

**THE USE OF INFORMATION TECHNOLOGY  
FOR BUSINESS FUNCTIONS IN SRI LANKAN  
SEAPORTS**

**MASTER OF BUSINESS ADMINISTRATION  
IN**

**INFORMATION TECHNOLOGY**



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January, 2005

# **THE USE OF INFORMATION TECHNOLOGY FOR BUSINESS FUNCTIONS IN SRI LANKAN SEA PORTS**

**By**

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The Dissertation was submitted to the Department of Computer Science & Engineering of the University of Moratuwa in partial fulfillment of the requirement for the Degree of Master of Business Administration.

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## DECLARATION

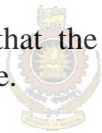
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## **ABSTRACT**

Given the very competitive nature of seaport business it is important seaport operators and administrators to understand the key factors influencing the customer satisfaction and productivity. Growing competition among seaports has forced those seaport authorities and terminal operators to develop competitive strategies to attract and retain their customer base.

For the port of Colombo as it is facing severe competition from the seaports in the South Asian region and ports in Far East and Persian Gulf, it is extremely important to have the seaports facilities to meet international standards. The shipping industry is constantly developing and especially due to the economic boom in China too the shipping routes in Asia are expecting a higher level of vessel traffic. At the same time emergence of new terminals, construction of new generation ships, mergers and alliances of shipping lines are also happening. The shipping Alliances that have tremendous command over selection of seaports always set standards and expect very high productivity indicators and service level. The shipping lines and freight forwarders always demand faster response, on-line data availability, online billing and payments and fast dispute management. It is therefore important to have these business functions be processed and managed by using Information technology (IT). This dissertation gives details about the information technologies used for business functions in the seaports around the world including Sri Lanka.

The concept of Port Community System is adopted by many seaports in the developed world. Most developed ports in the world use information technology in almost every segment in the cargo export and import processes and they are continuously investing for further improvements. Although shipping lines are well geared with IT infrastructure, freight forwarders and others are less prepared for it although they demand more from the ports. The research shows that the use of IT too has a contribution on customer satisfaction. No research done could be found on this sector and this is a useful area for future research.

# TABLE OF CONTENTS

	<i>Page</i>
<b>ACKNOWLEDGEMENT</b> .....	<b>3</b>
<b>DECLARATION</b> .....	<b>4</b>
<b>ABSTRACT</b> .....	<b>5</b>
<b>TABLE OF CONTENTS</b> .....	<b>6</b>
<b>LIST OF TABLES</b> .....	<b>7</b>
<b>LIST OF FIGURES</b> .....	<b>7</b>
<b>ABBREVIATIONS</b> .....	<b>8</b>
<b>CHAPTER 1</b> .....	<b>10</b>
1.1 Introduction .....	10
1.2 Objectives .....	11
1.3 Methodology.....	11
<b>CHAPTER 2</b> .....	<b>14</b>
<b>2.0 LITERATURE REVIEW</b> .....	<b>14</b>
2.1 Introduction .....	14
2.2 Shipping Industry .....	17
2.3 Contribution from seaports to economy .....	20
2.4 Major Sea Routes in Asia .....	20
2.5 The Position of Asian Ports in Global Ranking.....	21
2.6 Shipping Lines in the world.....	22
2.7 Container Volumes and Trends .....	24
2.8 Port Performance Indicators .....	25
2.9 Container Export and Import Process.....	26
<b>CHAPTER 3</b> .....	<b>29</b>
<b>3. INFORMATION TECHNOLOGY USED IN PORTS</b> .....	<b>29</b>
3.1 Importance of IT in seaports.....	29
3.2 Port Community System (PCS).....	29
3.3 Port User Information Network.....	32
3.4 Database .....	34
3.5 Latest Developments of Information Technology for Seaports.....	35
3.5.1 Terminal Management Systems .....	35
3.5.2 Wireless Data Networks.....	38
<b>CHAPTER 4</b> .....	<b>39</b>
<b>4. USAGE OF IT IN PORT OF COLOMBO AND IMPLICATIONS</b> .....	<b>39</b>
4.1 Facilities provided .....	39
4.1.1 Sri Lanka Ports Authority .....	39
4.1.2 South Asia Gateway Terminals (pvt.) Ltd. (SAGT) .....	41
4.2 User expectations.....	42
4.3 Comparison of Performance indicators among selected ports.....	46
<b>CHAPTER 5</b> .....	<b>48</b>
<b>5.0 SUMMARY AND CONCLUSIONS</b> .....	<b>48</b>
5.1 Summary.....	48
5.2 Findings .....	49
5.3 Conclusions. ....	50
5.4 Policy Recommendations .....	50
<b>REFERENCES</b> .....	<b>51</b>
<b>Appendix 1: Survey Questionnaire</b> .....	<b>53</b>
<b>Appendix 2: UN/EDIFACT standard container messages</b> .....	<b>58</b>

## LIST OF TABLES

<i>No.</i>	<i>Title</i>	<i>Page</i>
	TABLE 1: GLOBAL RANKING OF SEAPORTS IN THE WORLD AND ASIA	21
	TABLE 2 : MAJOR SHIPPING LINES AND THEIR CAPACITY	22
	TABLE 3: SHIPPING LINE ALLIANCES AND MARKET SHARE	24
	TABLE 4 : SYSTEM DEVELOPERS AND FEATURES OF THEIR SYSTEMS	35
	TABLE 5: SYSTEMS USED AT SELECTED PORTS	38
	TABLE 6 : FAMILIARITY LEVEL OF INFORMATION TECHNOLOGIES	42
	TABLE 7 :REASONS FOR IMPLEMENTING OR CONTINUING TO IT	43
	TABLE 8 :TYPES OF COMPANY ACTIVITIES AFFECTED BY IT	45
	TABLE 9 :SATISFACTION WITH IT	45
	TABLE 10 : DOCUMENT PROCESSING TIME (COMPARISON)	46
	TABLE 11 : TRUCK TURNAROUND TIME ( COMPARISON)	47
	TABLE 12 : INFORMATION AVAILABILITY	47



## LIST OF FIGURES

<i>No.</i>	<i>Title</i>	<i>Page</i>
	FIGURE 1: ACSI MODEL FOR PUBLIC ORGANIZATIONS	13
	FIGURE 2 : MARKET SHARE OF SHIPPING LINES	23
	FIGURE 3: GLOBAL TREND IN CONTAINER VOLUME INCREASE	25
	FIGURE 4 : CONTAINER IMPORT AND EXPORT PROCESS	26
	FIGURE 5 : CONTAINER IMPORT PROCESS- INFORMATION FLOW AND PHYSICAL FLOW.	27
	FIGURE 6 : CONTAINER EXPORT PROCESS, INFORMATION FLOW AND PHYSICAL FLOW	28
	FIGURE 7 : INFORMATION FLOW IN A PORT COMMUNITY	30
	FIGURE 8 : PORT USER INFORMATION NETWORK MODEL	33

## ABBREVIATIONS

<b>Term</b>	<b>Explanation</b>
BJMJ	Beijing Mingjun Information Systems
CBS	Capital Business Services
CFS	Container Freight Station
Cr	Career
CTCS	Container Terminal Control System
CTIS	Container Terminal Information System
CTMS	Container Terminal Management Systems
CuBIS	Customer Billing System
DMS	Depot Management Services
DO	Depot Operations
EDI	Electronic Data Interchange
ETD	Estimated Time of Departure
FCL	Full Container Load
FF	Freight Forwarder
FR	Flat Rack
GPS	Global Positioning System
GUI	Graphical User Interface
ITT	Inter Terminal Trucking
ITV	Industrial Television (=CCTV)
JNPT	Jawaharlal Nehru Port Trust
JCT	Jaye Container Terminal
LAN	Local Area Network
LCL	Less than Container Load
LTO	Land Transport Operations
LOA	Length Over All
MACH	Marine Container Handling System
MDT	Mobile Data Terminal
MF	Main Frame
NTP	Network Time Protocol





PC	Personal Computer
PDS	Position Detecting System
PM	Prime Mover
PO	Port Operations
PSA	Port of Singapore Authority
PTP	Port of Tanjung Pelapas
QCT	Queen Elizabeth Quay Container Terminal
QEQ	Queen Elizabeth Quay
RHT	Radio Handheld Terminal
RMG	Rail Mounted Gantry crane
RTG	Rubber Tired Gantry crane
SAGT	South Asia Gateway Terminal
SLPA	Sri Lanka Ports Authority
Shpr	Shipper
SMART	System for Marine Automation in Real-Time
TIS	Transshipment
TOR	Terminal Departure Report
TEU	Twenty-foot Equivalent Unit
TMS	Terminal Management System
UCT	Unity Container Terminal
UN/EDIFACT	United Nations/EDI for Administration, Commerce and Transport
UPS	Uninterruptible Power Supply
WARM	Warehouse Management System
WO	Warehouse Operations
YOCS	Yard Operating Computer System
YPS	Yard Planning System

