
The Usage of Information and Communication Technology in the Freight Forwarding Industry: A Descriptive Analysis

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ABSTRACT

The Information, Communication and Technology (ICT) are implemented in the freight forwarding industry to allow the process transparent and seamless. It changes from the manual paper-based process to electronic system. The significant of ICT implementation in forwarding industry provides better platform for freight forwarder to deliver services effectively. The objective of study is to examine the usage of ICT in the freight forwarding industry. The study adopted quantitative research to address the objective. Primary data of 140 questionnaires were collected from respondents in Johor. The findings may provide the freight forwarding industry with information for enhancing the trade facilitation.

Keywords: freight forwarder, technology, information, descriptive, logistics

INTRODUCTION

Usage of Information and Communication Technology (ICT) in the international trade is introduced to increase accessibility, convenience, wide range of availability and cost saving. This is a reason on the implementation of one Single Window, which keeps many parties in communicating through a same standard of system electronically in order to allow the process to be seamless and transparent. The development of a technology facility is required in order to facilitate the growing of international trade. In Malaysia, the initiative to transforms from traditional paper-based documents towards to a more paperless began in 1990s. As noted that, it would change the economic landscape and international trade to 'borderless' and incorporated to supply chain (Salleh, 2010). This idea has been realized in the form of Single Window to enhance the supply chain activity and helps to lower transaction cost (Peterson, 2017).

ICT is recognized as the engine to drive economy growth in both advanced and developing economies (Farhadi, Ismail, & Fooladi, 2012). It has now become a backbone for businesses. The deployment of ICT in trade facilitation enables freight forwarder to undertake trade-related transaction using the Internet and exchange the document seamlessly. Therefore, the development of Electronic Data Interchange (EDI) was exercised by the Malaysia government in early 1990s to transforms the trading facilitation. Subsequently, the National Single Window (NSW) was launched in 2009, to serve as an electronic-based trade eco system for a one-stop Trade Facilitation. The platform is link to the relevant government agencies and various parties such as traders, forwarder, shipping agent, manufacturer, importer, exporter, transport and logistics players. It marks a significant shift from working in the paper-based trading environment to an electronic system to increase efficiency of delivery services. In

Malaysia, NSW for trade facilitation was developed and operated by the Dagang Net (DagangNet, 2017e).

The significant amount of investment and resources has been implemented to put in place the infrastructure and systems for the NSW. However as reported by Dagang Net in 2012, both Electronic Preferential Certificate of Origin (ePCO) and Electronic Permit Startegic Act (e-PermitSTA) reached to 100% of coverage while the other core services such as Electronic Customs Declaration (e-Declare), Electronic Customs Duty Payment (e-Payment), Electronic Manifest (e-Manifest) and Electronic Permit (e-Permit) were reached in the range of 23% – 97% (DagangNet, 2012). Therefore, this paper is aim to examine the usage of ICT, particularly NSW platform among the freight forwarder of the e-Declare, e-Payment, e—Manifest and e-Permit.

LITERATURE REVIEW

The NSW serves as a platform to the trading community to submit the data in electronic format. It enables the trading community like freight forwarder to share the data electronically using a single platform.

- **Electronic Customs Declaration (e-Declare)**

E-declare refers to the declaration without using a physical customs form. An importer or agents have to install the Customs Information System (CIS) software into their front end to keep on connected to the system. This is to execute the paperless transaction. Data and information are transmitted electronically without hardcopy documentation. It keeps them connected and has access to the reliable information. The agent or importer should always supervise to check 'response code' to determine the status of the declared goods. They can be updated on the status of their shipment. There are several benefits using e-declare such as reduce waiting time, fast customs clearance, inventory cost reduction, reduce the human intervention, customs procedures easier and workload lesser. This is due to they are no longer need to be there at the place as goods are handled and declared according to the data and information transmitted electronically (DagangNet, 2017a; Salleh, 2010). There are supporting documents required such as invoice, packing list, shipping note which also known as bill of lading or airway bill for air freight, import or export license/permit and exemption letter/ approval in order to make sure the declaration is completed.

- **Electronic Customs Duty Payment (e-Payment)**

E-payment system is an application that supported with electronic fund transfer and telegraphic transfer. Users could prepare, submitted and settle payments via online. The payment processes can happen anytime and anywhere as the service operates beyond working hours. The mutual agreement between Freight Forwarder and customers should be in the place, as both parties should agree for duty payment (DagangNet, 2017c; Salleh, 2010). E-payment is more useful using one single platform that eliminates user anxiety and provides a standard rules in terms of payment. It is a unique specially designs system that introduced to facilitates payment of duties

and improves traditional method of payment (Chin & Ahmad, 2015). E-Payment covers online payment of Customs duties to Royal Malaysian Customs Department. Goods will be released after duties are paid. E-payment is designed to users benefit mainly in terms of convenience and lower the transaction cost. The web-based user interface allows customers to access and manage their transactions electronically. This is supported by the strong build-up of broadband services and penetration rate.

- **Electronic Manifest (e-Manifest)**

E-Manifest is a comprehensive system that allows Principal Shipping Agents, Shipping Agent and Freight Forwarder to submit vessel and cargo manifest electronically to the respective authorities. It also allows them to assign berth and keep track of the cargoes. By using the e-manifest, the Freight Forwarder is able to save time, as they are no longer needs to deal with manual process but the information required can be retrieved electronically. Details that need for manifest usually are vessel ID/Name Voyage Number, shipping agent bill of lading number description of cargo total package weights, consignee's name/ address, consignor's name/ Address and notifying Party (DagangNet, 2017b; Salleh, 2010). The government agency has mentioned that submission of manifest for inward manifest to be submitted within 24 hours after the arrival of the vessel (Malaysia External Trade Development Corporation (MATRADE), 2013).

- **Electronic Permit (e-Permit)**

E-permit is the platform to facilitate importer, exporter and appointed Freight Forwarder to apply the permit from relevant agencies, which known as Permit Issuing Authorities (PIA). Previous process, it used manual-based trade processing to apply the permits, which have longer duration to process, starting from the time of application to receiving approval, which involves the filling of thick documentation and time consuming. However, with introduction of e-permits, it helps to shorten the time taken (DagangNet, 2017d; Salleh, 2010). It is a new comprehensive initiative to improve international trades by automation of procedure and expedite custom process. This facility reflects benefit to supplier or purchasers of goods along with freight forwarders. NSW platform act as one stop that link government agencies with freight forwards to facilitate the import and export of goods.

METHODOLOGY

This empirical study was conducted using data collected from Freight Forwarder Company, which listed in Johor Freight Forwarder Association (JOFFA). A questionnaire was designed to ask the companies on their usage of the components in NSW platform. This information was collected using a five-point scale in response to statements about these variables. A total of 348 self-administered questionnaires were distributed to the respondents located in Johor, Malaysia. Duration of two months for data collection exercise with 140 was considered to be legitimate and met the requirement. The questionnaire was divided into 2 sections. Section A asking the respondents on the demographic. Next section B was the measurements for usage of the components in NSW platform. Each item in section B were measured with interval scale on a 5

point Likert Scale which 1 represent as strongly disagree and 5 refers as strongly agree. The data then was analyzed using SPSS 20.0 to obtain the result. Table 1 depicts the Cronbach's Alpha score for the dimensions. The reliability test was conducted to check the internal consistency of the scales. The reliability coefficients of the four dimensions' exhibit consistency. As presented in Table 1 below, the Cronbach's Alpha of e-manifest consist of 6 items produce 0.709, e-declare with 5 items yield a coefficient value of 0.743, followed by e-permit that carried 5 items had coefficient of 0.709, and e-payment had 6 items given the value of 0.697. Therefore, for all dimensions studied was considered as reliable. This is in consistent with Sekaran and Bougie (2010) quoted that for all dimensions range from 0.62 to 0.95, exceed the minimum acceptable reliability with alpha at 0.6. Additionally, the reliable of alpha value ranging in the above scale has fulfilled the minimum requirement as suggested by Nunnally (1978).

Table 1: Reliability Test

Dimension	Items	Cronbach's Alpha coefficient
e-Manifest	6	0.709
e-Declare	5	0.743
e-Permit	5	0.709
e-Payment	6	0.697

FINDINGS AND DISCUSSION

The study analyzed 140 respondents as shown in Table 2. The demographic data included information on gender, age, and number of employee in area of Johor. The gender of the sample comprised male (55%) and female (45%) respondents. Majority age of respondents who participated in this study range between 21-30 and 30-40 years old (32.86%), followed by 32.14% in the range of 40-49 years old, and the least respondents were 41 years old or older. Respondents were divided into two types of number of employee: less than 50 and 51-200 employees. 123 of the respondents were from less than 50 employees, and the remaining of 17 respondents in the range 51-200 employees.

Table 2: Demographic Profiles

Variable	Frequency	Percentage
<i>Gender</i>		
Male	77	55
Female	63	45
<i>Age</i>		
18-20 years old	3	2.14
21-30 years old	46	32.86
30-40 years old	46	32.86
41 years old or older	45	32.14
<i>Number of employee</i>		
Less than 50	123	87.85
51-200	17	12.15

Mean and standard deviation for all measures were 6 items in e-manifest, 5 items in e-declare, 5 items in e-permit and 6 items in e-payment as shown in Table 3. All scale range from one to five. With regard to e-manifest, most respondents agreed that the transaction cost (M=4.41) is more important and the least mean (M=4.23) falls for inventory control and cargo release notification. Respondents were concern with virtual communication among Freight Forwarder Company and agencies. The findings recorded that provides virtual meeting and customs procedure facilitation (M=4.41) gave the highest mean for e-declare and customs clearance is less concern by the respondent (M=4.23) for e-declare dimension. Opportunity in international trade through NSW platform is importance as it can help players to expand their networking. The respondents also expect to receive quick response if there is interruption of e-permit (M= 4.41). Though ranked last, the item for time taken to apply the permit score 4.23, it shows that the respondents are very concern for immediate approval. The NSW platform with standard rules for payment has the highest mean score for e-payment dimension (M=4.45). However, the payment of duty portrays the mean score of 4.24.

Table 3: Descriptive statistics

Dimensions	Mean	Standard Deviation
<i>e-manifest</i>		
Transaction cost	4.41	0.623
Operations flexibility	4.41	0.635
Calculation of good declare	4.34	0.654
Check on response code	4.31	0.624
Approval electronically	4.30	0.559
Inventory control and cargo release notification	4.23	0.627
<i>e-declare</i>		
Provides virtual meeting	4.41	0.623
Facilitates customs procedure	4.41	0.635
Procedure automation	4.31	0.624
Paperless transaction	4.30	0.559
Customs clearance	4.23	0.627
<i>e-permit</i>		
Helps to take opportunity in international trade	4.41	0.623
Enable quick response	4.41	0.635
One stop center	4.34	0.654
Expedite customs procedure	4.30	0.559
Time taken for applying permit	4.23	0.627
<i>e-payment</i>		
Standard rules for payment	4.45	0.579
Keep track on the transaction electronically	4.41	0.635
Covers customs duty	4.36	0.637
Conduct mutual agreement with customer	4.30	0.559
Operate beyond working hours	4.24	0.619
Payment of duty	4.24	0.619

CONCLUSION

The paper discusses the experiences of freight forwarding industry in transforming the logistics and supply chain into the ICT. The initiative to implement NSW, the trade facilitation will be move forward by integrating the system in one single window. Based on the results, the study concludes that the implementation of NSW is accepted in this industry.

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