce intervention in 80 percent of transactions; (2) controls were positioned at points where they would be most effective without obstructing business; (3) remote facilities were provided for lodging declarations; (4) paperless and cashless processes were introduced; (5) certain operations were privatized; (6) agencies participating in the system were linked electronically (Parayno 2004).

The IT system first covered cargo processing from the assessment and collection of duties, taxes, and fees, to control of cargo. This was achieved through the customization of the Automated System for Customs Data (ASYCUDA++) software developed by the UNCTAD, acquisition of computers and servers for the 21 ports across the country, and establishment of electronic links between them through a wide area network. Additional systems were eventually developed for payment and online release in coordination with banks and port operators, respectively. These were then integrated into the Automated Customs Operations System (ACOS), the first IT-based system at BOC that sought to automate the entire cargo clearance chain. By 1997 almost all segments of cargo clearance were fully automated and by 1998 the system was running at all major ports. BOC intended ACOS to have the following features:

- Selectivity. To speed up cargo release, only high-risk goods would be subjected to the usual controls because low-risk goods would be given immediate clearance. This would entail the application of risk management in identifying cargo that required further document examination and/or physical inspection.
- Post-entry audit. Delays in cargo movement would be avoided by postponing the exercise of some customs controls until after the goods had been released to the consignee. Shipments that would have otherwise required Customs intervention would be released after the satisfaction of guarantee requirements.
- Advanced processing. It would be possible to initiate the clearance process prior to the arrival of cargo to reduce lag time between the arrival and release of goods.
- Client self-assessment. Traders would be allowed to self-assess their duty and tax liability to facilitate clearance as well as preempt opportunities for customs personnel to exercise discretion in valuation.
- Electronic data interchange (EDI). Information technology would be deployed to eliminate face-to-face transactions between Customs and clients, minimize the time required for clearance, and provide convenience to traders. Thus it would be possible to carry out most transactions with Customs electronically.

Specifically, BOC introduced mandatory payment to banks as the first step in cargo clearance, and electronic lodgment of declarations through the Electronic Data Interchange (EDI) and Direct Trader Input (DTI) systems. Computers calculated and collected duties and taxes, determined payments made, issued release instructions for shipments to the cargo handler, and kept document receipts and releases by various offices. IT also selected shipments for examination and assigned the examining officer. For these, BOC established the online release system in cooperation with freight forwarders, electronic transmittal of payment data from banks to BOC in cooperation with the Philippine Banking Association, and advance submission of manifest information through port operators' computer systems and consolidators' data exchange center. Lodgment of declarations was privatized and transferred to the Philippine Chamber of Commerce and Industry (PCCI). Aside from the green lane processing and electronic manifest systems, there were secure and electronic transmittal of bank payments, automated matching of payments and payables, post-release review, and automated computation of payables.

A trade facilitation program called the Super Green Lane (SGL) was established in 2000 as a special customs clearance facility for the top tax-paying importers that would not compromise collections as well as generate service fees that would go to a trust fund to enhance the efficiency of Customs. SGL clients would require accreditation and EDI for entry lodgment via an authorized value-added network service provider. SGL shipments would be processed and cleared in advance and exempt from selectivity and physical or documentary checks, and a P2500 fee per declaration

charged (versus P40 for regular lane); however if required, the goods would be inspected after release at the importer's premises. To qualify for SGL treatment, shipments would have to be either in the pre-approved list of importables of the accredited importer or freely importable or covered by proper import licenses; declared under formal entry thus subject to duties and taxes; filed through EDI; and non-agricultural or requiring quarantine. To encourage the use of SGL, in 2003 the facility was opened to all importers who had transacted with BOC for at least one year and were willing to undergo post-entry audit, had good compliance records and regularity in importation, and fees were graduated depending on the FOB value of the shipment.

Thus by 2000 ACOS covered import processing with modules for electronic manifest, electronic encoding, assessment, selectivity, payment, and online release. Export documentation was added in 2001. A computerization improvement program was launched in 2005, consisting of 33 major components that include software upgrades to ASYCUDA World, an Imports and Assessment system, exports system, a transactional portal, resources and operations management system, and funds monitoring system. All of these are presently being developed.

Value added service providers (VASP) offered electronic data interchange services and web-based applications for traders to transact electronically with BOC. The PCCI managed the gateway infrastructure that connects the VASPs to BOC. VASP software allowed remote electronic filing and processing of import entry declarations, so that these were prepared offline, lodged by batch, and printed in Customs-prescribed format together with the final assessment notices. It also permitted electronic transmission of instructions to banks for payment of duties and taxes based on Customs assessment. However this software entailed a cost of subscription.

More recently, BOC embarked on an E2M (Electronic to Mobile) Customs Project (also referred to as E2M or e-Customs System) that seeks to speed up the release of cargo to within 30 minutes by making BOC services available on the internet and using mobile phone technology. E2M is envisioned to allow an end-to-end cargo clearance process covering electronic manifest, import entries (consumption, informal, warehousing, transshipment), bonds management, export documentation, online release, licensing and clearance, hold and alert, selectivity, and payment. E2M consists of enhancements to the current system: online submission of declarations and manifests, automatic advice on declaration status, use of VASPs, automated process for other import transactions (informal, warehousing, transshipment) and for liquidation of raw materials, centralized management of bonds transactions, links with government agencies, online access through the BOC website.

Up to late 2007, import entry declarations could be filed using any of 4 modes at ports where the ACOS[4] is in operation: (a) manually by bringing paper forms for digitization to Entry