



THE PRESENT COMPUTERIZATION PROGRAM OF THE BUREAU OF CUSTOMS: FOCUS ON IMPORT AND EXPORT TRANSACTIONS

Apolonia M. Alcedo^{1*} and Victor M. Cajala^{2**}

¹*Extension Head, College of Business, Asian Institute of Maritime Studies, Pasay City*

²*Research Head, College of Business, Asian Institute of Maritime Studies, Pasay City*

^{*}apolalcedo@yahoo.com

^{**}vcajala@yahoo.com

Abstract: The study assessed the present computerization program of the Bureau of Customs (BOC) with focus on the import and export transactions. Specifically, the study seeks to determine the following: 1) the profile of the respondents; 2) the level of achievement of the computerization program of BOC in the three major ports of Metro Manila in terms of the perceived benefits; 3) the effectiveness of the computerized import and export transactions of BOC in the three major ports of Metro Manila; 4) the significant difference on the level of achievement of the computerization program when respondents are grouped according to their profile; 5) the frequency of occurrence of the perceived problems in the implementation of the BOC computerization program; and 6) the proposed measures to effectively implement the computerization program of the BOC. Descriptive-survey method was employed in this study using a validated questionnaire to gather the data. Using incidental sampling in choosing the respondents, the subjects of the study were customs brokers/representatives, shipping agents/freight forwarders, and value-added service providers (VASP) from the Port of Manila, NAIA and MICP. Percentage, weighted mean, and analysis of variance were used to derive the respective figures of each problem. Findings revealed that majority of the respondents are shipping agents/freight forwarders and customs brokers/representatives; one third of them were 21-30 years old; more than half of them were college graduates, some are college undergraduates and few are post graduates and vocational graduates. Less than half of the respondents are licensed customs brokers, and more than half of them used the three ports to transact. The respondents were unanimous that the perceived benefits of the computerization program of the BOC were achieved. However, the elimination of corruption was fairly achieved. On the other hand, the respondents are unanimous in saying that the computerization of BOC was effective. The import/export documentation, however, was only judged fairly effective. The respondents never had a difficulty in the computerized import and export process of BOC. Likewise, the respondents rarely encounter the perceived problems of the computerized import and export process of BOC. There is no significant difference on the level of achievement of the BOC computerization program as to the respondents' profile. However, there is a significant difference on their views of the BOC computerization program when respondents are grouped according to port use. The respondents have strongly recommended the continuous linkages of BOC to various government agencies and stakeholders, the standardization of customs procedures through accreditation, and the tapping of most highly qualified internet service providers (ISPs) to avoid interruptions in every transaction.



Key Words: computerization program; Bureau of Customs; import transaction; export transaction; customs broker

1. BACKGROUND OF THE STUDY

1.1 Introduction

Stakeholders who do business at the port, specifically at the Bureau of Customs (BOC), want a speedy release of their cargoes from the zone. This is to impress their client that customs process in the Philippines is as easy as ABC. With the agency's aim to facilitate trade and observe transparency in all its activities, computerization programs have been undergoing and were done in various phases. Custom's automation expected results include substantial reduction in clearance time, increase collection of government revenue, reduction of face to face interaction, paperless transaction, prevention and/or suppression of smuggling activities and most importantly elimination of graft and corrupt practices among the officials and employees of the bureau. It is believed that corruption undermines the country's external competitiveness and its attractiveness to domestic and international investments especially the customs bureau. That is why the government is trying every possible solution so as to make the Philippines a better place for business and investments. This study is undertaken to provide information about the present computerization program of the Bureau of Customs and to help port users to be knowledgeable of the processes it entails. This is also for students taking customs administration course to have a reference and better understanding of the latest development at the Bureau of Customs. Lastly, this can help the present customs administration to know the strengths and weaknesses of the computerization programs that have been implemented.

Computerization in all agencies of the Philippine government is one of the various projects of our national government. Its objective is to enhance government transactions and maximize efficient service to the public. Not to mention the requirement for every offices to be adept with automation procedures so as to gain advantage with the increasing use of technology.

One of the Philippine agencies that have implemented the computerization program is the Bureau of Customs, a lead agency of the government that is mandated to collect customs revenues. Its aim is to intensify customs duty and tax collection, prevention and suppression of smuggling and ultimately eradicate corruption practices among

employees who are in the frontline of providing customs service.

The computerization program of the BOC started in 1995 by the former Commissioner of Customs Guillermo Parayno Jr. when the agency implemented the Automated Systems for Customs Data (ASYCUDA++) along with the On-Line Release System (OLRS). By such simple automation of entry lodgment and release of import cargoes, now comes the E2M system or what was called the "Electronic to Mobile System" of BOC with the most advance technology in both import and export processes. With this, it reduces face to face transactions and minimizes the need to go to the BOC for both import and export process. Its vision is to become one of the world's best customs administration agencies that every Filipino could be truly proud of.

1.2 Related Literature

The computerization program of the Bureau of Customs was implemented last January 9, 1998 ("Executive Order No.463: Creating the Management.....") by virtue of Executive Order No. 463 which creates the Management Information System and Technology Group (MISTG). The MISTG is an office under the umbrella of the Bureau of Customs and headed by a Deputy Commissioner appointed by the Philippine president. With the endeavor to enhance BOC transactions, the MISTG was created ("Executive Order No.463: Creating the Management.....") to "upgrade the present information technology group [of BOC] where it will have a more strategic position within the Bureau of Customs organization setup and provide a functional structure which will encompass the functions which are seen as vital in the attainment of the vision of a modernized trade facilitating and globally competitive Bureau of Customs."

Though Executive Order No. 463 became the implementing law of the BOC computerization, there are major precursors of the computerization program which the order has originated. It was the joint study of ("Executive Order No.463: Creating the Management.....") the Development Academy of the Philippines (DAP), the National Computer Center (NCC), the United Nations Conference on Trade and Development (UNCTAD), and the World Bank (WB).

The rapid increase of technology became inevitable that every nation in the world should accept and embrace. With this reality, many aspects in a man's life have become more technology-driven

as production of gadgets, equipment, and facilities became a normal and staple part of his day-to-day activities. This doesn't exempt private and public organizations, such as businesses, manufacturers, government agencies and other institutions of which technology became an integrative aspect in the operation of their respective offices. Worldwide, technology has been embraced fully, especially in the first world countries, and it became advantageous to them both in the enhancement of work and quality output.

Public offices, such as customs administration agencies, are one of the institutions that took advantage of technology. Undeniably, public service in administering customs transaction has become more efficient since various softwares and facilities automate the tedious office work which used to be a full human task. According to Turetsky (2004):

Regardless of adopted practices, all companies must have a reliable method for ensuring compliance with cross-border laws and regulations. Companies that do not automate their exporting or importing functions and record keeping are losing the competitive edge. They cannot take advantage of technologies like the Internet and XML or government initiatives like remote filing of export and import documents, and are seen as sub-standard by customers and by Customs.

It is inevitable not to embrace the import-export automation system as countries facilitate trade via international standard system.

A third world country such as Kenya has been solicitous in their endeavor to enhance their external trade procedures. They believe that ("Information technology- challenges and opportunities.....," 2009):

Customs administration is currently facing a variety of political and administrative challenges which includes fluctuating workloads with diminishing operational resources, an application of the line, "do more with less"; greater expectations from stakeholders, and pressure to meet often conflicting government political revenue, trade facilitation, social protection, and national security objectives. Moreover, customs administrations are increasingly required to integrate their systems and procedures with each other and the sophisticated global logistics networks used by international trade and transport

operators. To cope with these pressures and challenges, customs administrations worldwide are seeking fresh methods.....and ways of using IT, to improve their efficiency and effectiveness. As a result, many customs programs have, over the last decade, included significant computerization components.

Just like the Philippines, Kenya is also taking all the necessary measures so as to adapt computerization in customs process since all nations are keeping adept with the international trade development.

Since the study focuses on the computerized import and export transactions of the BOC, the application of two specific automation systems at the agency will be given highlight: the Automated System for Customs Data (ASYCUDA++); and the E2M (Electronic to Mobile).

From the time computerization program of the BOC was laid down, efficient administration of import-export transactions at the agency became highly compliant. This is due to the ASYCUDA software, one of the computerization features, which was outsourced by the agency last June 1994. The software ("About ASYCUDA") "takes into account the international codes and standards developed by ISO (International Organization for Standardization), WCO (World Customs Organization) and the UN (United Nations)."

Though it's inevitable not to comply with international standards of trading, automation in particular, BOC ports in the country have been efficient in its cross border transactions due to the automated registration, monitoring, and checking of items brought by the computerization program. Specifically, customs automation mainly results in increased transparency in the assessment of duties and taxes, substantial reduction in customs clearance time. All these factors will eventually lead to a direct and indirect savings for both government and the trading community. More specifically, benefits usually include: simpler, more transparent procedures and documents based on international standards; faster electronic lodgment of customs declarations, using direct traders input (DTI) or other on line-connections; reduced customs clearance times and less physical examination of shipments owing to the use of risk management applications; increased collection of duties and taxes and lesser fraud due to the uniform application of laws and regulations.

It has been a fact that the BOC is one of the known corrupt agencies of the Philippine

government. From time to time, results on the performances of government agencies show that BOC has been consistent in the corrupt list holding varied positions in the top ten ranks. This negative perception has, in some way, made the computerization a vehicle to counter such image of the agency. The latest innovation at the BOC has diminished, if not eliminated, the act of committing corruption since most of the old broker-to-client transactions have been replaced by client-to-computer interaction and this is integrated in the latest automation system of BOC. "Brokers will no longer be required to personally appear at the BOC offices to follow-up their transactions since they can now process their business through online. Persons doing transactions with the BOC are advised to visit the agency's official website that provides a link where they can see the status of their transactions ("Customs acts to improve....," 2013).

The BOC computerization also reaped commendations from the international community. Two years ago [2009], ambassadors from the European Union (EU) has expressed their accolades to the Philippine government in the effort to eliminate corruption at the BOC stating that (Baua, 2011) "they were encouraged by the impact of the Bureau of Customs' computerization program on lessening corruption." Further, BOC Deputy Commissioner Horacio Suansing stated (Baua, 2011) that "the changes [in customs transaction] has improved the image of the BOC resulting in the lower rank they received in the Pulse Asia survey on the 'most corrupt government agencies' from last year's [2010] rank 5 to rank 7."

In the advent of modern technology, many countries have adapted various inventions so as to go with the flow of technology that every world has been enjoying. In customs administration, almost all countries have complied with the computerized system of customs transaction both in import and export activities. This becomes inevitable as trading transaction from country to country becomes wireless due to the technology of computer and the internet. The advent of these two technologies became very vital in the total reformation of customs transaction. In a study done by Akbay (2009), the Turkish Customs Administration (TCA) initiated their computerization program on November 2, 1999 due to low efficiency. In the same study, Akbay (2009) claimed that upon implementation of the TCA computerization program, "clearance times reduced significantly which represents a clear sign that the reform has eased the burden on traders between the years 1996-2000 resulting to the automation of 109

more customs directories and 16 regional directories from the year 2000 to the end of 2006 and almost 100% of all foreign trade transactions are under automation."

The computerization effort at the TCA proved to be beneficial as it implemented full automation in its customs transaction. However, TCA also outlined some interventions in the full usability of the customs automation due to some factors which are mostly human-related. These factors (Akbay, 2009) are the following:

Some regional custom offices lagged in implementing the new computerized system due to the lack of hiring qualified personnel and some specific problems; the lack of coordination among governmental agencies is also responsible for delays and inefficiencies in customs; resistance to change among custom personnel and traders is still another problem to be solved. Now, almost 100 percent of Turkish foreign trade transactions are processed by computerized system.

In the Philippines, the computerization program is part and parcel of a larger plan billed as "Blueprint for Customs Development towards the Year 2000." This was conceived few decades ago which aims to clean up the customs. This effort has paved the way for a number of reform programs which include the computerization program due to the (Parayno, 2004) "widespread use of information and communication technology (ICT) by customs partner entities such as the shipping and airline industries, port operators and banks, which would permit sharing databases and automating cargo clearance processes."

Indeed, the promise of automation at the BOC has made a lot of work procedures easy and convenient to all of its stakeholders. But still, the automation promise can only last some time as computerization procedure is made of softwares and hardwares vulnerable to many malfunction factors. In the study of De Dios (2009), results showed the following setbacks of the BOC computerization program:

An overwhelming majority (79%) of brokers have connectivity problems. This may be a result of poor service provision or poor infrastructure....[About one third] find adjusting [is] difficult because IT investments are costly....Other difficulties expressed by respondents are (a) explaining the new measures to conventional clients; (b) lack of regular clients; (c) frequency of

systems/technical breakdown; (d) additional costs that are difficult to pass on to clients; (e) lack of preparation by the government and less than full implementation of the measure that results in the need for personal follow-up after electronic lodgment. This last concern implies that face-to-face interaction has not diminished, giving rise to opportunities for corruption.

1.3 Statement of the Problem

The main objective of this study is to provide information about the on-going development of the BOC computerization projects. Specifically, the study seeks answers to the following questions:

1. What is the profile of the respondents according to:
 - a. Employment
 - b. Age Bracket
 - c. Educational Attainment
 - d. Professional License
 - e. Port use?
2. What is the level of achievement of the computerization program of BOC in the three major ports of Metro Manila in terms of the perceived benefits?
3. How effective is the computerized import and export transactions of BOC in the three major ports of Metro Manila?
4. Is there a significant difference on the level of achievement of the perceived benefits of the BOC computerization program when respondents are grouped according to their respective profiles;
5. How frequent is the occurrence of the perceived problems in the implementation of the BOC computerization program?
6. Based on the findings of the study, what measures can be proposed to the concerned agencies to effectively implement the computerization program of the BOC?

1.4 Hypothesis

Ho. There is no significant difference on the perceived benefits of the BOC computerization program when respondents are grouped according to their respective profiles.

1.5 Conceptual Framework

The study employed the descriptive-survey design as method in gathering data. Hence, it has utilized the input-process-output paradigm of which specific variables of the study were used to yield and

describe the present computerization status of the BOC. The study's inputs were the respondents' profile variables while the specific parameter variables, of which it operates in the process stage, were used to determine the performance of the BOC computerization program. As a result, the output stage yielded the present status of the BOC computerization program. Figure 1 presents the illustration of the study's research framework.

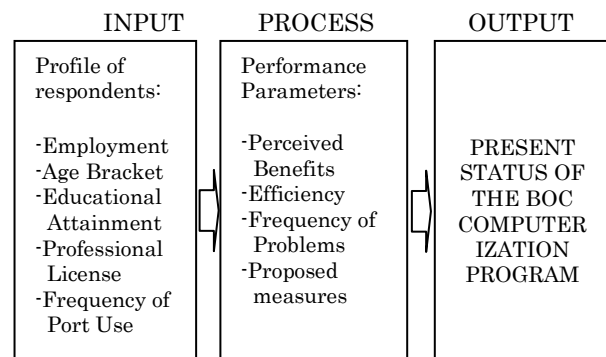


Figure 1. Research Paradigm

1.6 Scope and Limitations

This study dealt on the present computerization program of the Bureau of Customs as implemented in three major ports of Metro Manila: Port of Manila in South Harbor, Manila International Container Port in North Harbor and NAIA airport. The respondents are customs brokers, shipping line representatives and value-added service providers who were all outsourced from the stated ports and are the first-hand users and observers of the computerized import-export procedures.

The study made use of a self-made questionnaire to gather the present experiences and observations of the respondents. The study commenced last April 2012 and ended in June 2013. Though the study earned subjective comments from port users that are partly connected to the study, it however focused on the objective parameters listed in the questionnaire which centered on the performance of the computerization program of BOC.

2. METHODOLOGY

2.1 Research Design

The descriptive-survey method was employed in this study using a validated survey

instrument – the questionnaire – to gather data from the respondents. According to Zulueta & Costales (2003), descriptive survey “is appropriate wherever the object of any class varies among themselves and one is interested in knowing the extent to which different conditions obtain among these objects.” The descriptive method, therefore, is the suitable design for the study as this method measures the subjective feeling of the respondents specifically of their experiences while engaging with the automated customs transaction.

2.2 Sample and Sampling Technique

The subjects of the study were customs brokers/representatives, shipping agents/freight forwarders, and value-added service providers (VASP) who transact business with the BOC from the three major ports in Metro Manila namely Port of Manila, NAIA and MICP. Incidental sampling was used in the study wherein the respondents, who are exclusively transacting at the three stated ports, were randomly picked during the time of data gathering.

2.3 Research Design

A questionnaire was used as an instrument in obtaining the necessary data for the study. The questionnaire was a self-made instrument intended to establish the assessment of the aforementioned respondents in the existing automated import and export procedures and documentations at the three stated ports. The survey questionnaire, which served as the main instrument, was validated and pretested to ascertain the conditions according to the purpose of the study.

The instrument has six parts. Part 1 seeks to determine the demographic profile of the respondents. Part 2 seeks to determine the achievement of the perceived benefits of the BOC computerization. Part 3 seeks to establish the effectiveness of the computerized import and export procedures of BOC. Part 4 endeavors to determine the significant difference on the perceived benefit of the BOC computerization program as to the respondents’ profiles. Part 5 seeks to determine the perceived problems of the automated import and export procedures of BOC. Lastly, part 6 seeks to determine the proposed measures to effectively implement the computerization program of BOC.

2.4 Data Gathering Procedure

The researchers personally ask a permission from the heads of the respondent ports to do a

survey. Upon approval, the researchers made a random schedule and went through the ports to conduct the survey. During the survey, the researchers focused on the three groups of respondents namely customs brokers, shipping line representatives and value-added service providers who are presently transacting at the stated ports. The researchers personally administered the questionnaire to the respondents giving brief instruction as to the procedures in answering the survey form. After filling-up the survey form, the questionnaires were immediately retrieved from the respondents. The retrieved questionnaires underwent tabulation and treatment of data.

2.5 Statistical Treatment of Data

The following statistical tools were used in the treatment of data:

Percentage. The percentage was used to determine the profiles of the respondents. According to Calmorin and Calmorin (2003), “this is a portion of a whole expressed in hundredths. It is the value obtained by multiplying a number by a percent.”

The formula of percentage is as follows:
Formula: % = $f/N \times 100$ (Eq. 1)

Where: f = frequency of each variable
 N = total number of population

Weighted Mean. This was used to determine the subjective feeling of the respondents pertaining to the questions raised in part 2, 3, 5, and 6 of the questionnaire. According to Zulueta and Costales (2003), “this is used when variables being studied are abstract or continuous such that they cannot be counted individually.”

The formula of weighted mean is as follows:

$$\bar{X} = \frac{\sum fx}{\sum f} \quad (\text{Eq. 2})$$

Where: f = frequency of each variable
 x = scale

Analysis of Variance (ANOVA). This was used to determine the existence or absence of a statistical difference between the mean values of the three groups of respondents pertaining to the perceived benefits of the BOC computerization program. Hence, this tool was used to determine the impact of the respondents to the perceived benefits of the BOC computerization program.

$$F = \frac{MST}{MSE} \quad (\text{Eq. 3})$$

Where:
 \bar{X} = Weighted mean

f = no. of frequency
x = weight

F-Test. According to Calmorin & Calmorin (2012), F-Test involves three or more independent variables as bases of classification. Hence, this was used to see if the study's three groups of respondent have different variances.

$$F = \frac{MS_R}{MS_E} \quad (\text{Eq. 4})$$

Where:

F = F-Test
MS_R = Mean Square between groups
MS_E = Mean Square within groups
MS = Mean Square for Error

3. RESULTS AND DISCUSSION

3.1 The profile of the respondents.

Table 1. Distribution of Respondents by Employment

Employment	F	%
Shipping agent/Freight	54	38.30
Customs	53	37.59
Value-added service provider	34	24.11
Total:	141	100%

Table 1 presents the distribution of the respondents according to employment. As shown in the table, majority of the respondents are shipping agents/freight forwarders and customs brokers/representatives of which the former comprises 54 respondents (38.30%) and the latter consists of 53 respondents (37.59%). Not far enough are the value-added service providers which comprise 34 respondents (24.11%).

Table 2. Distribution of the Respondents by Age

Age Bracket	F	%
21-30 years old	55	39.47
31-40 years old	45	31.57
41-50 years old	26	18.42
Over 50 years old	15	10.54
Total:	14	100%

Table 2 presents the distribution of the respondents according to age. As reflected on the table, more than one third or 55 (39.47%) of the respondents are 21-30 years old while 45 of them

(31.57%) are 31-40 years old. A meager number of the respondents are 41-50 years old and over 50 years old as the former comprises 26 respondents (18.42%) while the latter only consists of 15 (10.54%).

Table 3. Distribution of Respondents by Education

Educational Attainment	F	%
Post graduate	4	2.84
College graduate	95	67.37
College undergraduate	38	26.95
Vocational	4	2.84
Total:	141	100%

Table 3 presents the distribution of respondents according to educational attainment. It was noted that more than half of the respondents are college graduate of which they comprise 95 (67.37%) out of the total respondents. Only 4 (2.84%) have post graduate courses, another 4 (2.84%) have vocational courses while 38 of them (26.95%) are college undergraduates.

Table 4. Distribution of Respondents by License

Professional License	F	%
Civil service eligibility	22	15.61
PRC customs broker	63	44.68
Lawyer	8	5.67
Other licenses	48	34.04
Total:	14	100

Table 4 presents the distribution of the respondents according to professional license. Undoubtedly, 63 of the respondents (44.68%) are licensed customs brokers while 48 of them (34.04%) have other licenses. Few of the respondents have relative profession as 22 of them (15.61%) are civil service eligible while 8 of them (5.67%) are lawyers.

Table 5. Distribution of Respondents by Port Use

Ports	F	%
NAIA	41	29.08
Port of Manila	7	4.96
MICP	11	7.80
3 Ports	82	58.16
Total:	141	100%

As reflected in Table 5, more than half of the respondents used the three ports as 82 of them

(58.61%) transact from one port to another port to another port. On the other hand, almost one third or 41 of the respondents (29.08%) use the NAIA port. In contrast, a meager part of the respondents (11 or 7.80%) use the port of Manila.

3.2 The level of achievement of the computerization program of BOC in terms of the perceived benefits.

Table 6. Mean Distribution on the Perceived Benefits of the BOC Computerization Program

Perceived Benefits	VASP	SA	CB	Mean	Verbal
Reduced Processing Time	4.11	4.21	4.43	4.25	Achieved
Cashless Payment	3.89	4.31	4.64	4.28	Achieved
Face-to-face Transaction Eliminated	3.78	4.41	4.21	4.13	Achieved
Speedy Release of Cargo	3.78	3.96	4.43	4.06	Achieved
24/7 Customs Process	3.67	4.31	4.25	4.08	Achieved
Simpler/Transparent procedures	3.67	4.27	4.32	4.09	Achieved
Less physical examination	3.44	4.17	4.03	3.88	Achieved
Increased government revenue	3.67	4.31	3.61	3.86	Achieved
Less fraud	3.67	4.13	4.57	4.12	Achieved
Paperless Environment	3.67	3.69	3.82	3.73	Achieved
Corruption practices eliminated	3.33	3.79	3.14	3.42	Fairly Achieved
Average Mean:	3.69	4.56	4.13	4.13	Achieved

Table 6 presents the mean distribution on the perceived benefits of the BOC computerization program. It appears on the table that though the perceived benefits of the BOC computerization program were not highly achieved, almost all of the stated parameters were achieved. Distinct on the benefits are the cashless payment (4.28) and the reduced processing time (4.25). The respondents also believe that the BOC computerization has eliminated the face-to-face transaction (4.13) as well as lessened the commitment of fraud (4.12). It was indicated also that the same made a simpler and transparent procedure (4.09), has 24/7 customs process (4.08), and a fast release of cargo (4.06). Though most of the remaining parameters were achieved, the elimination of corruption was fairly achieved (3.42).

3.3 The level of effectiveness of the computerized import and export transactions of BOC.

Table 7. Mean Distribution on the Effectiveness of BOC Computerized Import and Export Transaction

Transactions	VASP	SA	CB	Mean	Verbal
Import Entry Lodgment	3.56	4.48	4.07	4.04	Effective
Export Entry Lodgment	4.44	4.28	3.96	4.23	Effective
Assessment of Import Fees & Charges	3.44	4.17	3.82	3.81	Effective
Import/Export Documentation	3.44	4.24	2.54	3.41	Fairly Effective
Cancellation of Bonds	3.22	3.83	4.93	3.99	Effective
Examination of Cargo	3.33	3.97	4.32	3.87	Effective
Releasing of Cargo	3.67	4.31	4.46	4.15	Effective
Conduct of X-ray Cargo	4.11	3.83	3.96	3.97	Effective
Client Profile Registration	4.11	4.31	4.46	4.29	Effective
Acceptance of Manifest	4.00	4.28	4.43	4.24	Effective
Average Mean:	3.29	4.17	4.10	3.85	Effective

Table 7 presents the effectiveness of the computerized import and export procedures of the BOC. Interestingly, almost all of the computerized import and export procedures were effective though none of them were highly effective. Distinct on the procedures were the client profile registration (4.29),

acceptance of the manifest (4.24), and the export entry lodgment (4.23). The rest of the parameters on the computerized export and import procedures were effective except for import/export documentation where it was only judged as fairly effective (3.41).

3.4 Significant difference on the level of achievement of the perceived benefits of the BOC computerization program according to the respondents' profiles.

Table 8. ANOVA Table on the Perceived Benefits of the BOC Computerization Program

Source of Variation	Df	Sum of squares	Mean square	Computed F-Test	Ho
Between groups	2	835.467	335.4675		
Within groups	27	1065.87	39.587		
Total:	29	1901.337	3.35	5.49	21.1045 Reject

The number of degrees of freedom of 2 and 27 at 1 percent level of probability with F-value of 3.35 and 5.49 to be significant at level of confidence of .05 and .01 respectively. The computed F-value for samples is 21.1045, which is significant at both level of confidence. This means that the perception of the three groups of respondents on the perceived benefits of the BOC computerization program really differ with each other. Perhaps, one of the three ports did not really reflect the benefits expected by the respondents during their transaction period. Hence, the hypothesis is rejected.

3.5 The level of occurrence of the perceived problems in the implementation of the BOC computerization program.

Table 9. Mean Distribution on the Perceived Problems of the Computerized Import and Export Procedures of BOC

Perceived Problems	VASP	SA	CB	Mean	Verbal
No internet connection.	1.67	1.69	2.14	1.83	Rarely
Server of VASP not working.	2.00	1.38	2.17	1.85	Rarely
Server of the BOC not working.	2.11	1.79	2.21	2.04	Rarely
Related government agency's server	2.11	1.52	1.35	1.66	Rarely
Broker/Client had difficulty in the process	1.67	1.48	1.36	1.50	Never
Average Mean:	1.91	1.57	1.85	1.78	Rarely

Table 9 presents the perceived problems in the computerized import and export transactions of BOC. It reflects on the table that all of the perceived problems in the computerized import and export transactions were rarely experienced. Distinctly, the brokers/clients never had a difficulty in the process (1.50) while the rest of the parameters were rarely encountered such as the non-working of other agency's server (1.66), no internet connection (1.83), non-working of VASP server (1.85), and non-working of BOC server. Though the perceived problems did not achieve a never rating except for one, it is indicative that these problems do occur at a very minimal circumstance making the operation of the computerized import and export transaction of the BOC smooth and efficient.

3.6 The proposed measures to effectively implement the computerization program of the BOC.

Table 10. Mean Distribution on the Proposed Measures to Effectively Implement the Computerization of BOC

Proposed Measures	VAS P	SA	CB	Mean	Verbal
Continuous linkages with various government	4.67	4.62	4.75	4.68	Strongly Recommended

agencies, stakeholders					
Intensify seminars, trainings among stakeholders	4.11	4.62	4.75	4.49	Recommended
Tapping the most highly qualified internet service providers.	4.11	4.41	4.75	4.42	Recommended
Standardize d customs procedures through accreditation	4.22	4.59	4.79	4.53	Recommended
Average Mean:	4.28	4.56	4.76	4.53	Recommended

Table 10 presents the proposed measures in the effective implementation of the BOC computerization program. The respondents exhibited a favorable response across all the proposed measures as listed. Topping a strong recommendation from the respondents is the continuous linkages of BOC to various government agencies and stakeholders who take part in the computerized port business with a 4.68 mean. On the other hand, standardizing customs procedures through accreditation such as ISO and Veritas (4.53), intensifying seminars and trainings among stakeholders (4.49), and tapping the most highly qualified internet service providers (ISPs) to avoid interruptions in every transaction (4.42) were unanimously recommended by the respondents.

4. CONCLUSIONS

4.1 Findings of the Study

Based on the results of the study, the following are the findings of the study:

The shipping agents/freight forwarders, and customs brokers/representatives comprise the largest number of respondents. The largest group of respondents was 21-30 years old, followed by those who are 31-40 years old, a few were 41-50 years old, and very few were over 50 years old. There were more respondents who are college graduates, few are college undergraduates, a slim margin are post graduates, and also a margin of them are vocational graduates. Also, most of the respondents are licensed customs brokers, followed by those who have other

licenses, few are civil service eligible, and very few are lawyers. Lastly, a large group of the respondents used the three ports to transact, followed by a small group who used the NAIA port, and a meager of them used the port of Manila.

The respondents found that cashless payment, reduced processing time, elimination of face-to-face transaction, lessened fraud commitment, simpler and transparent procedure, 24/7 customs process, and fast release of cargo were all the benefits brought by the computerization of the BOC. However, the respondents found that the computerization of BOC did not fully eliminate the corruption in the bureau.

The respondents found that the client profile registration, acceptance of the manifest, export entry lodgment, releasing of cargo, import entry lodgment, cancellation of bonds, conduct of x-ray cargo, examination of x-ray cargo, and assessment of import fees and charges using the computerized import and export transaction of BOC were effective. However, the respondents found that the computerized import/export documentation was not fully effective.

There is a significant difference on the views of the respondents with regards to the perceived benefits of the BOC computerization program as supported by the computed F-value of 21.1045, which is significant at both level. Perhaps, one of the three ports did not really reflect the benefits expected by the respondents during their transaction period. Hence, the hypothesis is rejected.

The respondents expressed that there is no difficulty in the computerized import and export process of BOC. In addition, the respondents expressed rare encounter in the non-working of other agency's server, the no internet connection, the non-working of VASP server, and the non-working of BOC server.

Lastly, the respondents firmly believe that continuous linkages of BOC to various government agencies and stakeholders who take part in the computerized port business should be done. They also believe that the standardization of customs procedures through accreditation, such as ISO and Veritas, the intensification of seminars and trainings among stakeholders, and the tapping of most highly qualified internet service providers (ISPs) to avoid interruptions in every transaction should be implemented.

4.2 Recommendations

The Management Information System and Technology Group (MISTG) of the Bureau of Customs (BOC) should continue enhancing the



various benefits gained from the computerization program of BOC. Further recommendation is hereby proposed in the improvement of customs transaction eliminating windows to commit money-related acts such as bribery, commissioning among others so that it would eventually eliminate corruption in the bureau.

The MISTG-BOC should also conduct trainings detailing the proper procedure in conducting the computerized import/export documentation. The training should include the major stakeholders in conducting the computerized import/export documentation process which include BOC officers, shipping agents, customs brokers, and value-added service providers.

Recommending further that the MISTG-BOC should update their automation infrastructures and facilities to eventually eliminate the bogging down of servers. It is further recommended that the MISTG should outsource a much better internet service provider (ISP) to implement an effective delivery of online transactions within the BOC agencies and offsite branches.

The BOC should continue its linkages to various government agencies, such as the Department of Trade and Industry, Department of Finance, Philippine Ports Authority, Philippine Shipping Bureau, Bureau of Internal Revenue and stakeholders, such as banks, shipping lines, airlines, e-Connect Pilipinas, InterCommerce, Cargo Data Exchange Center among others to update new regulations and applications leading to the eventual enhancement of the computerized transaction system. It is further recommended that BOC should implement the standardization of customs procedures through accreditation with leading accrediting agencies, such as ISO, Veritas, and others. Stakeholders, such as brokers, shipping agents, value-added service providers among others, should be given proper education and training to effectively comply with the procedures needed in the successful operation of online customs transaction.

Further studies should be conducted to thoroughly assess the performance of the computerized transaction system of BOC. Perhaps, a study of factors that tends to lower the benefits of automated customs transaction can be considered.

Resistance to change among custom personnel and traders is still another viable study to work on.

Lastly, more research is needed to understand the specific problems of computerization and identify relevant institutional arrangements needed to improve standards of customs

organization.

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