Effectiveness Of Electronic to Mobile Transactional Operations in the Bureau of Customs

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Asia Pacific Journal of Academic Research in Business Administration
Vol. 8 No.2, pp 94-105
April 2022
P-ISSN: 2467-6691
E-ISSN: 2467-5148

Date Received: January 19, 2022
Date Revised: March 1, 2022
Date Accepted: April 13, 2022

Abstract: *The tremendous development in Information Communication Technology is a compelling force that reshaped government systems through the world. This far-reaching development brought about by ICT encouraged government around the globe to establish an online presence by publishing information on the internet. In doing so, they hope to increase transparency, efficiency, and effectiveness of government in delivering public service.*

With the implementation of electronic to mobile customs system and by creative applications of information and communications technology in reengineering the agency systems and procedures, the Bureau of Customs built a reputation as fast rising and soon to be world class customs service and is unquestionably the leading agency in electronic governance in the Philippines today.

The research study described the profile of the transaction in terms of type of agency represented by the customs broker, types of entries and components of e2m used in the processing of import entries; determined the effectiveness of e2m transactional operations in the BOC; identify the problems encountered in using e2m; test the significant difference between the responses of the two groups of respondents in the level of effectiveness and problems encountered and recommend inputs for trade security and efficiency. Respondents of this research are the customs brokers who are working in freight forwarding companies and brokerages firms and are also holders of Certificate of Accreditation. The study utilized 100 percent of the freight forwarding companies which offer brokerage service and 214 brokerage firms out of 1007 firms. Findings revealed that there are more brokerage firm offering customs clearance, and majority of the entries that are being processed in customs are consumption entry. Among the different sub-system of Import Assessment System of e2m, the CPRS is the most frequently used. The transactional operation in the BOC in terms of entry lodgment, assessment and payment of duties and taxes, and releasing of imported articles are assessed by the respondents as effective while most among in all aspects of customs clearance connection and system shutdown is often experienced.

Keywords – *electronic-to-mobile-system, import assessment system, transactional operation*.

Cite as: Mendoza, F. M. (2022) Effectiveness of Electronic to Mobile Transactional Operations in the Bureau of Customs, *Asia Pacific Journal of Academic Research in Business Administration,* 8(2), 94-105

INTRODUCTION

Every organization has manual and automated transaction processing systems, which processes the detailed data necessary to update records about the fundamental business operations of the organization. A goal common to almost all organizations like freight forwarding and brokerage firm is to gain and maintain a competitive advantage. Depending on the nature and specific goals of the business, transaction processing system can help provide some or all the following: customer loyalty increased, superior service provided to a customer, better relationship with suppliers, superior information gathering, and costs dramatically reduced.

With today's cutthroat economy every company needs to act quickly and professionally to succeed. Being able to ship goods from one country to another in an efficient manner is essential to staying above the competition. Freight forwarding services are dedicated to making the shipping process a lot easier and quicker. A professional freight forwarder will act as an intermediary between the importer and the transport companies, handling everything that is related to the shipping process. Professional freight forwarding services will handle every step of the shipping process, from port charges and consular fees to the bill of lading and customs broker services.

In the Philippines, customs brokerage services consist of: consultation; preparation of customs requisite document for imports and exports; declaration of customs duties and taxes; preparation, signing, filing, lodging and processing of import and export entries; representing importers and exporters before any government agency and private entities in cases related to valuation and classification of imported articles; and rendering of other professional services in matters relating to customs and tariff laws, its procedures and practices [1]. The rendering of customs brokerage services is regulated through licensing by the Professional Regulatory Board for Customs Brokers under the Professional Regulation Commission.

With the advent of the computer age, the increasing use of computer technology in trade, industry, and management in both the private and public sectors, has made it imperative for the Bureau of Customs to undertake major reforms in its work processes to enable it to be in step with the global trends towards trade and investments liberalization. These computer systems and reengineered customs processes has totally replaced the outdated, inefficient paper-based manual processes that characterized the customs work methods all over the world prior to the application of information technology in trade and industry [2].

Prior to automation, processing customs declarations involved the submission of numerous documents logged in 20 separate registers, more than 90 separate steps, and more than 40 signatures. Automation, coupled with a range of supporting reforms, has resulted in a significant reduction in clearance times. It has also significantly reduced opportunities for face-to-face contact between customs officials and traders and the inappropriate use of official discretion [3].

The e2m (electronic-to-mobile) customs project is one of the mission -critical and high impact ICT (Information and Communication Technology) projects of the national government. It seeks to streamline the BOC's core processes (imports and exports) and improve trade facilitation between the Bureau and its stakeholders, including other government agencies, through the development and integration of various systems allowing internet-enabled and later SMS enabled, thus less face -to-face transactions, all towards the realization of the National and ASEAN Single Windows. This project was launched year 2005 and awarded to Unisys Philippines through a multi-million grant from President Gloria Macapagal Arroyo's e-Government agencies [4].

It is an internet-based technology that allows customs officers and traders to handle most of their transactions from customs declaration to cargo manifests and transit documents-via the internet. It makes use of the advanced technology including electronic signatures to provide government officials, specifically customs administration with new tools that will enable them to make dramatic improvements in security, trade efficiency and fight corruption. To date, over 80 countries around the world are using a similar Customs IT (Information Technology) system.

In the light of the foregoing discussion, the researcher aims to know if the use of e2m customs system support the realization of the Bureau of Customs vision mission of providing a world class customs service. As a customs broker who has an intention to engage in offering brokerage service this will be a significant effect in doing business particularly the traffic of goods in customs as one aspect that will determine the competitiveness of venture in the Philippines.

OBJECTIVES OF THE STUDY

This study determined the effectiveness of e2m transactional operations in the BOC. Specifically, it described the profile of the transaction in terms of type of agency, type of entries and components of e2m used in the processing of import entries; determined the effectiveness of e2m transactional operations in the BOC; identified the problems encountered in using e2m; and test the significant difference between the responses of the two groups of respondents in the level of effectiveness and problems encountered. Towards the end it will recommend inputs for trade security and efficiency.

MATERIALS AND METHODS

RESEARCH DESIGN

The study used the descriptive survey method, considered as appropriate and germane to the presentation and analysis of current or existing perceptions on the level of effectiveness of adopting e2m Customs System. Descriptive designs provide comprehensive information about a problem or situation, its variables and its features.

PARTICIPANTS OF THE STUDY

The participants of the study are the freight forwarding companies and brokerage firms which are accredited to transact with the Bureau of Customs. As per Department of Trade Industry's record there are 733 accredited freight forwarding companies and out of that 196 offers brokerage service. The study utilizes 100% of the freight forwarding companies which offers brokerage service as respondents. The Bureau of Customs Account Management Office Director Atty. Geminina Sy Flores provides data that there are 1,007 brokerage firms which are able to renew their Certificate of Accreditation with the BOC, the study utilized 214 of these brokerage firms which was obtain using the Slovin's formula or representative sampling with five percent (5%) margin of error.

INSTRUMENT

The study utilized a self-made questionnaire as the main instrument in collection and collation of data, this composed of three parts, the first part asked about the profile transactions of the respondents; the second part will assess the effectiveness of using the e2m and the last part will determine the difficulties encountered by the respondents in using the e2m Customs System.

PROCEDURE

The researcher came up with the title by means of reading some journals, books, and unpublished thesis and asking the help of some colleagues. This was presented to the research adviser and after finalizing the title; the researcher proceed to the gathering of sample data and information from related thesis, books, and articles from the library and do some electronic researches. After conducting research, the questionnaire has been drafted. The survey questionnaire was designed based on the concepts reflected in the statement of the problem. Guided by the standard principles and criteria of questionnaire construction, the researcher see to it that simplicity, clarity, unity and emphasis in contents is observe; and the form and style were also considered as guidelines in the design and development of items in each part of the instrument.

In addition, the following procedures were undertaken in the process of validating the questionnaire. First, the draft was designed in consultation with her adviser. Then it was presented for comments and recommendation to Dr. Norma Menez one of the panelists during the title defense off the study. Their comments and suggestions were noted and analyzed. When the improved draft was edited, with all the suggestions and recommendations, it was presented to the adviser for further scrutiny and improvement.

DATA ANALYSIS

After the collection of questionnaires, the data was tallied, tabulated and analyzed utilizing percentage, this is a descriptive statistical term applied to show the relationship of the part to its whole. Ranking is used to reinforce the description of the percentage, indicating the priorities and importance of the responses. Weighted mean is used to determine the level of effectiveness of the e2m (electronic-to-mobile) customs system and the problems encountered in using the said system. T-test is used to compare the assessment of employees of freight forwarding companies and brokerage firms.

RESULTS AND DISCUSSION

Table 1.1 presents agencies which utilized the e2m customs system for the lodgment of import entries. This implies that brokerage firms dominate a little over freight forwarders having a percentage of 52.20% while freight forwarders are 47.80%.

Table 1.1
Percentage Distribution of the Respondents

Profile Variables	f	%
Type of Agency		
Brokerage Firms	214	52.20
Freight Forwarding Companies	196	47.80

Customs brokers, freight forwarders, export distributors and trading companies play important role in the growth of markets. This is because of the importance of documentations in the facilitation of trade. Thus, the professionals or owners of a firm involved in the logistic service components are characterized by uncontrollable elements such as political and legal, economic, competition, technological, geographical, social and cultural environments. Within these environments, owners/managers of customs brokerage and logistic services firms should attempt to optimize their firms' resources such as human, technology, financial, information system and physical infrastructures to maximize quality services.

Table 1.2 manifest the import entries filed by the respondents; the vast of majority or 3.59% is consumption; followed by warehousing with a share percentage of 2.88%; export entries has a share of 2.56% and the least is informal with only 2.10% share.

As per record of Management Information Technology Group, year 2013 there are 644,301 consumption entries filed, 44,306 for warehousing: 151,812 for export and only 7 for informal entries.

Table 1.2.
Import Entries Being Filed at the Bureau of Customs

Items	WM	VI	Rank
Consumption	3.59	Always	1
Warehousing	2.88	Often	2
Informal	2.10	Seldom	4
Export	2.56	Often	3

Legend: 3.50 – 4.00 = Always; 2.50 – 3.49 = Often; 1.50 – 2.49 = Seldom; 1.00 – 1.49 = Never

Consumption entry is a process by which the duty is paid at once or secured to be paid by means of adequate security, and when the immediate release of merchandise from Customs custody is desired. A warehousing entry is used for imported articles to be stored in a bonded warehouse, i.e., the articles are not for consumption. Such articles are imported tax - and duty-free and must remain in the warehouse for a maximum period of one year (normally nine months). Duties and taxes are paid upon withdrawal of the articles [5]. Export entry is a customs document or form wherein the details of an export shipment (quantity, nature, weight, volume, value, shipper, and consignee) are specified. E2m Customs System shall allow the shipment to be declared under Informal Entry if the following criteria are met: 1.) total Customs Value is below US$500; 2.) total gross weight is less or equal 300 kilograms; 3.) total number of packages is less or equal 12; 4.) the shipment volume is less or equal one (1) cubic meter; and 5.) the consignee is registered in CPRS as an individual entity [6].

Table 1.3.
Components of e2m Customs Import Assessment System Utilized in Filing Import Entries with the Bureau of Customs

Components of e2m Customs System	Consumption		Warehousing		Informal		Export	
	f	*%*	*f*	*%*	*f*	*%*	*f*	*%*
Electronic Manifest System	168	41.0	148	36.1	84	20.5	124	30.2
Selectivity System	311	75.9	134	32.7	22	5.4	39	9.5
Warehousing Entry System	5	1.2	349	85.1	-	-	5	1.2
Hold and Alert System	205	50.0	47	11.5	-	-	-	-
Transshipment System	5	1.2	194	47.3	-	-	13	3.2
Payment Abstract Secure System	205	50.0	59	14.4	7	1.7	-	-
Formal Entry System	153	37.3	67	16.3	59	14.4	17	4.1
Informal Entry System	20	4.9			146	35.6	10	2.4
Online Release System	161	39.3	71	17.3	71	17.3	22	5.4
License and Clearance System	103	25.1	39	9.5	8	2.0	73	17.8
Client Profile Registration System	349	85.1	250	61.0	100	24.4	98	23.9
Other Settlement Modes	48	11.7	17	4.1	14	3.4	13	3.2

Table 1.3 shows the different sub-system that is utilized in filing import entries, the data manifest that the most frequent use sub-system is the CPRS since Client registration is mandatory as various transactions with the Bureau cannot be processed unless the client is duly registered with the CPRS. The e2m Customs System that will be relying on the CPRS database in validating every client transactions are the Electronic Manifest System, Formal Entry System/Import Entry System, Warehousing Entry System, Transshipment System, On-line Release System, Licensing and Clearance System, Hold and Alert System and the Selectivity System . The least use sub-system is the Informal Entry System as can be gleaned from the previous table seldom that this entry is filed.

Ison [7] elucidated a common characteristics of an on-line system is that its stored data, that is its files on its database, are usually organized in such a way that individual pieces of data can be retrieved and/or modified quickly and without necessarily accessing any other piece of data in the system. The e2m-Customs Import Assessment System is a set of application components that handles the flow of import processing which includes electronic manifest clearance, import declaration entry, risk assessment, regulatory clearances and release of cargo. The BOC provides the gateway infrastructure and telecommunication facilities to enable electronic transactions of the following IAS sub-systems/modules/processes. This e2m IAS primarily entails entry and clearance of imported commercial goods for local consumption. It also covers the pre-requisites of entry declaration submission such as: stakeholders' profile registration and accreditation, arrival schedule set-up, manifest/bill of lading submission, and acquisition of licenses /clearances/permits [8].

Electronic Manifest System (EMS) processes all submitted Master and Consolidated Manifests from air and shipping lines through the Value Added Service Provider (VASP). Hold and Alert System (HAS) and Selectivity (SEL) system contains the controls necessary to block processing of selected declarations and direct these declarations to the appropriate processing channels. It involves the issuance of an alert/hold order and the monitoring of the actions taken on the alerted/hold cargoes.

Formal Entry System (FES) facilitates the processing of entry declarations on importations of a commercial nature for local consumption (sale or barter) of raw materials, semi-finished and/or finished goods to collect the necessary duties, taxes and other fees; while Warehousing Entry System (WES) facilitates the declaration processing of tax and duty free importations under bond of raw materials of semi-finished goods of used by local enterprises to manufacture and assemble goods for exportation. Informal Entry System (IES) on the other hand monitors and controls the acceptance of informal entries or goods that are not classified for commercial value. Transshipment System (TSS) monitors and controls the movement of goods within national borders for shipments that use specific point of entry but will be moved to the final port of destination.

The Payment System (PMPTS) involves both cash and non-cash payments and application of these payments to the duties, taxes and fees payable. The On-line Release System (OLRS) involves the transmission of release or loading instruction messages from the BOC to the transit facilities, grating these entities, authority to release the goods to the rightful owner. The transit facility can retrieve and provide feedback through the BOC Portal VASP Gateway.

The Client Profile Registration System (CPRS) will serve as a central repository of data pertinent to BOC clients and stakeholders, both internal and external, and will include exporters, other government agencies, and private entities(e.g. banks) that conduct business with Bureau. It involves the process of capturing client information during the accreditation and/or registration of the various BOC stakeholders by filing out client-specific accreditation form. The captured information is stored in a central database to allow easy access to stakeholder's information by operating units and systems serving line function.

Licensing and Clearance System (LCS) involves the acceptance of the BOC of electronic licenses and clearances granted to import and export shipments. Issuing agencies that are not yet ready to provide for real time data access are provided with online access by System through the Inter-Agency Information exchange Gateway of the BOC Portal.

Table 2.1 shows the the level of effectiveness of e2m transactional operation in the Bureau of Customs in terms of Entry Lodgment is 2.92 which is Effective. First in the rank is express processing of import entries assign to super green lane channel (2.84) "Effective". Entries which are assigned to green lane using the Selectivity System are subject for release once discharged at the port. Green under the said system means "GO", no document check and physical examination of the goods.

Table 2.1
Effectiveness of e2m transactional operation in the Bureau of Customs in terms of Entry Lodgment

	Brokerage Firms			Freight Forwarding			Over-all		
Indicators	**WM**	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**
1. Reduced processing time from days to just an hour	3.04	E	1	3.05	E	3	3.05	E	2
2. Entries can be filed anytime and anywhere due to twenty four hours service availability	2.99	E	3	3.06	E	2	3.03	E	3
3. Paperless transaction due to online filing of import entries	2.58	E	5	2.59	E	5	2.59	E	5
4. Express processing of import entries assign to super green lane channel	3.03	E	2	3.09	E	1	3.06	E	1
5. Simplified import and export documentation due to streamlined procedures	2.84	E	4	2.84	E	4	2.84	E	4
Composite Mean	**2.90**	**E**		**2.93**	**E**		**2.92**	**E**	

Legend: 3.50 – 4.00 = Highly Effective; 2.50 – 3.49 = Effective; 1.50 – 2.49 = Less Effective; 1.00 – 1.49 = Not Effective

Paperless transaction due to online filing of import entries was ranked no. 5 (2.59) interpreted as "Effective" this is due to the fact that for entries assigned to red and yellow channel the importer/customs broker shall submit all copies of the IEIRD together with the required supporting documents to EPU on the date of electronic lodgment with e2m Customs System and for super green lane shipment, the importer/customs broker shall submit a copy of the SAD printed from the VASP system with all the required documents to the EPU on Tuesday or the second working day of the succeeding week [9].

Glaringly, table 2.2 shows the level of effectiveness of e2m transactional operation in the Bureau of Customs in terms of Assessment of duties and taxes is 2.78 with verbal interpretation of "Effective". First in the rank is reduced processing time (3.00) "Effective", the E- Customs System calculates the amount of duties and taxes. The e-Customs System checks the validity of manifest, bill of lading, and mode of payment declared by the importer. This process also verifies if the importer and broker are valid BOC clients. For selected entries, after document check or physical examination, the examiner fills up an 'inspection act". This e-document contains the findings of the examiner and the accompanying recommendation such as uplift of the duties and taxes. The system recalculates duties and taxes after the physical inspection of the cargo, and the inspection of all necessary documents to copy with the newly assessed declaration [9].

Table 2.2
Effectiveness of e2m transactional operation in the Bureau of Customs in terms of Assessment of duties & taxes

	Brokerage Firms			Freight Forwarding			Over-all		
Indicators	**WM**	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**
1. Reduced processing time	3.01	E	1	2.98	E	1	3.00	E	1
2. Accuracy of assessment of duties and taxes that result to less number of entries tagged for post audit	2.79	E	3	2.77	E	4	2.78	E	3.5
3. Lessen red tape due to more transparent dealings efficient system	2.44	LE	5	2.52	E	5	2.48	LE	5
4. Standard procedures for examination, classification and appraisal of cargoes	2.77	E	4	2.79	E	3	2.78	E	3.5
5. Eliminate the use of fabricated import licenses due to online checking of electronic permit	2.82	E	2	2.82	E	2	2.82	E	2
Composite Mean	**2.77**	**E**		**2.78**	**E**		**2.78**	**E**	

Legend: 3.50 – 4.00 = Highly Effective; 2.50 – 3.49 = Effective; 1.50 – 2.49 = Less Effective; 1.00 – 1.49 = Not Effective

Lessen red tape due to more transparent dealings efficient system was ranked no. 5 with verbal interpretation of "Less Effective". Re-routing of import entries from green lane to selected channel create an opportunity to make money for some scrupulous appraiser/examiners of the BOC.

Andag [10] cited that, it is irrefutable to assume that ICT reduces opportunities for corruption. The reality is more complex. While ICT does sometimes facilitate combating corruption, it can also have no effect or even provide for new corruption opportunities, for many reasons. He further cited that the Philippines is vulnerable to e-corruption because of 1.) the digitial divide;2.) increasingly unreliability of computer security systems;3.) progressive implementation of e-government evidenced in the passage of two laws, the E-Commerce Act [11] (RA 8792) and Government Procurement Reform Act [12] (RA 9184); 4.) ubiquity and accessibility of the internet and other electronic media; 5.) knowledge gap in the bureaucracy; 6.) brain drain and 7.) systematic corruption, poor governance and public apathy.

According to Foronda [13] graft and corruption in the Philippines continue to be pervasive despite of the abundance of laws and e-government agencies dealing with corruption.. Corruption issue in the government has huge limelight of the public consciousness only to be forgotten until another corruption scandal comes along. Basi [14] recommended on his dissertation that electronic signature should be implemented to totally eliminate the face to face transaction which is vulnerable to the opportunity for corruption.

Table 2.3

Effectiveness of e2m transactional operation in the Bureau of Customs in terms of Payment of duties and taxes

	Brokerage Firms			Freight Forwarding			Over-all		
Indicators	**WM**	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**
1. Reduced processing time	3.29	E	1	3.32	E	1	3.31	E	1
2. Availability of clients fund for payment of duties and taxes because of the requirement of opening debit account using the PASS version 5	2.99	E	4.5	3.05	E	5	3.02	E	5
3. Secured online transmission of payment information	3.25	E	2	3.31	E	2	3.28	E	2
4. Accuracy of payment for import duties, taxes and other charges	3.12	E	3	3.17	E	3	3.15	E	3
5. Smoothen the flow of work due to simplified procedure	2.99	E	4.5	3.07	E	4	3.03	E	4
Composite Mean	**3.13**	**E**		**3.18**	**E**		**3.16**	**E**	

Legend: 3.50 – 4.00 = Highly Effective; 2.50 – 3.49 = Effective; 1.50 – 2.49 = Less Effective; 1.00 – 1.49 = Not Effective

Table 2.3 reveals the the level of effectiveness of e2m transactional operation in the Bureau of Customs in terms of Payment of duties and taxes is 3.16 with verbal interpretation of "Effective".

Reduced processing time with a combined weighted mean of 3.31 was rank no. 1, full electronic service via the internet for customs cargo control and clearance through the e2M Customs will be put into operation and rolled out in all Collection Districts. Under PASS5, the duties, taxes and fees payable, both advance and final, will be transmitted to the AAB via payment gateway through a secured communication channel and collected by debit from designated bank accounts. This requires all importers to open debit accounts with AAB. The total amount payable as well as the amount payable in case to the AAB taking into account exemptions obtained as well as the data declared in the IED shall be computed by the e2m Customs System. For the net payable in cash to the AAB, a system generated payment instruction containing the AAB reference number designated by the importer in the IED will be transmitted to the Bank Payment Gateway. The Bank Payment Gateway shall route this payment instruction to the appropriate AAB [15].

Availability of clients fund for payment of duties and taxes because of the requirement of opening debit account using the PASS version 5 was ranked no.5 but still interpreted as "Effective". There are some cases that the importer fails to maintain sufficient balance on the nominated debit accounts that result to delay in the release of cargo.

Table 2.4

Effectiveness of e2m transactional operation in the Bureau of Customs in terms of Releasing of Imported Articles

	Brokerage Firms			Freight Forwarding			Over-all		
Indicators	**WM**	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**
1. Reduced processing time	2.84	E	5	2.90	E	3	2.87	E	4.5
2. Easy monitoring of status of cargoes	2.93	E	1	2.95	E	1	2.94	E	1
3. Promptness of locating the imported articles	2.86	E	3.5	2.93	E	2	2.90	E	2
4. Provides maximum security in the release of the cargoes because of the online transmission of release or loading instruction from the BOC to the transit facilities	2.86	E	3.5	2.88	E	4.5	2.87	E	4.5
5. Resort to strict compliance of government rules and regulations that result to reduce number of seizure and forfeited imported articles	2.89	E	2	2.88	E	4.5	2.89	E	3
Composite Mean	**2.88**	**E**		**2.91**	**E**		**2.90**	**E**	

Legend: 3.50 – 4.00 = Highly Effective; 2.50 – 3.49 = Effective; 1.50 – 2.49 = Less Effective; 1.00 – 1.49 = Not Effective

Table 2.4 reveals the level of effectiveness of e2m transactional operation in the Bureau of Customs in terms of Releasing of Imported Articles is 2.90 with verbal interpretation of "Effective".

First in the rank is Easy monitoring of status of cargoes (2.94) with verbal interpretation of "Effective" while reduced processing time and provides maximum security in the release of the cargoes because of the online transmission of release or loading instruction from the BOC to the transit facilities were the least with a combine weighted mean of (2.87) but still verbally interpreted as "Effective".

De Dios [16] articulated the significant contribution of Information Technology in simplifying border and administrative procedures that ultimately facilitate trade. Customs data validation, cargo inventory controls, goods declaration processing, electronic notification of release, revenue accounting, and customs enforcement readily benefit from IT. 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 and automatic reconciliation of customs declarations. Automation connects the regulatory authorities involved in trade. Paperless declarations save time that is better spent in inspecting high risk shipments. Pre-arrival clearance, risk analysis and separation of release from clearance are made possible.

Table 3.1

Problems Encountered in terms of Entry Lodgment

	Brokerage Firms			Freight Forwarding			Over-all		
Indicators	**WM**	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**
1. Connectivity problem	3.12	O	1	3.21	O	1	3.17	O	1
2. System shutdown	2.94	O	2	3.06	O	2	3.00	O	2
3. Delay because of the manual submission of supporting documents to Entry Processing Unit	2.70	O	4	2.73	O	4	2.72	O	4
4. Rerouting of import entries	2.46	S	5	2.54	O	5	2.50	O	5
5. Error in encoding vital information in the SAD	2.42	S	6	2.47	S	6	2.45	S	6
6. Delay/non-submission in the transmission of electronic bill of lading from the shipping/air lines	2.71	O	3	2.76	O	3	2.74	O	3
Composite Mean	**2.72**	**O**		**2.80**	**O**		**2.76**	**O**	

Legend: 3.50 – 4.00 = Always; 2.50 – 3.49 = Often; 1.50 – 2.49 = Sometimes; 1.00 – 1.49 = Never

Table 3.1 shows the problems encountered in terms of Entry Lodgment. The table presents the over-all rating on the Entry Lodgment which obtained weighted mean of 2.72 from the brokerage firms and 2.80 from the freight forwarding companies and manifested that those problems mentioned are often encountered respectively by both parties with a combined weighted mean of 2.76.

In terms of entry lodgment, the one that ranked first for both respondents is the connectivity problem with a combined weighted mean of 3.17 verbally interpreted as "Often". Internet service providers can supply a physical Internet connection. IP address and manage the installation of a telecommunications service for companies unsure of their options. Service providers offer special services including an e-mail server, security firewall and Web home page. Experts say the two primary concerns for businesses looking to get on the Internet are security and how to establish a connection [17]. Diagnosing a failing Internet connection can be complicated. There are several different factors involved in the chain between the software configuration, the firmware drivers, the hardware device, the network equipment, and finally the ISP uplink. If anyone link in the chain is broken, the connection won't work. However, all the user may experience is a web page wont load. In other words, it's not always immediately clear specifically which part is failing. The respondents are connected thru e2M by means of availing the service of a Value Added Service Providers namely E-konek, Intercommerce and CEDEC.

Error in encoding vital information in the SAD was ranked last by both respondents with a combined mean of 2.45 interpreted as "Sometimes". The e-Customs System validates the entry against the e-Customs rules and shall be automatically rejected upon failure during verification. Failure to pass the system checks triggers the creation of a validation error list. This list is transmitted to the importer/broker through the VASP. If the declaration satisfies all system rules, the declaration shall be registered. The system shall assign a registration number to the said declaration [9].

Table 3.2

Problems Encountered in terms of Assessment of duties and taxes

Indicators	Brokerage Firms			Freight Forwarding			Over-all		
	WM	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**
1. System Shutdown	2.79	O	1	2.95	O	1	2.87	O	1
2. Discrepancy in the BOC assessment as against importer's declaration	2.58	O	4	2.70	O	3.5	2.64	O	4
3. Incurs delay due to actual physical examination of imported articles	2.49	S	5	2.57	O	5	2.53	O	5
4. Malfunctioning of x-ray machine	2.77	O	2	2.73	O	2	2.75	O	2
5.Links with relevant government agencies for shipments requiring import permit	2.59	O	3	2.70	O	3.5	2.65	O	3
Composite Mean	**2.65**	**O**		**2.73**	**O**		**2.69**	**O**	

Legend: 3.50 – 4.00 = Always; 2.50 – 3.49 = Often; 1.50 – 2.49 = Sometimes; 1.00 – 1.49 = Never

The table 3.2 shows the problems encountered in terms of assessment of duties and taxes. The over-all rating of the brokerage firms was 2.65 while 2.73 on the freight forwarding companies perspective with a combine weighted mean of 2.69 interpreted as Often.

System Shutdown was ranked no. 1 both by the respondents with a combined weighted mean of 2.67 with verbal interpretation "Often". This result affirmed the statement made by Aldag [18], Cunningham and Stone in 2010. In their statement they mentioned some potential problems associated with computerization particularly the computers malfunction, invasions to privacy, hackers, error in use, computer crimes, terminal tedium and negative reactions. According to them, computer malfunctions can paralyze a business and errors in computers can lead to costly mistakes. Computer malfunctions mentioned by the three authors is very much similar to computer bug down/breakdown experienced by the respondents in this study, when the e2m System of the Bureau break down it cost them additional expenses in the processing of their transaction with the Bureau apart from other negative effects of the system breakdown like derailment of transaction, the return in manual processing of transaction which encourages the opportunity for corruption and other undesirable upshots of the system malfunctions in their business. Incurs delay due to actual physical examination of imported articles was ranked last. Delay is incurred because of the manual aspect of transferring the cargo from the storage area to the designated examination area.

Table 3.3. *Problems Encountered in terms of Payment of duties and taxes*

	Brokerage Firms			Freight Forwarding			Over-all		
Indicators	**WM**	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**
1. Connectivity of Banks with the Philippine Clearing House Corporation	2.77	O	2	2.88	O	2.5	2.83	O	2
2. Debit account of importer needs replenishment	2.45	S	5	2.46	S	5	2.46	S	5
3. Cut-off time of Banks	2.60	O	4	2.69	O	4	2.65	O	4
4. System shutdown	2.83	O	1	2.95	O	1	2.89	O	1
5. Incurs delay due to manual payment of arrastre charges & other port charges	2.73	O	3	2.88	O	2.5	2.81	O	3
Composite Mean	**2.67**	**O**		**2.77**	**O**		**2.72**	**O**	

Legend: 3.50 – 4.00 = Always; 2.50 – 3.49 = Often; 1.50 – 2.49 = Sometimes; 1.00 – 1.49 = Never

The table 3.3 shows the problems encountered in terms of payment of duties and taxes. The overall rating was 2.67 rated by brokerage firms and 2.77 on freight forwarders perspective. Among the problems encountered, system shutdown was rated no.1 by both of the respondents with verbal interpretation of "Often"' Lequiab [19], in his doctoral dissertation analyzed the SWOT of the BOC ACOS, and had deduced the following conclusions; 1. ACOS plays a major role in making the BOC a world-class customs service freeing it from outdated manual procedures that facilitates trade and investment. Its weakness lie in computer breakdowns and it still needs to be studied thoroughly to prevent loopholes in the system and where data can be manipulated by encoders. Debit account of importer needs replenishment was ranked no.5 by both of the respondents with a mean of 2.46 verbally interpreted as "Sometimes", in some cases the importer has no sufficient balance on his nominated debit account this result to delay because the system will not allow the release of the cargo without payment first of the corresponding duties and taxes calculated by the e2m Customs System.

Table 3.4 shows the problems encountered in terms of Release of Imported Articles. The overall rating was 2.57 rated by brokerage firms and 2.74 on freight forwarders perspective.

Among the problems encountered, Connectivity of the transit facility with the BOC was rated no.1 interpreted as "Often". Internet connection problems can be brought by spyware and viruses, this are the two most frequent causes of poor internet performance. Spyware monitors internet use and keystrokes, which add delays. The problem is compounded when there are multiple spyware programs running at the same time. If the problem is severe enough, this will result to lose connectivity altogether. Computer viruses can also cause poor internet performance, when a virus infects computer, it installs computer code which will attempt to propagate itself which leaves little computing power and Internet connection bandwidth for anything else Misrouted cargoes and Delay in the issuance of entry pass (truck) was rank least with a combined weighted mean of 2.56 interpreted as "Often". Misrouted cargoes are cause by mishandling, wrong label, wrong manifest/documentation while delay in the issuance of entry pass can be cause of the delay of payment transmittal of arrastre/wharfage dues by ATI to BOC, plate number of truck did not appear in the system and the cargo do not have code that appear in the system.

Table 3.4. *Problems Encountered in terms of Release of Imported Articles*

	Brokerage Firms			Freight Forwarding			Over-all		
Indicators	**WM**	**VI**	**R**	**WM**	**VI**	**R**	**WM**	**VI**	**R**
1. Connectivity of the transit facility with the BOC	2.76	O	1	2.97	O	1	2.87	O	1
2. Connectivity to the transit/arrastre operator	2.59	O	3	2.77	O	3	2.68	O	3
3. System shutdown	2.63	O	2	2.78	O	2	2.71	O	2
4. Misrouted cargoes	2.38	S	6	2.73	O	4	2.56	O	5.5
5. Delay in the issuance of entry pass (truck)	2.51	O	5	2.60	O	5	2.56	O	5.5
6. Unavailability of cargo handling facilities & equipment	2.55	O	4	2.59	O	6	2.57	O	4
Composite Mean	**2.57**	**O**		**2.74**	**O**		**2.66**	**O**	

Legend: 3.50 – 4.00 = Always; 2.50 – 3.49 = Often; 1.50 – 2.49 = Sometimes; 1.00 – 1.49 = Never

Table 4.1. *Difference of Responses Between the Two Groups of Respondents on the Level of Effectiveness*

Effects	Type	Mean	t-value	p-value	Interpretation
Entry Lodgment	Brokerage Firms	2.9216	0.079	0.937	Not Significant
	Freight Forwarding Companies	2.9255			
Assessment of duties and taxes	Brokerage Firms	2.7869	0.287	0.774	Not Significant
	Freight Forwarding Companies	2.7755			
Payment of duties and taxes	Brokerage Firms	3.1457	0.84	0.402	Not Significant
	Freight Forwarding Companies	3.1816			
Release of Imported Articles	Brokerage Firms	2.9106	0.009	0.993	Not Significant
	Freight Forwarding Companies	2.9102			

Legend: Significant at p-value < 0.05

As seen from the result in Table 4.1., all computed p-values were all greater than 0.05 level of significance, thus the null hypothesis of no significant difference between the responses of two groups of respondents on the level of effectiveness is accepted. This means that there is no difference observed and implies that the assessment of the respondents from the brokerage and freight forward companies is the same.

Based from table 4.2 , only release of imported articles shows significant difference since the obtained p-value of 0.014 is less than 0.05 level of significance, therefore the null hypothesis of no significant difference on the responses of the two groups of respondents on the problems encountered (release of imported articles) is rejected. This only indicates that the two groups experienced different problems and difficulties as to how they release articles. However, other variables do not show significant difference which denotes that the respondents from brokerage firm and freight forwarding companies have the same problems when it comes to entry lodgment, assessment of duties and taxes and payments of duties and taxes.

Table 4.2. *Difference of Responses between the Two Groups of Respondents on the Problems Encountered*

Effects	type	Mean	t-value	p-value	Interpretation
Entry Lodgment	Brokerage Firms	2.7462	.839	0.402	Not Significant
	Freight Forwarding Companies	2.7951			
Assessment of duties and taxes	Brokerage Firms	2.6673	.762	0.447	Not Significant
	Freight Forwarding Companies	2.7327			
Payment of duties and taxes	Brokerage Firms	2.6864	1.378	0.169	Not Significant
	Freight Forwarding Companies	2.7724			
Release of Imported Articles	Brokerage Firms	2.5829	2.470	0.014	Not Significant
	Freight Forwarding Companies	2.7381			

Legend: Significant at p-value < 0.0

Conclusions and Recommendation

Based on foregoing findings the following conclusions were drawn; It appears that limited numbers of freight forwarding companies offers brokerage service, and the most numbered filed import entry is consumption while the most used sub-system of e2m Customs System is the Client Profile Registration System. Both groups of respondents evaluated the effectiveness of the adapted e2m Customs System in all aspects as "Effective". It was noticed that both parties often encountered similar problems in the use of e2m Customs System particularly connection and system shutdown.. It was manifested in the responses of the two groups of respondents, that on sub-problem no.2, there is no significant difference. While responses on sub-problem no.3 show that there is significant difference on the problems encountered in the release of imported articles.

The full computerization of customs clearance which mean abolition of the manual aspect like filing of IEIRD-SAD in EPU, transfer of cargoes to the DEA and payment of arrastre charges, this will surely expedite the processing of release of cargoes. The use of anti-virus application programs and providing latest programming software is encouraged to minimize the problem of computer breakdown and likewise for efficiency and effectiveness of the system. Due to past development and continuous advancement of ICT, the Philippine government should fully support the upgrading of hardware and software of the BOC. Electronic lodgment and processing of export transactions should also be done. Electronic signatures should be implemented to totally eliminate the face to face transaction which is vulnerable to the opportunity for corruption. It is strongly recommended that back-up server with the same system application

should be provided and installed to address the problem of server breakdown. Interconnectivity of the BOC among different agencies of the government is also recommended to lessen the difficulty of clients in securing data among government agencies which are needed in the processing of business transactions. The proposed enhancement to the e2m system must be carried out by the BOC to further lessen the opportunity for corruption and smuggling as well as to maximize the advantages and benefits derived from the system. Similar studies are encouraged to put to a test the validity of the findings of the study.

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