

**CRITICAL APPRAISAL OF REPAIRS AND MAINTENANCE OF
VEHICLES IN SL NAVY:IN HOUSE AND OUTSOURCE REPAIRS**

BY

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DECLARATION

This Dissertation contains no material which has been accepted for the award of any other degree or diploma in any University or equivalent institution, and that to the best of my knowledge and belief, contains no material previously submitted or written by any other person, except where due reference is made in the text of this Dissertation.

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ABSTRACT

1. The main problem of repair and maintenances of vehicles in Sri Lanka Navy is present procurement procedure. It should be immediately changed if SLN want to go for more cost effective means and methods in order to ensure the maximum utilization of public money. To be a professional navy, it is necessary to improve the professionalism of personnel by paying more attention on its core activities rather than supportive activities. In this kind of situation outsourcing repairs and maintenances of vehicles can be applied as a strategic solution.
2. Repair and maintenances of vehicles in Sri Lanka Navy are paramount important when considered the allocation of naval vehicles for duties and the cost for annual repairs and maintenances of the vehicles. Further, huge amount of money is spent on repair and maintenances of available old and inferior quality vehicles. It is understood that there are lot of issues when carrying out in-house repair and maintenances of vehicles in SLN.
3. Hence, Sri Lanka Navy has to go beyond the traditional frame and search new concepts that can be applied in order to improve the operational efficiency. Now it is the time to find and go for more cost effective means and methods in order to ensure the maximum utilization of public money.

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CHAPTER 1

INTRODUCTION

1. Repair and maintenances of vehicles in Sri Lanka Navy are paramount important when considered the allocation of naval vehicles for duties and the cost for annual repairs and maintenances of the vehicles. At present, there is an acute shortage of vehicle to all bases in SLN to meet their day to day operational and administrative matters. Further, huge amount of money is spent on repair and maintenances of available old and inferior quality vehicles. It is understood that there are lot of issues when carrying out in-house repair and maintenances of vehicles in SLN such as unnecessary delay in spare parts order procedures, lack of technical facilities to do some major repairs of vehicles in SLN.

2. After engaging in 30 years of war, Sri Lanka Navy is now in a transition period where it should re define its operational strategies to achieve high degree of organizational efficiency. Most of the military organizations in the world have been restructured and moving towards to new concepts in order to achieve the best fighting efficiency. SLN is a large organization with the strength of nearly 50,000 men. Out of that the majority of around 28,000 are engaged with utility service such as catering, steward service, IT, technical service, general administration and building construction.

3. Hence the Sri Lanka Navy has to go beyond the traditional frame and search new concepts that can be applied in order to improve the operational efficiency. So now it is the time to find and go for more cost effective means and methods in order to ensure the maximum utilization of public money. To be a professional navy, it is necessary to improve the professionalism of personnel by paying more attention on its core activities rather than supportive activities. In this kind of situation outsourcing repairs and maintenances of vehicles can be applied as a strategic solution.

Objectives

4. In this research, it is expected to discuss whether the Sri Lanka Navy plays a satisfactory role in repairs and maintenance of vehicles and find out recommendations to develop effective and efficient vehicles repairs and maintenance system for SLN and find out whether the outsourcing repairs in vehicles can be used effectively and efficiently in SLN .

Scope of the Study

5. This research will be carried out to study the Sri Lanka Navy's repairs and maintenance of vehicles, in-house and outsource repairs and all analysed information to recognize the best repairs and maintenance system that perfectly fit with the SLN's ultimate objectives.

Significance of the Study

6. The purpose of this research is to identify the efficiency of existing repairs and maintenance of vehicles, in-house and outsource repairs and then develop, update and revise existing system of repairs and maintenance of vehicles if the lapses are found during the research. This study supposes to generate benefits for the SLN. At the moment SLN is outsourcing some of services such as IT services, Vehicle services, Training, Supplying of uniforms. Now it is the best time to evaluate the effectiveness and efficiency of the existing repairs and maintenance of vehicles, in-house and outsource repairs and practice 'out sourcing' as a strategic approach to obtain the maximum effectiveness and efficiency of the same.

Research Methodology

7. This research is an action research where it required a blend of qualitative and quantitative information. Therefore both the inductive and deductive reasoning expect to be use when appropriate. The Research is compiled as an analytical and descriptive study. Here the primary data are collected by interviews and questionnaires and

secondary data are collected by going through vehicles repair and maintenance records in SLN. Interviews will be conducted with the professionals in related fields. Cluster sampling method will be selected covering main engineering departments in SLN as follows.

- a. Director Automobile Engineering (NHQ)
- b. Commodore Superintendent Dockyard (North)
- c. Commodore Superintendent Dockyard (West)
- d. Commodore Superintendent Dockyard (South)
- e. Commodore Superintendent Dockyard (NCC)
- f. Commodore Superintendent Dockyard (East)

Sample Design and Procedure

8. Questions will be designed and structured according to the hypotheses and to cover the objectives of this research.

Data Collection Instrument

9. The required data for this study will be collected from the structured questionnaire that will be distributed among randomly selected officers and sailors who have been practically involved with repairs and maintenance of vehicles.

Primary Data

10. Primary data is to be collected as follows,
 - a. Relevant data collected form DAE and SO (Budget) in year 2010 to 2012.
 - b. Details related to vehicle fleet out sourcing in outside company.

Secondary Data

11. Secondary data is to be collected as follows,
 - a. Collecting data from naval staff and the authorities, through questionnaires.
 - b. By interviewing outside company authorities of private and government sector organizations on the subject of vehicle fleet outsourcing.
 - c. Having discussions with intellectuals on repairs and maintenance of vehicles, in-house and outsource repairs and its effect on SLN.

Data Processing Procedure

12. Gathered data is analyzed by using statistical analysis methods and MS Excel software package as a quantitative approach. The descriptive statistics will be used in the study which includes mean and standard deviation in describing the responses for each variable. Bar and pie charts will illustrate the responses for each variable.

Analysis of Data

13. This chapter will present data with an analysis of the findings. The chapter in general highlights the demographics study of the sample to indicate the profile of the respondents and present data based on quantitative questionnaire and minimum 20 number of samples from selected locations will be taken as samples in order to analysis.

Limitations

14. Recorded quantitative data can only be used descriptively.
15. Since this is the first research that is being conducted under this area and no any references can be gathered to study prior stepping to the research.

Review of Relevant Literature

16. According to the Thesis of Analysis of heavy vehicle function at naval support activities, it's stated that the differences in organizational climates may have the largest impact as to whether organizations should go for outsourcing or not.¹

17. As per the Auditor of the City & County of Denver's special advisory report on Fleet Vehicle management consolidation, its stated that because of the continuous experience of budget constraints and the current local economic environment the officials have considered about enhancing efficiencies of fleet management operations.²

18. In a comparison of data from the North Carolina Benchmarking Project reveals potential performance deficiencies in the Equipment Services Division in Burlington, North Carolina, relative to peer cities. Using a simplified variation of corporate-style benchmarking, the Equipment Services Division's work processes were compared with best-in-class peers (benchmarking partners) to identify policy and operational differences that could improve fleet services performance.

19. Few examples which are practicing presently in the word in various subjects of outsourcing are as follows,

a. **Catering facilities.** In recent years, Compass Group of UK and Ireland has a turnover of almost \$3billion and its main business is providing catering facilities for organizations such as schools, hospitals, client entertainment, businesses, and sports and leisure venues.

b. **Document handling.** Document handling is a serious problem for many companies and there are often legal requirements to preserve documents for many years. The company Ricoh offers scanning and archiving facilities (both electronic and hard copy), printing (including folding and binding), and mail room (receipt, sorting delivery and dispatch). Increasingly,

¹ Anita S Petty and Jessica M Pfefferkorn, "Analysis of heavy vehicle function at naval support activities; Naval Postgraduate School, California." 1999.

² Dannis J Gallagher, "Special *advisory report*." 2011.

incoming documents are scanned and stored electronically. That way, documents are instantly retrievable and can be used simultaneously by several people.

20. When studying those situations, it can be suggested, that how it will be benefitted to enhance the efficiency and sustainability of SLN by adapting outsourcing of vehicle repairs rather than doing in-house repairs.

21. Further details with regard to outsourcing trends and judgments can be obtained through following web sites which were referred when going through subject matter.

- a. www.greenlogistics.org.uk
- b. www.monash.edu.au
- c. www.Etheses.whiterose.ac.uk
- d. www.mpa.unc.edu
- e. www.ifcfleet.co.uk

Hypothesis

22. Contemporary economic conceptualization is explicitly based on the cost effectiveness. In shake of acquiring the objective of an organization, management concepts and modern economic concepts are momentous to be adopted effectively³. The repair and maintenances of vehicles is absolutely based on the cost factor. However now there is a problem whether its functioning cost effectively. The main Mission of Navy is to conduct prompt and sustainable combat operations at sea in accordance with the national policies⁴. Hence, SLN can support to achieve her mission by adapting outsourcing of vehicle repairs rather than doing in-house repairs.

³ Gbenga Lawal, Globalization and Development, Jan 2006,06 March 2013,www.efiko.org.

⁴ Mission & Role,06 March 2013, www.navy.lk.

CHAPTER 2

PRESENT PROCEDURES OF REPAIRS AND MAINTENANCE OF VEHICLES IN SLN

Automobile Engineer Officers

23. The responsibility of repair and maintenance of vehicles of navy was shouldered by engineer officers since the inception. However the increase of vehicles in par with swift expansion of the fleet highlighted the inevitability of forming a separate branch for automobile engineering. The first automobile engineer officer, a direct entry lieutenant was enlisted in 1997 and since then the inflow of officers through KDA, direct entry and service entry schemes, the officer cadre increased gradually to 21 by 2013.

Outsource Repairs and Maintenance Procedure of Vehicles In SLN

24. Outsourcing actually began in early days of mainframe computing (1970-1985), when computers cost millions of dollars and needed very expensive power and environmental controls to run. Since then it has become a new business strategy of all over the business world. Therefore many successful and unsuccessful examples can be found all over the world.

25. The present procedure of vehicle outsources repairs and maintenance is depend, on availability of spares for repair maintenance, servicing for vehicles, machinery, equipment etc. But if there are competent public/ service/ private sector organizations available in the area where Ship/ Establishment is situated approval may be obtained from Commander of the Navy through Area Commander for such work to be done in area to save transportation, delays etc. Proper defects lists must be prepared and quotations obtained by Area Commander or Commanding Officer as applicable as per relevant FR/ BR 4 instructions and approval sought from Naval Headquarters for handover of work to recommended/ selected organization.

26. Items which cannot be repaired at establishments are to be forwarded direct to the appropriate Naval Area Workshop with Form NAV. 254 in duplicate, together with Form NAV. 190 duly completed. Items may thereafter be dispatched to Naval Headquarters for repairs by the Authority under whose purview the area workshop is, for any of the following reasons :-

- a. Inability to effect repair in an area workshop or by any other public/private sector organizations in area.
- b. Uneconomical to repair in an area workshop. (However a certificate to this effect should be provided by the Authority of the relevant Area Workshop and accompanied by Form NAV. 190.
- c. Every urgent repair with the prior approval of Naval Headquarters.
- d. Items for repairs dispatched to NHQ should be addressed to Commander of the Navy for the attention of Staff Officer (Procurement and delivered/handed over at Transit Stores, NHQ, Colombo or as directed with relevant NAV. 254/ NAV 190 forms duly perfected.

Repairs to Motor Vehicles, Machinery and Equipment

27. Commanding Officer of Ships/ Establishments in their respective areas are to forward to Staff Officer (Procurement) at NHQ, by 31st January each year a detailed list of defects and repairs beyond capacity of Naval and area workshops in respect of vehicles and items, machinery or equipment. These would be arranged under the budgetary allocation “Major repairs to vehicles, Machinery and equipment” by the Commander of the Navy who will initiate action for repairs on priority basis.

28. As a conclusion SLN presently adopt three methods for out sourcing vehicle repairs and maintenance as follows.

- a. Awarding repairs to Local Agent and observed high quality standard of repairs. However the cost for repair is very high.

- b. Out sourcing with M/S Malima Enterprises and observed high quality high standard of repairs and cost is comparatively very low.
- c. Outsourcing with other garages and observed low quality low standard repairs and cost is comparatively very low.

In House Repairs and Maintenance Procedure of Vehicle in SLN

Maintenance of Vehicle

29. One of the most effective means of ensuring economy is by the insistence of a high standard of maintenance in each establishment. This is a special responsibility of Commanding Officers. Regular, but not less than monthly, inspections are to be carried out by the Commanding Officers to ensure that regular maintenance is done and vehicles are well maintained. A routine maintenance chart is to be drawn up to ensure that all parts of a vehicle are regularly checked.

Repairs of Vehicles

30. Every Naval vehicle must be subject to a thorough inspection by the Commanding Officers for good working order at least twice a year or more if warranted and taken up for repair/ attention as necessary. All items that need attention including engine, body, lights electrical system, brakes, steering, upholstery, tyres etc must be carefully noted down (as a defects list) and action taken to have attended without delay. Work that is beyond capacity of ship staff must be taken up with the naval motor repair yards or by the Army, CTB etc in area if possible. If not, action is to be taken by the Commanding Officer to prepare proper defects lists and call for tenders from reported local repair organizations or firms with approval of Commander of the Navy.

31. The procedure is to be followed when vehicles are handed over for repairs. It should be noted that tools and loose equipment should not be handed over to the

workshops. An Authorized Officer should make arrangements to take over the tools and loose equipment for safe keeping.

Servicing

32. The Transport Assistant in charge of the vehicle is to be present when the vehicle is serviced.

Accidents

33. All accidents are to be reported to Commander of the Navy immediately when know by signal by Commanding Officer with information to respective AAs.

a. AAs are to appoint at least two officers as Area Accident Investigating Officer (short title A.A.I.O). Of whom one member should be in the rank of Lieutenant Commander. However the Senior AAIO should always be of a higher rank than the driver of the vehicle.

b. AAIOs are responsible to the Commander of the Navy through the Area Commanders for conducting on the spot inquiries within 24 hours of the accident. They may be used individually or as a team. AAIO's report and estimated cost of repairs should be submitted to Commander of the Navy within two weeks of the accident, the failure to render the full report within the time stipulated will result in officers responsible being surcharged. Interim report is to be submitted giving reasons of delay envisaged.

c. AAIOs are also to ensure that the AFT 16 form is correctly and accurately filled by the T/A at the place of the accident and is forwarded to Commander of the Navy with the investigation report.

Existing SLN Vehicle Fleet and It's Efficiency

34. There should be a good Transportation system to have an efficient and effective service in an organization. During last few years Sri Lanka navy was expanded rapidly. According to this expansion vehicle fleet of Sri Lanka Navy was not expanded. At present, there is an acute shortage of vehicle to all bases in SLN to meet their day to day operational and administrative matters. To avoid that, presently it has been outsourcing vehicles to cater the vehicle requirement of Sri Lanka navy.

Present Vehicle State of Sri Lanka Navy

35. Sri Lanka navy has a heavy and light vehicle pool to cater it's transportation requirements. This vehicle fleet bares various types of vehicles. Presently in Sri Lanka Navy there are about 3500 No's of vehicles in her vehicle fleet. Vehicle state of Sri Lanka Navy up to 10th June 2013 as per the NHQ records is as follows.

Heavy Vehicle State of Sri Lanka Navy

Sr no	Vehicle	Total
1	APC truck	38
2	Backhoe loader	17
3	Bus	175
4	Crane mobile	7
5	Crane truck	7
6	Dozer	14
7	Dumper	7
8	Excavator	8
9	Fire engine	4
10	Forklift	26
11	Freezer truck	1
12	Fuel bowser CPC	7
13	Garbage collector	2
14	Gas carrying vehicle	2
15	Gully emptier	6
16	Hand tractor two wheel	147
17	Loader skid steer	1
18	Loader wheel	3
19	Lorry with crew cab	3
20	Mine protected vehicle	10

21	Motor grader	5
22	Mobile toilet	1
23	Prime mover	9
24	Recovery vehicle	6
25	Road roller	4
26	Sand buggies	2
27	Tipper	42
28	Truck loader	1
29	Tractor four wheel	205
30	Tailor bowser	147
31	Tailor bowser fuel	3
32	Tailor bowser fire	1
33	Tailor Gully bowser	32
34	Tailor low bed for boat	6
35	Tailor container	6
36	Tailor garbage	26
37	Tailor TSN	1
38	Truck	234
39	Water bowser	63

Table 1

Light Vehicle Pool in Sri Lanka Navy

Sr no	Vehicle	Total
1	Ambulance	29
2	Car	190
3	Car hiring	173
4	Double cab	160
5	Gun carriage	3
6	Jeep	97
7	Motor cycle	864
8	Pilot vehicle	5
9	Single cab	254
10	Three wheeler	117
11	Tailor tractor	194
12	Van	101

Table 2

Efficiency of Heavy Vehicle Pool in Sri Lanka Navy.

- a. After the war, Sri Lanka Navy established several bases around island because of that transportation got much complex. Sri Lanka navy heavy vehicle

pool is doing major roll to cater that the transportation requirement. The following tasks are being carried out by the Sri Lanka navy heavy vehicle pool,

- (1) Logistics transportation
- (2) Passenger transportation
- (3) Construction
- (4) Routine works

b. Presently heavy vehicle pool is giving a very valuable & profitable service to the Sri Lanka Navy to carry out her day to day activities. The profit which gave to the Sri Lanka Navy from heavy vehicle pool during last two years has calculated by Naval headquarters and it has saved more than 1.5 million rupees per month to Sri Lanka navy. As an example the service which gave by the heavy vehicle pool during the year 2012 is shown by following chart.

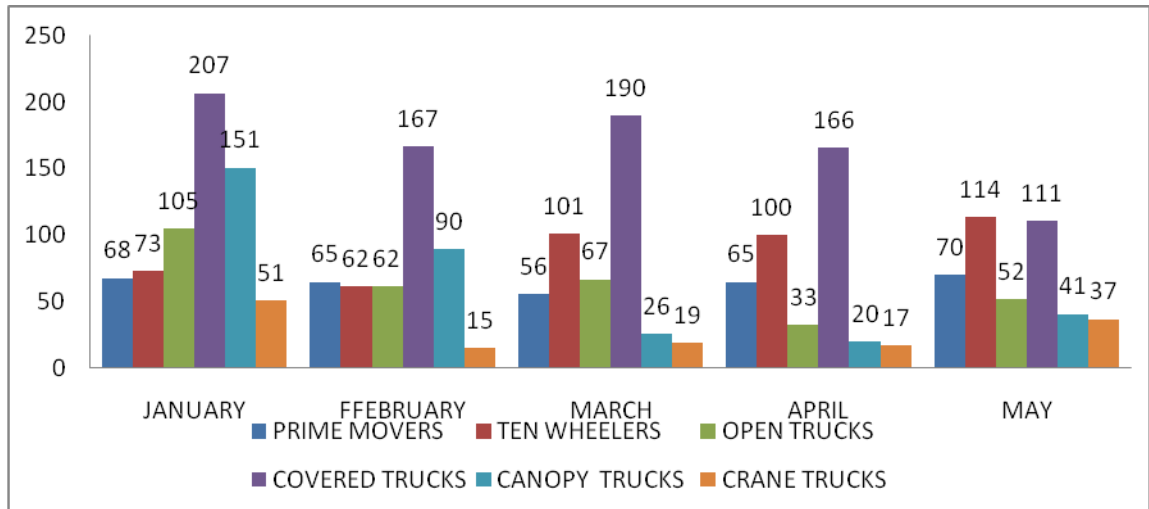


Chart 1

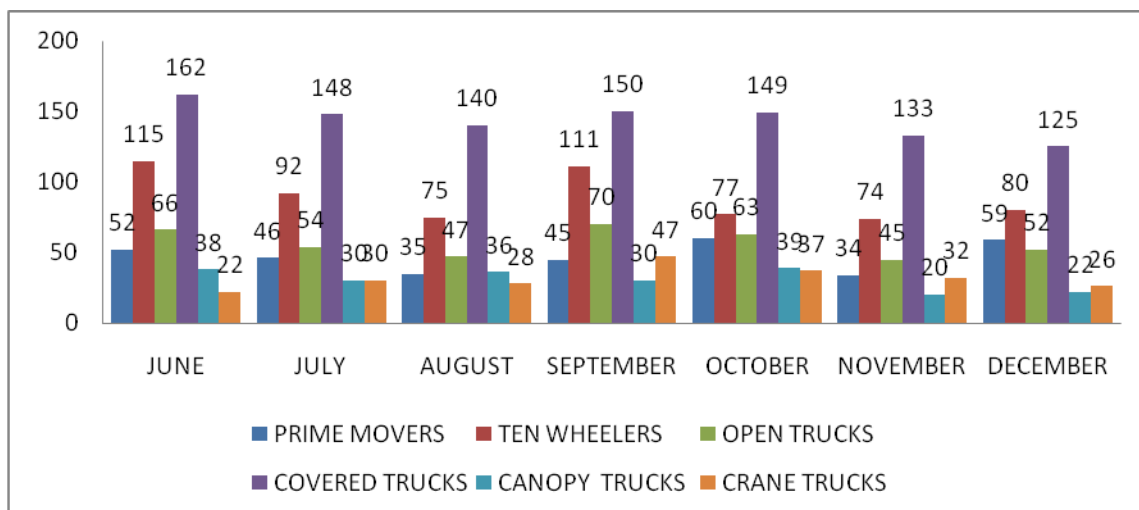


Chart 2

c. In addition to heavy vehicle pool, available heavy vehicles in Sri Lanka Navy has distributed among the all commands as follows to fulfill the relevant area's heavy vehicle requirement. Due to complex of this distribution it is decided to discuss regarding the transportation ability of Eastern Naval command.

Distribution of Heavy Vehicles In Sri Lanka Navy

Sr no	Vehicle	WNA	NNA	ENA	SNA	SENA	NWNA	NCC
1	APC truck	5	4	5	2		2	3
2	Backhoe loader	7	6	12		2	5	6
3	Bus	47	17	38	10	3	8	19
4	Crane mobile	3	1	1	1			
6	Dozer							
7	Dumper	1						2
8	Excavator						1	
9	Fire engine	1	1	1	1			
10	Forklift	6	3	7	3		2	3
11	Freezer truck		1					
12	Fuel bowser CPC		5	2				
13	Garbage collector	2						

14	Gas carrying vehicle	1		1				
15	Gully emptier		2	1	1			
16	Hand tractor two wheel	18	37	48	5	4	17	18
17	Loader skid steer	1						
18	Loader wheel		1					
19	Lorry with crew cab	1	1	1				
20	Mine protected vehicle		3	2		1	2	2
21	Motor grader							
22	Mobile toilet							
23	Prime mover							
24	Recovery vehicle	1	1	1	1			1
25	Road roller			1				
26	Sand buggies						1	1
27	Tipper	9		3	1		1	9
28	Truck loader			1				
29	Tractor four wheel	20	42	59	8	6	32	29
30	Tailor bowser	7	31	35	5	4	30	34
31	Tailor bowser fuel			2			1	
32	Tailor bowser fire	1						
33	Tailor Gully bowser	5	5	8	2	1	5	6
34	Tailor low bed for boat	2						
35	Tailor container							
36	Tailor garbage	8	2	9	2	1	2	2
37	Tailor TSN	1						
38	Truck	46	22	63	19	3	14	25
39	Water bowser	6	10	19	5	3	6	10

Table 3

d. According to above distribution heavy vehicle strength of Eastern naval command is 320 Nos vehicles (Including all types of heavy vehicles) and they have distributed among 15 bases in the area. When consider regarding the heavy vehicles in the ENA, it is able to cater the heavy vehicle requirement in time without creating problems to the administration. However ENA has hired

heavy vehicles during last two years to fulfil the essential heavy vehicle requirement.

e. When consider the transportation ability of NMA. There are 72 officers, 254 senior sailors, 474 junior sailors, 399 training officers, and 1555 training sailors in NMA. Further NMA consists with 17 schools and 4 departments. NMA transport can manage the heavy vehicle necessities of this strength with available resources without creating any problem. It can manage day to day heavy vehicle requirement in the base by utilizing available vehicles. If there is an urgent requirement NMA have to request required vehicle from naval headquarters and after that DAE(Director Automobile Engineering Department) is allocating required vehicle liaise with the heavy vehicle pool and the bus pool.

Efficiency of Light Vehicle Pool in Sri Lanka Navy

a. With out having good light vehicle pool it is unable to provide effective and efficient transportation systems in an organization. Main task of light vehicle pool is as follows,

- i. Fulfil transportation requirement within the base
- ii. Provide staff vehicle facilities to senior officers
- iii. Apply for tasks which unable to cater by heavy vehicles
- iv. Routine works

b. There are 363 cars in Sri Lanka Navy. Out of these cars 173 have hired to cater the staff vehicle requirement. When consider about available cars in SLN and hired cars, hired cars have more capability to smooth running. Further there are no any non operation cars within this 173 no's of cars. It is observed that hired cars are functioning smoothly. Available light vehicles in Sri Lanka Navy have distributed among the commands as follows to fulfill the light vehicle requirements.

Light Vehicle Distribution in Sri Lanka Navy

Sr no	Vehicle	WNA	NNA	ENA	SNA	SENA	NWNA	NCC
1	Ambulance	6	7	7	2	2	2	5
2	Car	140		22	7	6	5	9
3	Car hiring	107		38	14	2	6	6
4	Double cab	97	14	27	7	2	4	8
5	Gun carriage	1		1	1			
6	Jeep	50	7	15	6	2	1	10
7	Motor cycle	237	140	262	32	14	76	97
8	Pilot vehicle	1	1	1	1			1
9	Single cab	88	27	58	17	6	27	27
10	Three wheeler	53	7	28	8	2	6	10
11	Tailor tractor	19	41	54	7	4	27	26
12	Van	56	1	22	11	1	1	7

Table 4

- c. In eastern naval area light vehicle strength is 538 No's. This light vehicle strength has distributed among all bases as per the requirements.
- d. According to the total strength of NMA above vehicle fleet is unable to cater the requirement. However NMA required light vehicles to cater the requirement.

Existing Problems of Transportation

36. When consider the available vehicles in Sri Lanka Navy there are various problem related to transportation. Following factors directly affected to reduce the efficiency of transport service in the Sri Lanka navy.

- a. **Using of old vehicles** Even though the economical life time of a government vehicle is only 05 years SLN using these vehicles more than it's economical life time due to financial restrictions of the government.
- b. **Not availability of allocated funds for vehicles** Government does not allocate sufficient funds for maintenance of SLN Vehicle fleet.

c. **Sudden physical expansions of the navy** Unable to cater the requirements of newly establishing commands & bases with available resources.

d. **Poor condition of Indian Credit line vehicles** Newly purchase vehicle through Indian credit line are not suitable due to imperial quality of spares and it's poor technology. Light Vehicle Pool is not in a position to cater the vehicle requirement due to above reasons. Presently Sri Lanka navy is out sourcing light vehicles to cater SLN transportation requirements.

CHAPTER – 3

SLN REQUIREMENT AND ABILITY TO MAINTAIN OWN VEHICLE FLEET

Capabilities of SLN Vehicle Fleet

37. In the post war scenario Sri Lanka Navy has been engaged with many development projects, Construction works welfare projects and many other works. In most of these activities transportation plays a vital role. Therefore it is much important to maintain its efficiency in an effective manner.

38. Since SLN maintaining its own vehicle fleet, there should be a capable NMTO staff and Transport Assistants for maintenance and repair activities of the vehicles. As per the 2013 carder allocation of TA's and ET sailors for the Naval Commands as follows.

2013 Carder Allocation of TA and ET Sailors for the Naval Commands

Naval command	Nos of vehicles	TA		ET	
		S/S	J/S	RNF	VNF/VAS
NNA	436	19	180	86	27
ENA	859	51	447	145	51
WNA	1048	204	979	188	96
NCC	373	21	199	73	37
SENA	67	4	46	9	9
NWNA	285	13	136	36	24
SNA	176	17	121	64	14
Total	3244	329	2108	601	258
		2437		859	

Table 5

39. Eastern Naval area has allocated of total 859 vehicles and there are 498 Transport Assistant sailors in 15 bases and other establishments. This allocation is also consisting with senior sailors and administration sailors who are working in transport offices.

40. As per the allocated carder for the repairs of these vehicles in Eastern Naval Area, NMTO workshops consist with 145 sailors and 04 officers. Even though the carder is sufficient to cater the requirement of repairing vehicles the available facilities are not matching with the available vehicles. Particularly when considering the newly purchased vehicles equipments there are lack of technical facilities to carry out repair.

41. As per the present repair capabilities of SLN, it can be observed that there are some major repairs which cannot be completed within the walls of NMTO workshops. Therefore most of the times those repairs has to outsource with private workshops from outside and charging cost is high . Running maintenance of vehicles, Tinkering works, miner engine repairs are carried out by NMTO workshops. But when it comes to major engine repairs and machinery NMTO (E) has to forward NAV 190 through Area Repairing Officer for outsourcing.

OP/NON OP state of Eastern Naval area's vehicle fleet is as follows.

Heavy Vehicle Op Non-Op State (ENA)- As per 10th June 2013

Sr No	Vehicle	Available Qty	State		Total
			OP	N/OP	
01	Apc truck	12	8	4	12
02	Bachoe loader	1	1		1
03	Bus	38	31	7	38
04	Crane mobile	2	1	1	2
05	Crane truck	0			0
06	Dozer	1		1	1
07	Dumper	4	2	2	4
08	Excavator	0			0
09	Fire engine	1	1		1
10	Fork lift	7	4	3	7
11	Freezer truck	0			0
12	Fuel bowser cpc	2	2		2
13	Garbage collector	0			0
14	Gas carrying vehicle	1	1		1
15	Gully emptier	1	1		1
16	Hand tractor 02 wheel	48	43	5	48
17	Loader, skid steer	0			0
18	Loader, wheel	1		1	1
19	Lorry with crew cab	1	1		1
20	Mine protected vehicle	2		2	2
21	Motor grader	0			0
22	Mobile toilet	0			0
23	Prime mover	0			0
24	Recovery vehicle	1	1		1
25	Road rolers	1		1	1
26	Sand buggies	0			0
27	Tipper	3	2	1	3
28	Track loader	1	1		1
29	Tractor 04 wheel	59	51	8	59
30	Trailer bowser	35	32	3	35
31	Trailer bowser fuel	2	2		2
32	Trailer bowser fire	0			0
33	Trailer gully bowser	8	8		8
34	Trailer low bed for boat	0			0

35	Trailer container	0			0
36	Trailer garbage	9	8	1	9
37	Trailer tsn	0			0
38	Truck	63	50	13	63
39	Water bowser	19	19		19
Total		323	270	53	323

Table 6

Light Vehicle Op Non-Op State (ENA) – As Per 10th June 2013

Sr No	Vehicle	Available Qty	State		Total
			Op	N/Op	
1	Ambulance	7	5	2	7
2	Car	22	20	2	22
3	Car hiring	38	38		38
4	Double cab	27	22	5	27
5	Gun carriage	1	1		1
6	Jeep	15	7	8	15
7	Motor cycle	262	242	20	262
8	Pilot vehicle	1	1		1
9	Single cab	58	48	10	58
10	Three wheeler	28	27	1	28
11	Tailor tractor	54	54		54
12	Van	22	13	9	22
Op/non op total		535	478	57	535

Table 7

Limitations of Maintaining of Own Vehicle Fleet

42. When coming to availability of spare parts for repairs it can observe that supplying of spare parts for repairs are not functioning smoothly due to procurement problems and lack of funds. Being a Government organization SLN has to depend on government funds. But the allocations of funds are not sufficient for the maintenance, rehabilitation and purchase of vehicles.

43. Presently with the involvement of Sri Lankan government and Indian government through Indian line of credit Sri Lanka purchased Vehicles for the use of government sector. During past few years SLN also using these Indian made vehicles. But due to their less durability the percentage of Non-op vehicles has been increased. Main reason for that is its low quality spare parts and it's poor technology.

44. Most of the existing vehicles have been purchased a long time back and most of the vehicles are now beyond their economical life time and the spare parts for these vehicles are not commonly available in the present market. Therefore it takes extra time and money to repair those types of vehicles.

45. Within the technical capabilities of NMTO there are many discrepancies which SLN unable to maintain the smooth functioning of its vehicle fleet. The major reasons for these discrepancies are,

- i. Non availability of technical tools and equipments to match with the requirements
- ii. Not sufficient technical knowledge to meet the latest technologies
- iii. Negligence and failure of carrying out repair and maintenance work properly
- iv. Trained and professional technicians leave the service early for other job opportunities.

Future Developments of SLN

46. Outsourcing can be simply defined as the contracting out of a function of an organization, commonly one previously performed in-house, to an external provider. In this sense, two organizations may enter into a contractual agreement involving an exchange of services and payments.

47. Outsourcing is considered as a form of privatization in which the service delivery is contracted to an external private vendor, while the sponsor retains oversight and control over delivery. Public and private sector organizations have embraced outsourcing because of benefits such as lower costs and better quality. The market for

outsource services has increased over time, with firms offering services ranging from specialty to comprehensive. The private sector has gained tremendously from outsourcing because it offers better-quality services at a lower cost than performing the job in-house. This enables private firms to focus on their core products, which helps them to gain competitive advantage and venture into new directions that improve their market position over their competitors. However, the public sector has had mixed success with outsourcing. Although the scope of government outsourcing has expanded from simple to more stylized services, the challenges public managers face to maintain effective and efficient service delivery have increased, sometimes resulting in substandard levels of service quality. Others in the area of fleet maintenance, many public agencies already outsource the fleet and equipment maintenance work. Resource limitations, staff shortage, and lack of specific skills are the most commonly cited reasons for outsourcing

The decision to outsource is not an easy one. The organization has to answer a variety of questions about the criticality of the outsourcing candidates to the organization's mission and goals, availability of third-party vendors, cost, and service quality, to name a few⁵.

48. At present SLN has been outsourcing some of its services at varying proportions such as IT services, Vehicle services, Training, Supplying of uniforms ect. However SLN still not practice 'out sourcing' as a strategic approach. Hence now it is the best time to evaluate how the concept 'out scouring' has resulted in SLN up to now and with that lessons how it can be applied as a strategic mean to obtain the maximum advantage of the same.

The Present Outsourcing in Sri Lanka Navy

Constructions

49. Even though there is a civil engineering branch under SLN organization, some of its constructions related services have been outsourced from out-side contractors.

⁵ NCHRP REPORT 692 (John Wiegmann & Ashok Sundararajan 2011)

Major reasons for outsourcing such services are unavailability of machinery, equipments, lack of capable resource personals and lack of technology etc.

IT Service

50. SLN operates a separate IT branch, but the outsource some IT related services such as software development. The most recent example is software development project for ILMS. It is done from one reputed it service provider name as 'Soft Logic' by paying around Rs.8 million. The project was outsourced due SLN does not have professional software developers.

Training

51. Navy has been outsourced many advanced training modules to reputed academic institutes in private sector as well as government sector. The main reason which led to outsource some training modules is unavailability of resources and persons in SLN.

Harbour Services

52. SLN obtains harbour services from SLPA such as Tug Assistance etc due to unavailability of own piers and tugs, especially in Western Command and Sothern Command.

Supplying of Uniforms

53. SLN has been outsourced tailoring of uniforms for officers and senior sailors from MS Jagath Tailors It has outsourced expecting high quality and well tailored uniforms for officers and senior sailors.

Supplying of Victualling Items

54. SLN has outsourced the supplying of more than 90% of its fresh and dry victual requirement to the 14 Nos. of contractors approved by the MOD.

Maintenance of Ships, Craft and Machinery and Equipment

55. SLN obtains many maintenance services from outside institutions. Major docking services for almost all the OPVs are obtained from CDL as SLN doesn't have sufficient/ required dry dock facilities, technologies and human resources.

Hiring of Machineries and Equipment

56. SLN hires many machineries and equipment from outside suppliers, such as heavy machineries and heavy machinery works (e.g. backhoe loaders, bulldozers etc.) since she doesn't own such machineries at all or doesn't have sufficient numbers cater the SLN requirement.

Cleaning

57. In 2011 the cleaning of Naval Hospital (W) and Ward room SLNS Parakrama is done by Ms Clear and Clean sanitary service.

Out Sourcing In Military Organizations in International Scenario

58. Outsourcing in military service is, of course not a new phenomenon. The best example is US military organizations. In past US militaries were self contained with soldiers on catering duty.

59. With the introduction of high tech equipment, contractors are even more widespread. The US military uses more and more contractors to troubleshoot its high-tech equipment. Not only in utility service but also Us military obtain the service of private military firms (PMFs) in the core military function of fighting for and establishing peace. E.g. Ms. 'Black water'.

60. These military contractors play vital role especially in Iraq battle field. In Iraq alone there are more than 20,000 private contractors representing over 80 different companies working for the US government.

61. Not only in US but also other militaries all over the world are in trend of outsourcing its utility services, (sometimes even the core services) Even in Indian military services they are out sourcing many utility services from outside contractors.

62. Outsourcing in Indian Air Force (IAF) goes back to as early as 1940 and the experience so far has been mixed. A number of various weapons system and equipment and refuelling operations at various IAF bases have been outsourced at varying proportions.

63. The Indian Navy, by decentralizing financial powers, has been able to outsource many activities for the purpose of including modern technology and increasing levels of synergy and coordination. At present, these areas broadly include. Operational requirement like ship refit and overhaul, ship engineering, and engine overhaul, technical support related to the maintenance of equipment building conservancy, IT, and dredging of channels, administrative support for ferry service, etc.

Possibility to Outsource Naval vehicle fleet

64. In SLN there are lots of supporting services which are carried out by the naval personnel and those services are financed by SL Navy own budget. Because of that lots of money should be allocated for training and other factors which are related to that respective service. It is understood that during the war time those services should be done by naval personnel by themselves because of the security purposes. So those money definitely must be allocated for that during war period. But now the time has been changed and we have a peaceful situation in the country. So we can save that money which we allocate for such services by outsourcing those services. When considering about outsourcing, each and every service can't be outsourced effectively. If SLN takes such services like legal, catering and mess assistance it is better to get those services from naval personnel itself. However if SLN can outsource, SLN doesn't want much manpower and SLN can reduce the money allocated for sailors and officers. From allocated funds 90% is allocated for Salary, food and uniforms. If Navy can reduce the manpower SLN can allocate that money for improve the operational capabilities of SLN. So the most

effective service that could be outsourcing in SLN is transport service. In the present scenario some of the staff vehicles are being outsourced by the navy. But if we analyse the costs such as repairing, maintenance, accident repairing, vehicle rehabilitation and insurance which are related to transport service and there is a possibility to outsource the whole vehicle fleet of SL Navy with effectively and efficiently. With that we can minimize the cost and can be increased the quality of the vehicle fleet in Sri Lanka Navy. From the annual budget a specific amount of money is allocated for transport. From that amount, money has to utilize for expenses related to purchases of new vehicles, repairs, insurance, rehabilitations and accident repairs. If we analyse the past 3 years records related to transport we can observe that every year the allocated amount of money was insufficient to carry out the repairs of vehicle in SLN. If we outsource vehicles from outside we just have to bear up the vehicle charges, man power and the fuel. We can reduce all the capital acquisition costs, maintenance charges, repair charges and insurance charges. In any case of accident it can be replaced as another vehicle from the outsourcing company. When we outsourced the Naval vehicle fleet, the core objectives of SL Navy can be achieved successfully. SLN can achieve following aspects as well when we doing outsource.

Outsourcing Can Deliver Efficiency Improvements

65. Most of the vehicles in SLN vehicle fleet are old vehicles. Because of that most of them are having defects and repairs and possibility to get non operation is very high. Sometime though the vehicles are repaired for a specific defect, soon it might again become non operation for any other defect. Oldness of the vehicle is one of the major reasons because vehicles have been used beyond the economical life time. Hence we cannot achieve efficiency that we expected from the vehicle pool. If we consider the vehicle outsourcing companies they are not providing old and unserviceable vehicles. Whatever the problem occurs they have to manage by using their resources and because of their vast knowledge and experience of the field they will not let any misconducts to happen. Because the expert fleet services have more experience in the field of fleet management they are more adept at identifying where shortfalls in efficiency may be

Taking place. Further, they have access to comprehensive reporting tools and equipment specifically designed for tracking and monitoring fleet vehicles, they are better equipped at Identifying individual faults.

66. By identifying vehicles which are running inefficiently, where vehicles are being under and over utilized, and where the Transport Assistants are performing below standard, professional fleet services can determine and with that we can decide exactly how the improvements can be made in our fleet.

Outsourcing can improve productivity.

67. Managing a fleet is not a small process. It includes its own vehicle acquisitions, repairs, maintainers and rehabilitations, insurance. It can be time consuming and stressful, with many important aspects to take into consideration and a wide range of variables.

68. Outsourcing the vehicle fleet frees up our own staff to perform duties which they are better suited to and which can deliver more significant benefits to the organization as all the processes by the out sourcing companies. This thesis examines the applicability of outsourcing naval vehicle fleet to produce a better transport service while minimizing the cost.

DATA COLLECTION

69. Out of various data collection methods available, the researcher used questionnaire method and direct and indirect oral interview in order to collect data for this research.

Forming the Questionnaire

70. A questionnaire is a list of questions sent to a number of persons for their answers and which obtains standardized results that can be tabulated and treated statistically. The main objective when forming the questionnaire for this study was, to test the hypothesis of this research; which is SLN can support to achieve her mission by adapting outsourcing of vehicle repairs rather than doing in-house repairs.

71. The questionnaire included following questions apart from the questions raised to deter respondents' details

- a. The present procedure of repairs and maintenance of vehicle in SLN is aligned with the objectives and goals of the SLN.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

- b. Unnecessary delay in spare parts ordering procedure is the main issue when carrying out in house repair maintenance of vehicles

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

- c. Lack of technical facilities to do major repairs is the main issue when carrying out in house repair maintenance of vehicles

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

- d. Lack of skill personal is the main issue when carrying out in house repair maintenance of vehicles

All attributes	Most of the attributes	Not sure	Some of them	None of them

e. The main issue when out sourcing repairs and maintenance of vehicles is the quality of the job. It is unsatisfactory.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

f. The main advantage when out sourcing repairs and maintenance of vehicles is the quality of the job. It is satisfactory.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

g. Same defect repeating due to poor quality of spares and services is the main issue when out sourcing repairs and maintenance of vehicles.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

h. When out sourcing repairs and maintenance of vehicles due to the good quality of spares and services same defect will not repeat.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

i. The main issue when out sourcing repairs and maintenance of vehicles is charging cost .It is comparatively high with in house repair cost

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

j. The main advantage when out sourcing repairs and maintenance of vehicles is charging cost. It is comparatively low with in house repair cost.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

k. The main issue when out sourcing repairs and maintenance of vehicles is, repairs gets long time duration to complete.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

l. The main advantage when out sourcing repairs and maintenance of vehicles is, repairs get short time duration to complete.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

m. Do you think SLN can support to achieve her mission by adapting outsourcing of vehicle repairs rather than doing in-house repairs

Yes	
No	

n. Do you think outsourcing repairs in vehicles can be used effectively and efficiently in SLN?

Yes	
No	

DISCUSSION

Important Findings from Questionnaire

72. The results obtained for the question ‘The present procedure of repairs and maintenance of vehicle in SLN is aligned with the objectives and goals of the SLN’ as follows;

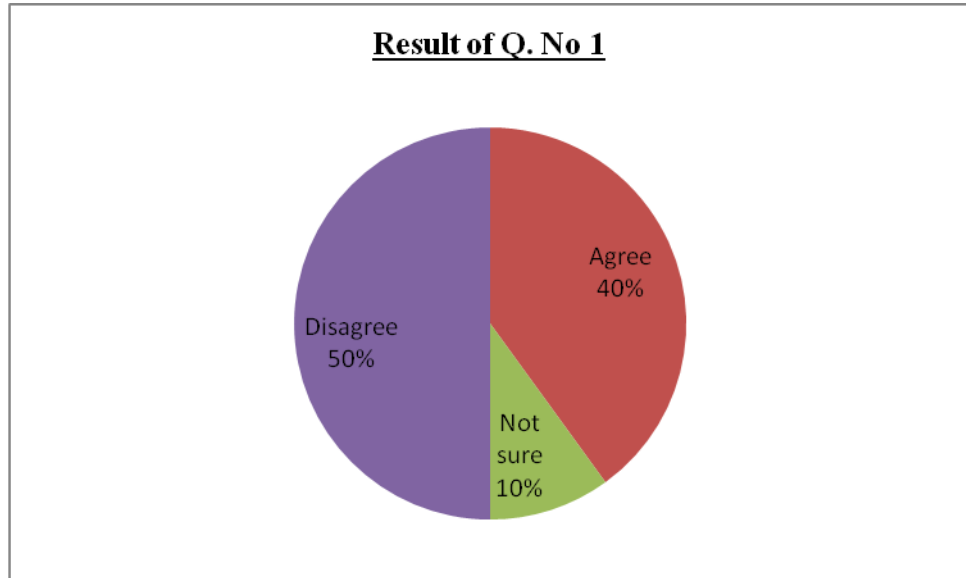


Chart 3

73. The majority, 50% of the respondent disagreed that ‘the present procedure of repairs and maintenance of vehicle in SLN is aligned with the objectives and goals of the SLN’. It is a fundamental as discussed in the previous chapter that present procedure should be aligned with SLN’s mission and objectives. So this result proves that the existing procedure of repairs and maintenance of vehicle in SLN must change immediately if SLN want to utilize allocated public money efficiently and effectively.

74. The results obtained for the question ‘Unnecessary delay in spare parts ordering procedure is the main issue when carrying out in house repair maintenance of vehicles’ as follows.

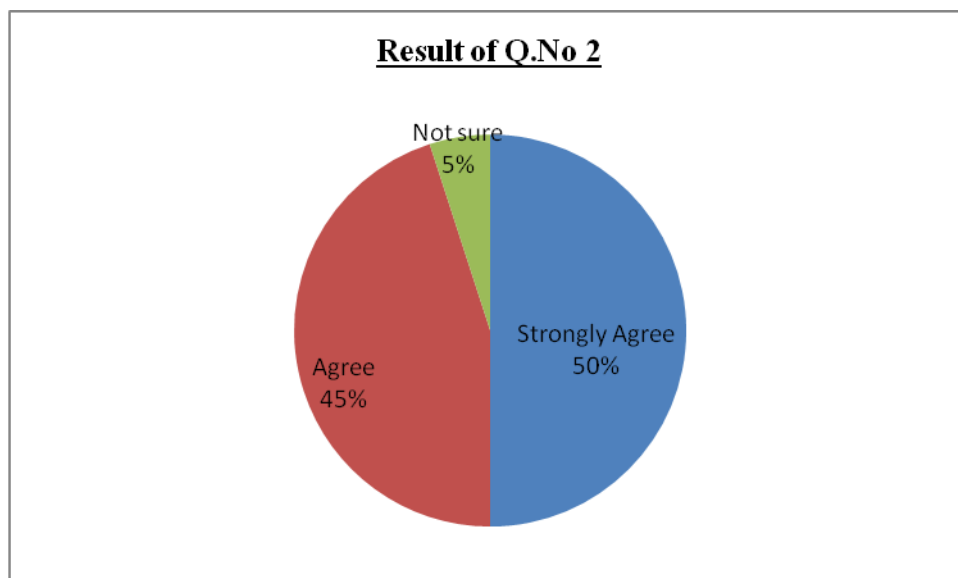


Chart 4

95% of the respondents agree and strongly agree with ‘Unnecessary delay in spare parts ordering procedure is the main issue when carrying out in house repair maintenance of vehicles’. During direct and indirect oral interview it is cleared that this problem is the main burden when carrying out in house repair maintenance of vehicles. To avoid this delay auto mobile engineering officers are practicing separate procedure which is not according to the financial regulations and laid down correct procurement procedures in SLN. During my research I found that when the requirement is very urgent, automobile engineering officers directly called to the possible supplier who is willing to give spares without money in an agreement basis that they will recommend later when the subject file come to the same automobile engineering officer for Technical evaluation. During this method supplier’s quoted price is more than double when comparing with market price. If SLN can give a good solution for this incorrect and illegal procurement procedures SLN can save lots of public money.

75. The results obtained for the question ‘Lack of technical facilities to do major repairs is the main issue when carrying out in house repair maintenance of vehicles’ is as follows;

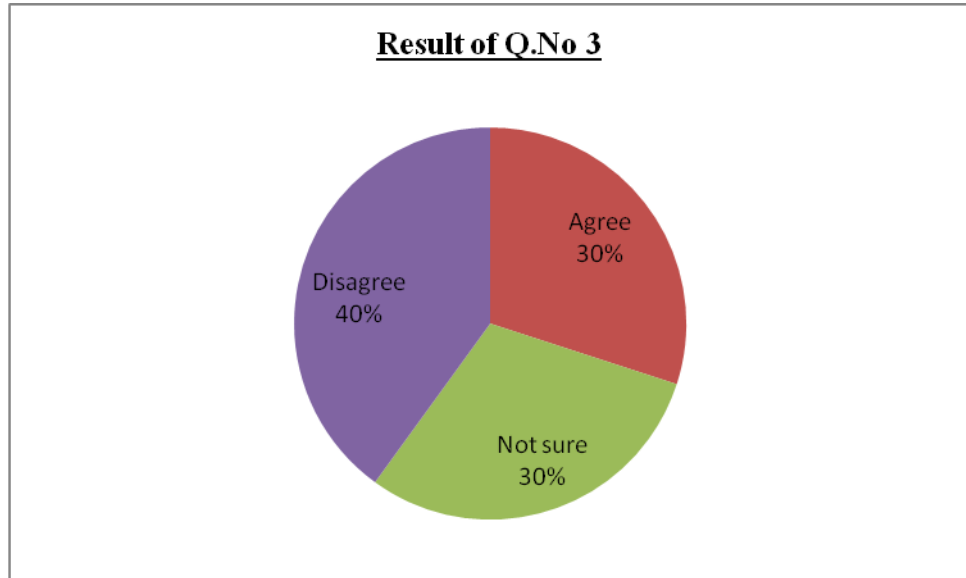


Chart 5

76. Majority of the respondents 40%, disagreed with lack of technical facilities to do major repairs is the main issue when carrying out in house repair maintenance of vehicles.

77. Following results were obtained for the question ‘Lack of skill personal is the main issue when carrying out in house repair maintenance of vehicles’.

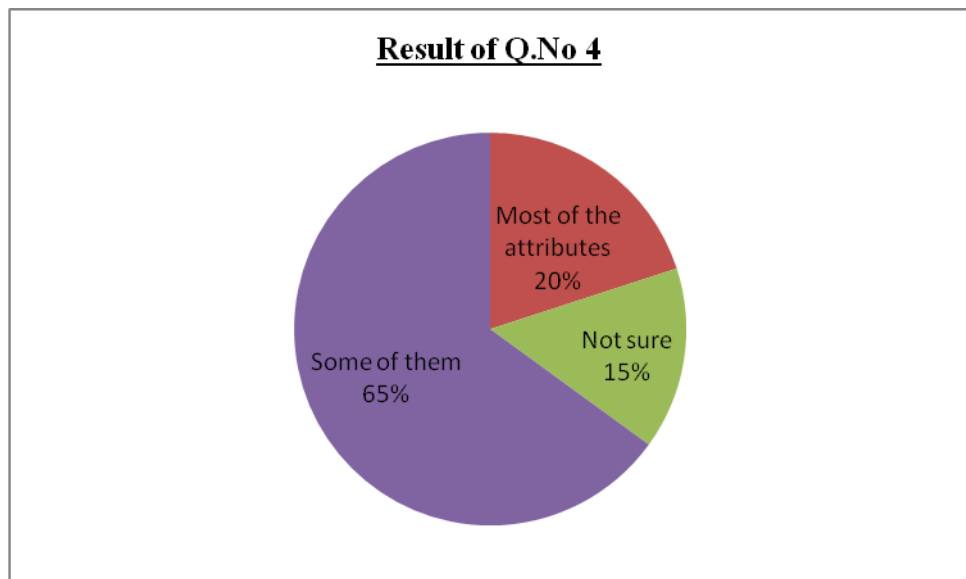


Chart 6

78. The results obtained for the question ‘The main issue when out sourcing repairs and maintenance of vehicles is the quality of the job. It is unsatisfactory’.

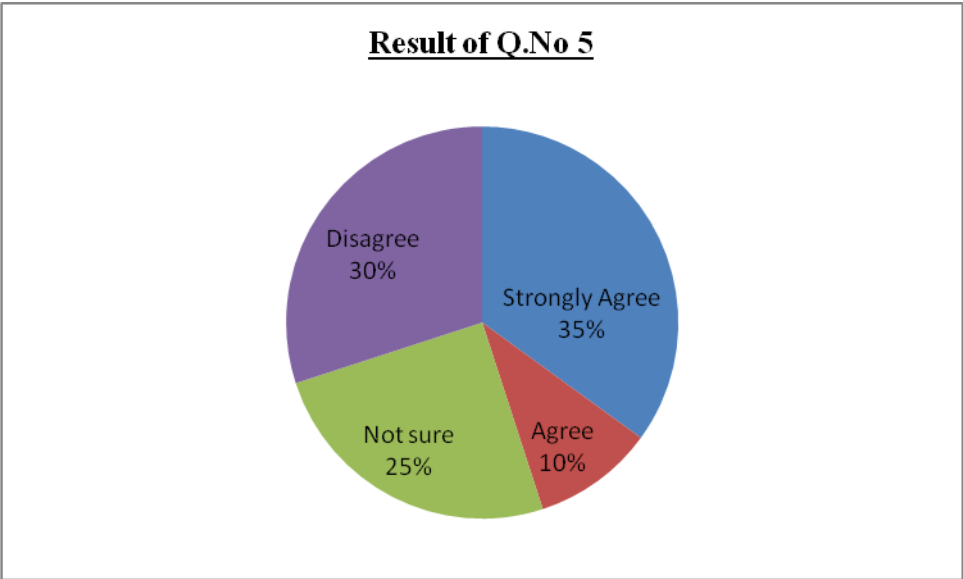


Chart 7

79. Majority of the respondents 45%, agree and strongly agree with the ‘The main issue when out sourcing repairs and maintenance of vehicles is the quality of the job. It is unsatisfactory’

80. Following results were obtained for the question ‘The main advantage when out sourcing repairs and maintenance of vehicles is the quality of the job. It is satisfactory’.

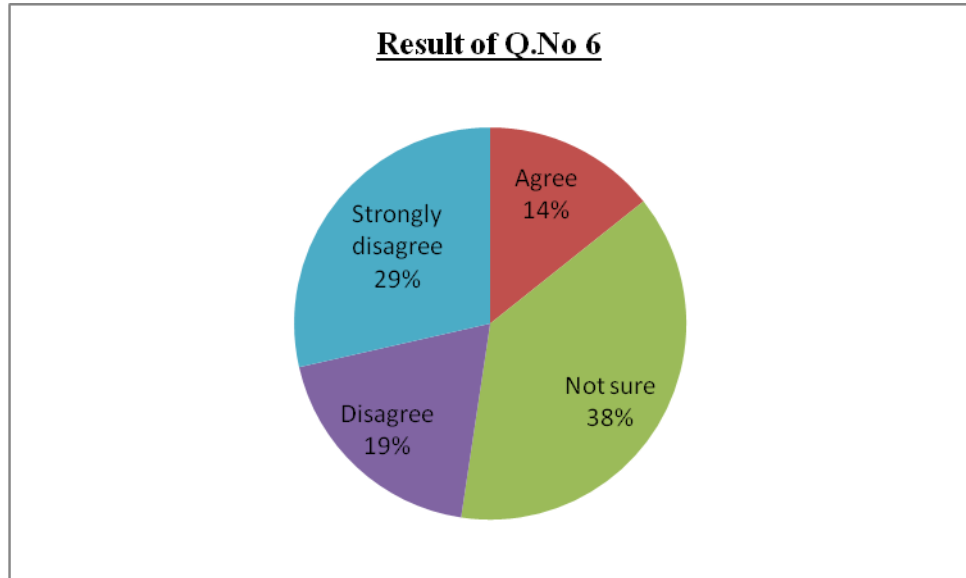


Chart 8

81. Majority of the respondents 48%, disagreed and strongly disagree with the fact ‘The main advantage when out sourcing repairs and maintenance of vehicles is the quality of the job. It is satisfactory’

82. The results obtained for the question ‘Same defect repeating due to poor quality of spares and services is the main issue when out sourcing repairs and maintenance of vehicles’ are as given in the diagram below.

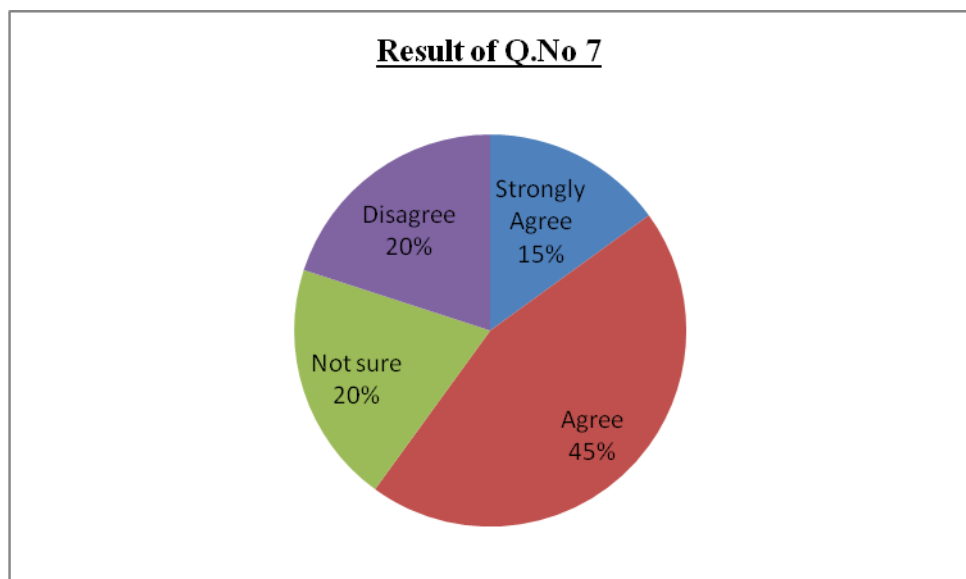


Chart 9

83. Majority of the respondents 60%, agree and strongly agree with the ‘Same defect repeating due to poor quality of spares and services is the main issue when out sourcing repairs and maintenance of vehicles’

84. The results obtain for the question ‘When out sourcing repairs and maintenance of vehicles due to the good quality of spares and services same defect will not repeat’ as follows;

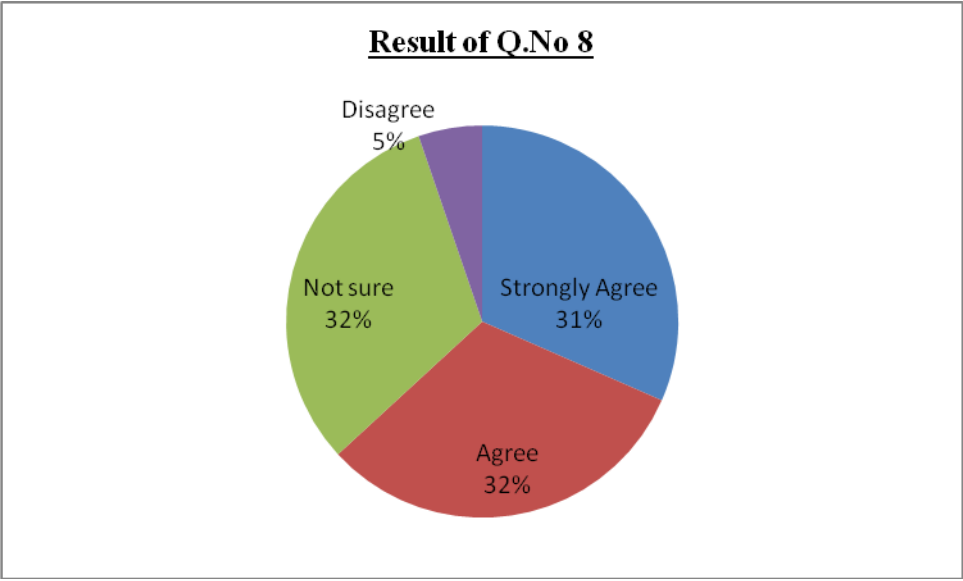


Chart 10

85. Majority of the respondents 63%, believes that When out sourcing repairs and maintenance of vehicles due to the good quality of spares and services same defect will not repeat. But sizable percentage was not sure about the fact. Disagreed percentage is low as 5% of respondents.

86. Results obtained for the question ‘The main issue when out sourcing repairs and maintenance of vehicles is charging cost .It is comparatively high with in house repair cost’ is as follows.

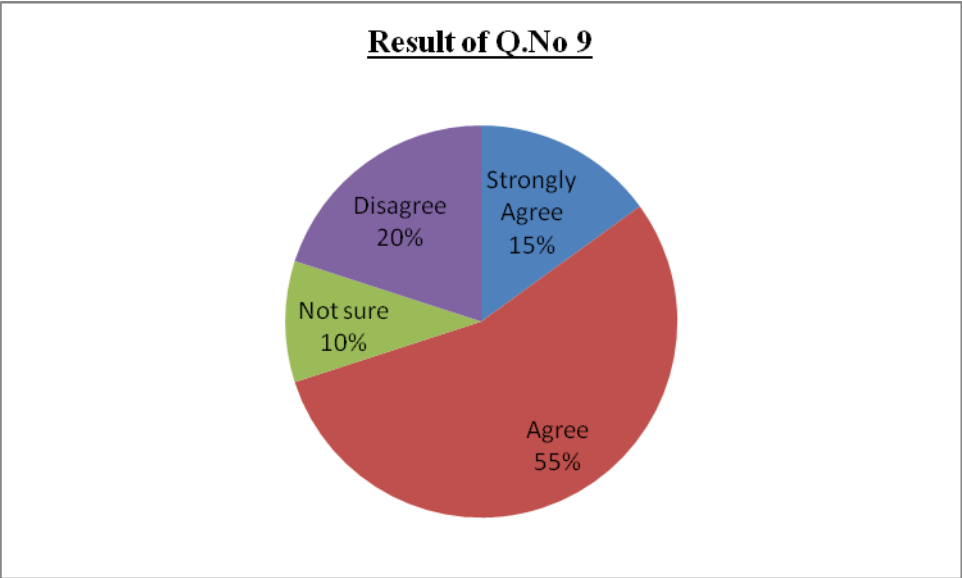


Chart 11

87. Majority of the respondents 70%, agree and strongly agree with fact that ‘The main issue when out sourcing repairs and maintenance of vehicles is charging cost .It is comparatively high with in house repair cost’.

88. The results obtained for the question ‘The main advantage when out sourcing repairs and maintenance of vehicles is charging cost. It is comparatively low with in-house repair cost’ is as follows;

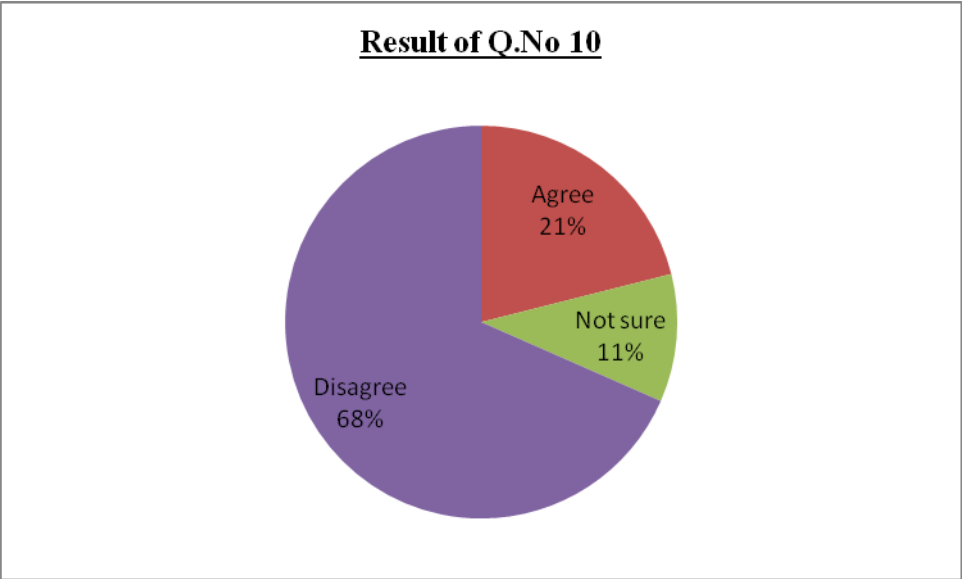


Chart 12

89. Majority of the respondents 68%, disagree with fact that 'The main advantage when out sourcing repairs and maintenance of vehicles is charging cost. It is comparatively low within house repair cost'

90. Results obtained for the question 'The main issue when out sourcing repairs and maintenance of vehicles is, repairs gets long time duration to complete'

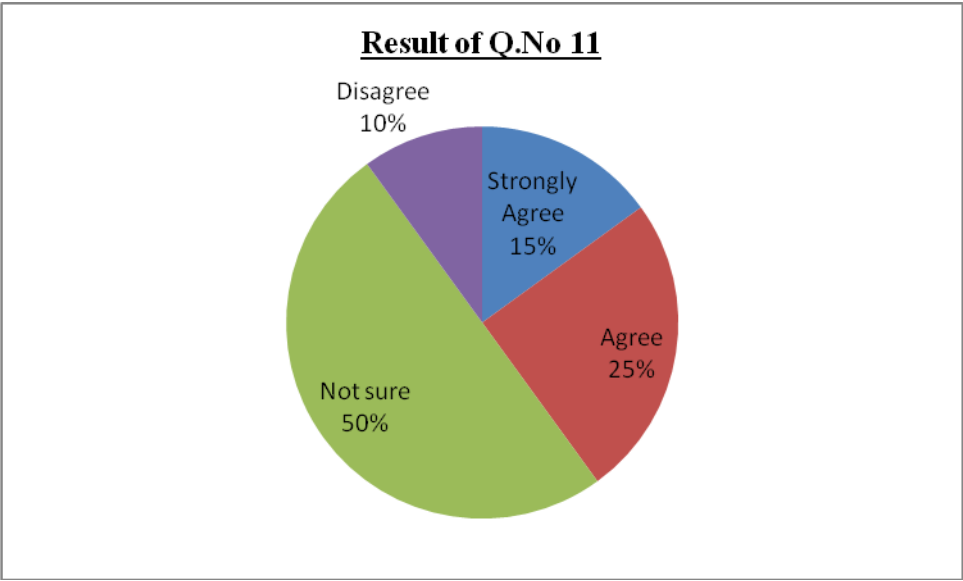


Chart 13

91. The results obtained for the question 'The main advantage when out sourcing repairs and maintenance of vehicles is, repairs gets short time duration to complete'

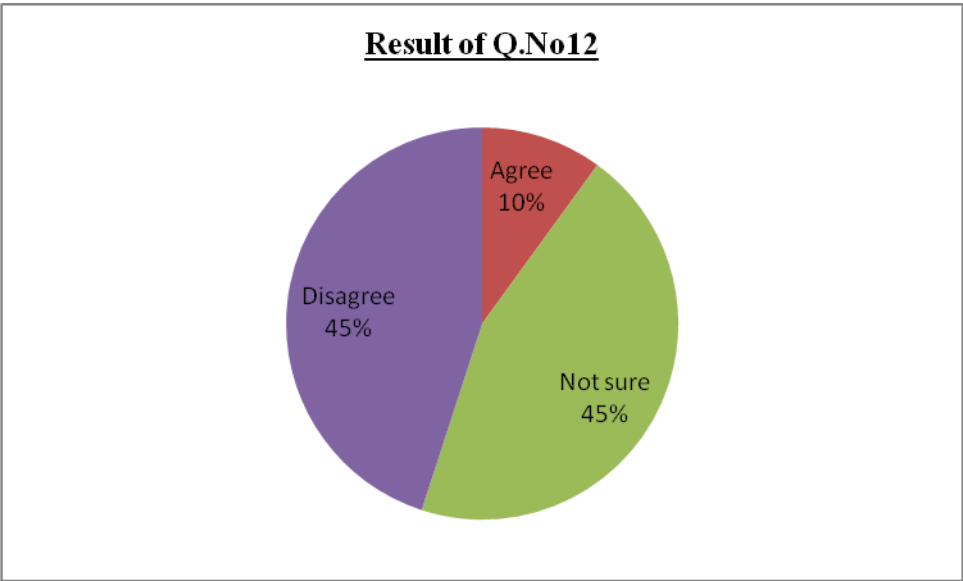


Chart 14

92. The results obtained for the question ‘Do you think SLN can support to achieve her mission by adapting outsourcing of vehicle repairs rather than doing in-house repairs ’ is as follows;

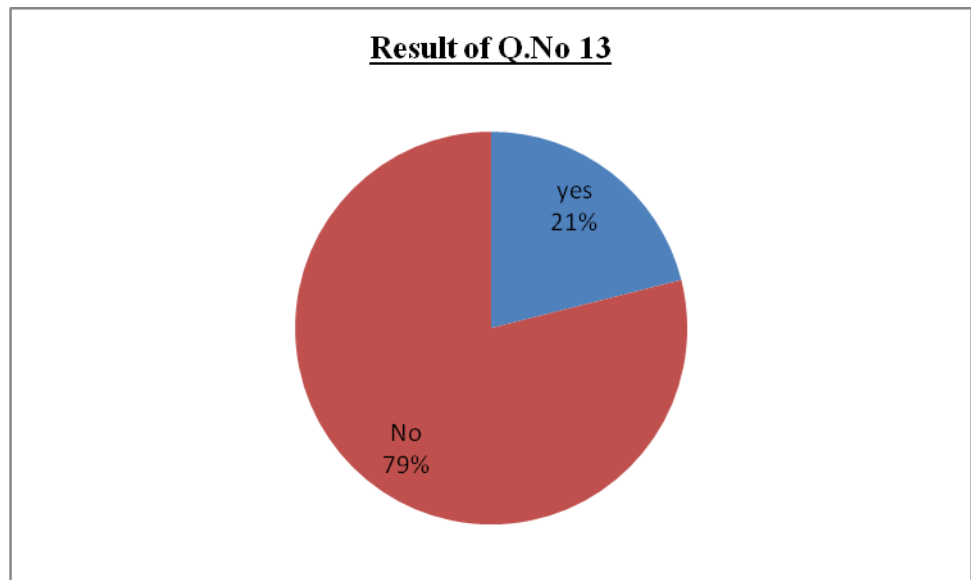


Chart 15

93. The results obtained for the question ‘Do you think outsourcing repairs in vehicles can be used effectively and efficiently in SLN? ’ is as follows;

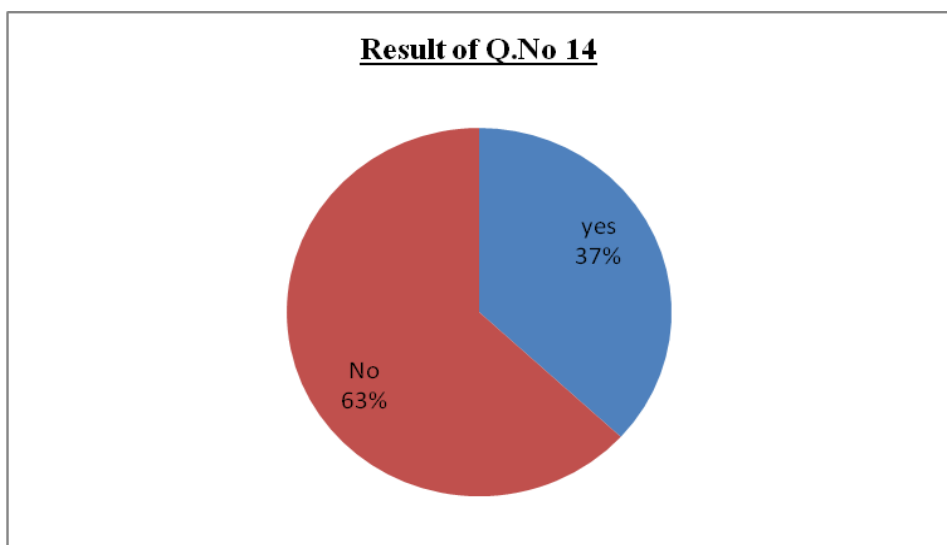


Chart 16

Summary of Findings

- a. As per the results obtained for the question number 1, the present procedure of repairs and maintenance of vehicle in SLN is not aligned with the objectives and goals of the SLN. This result proves that the existing repairs and maintenance of vehicle in SLN is fundamentally accepted by the majority of SLN officers as inefficient and repairs and maintenance of vehicle should align with organisational goals and objectives.
- b. As per the results of the question number 2 vast majority believes that the unnecessary delay in spare parts ordering procedure is the main issue when carrying out in house repair maintenance of vehicles.
- c. As per the results of the question number 3 and 4, majority believes that the Lack of technical facilities to do major repairs is not a main issue when carrying out in house repair maintenance of vehicles but they believe Lack of skill personal is a main issue when carrying out in house repair maintenance of vehicles.
- d. As per the results of the question number five and six, majority believes that one of the main issue when out sourcing repairs and maintenance of vehicles is the quality of the job. It is unsatisfactory’.
- e. As per the results of the question number seven and eight, majority believes that. Same defect repeating due to poor quality of spares and services is the main issue when out sourcing repairs and maintenance of vehicles but majority believes and indicated that when outsourcing with local agent that will not happening.
- f. As per the results of the question number 9 and 10, majority believes that when out sourcing repairs and maintenance of vehicles charging cost is high
- g. As per the results of the question number 11 and 12 majority not sure that repairs gets long time duration to complete when outsourcing .

h. Majority believes that the existing performance appraisal system appraises Traits and Behaviours of SLN officers essential to perform the job thereby accepted as mixture of Trait and Behaviour appraisal method.

i. Majority of the respondents indicated that they are not believe outsourcing repairs in vehicles can be used effectively and efficiently in SLN and majority believe SLN can not support to achieve her mission by adapting outsourcing of vehicle repairs rather than doing in-house repairs

94. Therefore the results shows that the existing repairs and maintenance of vehicle in SLN is not aligned with goals and objectives of Sri Lanka Navy. However when doing in house repairs and maintenance of vehicles automobile engineer officers and sailors have to face many problems. But it is always better to improve the existing in house repairs due to majority is unsatisfied with outsource repairs and maintenance of vehicles. Hence it is disproves the hypothesis which is “SLN can support to achieve her mission by adapting outsourcing of vehicle repairs rather than doing in-house repairs.” But the identified drawbacks which are given in next chapter need to be rectified to improve efficiency of the existing in house repairs and maintenance of vehicle in SLN.

CHAPTER 4

CONCLUSION

95. After engaging in 30 years long war SLN is now in a transition period where she should re-define her operational strategies to meet high degree of organizational efficiency.

96. The main problem when consider the repairs and maintenance of the vehicle in SLN is allocated funds. If SLN can introduce a new system to settle the payment on delivery of spares or repair.SLN can gain vast improvement in all repairs and maintenance of vehicles. Outsiders take long time to completed SLN repairs as the suppliers do not receive money on completion the job and they more interested on cash payments customers. When it comes to purchase of spares also same thing happen and suppliers used to quote exorbitant considering the long delay for settle the payment.

97. Hence the Sri Lanka Navy has to go beyond the traditional frame and search in to new concepts which can be applied in order to improve the operational efficiency. So now it is the time to find and go for more cost effective means and methods in order t ensure the maximum utilization of public money. To be a professional navy, it is necessary to improve the professionalism of personnel by paying more attention on its core activities rather than supportive activities.

98. In this kind of situation outsourcing can be applied as a strategic solution. Even in Sri Lanka, not only most of top private sector organizations but also public sector organizations use outsourcing as a strategic approach when minimizing their cost and improving efficiency. But during my research I realized that SLN can't totally depend on outside service providers as a military force because in an insurgency cases like 1971 insurgency and 1983 July insurgency. Protestors can easily jeopardise SLN repairs and maintenance of vehicle if SLN is going to totally depend on outside service providers. So best optimal option is, developing our own repair and maintenance system by providing good training for automobile sailors and implementing a system which is able to provide required spares as quick as possible to attend repairs of

vehicles. Same time it is very much essential to conduct awareness programme for users (Transport Assistances) of Vehicles in SLN.

RECOMMANDATIONS

99. The following recommendations are offered based on the findings in the spirit of building upon and improving the existing system of repairs and maintenance of vehicle in SLN.

a. Implementing Integrated Logistics Management System (ILMS) :

The latest addition to logistics field to manage inventories is termed as the Integrated Logistics Management System (ILMS). This computerized and networked system was developed with the objective of enhancing the efficiency of Logistics Management System. Core functions needed for stores management have been already implemented. Integration with budgetary management and procurement process have to implement imidiatly and that will help to utilize maximum funds which are allocated for Sri Lanka Navy.it has provided food for thought for logistic officers to improve their skills and professional ability further .The future of logistic activities will heavily depend on this system and therefore, a great responsibility is ahead of logisticians of the navy to improve the level of skills and management capabilities and this system will stop the file actions which consume long time duration to finalize the procurement action . It is revealed during interviews with Sri Lanka Air force officers, they were able to save lot of time by implementing and adapting to ILMS in Air force. They are maintaining two separate data bases for their vehicles and aircrafts. Imagine one auto mobile engineer from Sri Lanka Air force want to initiate purchase action, before initiating he can check whether the item is available in other command or bases by logging in to the data base. If SLN can practice ILMS properly SLN can save lots of public funds and reduce the delay in procurement process.

b. Introducing centralized stores which contain identified most essential running and breakdown spares : The study reveals that majority of the respondent have less confident of the existing system due to unavailability of required spares and delay in procurement process . As per the existing procedure, all the procurement actions are initiated after the break down of the vehicle. During my research I observed to purchase very small spare part nearly cost about Rs.300.00 to Rs.400.00 it will take long time duration to complete the purchase action. All this time period respective vehicle placed non operational. If SLN have centralized stores which contain identified most essential running and breakdown spares. Those spares easily use for the repair and without much delay. It will effect to the efficiency of the organization.

c. Introducing foreign training for auto mobile engineer officers and sailors It is observed that both **auto mobile engineer officers and sailors** have not undergone any foreign training on vehicle repairs and maintenance like other engineer officers in engineering and electrical branches. If SLN can provide foreign exposure to the auto mobile engineers and sailors. In future they will re defined the present procedures with help of foreign training experiences.

d. Regular meeting and discussions are essential to analyse the problem which are facing during Repairs and maintenance of vehicles in command: The existing repairs and maintenance of vehicle in SLN has no problem analysing method. One of the main problems when auto mobile engineering officers are facing is spare parts transferring procedure. Imagine If Northern Naval Area wants some vehicle spare parts from Eastern Naval Area. Transferring procedure is very lengthy because spare parts have to transfer through Transit stores ,SLNS Mahasen where there is a possibility to transfer required item from shipping stores, SLN Dockyard to shipping stores, SLNS Uttara directly. By organizing regular meeting and discussions with command representative it is very easy to identify the main problems facing when doing repairs and maintenance of the vehicles in SLN.

e. When SLN practicing out sourcing it is always better to awarding repairs to Local Agent. When awarding repairs to local agent it is observed quality of the repair is high standard. However the cost for repair cost is very high. But it is always better to go for the quality repairs and if the defect is repeating and attending repairs many times overall it is wasting allocated funds.

f. Conducting technical and safety awareness classes for users (Transport Assistance Sailors) of SLN vehicles. The study reveals that the existing repairs and maintenance of vehicle are directly influenced by the technical and safety awareness of the users of vehicles. It will be more beneficial if SLN can conduct technical and safety awareness classes for transport assistance branch's sailors because they are the persons who operate the vehicles in SLN. When doing defect analysing using past records of repairs, many defects are occurred due to the wrong operating and maintenance procedures. To avoid this it is very much essential to enhance the technical and safety awareness knowledge of operators.

Further studies on the subject which can be achieved

100. The primary objective of this research was to analyse the repairs and maintenance of vehicles in SLN. In house and outsource repairs. However the Job satisfaction, Motivation and decision making related to the repairs and maintenance of vehicles in SLN are not considered in depth for this study. Hence there is a room for further studies on these aspects to study the workers' attitudes and how it effect to the repairs and maintenance of vehicles in SLN.

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**QUESTIONNAIRE FOR OBTAINING SLN OFFICERS VIEWS ON REPAIRS
AND MAINTENANCE OF VEHICLE IN SLN: IN HOUSE AND OUTSOURCE
REPAIRS**

RESEARCH QUESTIONNAIRE

**QUESTIONS REGARDING REPAIRS AND MAINTENANCE OF VEHICLE IN
SLN: IN HOUSE AND OUTSOURCE REPAIRS**

I, Lt (E) SPYDJ Subasinghe NRE 2331 highly appreciate your valuable opinions related to the repairs and maintenance of vehicle in SLN for my research the topic of Critical appraisal of repairs and maintenance of vehicle in SLN: In house and outsource repairs. Hence, kindly give your response to the below questionnaire.

Name:.....

Designation:.....

Telephone No:.....

1. The present procedure of repairs and maintenance of vehicle in SLN is aligned with the objectives and goals of the SLN.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

2. Unnecessary delay in spare parts ordering procedure is the main issue when carrying out in house repair maintenance of vehicles.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

3. Lack of technical facilities to do major repairs is the main issue when carrying out in house repair maintenance of vehicles.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

4. Lack of skill personal is the main issue when carrying out in house repair maintenance of vehicles.

All attributes	Most of the attributes	Not sure	Some of them	None of them

5. The main issue when out sourcing repairs and maintenance of vehicles is the quality of the job. It is unsatisfactory.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

6. The main advantage when out sourcing repairs and maintenance of vehicles is the quality of the job. It is satisfactory.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

7. Same defect repeating due to poor quality of spares and services is the main issue when out sourcing repairs and maintenance of vehicles.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

8. When out sourcing repairs and maintenance of vehicles due to the good quality of spares and services same defect will not repeat.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

9. The main issue when out sourcing repairs and maintenance of vehicles is charging cost .It is comparatively high with in house repair cost.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

10. The main advantage when out sourcing repairs and maintenance of vehicles is charging cost. It is comparatively low within house repair cost.

Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree

