

CHAPTER THREE

3 EDI AT PORT KLANG AUTHORITY - AN EVALUATION

The objective of this paper is to do an evaluation of the implementation of EDI at the Klang Port Authority;(PKCS).As previously mentioned, the PKCS was only implemented in April, 1994 and is still in the early stages of it's product life-cycle.This situation has been a limiting factor, in arriving at a conclusive evaluation of this study.In order to successfully investigate the performance of the EDI implementation at Port Klang, it would be necessary for all the parties concerned (Community) to be fully integrated into the "NETWORK" system.But to date only the following are active members:-

TABLE 1 - ACTIVE MEMBERS CONNECTED TO THE PKCS

MEMBERS	PROPOSED	ACTIVE
Forwarding Agents	350	120
Shipping Agents	150	-
Customs	1	1
Port Operators	2 KCT	-
Klang Port Authority	1	1
Banks	many	2
Hauliers	6	-

From the interviews conducted with the relevant Persons in charge of implementing the EDI system, the above informa

tion helped to explain the limitations, in evaluating the performance of the PKCS, as a whole NETWORK.

The PKCS is an integrated network of "community", hence the pre-requisite for it's effective application, lies in the connectivity of it's members. This complete network is expected to materialise sometime in the middle of 1995. Even though a survey could not be conducted at this point in time, with the interviews and numerous reviews of pertinent literature, it was possible to validate the objectives of this paper, by examining the performance of certain variables in the pre and post operation, i.e. processes done manually without EDI, and those done electronically, with EDI. The variables being:-

3.1 o DECREASED WAITING TIME - The larger the amount of paper, the slower the physical transport of goods. Documents accompany the goods during their transport or, even worse, arrive later than the goods. In general, the data has to be manipulated in many ways before the goods can continue on their way. Sometimes the data has to be entered into a computer as a first step, a time-consuming and error-prone process. All this may take too much time, and unnecessary operational costs, like labour and paper.

FINDINGS IN RELATION TO MANUAL PROCESSING -

It was found that when cargo processing was done manually, goods arrived on the 3rd day, but the information

would only be received after the goods come in. This resulted in a incidence of waiting time (wastage). Processing then took about 5 days to clear, bringing the time progression to the 8th day. Departure declaration forms and clearance for the vessels could only be approved by the 10th day.

ELECTRONIC PROCESSING - WITH EDI

Notice of goods are received and before the vessels arrive, the information arrives and processing starts on the 2nd day. Therefore, by the time the goods arrive, the papers are almost ready for clearance and departure takes place on the 5th day or latest by the 7th day.

This reduces vessel turn-around time, reduces warehousing costs, almost no paper work, and excess capacity in all the elements of cost, are available for further utilization.

3.2 REDUCED COSTS - Studies sponsored by the United Nations, show that nearly 10% of the value of goods is tied to the cost of paper administration, a mere 20% reduction would result in a cost savings of about RM 5 billion in the year 2000 and RM 30 billion by the year 2020.

An interview with relevant Officers at MITI, in charge of implementing EDI, revealed the following analysis, pertaining to the difference in the cost of operations, using EDI and without EDI.

Table 2 - COMPARISON BETWEEN THE MANUAL PROCESS
AND EDI SYSTEM

ACTIVITY	MANUAL	EDI
1. Time needed to prepare export permit.	20 mins.	5 mins.
2. Time taken by exporter to send information concerning his permit , to MITI.	2 days	5 mins.
3. The total cost of sending a export document K2 or K8, to MITI.	RM 11.16	RM 3.23
4. Total "manhours" required to process one permit	20 mins.	5 mins.
5. Preparation of reports	Must be typed continuously.	Extracted automatically as and when required.
6. Average amount of paper needed to prepare a permit.	4 sheets	none

The study shows that with the implementation of the PKCS, an EDI network infrastructure, cost-benefits are not only possible, but also guaranteed.

Here we can see that there is tremendous savings in time ,which can be better used for managerial decision making scenarios, rather than repetitively feeding the same information into the computer, which in itself is not error proof.

Work that was previously in need of overtime scheduling, was found to have been completed much earlier, resulting in the departments handling a higher level of

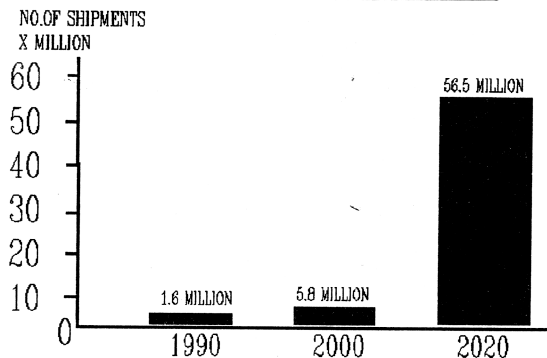
productivity, and savings on overtime costs.

In 1989, Malaysia registered approximately five hundred thousand and 1 million number of export and import transactions respectively. Based on the targeted average rates of growth per annum, the amount of paperwork will grow to about 3 times of the present size by the year 2000 and 30 times by the year 2020. Or approximately 5.8 million and 56.5 million number of shipments by the year 2000 and 2020 respectively, (as shown in Figure 14²).

In view of the escalation of the annual cost of paperwork from the present estimated RM 15.2 billion in 1990 to RM 26.9 Billion by 1995 and RM 43.37 billion by the year 2000, (see figure 7), EDI as a trade facilitator at PKCS, is an inevitability. Keeping in line with the objectives of this paper, the comparative study analysis shows, that implementing an EDI system for trade purposes, will result in a reduced costing in paperwork, labour and time savings.

It has been estimated that 2000 copies of paper are generated in the course of an international trade transaction. If half of the 2000 copies of paper are processed locally, then the projected 5.8 million and 56.5 million number of shipments (see figure 12), will generate about 5.8 billion and 56.5 billion sheets of paper to the domestic system by the year 2000 and 2020 respectively.

PROJECTED NO.OF SHIPMENTS



(FIGURE 12)

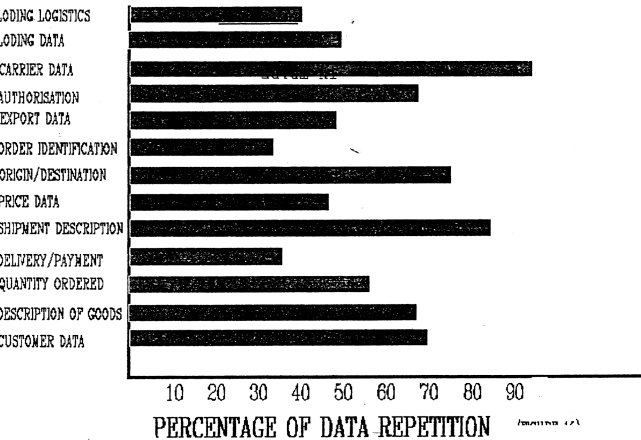
3.3 IMPROVED ACCURACY - Here again,

it refers to the relative cost-savings in paper documentation and wastage of labour hours and loss in productivity capacity due to delays in the processing procedures. When paper work is reduced, and re-entry of data is eliminated, the accuracy of business data naturally goes up.

In the course of the study, it was identified that as many as sixteen parties are involved in an international trade transaction. They process paperwork to regulate movement and handling of cargo, insurance, payment and control of the goods. Majority of them are processing common sets of trade data (ranging from 30% to 80%) transmitted manually from one party to another. (Figure 13)

Considering a common error rate ranging from 20% to 60% involved in the manual methods of transferring such trade data, this will cost a considerable amount of re-work due to misinformation and inaccuracy of data. EDI is estimated to reduce the rate of error from 20% to a mere 2%. In view of the volume of repetition involved, the cost savings would also be a sizable amount. Thus a reduction in error would amount to a cost-savings from reduced paper usage, manhours being put to more productive work, time savings (which invariably also is cost-savings), and an overall increase in efficiency.

To date, none of the "community Parties", have yet done a survey or collected relevant data to evaluate the PKCS, but from the information collected, a simple cost benefit analysis was made possible. This is a summary of the



IN TRADE

compilation of data ,from the major "community"member i.e. the Forwarding Agents(FA). After interviewing about 5 FAs, the following was the result:-

3.4. PKCS OPERATING COST BENEFIT ANALYSIS

A USER PERSPECTIVE

The data of this analysis were informally gathered from PKCS users, to be compared with the analysis done on October, 1993, on the current manual operating costs incurred by the Forwarding Agents.

TABLE 3 - AN ANALYSIS OF TIME AND LABOUR INVOLVED IN MANUALLY PROCESSING ONE DECLARATION

ACTIVITIES	TIME TAKEN (MINS.)	STAFF	EDP
	MINIMUM	CLERICAL	
1. Prepare Kl	3	1	1
2. Key in Computer	15	1	
3. Check Kl on screen	5		
4. Printing Kl	5	1	
5. Check Kl Print-out	10	1	
6. Chop Kl	5	1	
7. Sign Kl	5	1	
8. Submit Kl and receive registration no.	150	1	
TOTAL TIME TAKEN (minutes)	198		

ASSUMPTIONS

If one (1) Consignment/BL = 5 sets of Kl, and one Declaration has to be printed out in two (2) sets, for each party concerned, then ten (10) sets of Kl have to be pre

pared. One (1) set of K1 costs RM 0.60. This would amount to a total cost of RM 60.00 per day, assuming that the minimum per day is ten (10) consignments.

TABLE 4 - AN ANALYSIS OF TIME AND LABOUR INVOLVED WHEN PROCESSING ONE (1) DECLARATION, ELECTRONICALLY.

ACTIVITIES	TIME TAKEN (MIN.)	STAFF	
	MIN.	CLERICAL	EDPB
1. Prepare K1-call SA for manifest.	3	1	
2. Key in Computer.	15	1	
3. Check K1 through screen.	5	1	
4. Send K1 (average 2 attempts).	0.5	1	1
5. Log in for status enquiries.	6	1	1
6. Submit supporting documents.	100	1	
TOTAL TIME TAKEN (MINS.)	129.5		

ASSUMPTIONS

One consignment/bl would contain five (5) messages. And One (1) 1 message/KB = RM0.80. Therefore one (1) consignment would cost = $5 \times \text{RM}0.80 = \text{RM}4.00$. A daily minimum of ten (10) consignments would result in RM 40.00-Transmission Cost.

TELEPHONE CHARGES

To call Shipping Agent for MANIFEST NUMBER:

1 telephone call = RM 0.30. If in a day of a

Minimum of ten (10) consignments, the forwarders would account for Rm 3.00

Here again, in a day ten(10) consignments would require at least three (3) calls per consignment. Thus the charges amounted to RM9.00.

Total Telephone charges:

Min. = RM9.00 + RM3.00 = RM12.00

TABLE 5 - A COMPARATIVE ANALYSIS OF THE OPERATIONAL COSTS OF THE PRE AND POST EDI IMPLEMENTATION AT THE PORT KLANG AUTHORITY.

COST ELEMENTS	PRE - MANUAL RM	POST - WITH EDI RM	SAVINGS/DAY RM
PAPER COST 1 Consignment	6.00	-	6.00
10 Consignments	60.00	-	60.00
STAFF COST at Rm 0.16 per minute.	316.80	207.20	109.60
TOTAL SAVINGS	376.80	207.20	169.60
OVERHEAD COSTS			RELEVANT COSTS
TELEPHONE COSTS PER DAY	-	12.00	12.00
TRANSMISSION COSTS -		40.00	40.00

TOTAL RELEVANT COSTS	-	52.00	52.00
NET SAVINGS/DAY	376.80	259.20	117.60
ANNUAL SAVINGS (260 DAYS)			30576.00

The average time taken for processing the Declaration Forms was lower , when using EDI at the PKCS, than without EDI. In conclusion, the study has helped to verify the objective, that implementing EDI at the PKCS in Port Klang, to facilitate trade documentation, and improve services at speedier processing and reduction in operating costs, as indicated in TABLE 5, has it's cost benefits, despite it's limitations, such as :-

- o The lack of proper training and Education, for the internal staff and potential users. By far the most important barrier mentioned was the high perceived cost of doing EDI, or high set- up costs.
- o A lack of awareness, was also a very strong limitation to the growth of the usage of EDI. This led to a difficulty in finding trading partners.
- o Because of the lack in knowledge, there exists an unawareness of software/hardware compatibility and the problems of a non-automated or non-sophisticated trading partners who may not understand the value of EDI or may not be able to implement the technology.
- o Commitment from management is found to be lacking. Top management should train and educate lower management in

order to furnish materials to everybody involved. The degree of commitment shown by management would indicate their interest in this new tool of trade. They need to set the example.

o Because of the fact that EDI is a new experience to the Malaysians, it needs more time to become familiarised to the Malaysian commercial sector.

o Lastly, a shortage of properly trained and skilled staff is very much in demand. Human resource availability is definitely lacking. And this poses itself as a tremendous limitation to the potential explosive growth of the future of EDI.

3.5 THE BENEFITS OF IMPLEMENTING EDI, AT PORT KLANG AUTHORITY.

As a general overview of the system, some major benefits have been attributed to the Network. There is a reduction in paperwork and telephone charges, due to the fact that now communications are conducted electronically (TABLE 5). As such the relevant parties are electronically routed and information is automatically relayed. The elimination of re-keying of data, has resulted in clerical wages cost savings, an improvement in the accuracy and consistency of information flow and a faster turnaround time for documents. The inter-connectivity of the parties, facilitates an efficient coordination network among the port users.

3.5.1 THE FREE ZONE AREA AND CUSTOMS enjoy certain benefits. There exists a standard manifest format, which makes it easier to reconcile with each of the parties. Declarations and Manifests are now electronically obtained, whereby notification of Manifest amendments are automatically done. Here again there is a reduction in labour costs and a time savings. Since documentation is done electronically, Manifest balancing is executed by PKCS, and PKCS guarantees every consignment manifested on a vessel is duly accounted for.

3.5.2 PORT OPERATORSS benefit because of the automation of most of the services, such as the electronic listing of the receiving of Manifests, and Discharging Status of the parties, Status Lists being automatically

up-dated, Manifest amendments being updated and received automatically, automatic notification of Loading Lists and Customs examinations are more efficiently coordinated

3.5.3 **FORWARDING AGENTS** enjoy a faster clearance of cargo, because examination of cargo is conducted with better coordination, with electronic communications. Free Zone and Customs declarations are done with increased accuracy since they are transmitted electronically. Tariff codes and exchange rates information are more up-to-date, and Declaration and Consignment statuses enquiries are also up-to-date.

3.5.4 **BENEFITS TO SHIPPING AGENTS** are also many fold, such as electronic submission of transshipment declarations, Manifests and amendments to Manifests and reconciliation of Manifest and out-turn details. Besides these, the automatic notification of export consignments, import consignments, facilitating of Container movement orders and the paperless vessel booking and confirmation services.

3.5.5 **HAULIERS** benefit mostly because notification of hauliers, confirmation with relevant parties and a direct up-to-date with PKCS, concerning with collection vehicles details, are all now done electronically. Hence, information is readily available for processing even before the physical delivery.