LOGISTICS SUPPORT SYSTEM AND ITS EFFECTIVENESS IN SUPPORTING AND MAINTAINING A MISSION READY FLEET IN THE ROYAL MALAYSIAN NAVY

CDR MOHD HATIM BIN SAAD RMN
LT CDR KHAIRUL ANWAR BIN IBRAHIM RMN

Submitted to the Faculty of Business and Accountancy
University of Malaya
In partial fulfillment of the requirements for the Degree of
MASTERS OF MANAGEMENT
August 2004
DECLARATION

We earnestly declare that, we have undertaken the project entitled “Logistics Support System and Its Effectiveness in Supporting and Maintaining a Mission Ready Fleet in the Royal Malaysian Navy”. We also declare that the work in this Project Paper is our own except for quotations, phrases and excerpts which have been duly acknowledged.

MOHD HATIM BIN SAAD
CGB 030001

KHAIRIL ANWAR BIN IBRAHIM
CGB 030029

2 August 2004
ACKNOWLEDGEMENT

We owe our highest gratitude to the Chief Directing Staff, Army Institute of Management for considering and allowing us to conduct a study which is close to our heart that would benefit the Navy. The challenges are great nevertheless the knowledge and experience gained is very precious. It is very satisfying to find the ‘moment of truth’

We would like to thank our supervisor, Encik Mohd Azizi Mustafa from the Faculty of Business and Accountancy, University Of Malaya, for his dedication and invaluable guidance in the whole preparation of this project paper.

Our endeavour would not have been successful without the assistance from our senior officers and colleagues. We are indebted to the Fleet Operations Commander, Vice Admiral Datuk Ramlan Mohd Ali for allowing us access to the fleet for primary data collection. We would like to express our appreciation to Captain Hj Mohamad Imran Hj Abd. Hamid RMN for educating us on the technical perspective of fleet operations and relevant comparative data. Special thanks to our colleagues, Cdr Anuar Murad RMN, Cdr Jamel Abd. Rahman RMN, Lt Cdr Abdullah Baki RMN, Lt Cdr Ahmad Lahmi Abdullah RMN, Lt Cdr Shamsul Md Shah RMN and Lt Cdr Sohed Mohd Yusof RMN from the technical and supply branch who were very transparent and sincere in assisting us to understand the work processes in their respective departments.

The project paper framework was based on a meticulous work of Captain Ahmad Kamarulzaman Hj Ahmad Badaruddin RMN in his study on Fleet Maintenance Depot, as to that we truly appreciate his willingness to allow us access to his paper which we consider very crucial to our success.

To our beloved wives, Sarinah Osman and Rowayati Adam, sons and daughters for their understanding and patience of our commitment to this study.
This paper examines the overall RMN logistics support system that involved organisations within RMN namely the Navy Headquarters, Fleet Operations Command, Fleet System Command, Fleet Maintenance Depot and Fleet Supply Depot. The study addressed RMN policy on Total Quality Management and benchmarked on the Integrated Logistics Support purportedly being implemented. The researchers were called upon to undertake this study as it significantly addressed RMN’s current problem with respect to fleet support and maintenance. The evaluation looked into the awareness, involvement, satisfaction and respondents recommendations with the objectives to assess the effectiveness of the RMN logistic support system, determine the RMN fleet officers’ awareness and recommend changes to the RMN Logistics Support System. The study was conducted through a survey method, using questionnaires and interviews. Respondents from RMN ships totalling 62 officers (20 percent of the fleet officer population) had provided data for this study. The study sample is non-random samplings focussed on Commanding Officers, Technical Officers and Supply Officers who are considered sufficient and appropriate to both represent the whole fleet population and provide professional feedback based on their respective responsibility onboard ships. Standard editing, coding and simple tabulation and cross-tabulations has been utilised to analyse the data. The result of the study came as a surprise as the officers’ awareness and satisfaction were so low and numerous rooms for improvement were found. The current practice worked but not to the level of the fleet officers’ expectation. There are issues that need serious attention by RMN top management that includes policy review (including the RMN Direction Statement) and work processes improvements which are not impossible to achieve as it is in line with RMN goals.
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FSD Mission and Objective
FSD Organisational Structure
FSD Management Concept
FSD Achievement

RMN's Capability Enhancement

Revolutionising Naval Maintenance with RCM
Asset Performance Management

Integrated Logistics Support Policy In RMN

The Logistic Support Model
Policy
Maintenance and Support Planning
Supply Support
Maintenance and Support Personnel
RMN Planning and Implementation
Training and Training Support
RMN Training and Education
Test, Measurement, Handling and Support Equipment
Packaging, Handling, Storage/Warehousing and Transportation
Maintenance Facilities
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<td>Area Logistic Depot 1/11</td>
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<tr>
<td>AMP/SMP</td>
<td>Assisted Maintenance Period/Self Maintenance Period</td>
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<td>ANZAC</td>
<td>Denotes the Cooperation Between Australia and New Zealand</td>
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<td>APM</td>
<td>Asset Performance Management</td>
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<td>ASRS</td>
<td>Automated Store Retrieval System</td>
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<td>BAT L 8</td>
<td>Borang Angkatan Tentera (BAT) L 8 (Baucar Permohonan Dan Pengeluaran Barang-Barang Tentera Laut Diraja Malaysia)</td>
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<td>Panduan Pengurusan Pembaikan Berjadual Kapal-Kapal TLDM (Edisi Ke-2)</td>
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<td>Continuous Acquisition and Life-Cycle Support</td>
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<tr>
<td>CIMM</td>
<td>Computer-aided Integrated Maintenance Management</td>
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<td>CNLD</td>
<td>Central Naval Logistics Depot</td>
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<td>CO</td>
<td>Commanding Officer</td>
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<td>DED</td>
<td>Docking for Essential Defects</td>
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<td>DLM</td>
<td>Depot Level Maintenance</td>
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<td>EDI</td>
<td>Electronics Data Interchange</td>
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<td>EEZ</td>
<td>Exclusive Economic Zone</td>
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<td>ERDL</td>
<td>Emergency Repair Procedure</td>
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<tr>
<td>FAC M</td>
<td>Fast Attack Craft (Missile)</td>
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<td>FCA</td>
<td>Free Carrier (Using The International Commercial Term)</td>
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<td>FMD</td>
<td>Fleet Maintenance Depot</td>
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<td>FOB</td>
<td>Freight Onboard</td>
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<td>FOC</td>
<td>Fleet Operations Commander</td>
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<td>Acronym</td>
<td>Description</td>
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<td>Figure of Merit</td>
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<td>Follow on Support</td>
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<td>Fleet System Command</td>
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<td>FSD</td>
<td>Fleet Supply Depot</td>
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<td>FSSU</td>
<td>Fleet Supply Support Unit</td>
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<td>GSR</td>
<td>General Staff Requirements</td>
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<td>HR</td>
<td>Human Resources</td>
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<td>Information and Communication Technology</td>
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<td>ICT</td>
<td>Information Communication Technology</td>
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<td>ILM</td>
<td>Intermediate Level Maintenance</td>
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<td>ILS</td>
<td>Integrated Logistics Support</td>
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<td>ILSMP</td>
<td>In-Service Logistic Support Management Plan</td>
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<td>IPDA</td>
<td>Institut Pengurusan Tentera Darat (Army Institute of Management)</td>
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<td>JIT</td>
<td>Just in Time</td>
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<td>KPI</td>
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<td>Life-Cycle Costs</td>
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<td>MAF</td>
<td>Malaysian Armed Forces</td>
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<td>MAMPU</td>
<td>Malaysian Administrative Modernization Planning Unit</td>
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<tr>
<td>MBTF</td>
<td>Mean Time Between Failures</td>
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<td>MCMV</td>
<td>Mine Counter Measure Vessel</td>
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<td>MEO</td>
<td>Mechanical Engineering Officer</td>
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<td>MEO</td>
<td>Mechanical Engineering Officer</td>
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<td>MoD</td>
<td>Ministry of Defence</td>
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<tr>
<td>MTO</td>
<td>Malaysian Transport Operator (National Transport Operator)</td>
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<td>MTW</td>
<td>Malaysian Territorial Waters</td>
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<td>NATO</td>
<td>North Atlantic Treaty Organization</td>
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<tr>
<td>Naval HQ</td>
<td>Navy Headquarters</td>
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<td>NDIC</td>
<td>The National Defence Industries Council</td>
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<td>NETC</td>
<td>Naval Education and Training Command</td>
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<td>NOOR</td>
<td>Outside Repair Procedure</td>
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<td>OCM</td>
<td>Operational Centred Maintenance</td>
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<td>OEM</td>
<td>Original Equipment Manufacturer</td>
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<td>OLM</td>
<td>Organizational Level Maintenance</td>
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<td>Off Shore Patrol Vessel</td>
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<td>PSC-Naval Dockyard Sdn Bhd</td>
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<td>R &amp; D</td>
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<td>RCM</td>
<td>Reliability Centred Maintenance</td>
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<td>RMAF</td>
<td>Royal Malaysian Air Force</td>
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<td>RMN</td>
<td>Royal Malaysian Navy</td>
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<td>SLEP</td>
<td>Service Life Extension Programme</td>
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<td>SMS</td>
<td>Management of Ship Maintenance System</td>
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<td>SPIA</td>
<td>Sistem Pengurusan Inventori Armada</td>
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<td>SYO</td>
<td>Supply Officer</td>
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<td>TQM</td>
<td>Total Quality Management</td>
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<tr>
<td>UM</td>
<td>University of Malaya</td>
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<td>UPS TLDM</td>
<td>Unit Pengawasan Senggaraan TLDM</td>
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<td>URDEF</td>
<td>Urgent Defects</td>
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<td>WEO</td>
<td>Weapon and Electrical Engineering Officer</td>
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<tr>
<td>OSL</td>
<td>Onboard Spare List</td>
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<td>URDEF</td>
<td>Urgent Defect (a signal message)</td>
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<td>PC</td>
<td>Patrol Craft</td>
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<td>OPV</td>
<td>Offshore Patrol Vessel</td>
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<td>DA</td>
<td>Surveillance Radar</td>
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## GLOSSARY OF TERMS

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<td>Alteration &amp; Addition</td>
<td>A major design or additional change (in-service) change that has been approved by the Navy HQ. It is a process that involved the changes on the ship structure, system and/or the layout of ship.</td>
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<tr>
<td>Best Practice</td>
<td>Refers to the procedure, model, framework, culture and practices that have been proven and resulted in successes in other sectors or industries.</td>
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<td>Corvette</td>
<td>A class of warship serving in the RMN. The ships are equipped with sensors and weaponry as system.</td>
</tr>
<tr>
<td>FAC M</td>
<td>A class of warship which carries missile onboard and equipped with sensors and weaponry configured as a system. Considered as small ship.</td>
</tr>
<tr>
<td>Frigate</td>
<td>A class of warship considered as a capital ship in the RMN, displacement between 2,000 to 6,000 tones and equipped with specialized sensors and weaponry configured as system to be effective fighting unit in the naval warfare.</td>
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<tr>
<td>MCMV</td>
<td>A class of ship which deals with mine countermeasures. Considered as small ship and carries special equipment for mine countermeasures tasking. The ship is made of fibreglass reinforced plastic hull.</td>
</tr>
<tr>
<td>Operational Availability</td>
<td>The percentage of the time that a system or a ship is capable of performing specified design functions or operations under specified operating procedures. The capability includes the manpower, equipment, collective performance, deployability and sustainability.</td>
</tr>
<tr>
<td>RMN Service/service</td>
<td>Refers specifically to the personnel serving with the RMN or the management of the RMN.</td>
</tr>
<tr>
<td>Ship’s Category</td>
<td>The overall ships performance/capabilities depending on the availability of appropriate ranges of equipment in meeting the operational tasking requirements. The ship is categories CAT 1 as fully operational to CAT 5 for non operational ship.</td>
</tr>
<tr>
<td>Stakeholder</td>
<td>Any organization or individual who have interest in the system. This includes vendor, management, government and others</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Urgent Defect</td>
<td>Signal reports send by ships upon detection of defects which is beyond ships' staff capability to rectify it. The detects reported reflect the ships category as well as operational capability.</td>
</tr>
<tr>
<td>Vendor or External Supplier</td>
<td>Vendor can be described as any organization or individual that provides services or products to the RMN.</td>
</tr>
<tr>
<td>OSL</td>
<td>The list of spare parts that required to be carried onboard for any immediate repair.</td>
</tr>
<tr>
<td>Storedem</td>
<td>A signal message indicating the requirement of spare.</td>
</tr>
<tr>
<td>Ship’s Staff</td>
<td>The ship’s crew borne onboard.</td>
</tr>
</tbody>
</table>