NAMIBIA UNIVERSITY OF SCIENCE AND TECHNOLOGY

Faculty of Management Sciences

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An evaluation of the Namibian Government - Garage Transport Service Provision

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This mini-thesis is presented in partial fulfilment of the requirements for the degree of Master of Logistics and Supply Chain at the Namibia University of Science and Technology

Supervisor: Professor Harold Campbell

April 2019

Master of Logistics and Supply Chain Management

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SUPERVISOR: Professor Harold Campbell

[April, 2019]

DECLARATION OF ORIGINAL WORK

I, Anneline Black, declare that this mini-thesis is my own unaided work. Any assistance that I have received has been duly acknowledged in the mini-thesis.

It is submitted in partial fulfilment of the requirements for the degree of Master of Logistics and Supply Chain Management at the Namibia University of Science and Technology. It has not been submitted before for any degree or examination at this or any other institution of higher learning.

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ACKNOWLEDGEMENTS AND DEDICATION

I would like to take this opportunity to express my heartfelt gratitude to my supervisor, Professor Harold Campbell, for his unwavering support, encouragement and guidance during the course of my study. I would not have come this long way without his guidance.

I dedicate this mini thesis to my husband, children, and my baby sister; thank you all for the endurance, understanding and support, sharing me with my studies without once complaining. You are all my super - stars. I am forever grateful to you.

Furthermore, I also want to extend a big thank you to all my fellow postgraduate students, for making my time at the university an enjoyable experience.

Last, but not least, I want to take this opportunity to thank my employer, the Ministry of Works and Transport, for the study periods and supporting information that you allowed me. Your commitment and dedication towards educating the nation is highly appreciated.

I apologise to those friends not mentioned in this brief acknowledgement. Omission does not mean lack of gratitude. I thank you all.

ABBREVIATIONS, ACRONYMS AND DEFINITIONS

THE FOLLOWING IS AN ALPHABETICAL LISTING OF THE *ABBREVIATIONS, ACRONYMS AND DEFINITIONS* USED IN THIS REPORT

GG   - Government   Garage (Namibia)

GHG   - Greenhouse Gas

MWT   - Ministry of Works and Transport

NAM   - Namibia

OMA   - Office, Ministry and Agency

TP   - Transport

Y   - Year

Km   - Kilometre

KPI   - Key Performance Indicators

ROA   - Return of Assets

Definitions

The Namibian Public Procurement, describes a public entity as (Public Procurement Act of (Act No. 15 of 2015) :

"public entity" in this study means any office, ministry or agency of the Namibian Government including: (a)'' a local authority'';

(b) ''a regional council'';

(c) ''a public enterprise as referred to in the Public Enterprises Governance Act, 2006 (Act No. of 2006)'';

(d) ''a body or trust that is owned or controlled by the Government - when engaged in any procurement individually or in consortium''; and

(e) ''an entity declared as public entity in terms of section 5 of the New Public Procurement Act of 2015''.

"Offices, Ministries and Agencies'' in this study refers to all Offices, Ministries and Agencies as defined in Section 1 of the Namibian Public Service Act, 1995 (Act No. 13 of 1995):

"on-road''vehicles in this study refers to sedan vehicles;

"off-road" vehicles in this study refers to all bakkies and SUV's.

Abstract

Governments, are entrusted to actively promote and maintain the welfare of their people, and the Namibian Government is no exception. Governments go about promoting the well-being of their people by using many policies within their many respective arms of governance.

It can be argued that in order for Governments to carry out their work, they need to move from point to point. According to Sperling and Salon (2002) 'Enhanced mobility has many positive effects on economic development and social welfare, including more efficient movement of goods and improved access to jobs, health services, and education'.

The Government-Garage is the custodian of Government road transport services; tasked with the responsibility of the acquisition of fleets; parts of or any fleet component, taxing, licencing, fuelling, repairs and maintenance of all Government fleets, on behalf of the Offices, Ministries and Agencies (OMA) centrally and reclaiming all funds spent on public entities transport needs from the respective OMA.

The purpose of the study was to evaluate the general operational performance of Government-Garage. The study focused on the service level given to its customers in terms of fleet provision - capacities, cost implications and fleet specification, as well as to make appropriate recommendations for improvement.

It was found that Government-Garage transport service provision is effective as their objective of providing vehicles to the OMA were met. In fact, they provided more vehicles to OMA than needed. However, the study showed that Government-Garages are not operating efficiently; the study confirmed that on many grounds, there was a wastage of resources and complex procedures. A few recommendations are a) to appoint council members, to implement and regulate policies b) A 'Fleet Management Task Force', to review the utilization data to specifically examine the use for each day of the week, and to review the number of vehicles needed per OMA with the purpose of eliminating waste.

Key words: Asset Management, Fleet Management, Fleet Maintenance, Demand, Supply, efficiency, effectiveness

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1   CHAPTER 1: INTRODUCTION AND BACKGROUND TO THE STUDY

This chapter begins with an introduction of the topic; it also provides the background to the study for ease of understanding the problem statement, purpose and objective/s of the study as well as looking at the questions that will answer the study. Additionally, it looks at the significance of the study as well as the limitations/delimitations of the study.

1.1 Introduction

Governments, are entrusted to actively promote and maintain the welfare of their people, and the Namibian Government is no exception. Governments go about promoting the well-being of their people by using many different policies within their many arms of governance.

It can be argued that in order for Governments to carry out their work, they need to move from point to point. According to Sperling and Salon (2002) 'Enhanced mobility has many positive effects on economic development and social welfare, including more efficient movement of goods and improved access to jobs, health services, and education'. In Namibia, these movements are mostly by means of road transport, hence the existence of Government Garage for State transport. Transportation services approaches cannot be a 'one shoe fits all' approach; each Government adopts its own approach depending on their own individual needs and conditions. However, there are similarities and according to Sperling and Salon (2002) there are five fundamental strategies that can be adopted by Governments in the transportation sector, to both increase efficiency and reduce greenhouse gas (GHG) emissions. These are 'increase vehicle efficiency, switch to less greenhouse gas-intensive fuels, switch to less greenhouse gas-intensive transportation modes, decrease travel distance and increase occupancy of vehicles'. These strategies can go a long way in ensuring the overall well-being of inhabitants of countries, in particular during provision of Government - services. Strategies can be developed using a variety of policies and investments.

1.2 Background to the Study

Government-Garage (GG) is a Government division, mandated to provide all Government Ministries, Offices and Agents (OMA) with road transport services. The services provided by Government-Garage are centralised. Government-Garage purchases all needed vehicles on behalf of the Namibian Government, and register these vehicles as such. The vehicles are then leased out to the OMA, on a long term basis, usually until the end life cycle of the fleet. Moreover, Government   Garage would then also centrally manage all other activities' linked to its fleet, e.g. fuelling, servicing, maintaining, and repairing, as well as disposal. The services provided by GG, are either carried out by GG themselves or outsourced by GG to private service providers. However, the overall responsibility of all Government fleets lies with GG.

The Namibian Ministry of Works and Transport is a ministry with an overall mandate to develop, implement and regulate Namibian infrastructure and state assets (Namibia, n.d.-a). This mandate, in terms of state assets, is cascaded to various departments responsible for the different types of state assets. Ensuring Government transportation services is the mandate of the Division: Government-Garage, under the Department of Administration and Centralised Support Services.

The Government-Garage, tasked with the responsibility of the acquisition of fleet; parts of or any fleet component, taxing, licencing, fuelling, repairs and maintenance of all Government - fleet, on behalf of the OMA centrally and reclaiming all funds spent on public entities transport needs from the respective OMA. Government-Garage is a service based division providing road transport services at a fee. It is against this background that with such a very important task, Government-Garage is expected to carry out this mandate efficiently and effectively; in order to meet its customers demand expectation. OMA are made up of Namibian Government ministries, Government offices, and Government Agencies.

Government-Garage categorises their fleet into two types of categories: Vehicle fleets that are assigned and pool vehicles:

[1] *Assigned Fleet:* are vehicles that are contracted to the respective OMA on a long term basis and in most cases over the life cycle of the vehicle, for a fixed fee; additional to the rental fixed fee for the contracted period, OMA also are charged for all repairs (general and

accident), fuel, tyres and special accessories requested by the OMA. The fixed rental fee paid by the OMA includes the actual utilisation of the vehicle, preventative maintenance e.g. vehicle services, and 24/7 recovery services in cases of emergencies. While the vehicles are in the assignment of the OMA, the OMA are expected to take care of these vehicles, the OMA through their own administrative structures are expected to ensure these assigned vehicles are utilised within the framework of Government - policies.

[2] *Pool Fleet:* are vehicles administered entirely by GG. These vehicles are used for co-sharing within the whole OMA and for national events; these vehicles are usually needed on a temporary (short-term) basis and are charged daily. The benefit of pooling is that 'Vehicles assigned to a pool are available for use by multiple individuals which increases their utilization' (Steelman, 2017).

1.3 Statement of the Problem

Even though the mandate of Government - transport services lies with the Government-Garage (GG), most state - owned enterprises and regional structures as well as a few Ministries, provide these transport services for themselves without the involvement of GG. According to the Government Garage internal UNIX system; (vehicmaster.txt):

> The system indicates that since the year 1990, the Namibian Government - through the Division: Government-Garage (GG) purchased approx.: 31 673 vehicles, buses and trucks. During the period 1990 – 1999 (nine years), a total number of 113 vehicle fleet were purchased; during the period 2000 – 2009 (nine years), 889 fleet vehicles were purchased and during the period of 2010 to 2016 (six years) a fleet of 24 671 were purchased. The last period of 2010 to 2016 has seen the highest purchase of 78% of the Government - fleet, even though it was the shortest period between these three time periods. Currently only 3 664 (vehicles, buses and trucks) are managed by Government-Garage; this number is a mere 12% of the total fleet purchased between 1990 and 2016.

> On average the Government-Garage should generate revenue of N\$ 150 000 per vehicle per annum by contract hire and day to day lease of its fleet, totalling on

average, an annual revenue of N$ 550 000 000 for the 3664 vehicle fleet. The Auditor General Reports of 2006/07 to date showed an under recovery of revenue.

OMA, utilising GG transport services, the current assigned vehicle fleet, ranges from 1 to 240 vehicle fleet per OMA for their fixed leased periods.

The Office of the Auditor-General is mandated to carry out annual audits; *regularity audits* – which are meant to focus on determining whether an entity's financial information is presented in accordance with the applicable financial reporting and regulatory framework and in compliance with authorities, *performance audits* – which are aimed at focusing on whether interventions, programmes and institutions are performed in accordance with the principles of economy, efficiency and effectiveness and whether there is room for improvement. Additionally, the Office of the Auditor General is also supposed to carry out *environment audits, IT audits and forensic audits*. However, the only audit actually carried out by the Office of the Auditor General is the regulatory audit. There is a dire need for an oversight of Government divisions like Government-Garage's day to day operational performance, to ensure a cost-effective, efficient division that provides satisfaction to its customer as well as overall continuous improvement.

It was this background that necessitated an investigation into the Government-Garage service provision, performance challenges that affect service delivery and the recommendations of interventions for improving service provision.

1.4 The Purpose and Objectives of the Study

1.4.1   Purpose

The purpose of the study was to evaluate the general operational performance of the Namibian Government-Garage.

1.4.2   Main Objective

The main objective of this study was to evaluate the level of operational performance of the Government-Garage, focusing on the level of service provided by Government-Garage to its

customers in terms of vehicle fleet provision - capacities, cost implications and fleet specifications, as well as to make appropriate recommendations for improvement.

1.4.3   Questions

1.4.3.1   What are the Government-Garage customers' perception of Government-Garage effectiveness? According to (dictionary.com, n.d.), being effective means to adequately accomplish a purpose, producing the intended or expected result.

1.4.3.2   What are the Government-Garage customers' perception of Government-Garage efficiency? According to (dictionary.com, n.d.), being efficient means performing or functioning in the best possible manner with the least waste of time and effort.

1.4.3.3   What recommendations can be provided to help improve the overall Government Garage transport provision to provide an effective, efficient service for its customers?

NB! '*The difference between effectiveness and efficiency can be summed up shortly, sweetly and succinctly – Being effective is about doing the right things, while being efficient is about doing things right.*' (Gareth, 2013)*.*

The word effective is the actual ability to produce a desired result. The word efficient gives more attention to the lack of waste in producing that result.

1.5 Limitations/Delimitations

The study focused on the Government-Garage transport service provision and not on all Namibian public entities providing transport services. Certain public entities acquires and manages their own fleet without the involvement of the Government-Garage. These entities are referred to as non- clients of Government-Garage as they don't form part of the study.

The study will be limited to the Government-Garage transport service provision and its clients only.

1.6 Significance/Contribution

This research will provide a basis for the Ministry of Works and Transport, particularly the Government-Garage and the Namibian Government at large; for further research on the effectiveness and efficiency of Government-Garage transport service provision. Future scholars may also use my research as part of their literature review.

1.7 Ethical Clearance

Permission and ethical clearance, to carry out the research was granted by the Permanent Secretary (now renamed to Executive Director) of the Ministry of Works and Transport, the accounting officer of the Ministry.

2 CHAPTER 2: LITERATURE REVIEW AND/OR THEORETICAL FRAMEWORK

The purpose of this chapter is to provide a theoretical framework for this study, moreover it aims to define key definitions, terminology and lastly define this research within the broader topic of asset management. The chapter follows the following logic: asset management, various aspects of fleet management, which will then follow into transport service and maintenance management and finally closes down by examining these concepts in the Namibian Government (Government-Garage context).

2.1 Asset Management

A broad scope of definitions exists for asset management. Hasting (2010), defines asset management as 'the set of activities associated with identifying what assets are needed, identifying funding requirements, acquiring assets, providing logistics and maintenance support systems for assets, disposing or renewing assets so as to effectively and efficiently meet the desired objective'. Management of assets can be defined as both physical as well as financial assets, but it is important to note that physical assets have a financial dimension which is a reflection of their economic value; it is thus important to manage the associated economic value of physical assets (Amandi-Echendu et al., 2010). The management of physical assets in its entirety is often referred to as engineering asset management. This is due to the fact that asset reliability, safety and performance, along with financial and managerial requirements are all combined in the management process (Zhang and Liu, 2011).

It is often found that the success or failure of a business depends upon the ability to manage its assets. For asset-intensive industries, the ability to align a whole-life approach to the management of physical assets with the business objectives is vital to their success. Reporting on performance against key performance indicators (KPIs) such as asset utilization, risk and return on assets (ROA) becomes vital as these metrics are critical in understanding the overall health of an asset-intensive organization, and rely on a current and correct view of all underlying asset information (ABB, 2016).

It is further stated by ABB (2016) that managing the physical assets process, starts at senior management level, with the definition of an asset management policy and the asset-related

strategies and plans to support the policy objectives. Evaluating the alignment of the 'Manage Physical Assets' process with policy, requires the ability to measure both the efficiency of maintenance activities and their overall effectiveness. This implies that organizations must have access to the data to evaluate their activities. However, 'best practice of asset management development policy and corresponding strategies for the maintenance of individual assets are based on the criticality of an asset – that is, the risk and consequences associated with its failure in production, safety, the environment, maintenance and other key factors.'
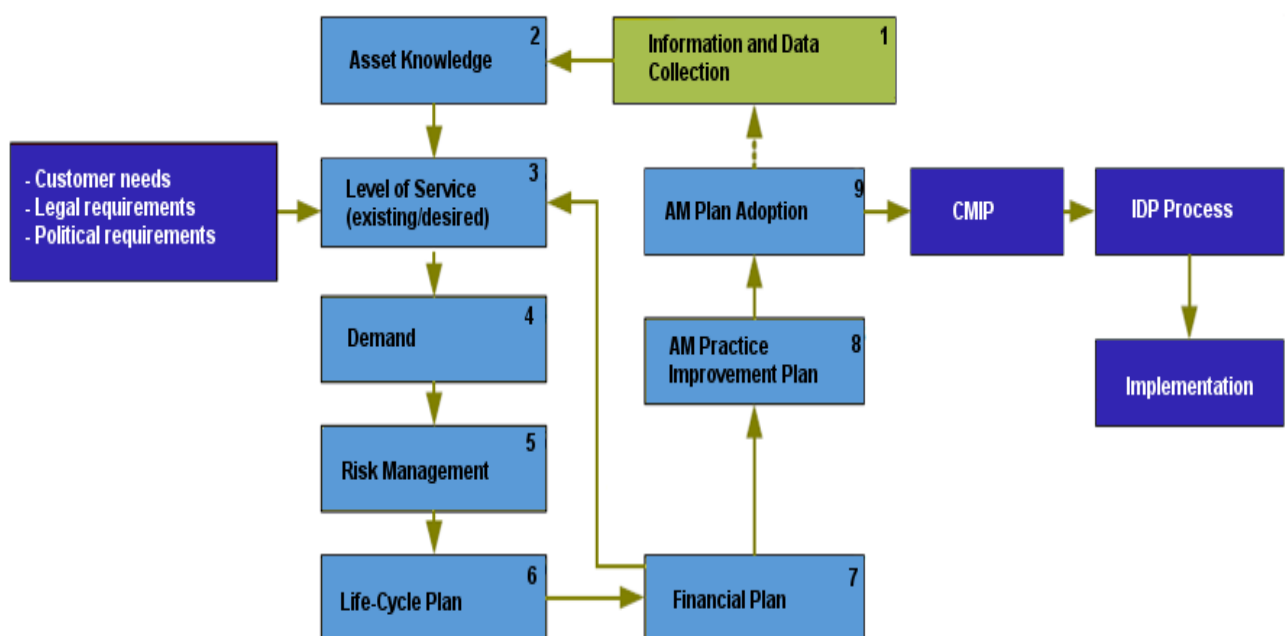
Figure 2.1. 1 Theoretical framework for asset management proccess. Source: Duchrame Consulting.

Furthermore (ABB, 2016) advises that, to optimize maintenance strategies, an organization must know:

- Where the asset is in its lifecycle and the expected end of life for that asset;
- The asset's detailed maintenance history, its current age and condition in relation to its expected end of life;
- The value of the work the asset is performing, in relation to the cost of maintaining it;
- To optimally maintain the asset, are the right asset management capabilities in place?

The ability of an organization to align its supply and demand is one of the most important profitability measures; indicating that should demand and supply be in misalignment, the usual response is usually 'demand shaping through demand manipulation'. This demand manipulation is done by 'changing prices, substituting goods or services, and offering promotions in an effort to change the demand' as stated by RiverLogic (2016). This is not always the best approach; it is better for organizations to move away from demand manipulation to a more holistic approach of demand shaping instead.

Physical assets are either managed by the organisations themselves or are entirely or partially outsourced to external service providers. Outsourcing is an option for many of the organisations' challenges; challenges of greater demand for operational excellence, intense cost-cutting, and increased competition. It enables organisations to focus on their core competencies and business objectives. Outsourcing shares the objective of efficiency with privatisation through numerous mechanisms. Mechanisms that creates competition or restores competition as well as tapping on economics of scale (Outsourcing In The Asset Management Industry, 2014).

The benefits of outsourcing are further supported by O'Looney (1998), to i) Include lower labour costs - by using less labour, by diverging set of duties, and using younger workers who are less absent from work. The benefits also lead to ii) avoidance of start-up costs, no Government red tape and regulation (are more flexible in decision making), having immediate access to skilled personal and specialised equipment as well as dealing with non-performing employees (O'Looney, 1998).

However, O'Looney (1998), also argues that the efficiency of outsourcing is not applicable to all types of service, especially in cases where factors or /and circumstances limit competition. He further argues that economics of scale is very beneficial and efficient in services that involve high levels of capitalization; where substantial investment in equipment can be spread across a larger client base. Private companies are not always more efficient in public spaces where competition is absent.

It is also cautioned (Strategic Considerations for Investment-Management Outsourcing, 2009) that outsourcing comes with its own sets of problems and risks when it comes to determining the scope, strategy, and partnerships as well as mitigating the complexities, duration and resource allocation for a successful conversion.

It is therefore recommended that all risks in an outsourced agreement should be managed by the asset manager, to avoid the failure of a service provider in undertaking critical activities. One way of managing risks is to keep a risks register and contingency/emergency plans to mitigate against all risks. It is important to mention that the contingency plans must consider how to maintain operations and service to their customers in the case of failure by the outsourced contractor. Asset managers should consider exit-planning to improve an asset manager's ability to exit an outsourcing contract in an orderly and efficient manner. This is not only when there has been a failure of the incumbent service provider but when the outsourcing contract comes to its end. Another important aspect to consider is the assessment of the effectiveness of the asset manager's arrangements in overseeing critical activities outsourced to a service provider, and making sure that the required expertise is in place (Outsourcing in the Asset Management Industry: Thematic Project Findings Report, 2103).

2.2 Fleet Management

A fleet is defined as a group of vehicles, aircraft, ships, etc., that normally operate together or is under the same ownership. Fleet management is a vital function for many institutions, and when this is not recognised it often leads to poor performance and has negative impacts on the organisation as illustrated in **Fig**. 2.1.2. Companies that own "fleets" are often left with the challenge of managing them effectively to derive optimal operational benefit. Fleet management tools are often found to greatly improve and optimise the task of managing fleet of any size. Decision making is then greatly improved when fleet management tools are used; as these can be used to improve routing, scheduling, resource allocation and any other major and important operational measures for a fleet (Sorensen and Bochtis, 2010).
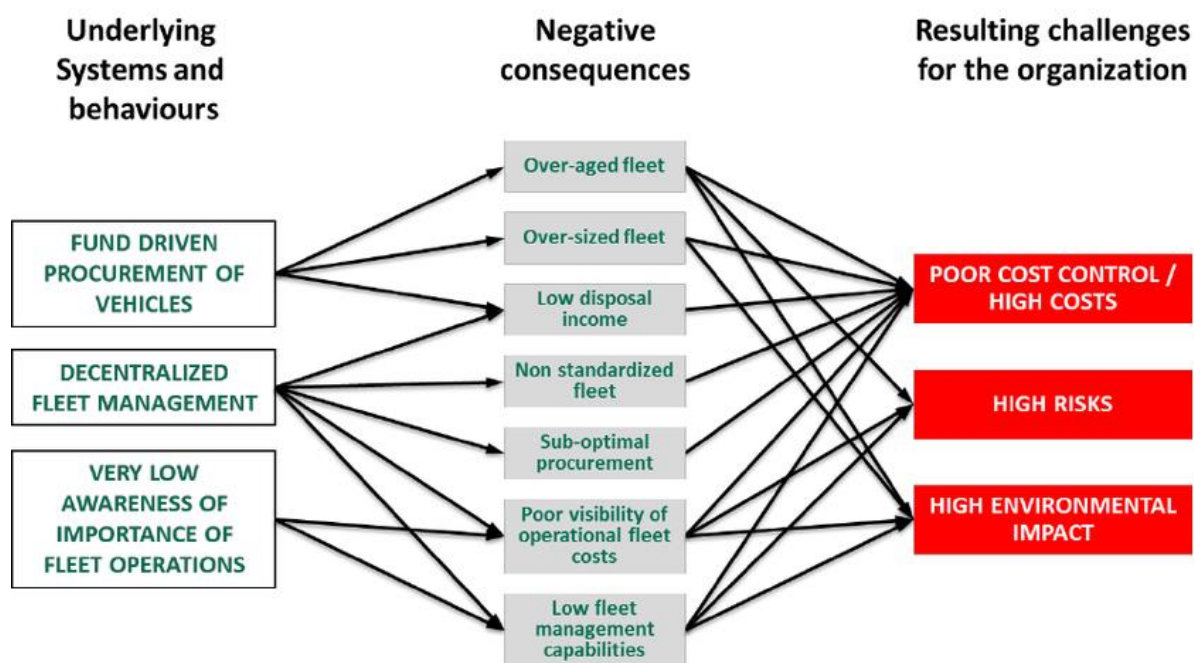
Figure 2.1. 2. **Conceptual framework of the consequences poor fleet management and resulting institutional challenges.** *Source: Kuntz et al. 2015*.

Fleet management can be de-centralised, where field offices are in charge of procurement, operation and disposal of fleet assets; or it can be centralised, where procurement of fleet is the responsibility of the institute's headquarters, and instructions/guidelines on utilization, maintenance and repair are communicated to field offices (Kuntz *et al*., 2015*)*. However, it is important to note that each of these approached both have benefits and challenges. De-centralisation of fleet management is often associated with poor fleet homogeneity (standardisation) and high cost, but it does allow for quick decision making and better adaptation of operations for local needs.

The Namibian Government, like many other Governments makes use of centralised services in varoius sectors and for different applications. State fleet management is one such centralised service being provided by the Namibian Government.

It is therefore essential for the Ministry of Works and Transport, being the custodian of all state assets; including vehicles, buses and trucks, manage its fleet effectively, if it is to succeed and meet its objective as an asset-oriented division. Government-Garage offers two types of transport services:

Contract lease vehicle fleet: This process begins by acquiring fleets for Government. The fleet composition is usually determined as follows; the type, the number of vehicles of each type, as well as the order in which to serve the customers with each vehicle, with the objective of minimising the total costs. This is according to the Namibian Government - Portal website (Namibia, n.d.-a). The vehicles are then licenced by GG before being leased to the respective OMA. The lease period is indefinite. A rule of thumb is that as long as the vehicle is operational, it remains with the respective OMA permanently up until its beyound repair or repair cost exceeds the book value of the vehicle, where te vehicle is returned to GG for disposal or returned by the OMA for whatever other reason.

A fixed rate is charged per month, usually for this indefinite period. Inclusive in the rental fixed rate is the actual rental fee for the vehicle purchase recovery, scheduled vehicle services, emergency 24/7 services and subsequent renewals of vehicle licences. All other additional transport services like repairs, fuelling, and special acceccories are funded by GG initially but are recovered from the respective OMA.

Pool Fleet: This is a fleet not assigned to any particular OMA and can be utilised for occasional, short term needs and National events as and when needed by any public entity, with priority given to immediate clients.

The GG offers a heterogeneous fleet composition of mostly on-road vehicles (sedans), off-road vehicles (4x4's and SUV's), buses, trucks and a few other types of vehicles, differing in capacity and costs. However, for those OMAs with specific vehicle type requirements, suited for specific purposes, they purchase them themselves. Appropriate selection, maintenance and management of these vehicle fleets is essential (Iles, 2005).

The State management service of fleets in the State of Colorado is also centralised. It is assigned to the Division of General Services within the Office of Administration, consisting of 60 000 state employees with 5700 state vehicles, providing the following fleet operations: short-term vehicles provision to the state entities, disposal of fleets, data recording and reporting, fleet management assessment, fleet replacements, safety and risk prevention programmes and maintenance of state fleets (State Fleet Management Services, n.d).

But the State of Missouri, rather coordinates statewide fleet management activities, ''develops fleet policies and recommended vehicle practices, monitors agency compliance with the State Vehicle Policy, administers the State Fleet Information System, pre-approves passenger vehicle purchases, operates a consolidated carpool serving agencies, operates a vehicle maintenance facility serving agencies, reports the status of the state vehicle fleet annually as required by statute, communicates fleet replacement options to policymakers, administers fleet related contracts, serves as a resource to state agencies on fleet management issues'' (Steelman, 2017).

This shows that the State of Missiouri settup of state fleet management is slighty different from the Nambian State fleet management. The State of Missiouri consists of an overaching body termed the 'Office of Adminstration' that controls all fleets via a state vehicle policy and ensures complaince to this policy.

- ☐ Agencies; which are similar to Namibian OMAs are responsible for their own fleet individual acquisation, disposal and management;
- ☐ 'Each agency has a fleet manager that institutes and supervises a state fleet vehicle tracking system in which the cost of owning and operating each state vehicle is documented by the agency owning the vehicle'';
- ☐ 'All state agencies report the purchase and the sale of any vehicle to the fleet manager and provide any additional information requested by the fleet manager in the format, manner and frequency determined by the office of administration';
- ☐ Each agency pays a state vehicle fleet fee, as 'determined by the office of administration, for each vehicle it owns for the purpose of funding the state fleet vehicle tracking system and for other administrative expenses incurred in management of the state vehicle fleet' (Steelman, 2017).

State fleet management in Missiouru is thus de-centralised with an overarching central body overseeing standard, expenditure, and compliance with the 'State fleet Policy'.

The Government of Western Australia's state fleet is governed under the Ministry of Finance, where the State fleet facilitates the purchase, servicing and disposal of vehicles. The State finances Government - vehicles on behalf of agencies, then leases these vehicles back to the agencies for a monthly fixed fee. At the agency, cars are serviced and repaired by contracted fleet management companies. At the end of their lease, the vehicles are disposed of through contracted auction houses (State Fleet- Australia, n.d.). Here, we see that the State Fleet Management is centralised, and usage is managed within indivdual agencies themselves.

The State fleet of Neveda is de-centralised but fleet management provides strategic management oversight of fleet assets by providing transportation solutions, and strategic management of assets to keep the costs within budgets and reasonable (Fleet Services Division -Neveda, n.d.).

The literature mostly agrees that in today's dynamic, rapid-changing business landscape, a regular review of fleet operational procedures and processes as well as their technologies is imperative and vital for any success of fleet asset companies. The primary factors that impact these businesses bottom line are fuel costs and rapid changing technology.

Reducing fuel and labour costs are the top two operating expenses in a fleet asset organisation according to (Admin, 2017). Fuel prices are not in the control of fleet owners, so to curb the high fuel cost, the fleet owners/managers can develop strategic and tactical plans to reduce cost e.g. driving fewer kilometres, compacting or right-sizing the fleet, utilising fuel economical vehicles to eliminate waste and introducing regulation requiring a reduction in fuel consumption and greenhouse gas emission fleet costs. Technology can aid in the reduction of operational, labour and administrative costs and enhance performance/efficiency. Centralising fleet control is also well supported by literature in maximising asset usage and minimising overall costs. This by means of a "command centre" (Admin, 2017).

2.3 Fleet Demand Management

As the economy is growing and institutes are becoming ever more globalised in their daily operations the demand for transportation and travel, in all forms, is increasing daily. With this come challenges for institutes in how they manage their fleet in the presence of the ever

growing need. This is where transport planning approaches becomes essential, where there is a need to move away from a 'predict and provide' approach of transport planning, to a more centred approach on how to best manage existing assets and provide the best transport services within institution resource limitations, especially where budgets are constrained.

In modelling the interaction of vehicle utilization and fleet sizing decisions; two characteristics of the transportation systems emerge;

a) Demand on the system changes over time and

b) Uncertainty in both the system performance and in forecasting the demands on the demands on the system, must be recognised according to (Beaujon and Turnquist, 2001).

Mismatching demand and supply is known to contribute to businesses losing money or rather not generating cash surpluses, resulting in missed sales opportunities, lost profits, excessive expediting costs, lost market share, and poor customer service.

2.4 Fleet Hire and Rental Management

In contract hire including fuel, a monthly fee can be set up in the budget, thus enabling the operator to budget accurately and to apportion transport costs with greater precision in pricing policies. In an inflationary economy, like that of Namibia, this is of particular benefit since once a vehicle is contracted the rental remains static for the period of hire.

According to Industrial Management (1976), contract hire releases funds or borrowing power, for business expansion as they do not want to use existing lines of credit to own transport, and thus an additional source of business capital is created. Contract hire also minimises administrative expenses by relieving the user of the burden of keeping detailed records of costs, etc., for budget and tax purposes and cuts out human resources required for checking and paying repair bills. This is one benefit that Government-Garage offers the OMAs, where the OMAs don't need upfront capital to purchase vehicles and can thus use their capital for their core competent activities. The funding and management of vehicles, which is the core function of Government-Garage remains with GG and releases the OMAs to attend to theirs.

It is very important to determine the appropriate fleet size needed by the Government-Garage, as owning or leasing a fleet of vehicles is expensive thus it is always best to try and optimise the size of the required fleet (Beaujon and Turnquist, 2001).

3 CHAPTER 3: MATERIALS AND METHODS

This chapter looks at how the study was conducted and the overall research design. It also outlines how the research population and sample were decided upon, the challenges experienced during the data collection stage as well as the instruments used to carry out the research.

3.1 Study Site

The research was carried out in Windhoek, the Capital City of Namibia. All OMAs head offices are based in Windhoek. All these OMAs have regional offices in all fourteen regions in Namibia but the overall supervision of the assigned vehicles is done at the respective OMA head offices in Windhoek, by the Administration Departments, this is also where the Transport officials are stationed in the Capital City of Namibia, Windhoek. The Transport officers are entrusted to co-ordinate transport service activities on behalf of their respective line OMAs.

Table 3.1. 1 Offices, Ministries and Agencies of Government – Namibia *(Source: Section 1 of the Namibian Public Service Act, 1995 (Act No.13 of 1995)* **(Public Service Act , Act No.13, 1995)**

Offices, Ministries and Agencies of Government - Namibia	
Ministry of Agriculture, Water and Rural Development	Ministry of Mines and Energy
Ministry of Basic Education and Culture	Ministry of Prisons and Correctional Services
Ministry of Defence	Ministry of Regional and Local Government and Housing
Ministry of Environment and Tourism	Ministry of Trade and Industry
Ministry of Finance	Ministry of Works, Transport and Communication
Ministry of Fisheries and Marine Resources	Ministry of Youth and Sport
Ministry of Foreign Affairs	Namibia Security Intelligence Agency

Ministry of Health and Social Services	National Planning Commission
Ministry of Higher Education, Vocational Training, Science and Technology	Office of the Attorney-General
Ministry of Home Affairs	Office of the Auditor-General
Ministry of Information and Broadcasting	Office of the Parliament
Ministry of Justice	Office of the President
Ministry of Labour and Human Resources Development	Office of the Prime Minister
Ministry of Lands, Resettlement and Rehabilitation	

3.2 Research Design

It was initially decided that the research methodology was to be a mixed methods approach but after all the actual data was collected and analysed it was corrected to be quantitative, having taken into account what Babbie (2007) said, that research methods chosen must guide in the collecting and analysing of the data required to answer the research questions. All the questions could be answered with the quantitative data collected and analysed. A questionnaire was designed and distributed within the respective public entities – in most cases the Administrative Officers referred to as Transport Officers, who were best positioned to respond to the questionnaires.

Some of the respondents were verbally taken through the questionnaire questions because of their poor English. The questions were read and explained to the respondents and the answers recorded by the researcher. The rest of the respondents completed the questionnaire themselves. A lot of effort was put into trying to get responses but despite this thorough process, most questionnaires were not responded to.

3.3 The Research Population and Sample Size

The research population was 50 public entities which were listed by the Government-Garage as clients, within the Namibian Government. Purposive sampling procedure was used as it was the most applicable sampling method for this study. Only a group of people work with

transport service provision in these offices and thus those persons were the best group of people who were in a position to provide tangible feedback on the questions of the questionnaires. Any other sampling method would not have been effective. A complete list of the population (public entities) was obtained. The sample size used was also the transport officers from the 50 public entities.

A total research population of 50 public entities, were used for this research, however only 25 out of the 50 public entities responded, all the respondents were from OMAs - Offices, Ministries and Agencies as defined in section 1 of the Public Service Act, 1995 (Act No. 13 of 1995). Getting the 25 respondents to complete the questionnaire at least within a specified timeframe was a real challenge, as most of these public servants were either never at their duty stations or if present didn't have the information readily available. This process of having the questionnaires completed took more time and effort than initially anticipated. At most, the researcher had to make multiple trips to the same offices, just to get the questionnaires completed and completed with the correct information. However, only 50% of the sample population responded to the questionnaires. The remaining 50% did not respond. The reasons observed for the 50 % that did not respond were; the respondents' unavailability, no consent given by Accounting Officers for participation in the study and lack of willingness of some public servants to participate.

3.4 Research Instruments used

Relevant data was populated electronically and analysed using programmes such as Microsoft Office Excel and IBM SPSS. The questionnaire that was used for the study was structured (in other words the questions did not deviate from those in the questionnaires). The questionnaire consisted of the following sections:

- APPENDIX A – comprises the background information, fleet size and composition, fleet replacement management and acquisition costs; and
- APPENDIX B – comprises with the vehicles makes and year models table

In the end, there were no need to use two different programmes for the analysis of the captured data, as both performed similarly however, the researcher only discovered this in the end. It was not all in vain as it was regarded as a good learning experience for the researcher, having being exposed to especially IBM SPSS. This will become relevant in further research.

Secondary resources such as, strategic, annual plans and reports were used as well as historical and existing data, obtained from the Ministry of Works and Transport historical fleet operational records.

3.5 Reliability and Validity

Reliability is a measure of the consistency of scores, the ability for research findings to be repeatable. Cronbach Alpha is known as the most commonly used test of determing the internal consistancy of an instrument and the results range between zero (0) and one(1). A reliabilty test was run to determines the reliability of the questionnaire using the data that was collected, prior to the commencement of the Chapter 4 (analysis). The reliabity test showed a Cronbach's Alpha coefficient of **0. 897,** which indicates a high level of internal consistancy as seen in Table 3.5.1. A coefficient of above 0.5 indicates that the data is reliable. The table also shows good validity amongst variables, with a coefficient of **0.879**. Validity simply means that a test or instrument is accurately measuring what it's supposed to.

Table 3.5 1 Reliabilty Test Result

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.897	0.879	30

4 CHAPTER 4: RESULTS

The 'results' chapter follows the format of the questionnaire questions. The questionnaire can be found in Appendix A, and covers background information, fleet size and fleet composition, fleet replacement management and fleet expenditure management. Appendix B looked at the type and age of the vehicles. This chapter also shows data from Government-Garage IT systems on expenditure, data obtained from Wesbank fuel statements on the fuel consumption of state vehicles, as well as vehicle auction data obtained from reports of the Central Services Auction Section. The backgound information provided was to establish the structures at OMA that are responsible for administering transport services within the OMAs themselves. The results of section 4.2 onward up until the end of this chapter were aimed at anwering questions 1 and 2 of the study, which deal with the effectiveness and efficiency of the services provided by Government-Garage.

4.1 Background information

a) The questionnaire respondents as per Table 4.1.1 below; were Administrative Officers 37.5%, Chief Administrative Officers 29.2%, Senior Administrative Officers 25% and Control Administrative Officers 8.3%.

Table 4.1. 1 Study Respondents (Work titles)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Admin officer	9	37.5	37.5	37.5
	Chief admin officer	7	29.2	29.2	66.7
	Control admin officer	2	8.3	8.3	75.0
	Senior Admin officer	6	25.0	25.0	100.0
	Total	24	100.0	100.0	

b) The supervisors of the study respondents are shown in Table 4.1.2. The study respondents' supervisors range from Deputy Permanent Secretaries (4.2%), Deputy Directors (16.7%), Control Administrative Officers (45.8%), and Chief Administrative Officers (16.7%) to Senior Administrative Officers (4%). This is in order of seniority.

Table 4.1. 2 Study Respondents Supervisors (Work titles)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Chief admin officer	4	16.7	16.7	16.7
	Control admin officer	11	45.8	45.8	62.5
	Deputy Director	4	16.7	16.7	79.2
	Deputy Permanent Secretary	1	4.2	4.2	83.3
	Senior Admin officer	4	16.7	16.7	100.0
	Total	24	100.0	100.0	

4.2 Fleet size and Composition

a) Table 4.2.1 shows the total assigned vehicle fleet for the year periods (2014 to 2017) as indicated below (for the OMAs that responded); for the year 2014 the total assigned vehicle fleet for the OMA that responded to this study collectively was 217, the year 2015 was 758, the year 2016 was 584 and for the year 2017 it was 886 respectively.

The total amount of fleets per OMA ranged from 1 to 66 vehicles for the year 2014, 1 to 168 for the year 2015, 1 to 147 for the year 2016 and for the year 2017 from 1 to 156 vehicles respectively.

Table 4.2. 1   Total assigned vehicles in numbers for the periods 2014 – 2017

		Assigned fleet for 2014	Assigned fleet for 2016	Assigned fleet for 2015	Assigned fleet for 2017
N	Valid	15	20	19	24
	Missing	9	4	5	0
Mean		14.47	37.90	30.74	36.92
Mode		1ª	1ª	2ª	6
Std. Deviation		18.357	50.777	51.571	46.672
Variance		336.981	2578.305	2659.538	2178.254
Range		65	146	167	154
Sum		217	758	584	886

b) Table 4.2.2: shows the active fleet for the year 2017 per fleet type. The total fleet obtained from the respondents for the year 2017 was 848. This amount is composed of 304 on-road vehicles, 460 off-road vehicles, 12 trucks, 62 buses and six other types of vehicles.

Table 4.2. 2 Active Government-Garage fleet for 2017 as per fleet type

	On-roads	Off-roads	Trucks	Buses	Other	TOTALS
Active	**223**	**383**	**15**	**53**	**3**	677
Non-Active	**81**	**77**	**1**	**9**	**3**	171
Total	304	460	16	62	6	848

c) Figure 4.2.1 shows the active fleet for the year 2017 per fleet type in percentages. Of the total fleet - this included active and non active vehicles in ascending order - , off-road vehicles were 54% , the on-road vehicles were 36 %, the buses were 7% , trucks 2%, and others 1%.
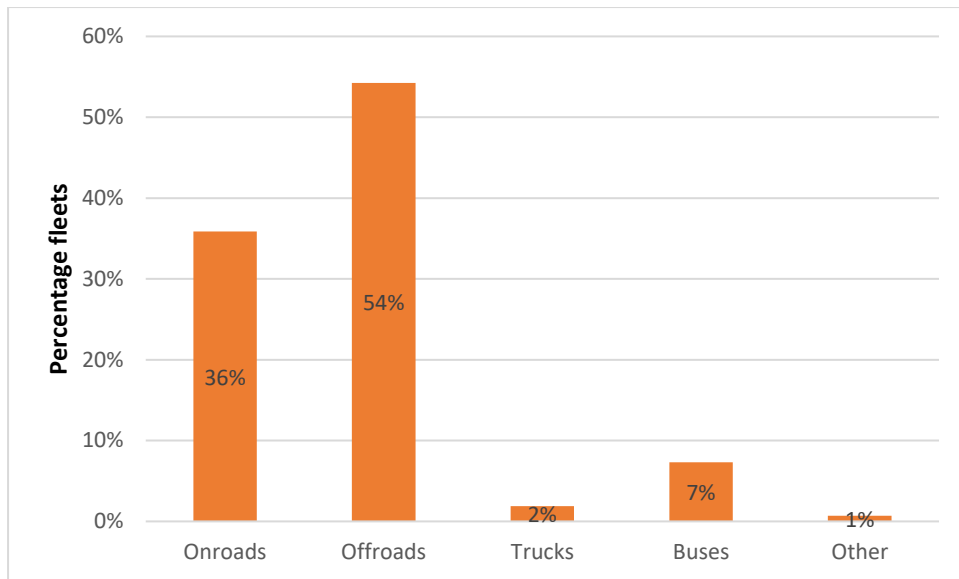
Figure 4.2. 1 Percentage Active fleet as per type for 2017

d) Figure 4.2.2 shows the current total fleet of operational versus non operational vehicles per fleet type for the year 2017:

- The off-road vehicles had 383 vehicles operational versus only 77 non-operational.
- For the on-road vehicles, 223 vehicles were operational versus 81 not operational.
- 53 buses were operational versus nine (9) buses that were not operational.
- 15 trucks were operational while only one (1) was not operational.
- The split was 50-50 for all others, where three (3) were operational and three (3) not operational.
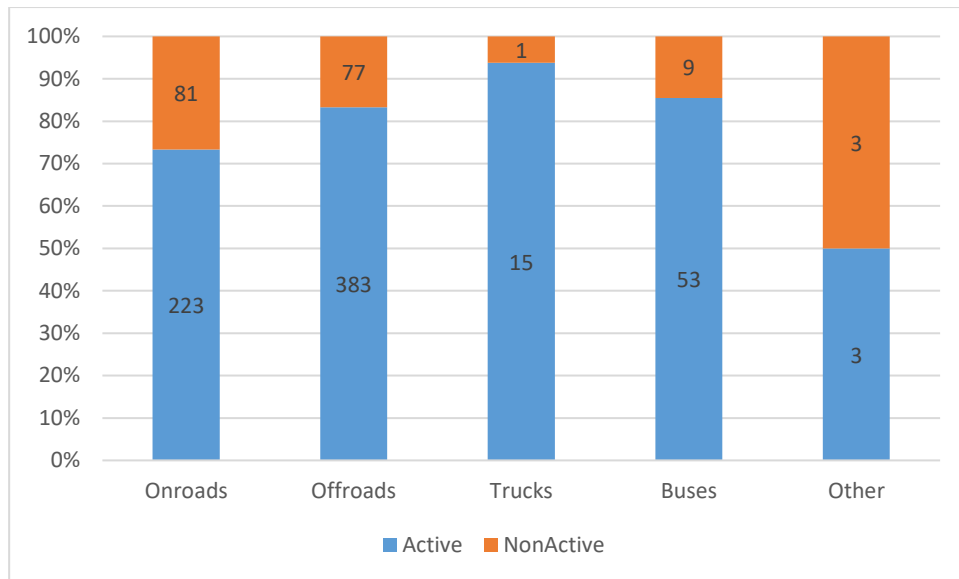
Figure 4.2. 2 Active versus non-active vehicles per vehicle type (2017)

e) Table 4.2.3 and Figure 4.2.3 show the respondents reasons for the inactivity of assigned vehicles:

- General repairs topped the reasons for vehicles being parked at 41.2%.
- This was followed by vehicles not being serviced on time at 32.4%.
- Vehicles involved in an accident was also reported as a reason that contributed to the vehicles being parked, at 14.7%.
- Redundancy/obsolete or old age contributed to 11.8% of vehicles being parked.
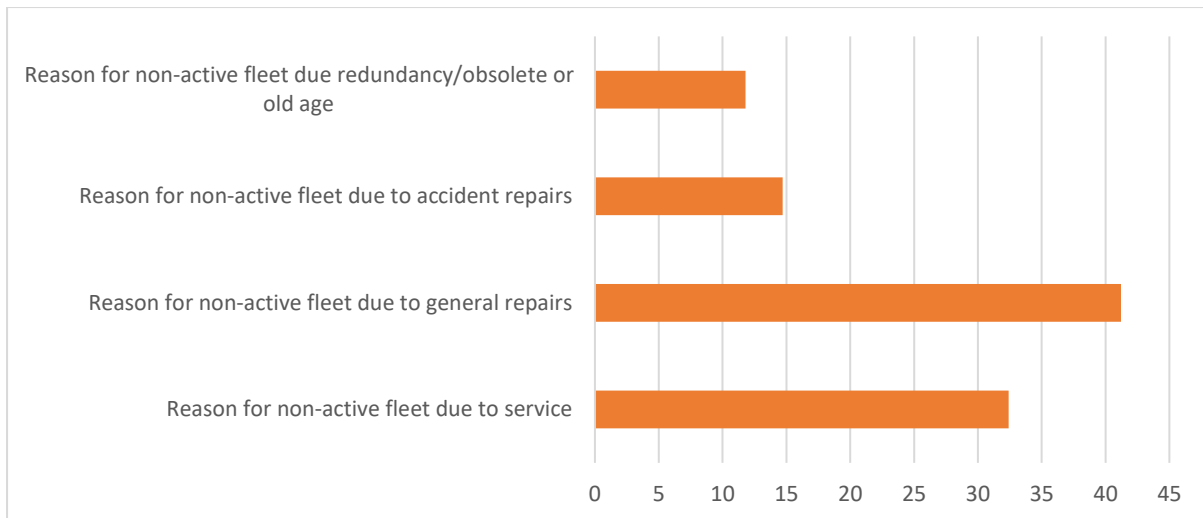
Figure 4.2. 3 Repondents reasons for the non-active fleet during 2017

Table 4.2. 3 Repondents reasons for the non-active fleet during 2017

		Responses		Percent of
		N	Percent	Cases
Q1[a]	Reason for non-active fleet due to service	11	32.4%	57.9%
	Reason for non-active fleet due to general repairs	14	41.2%	73.7%
	Reason for non-active fleet due to accident repairs	5	14.7%	26.3%
	Reason for non-active fleet due to redundancy/obsolete or old age	4	11.8%	21.1%
Total		34	100.0%	178.9%

f) Table 4.2.4, Figure 4.2.4 and Figure 4.2.5 draw the comparison between the current assigned fleet for the year 2017, versus the preferred fleet number per respondents per vehicle type:

- The off-road vehicles that were assigned in the year 2017 was 460 vehicles in numbers while the required number was 464.

- The on-road vehicles assigned number was 304 and the required number was 255.

- Assigned buses were 62 and required 63.

- The number of assigned trucks was 16 and the required number 42.

- All other assigned vehicles were six (6) while the required number was eight (8).

- The total assigned fleet vehicles (all types) for the year 2017 were 848 vehicles assigned by the service provider versus the 832 vehicles that the respondents actually needed from the service provider.

Table 4.2. 4 Ideal fleet size versus assigned fleet per fleet type (2017)

	Onroad	Offroad	Trucks	Buses	Other	Total for 2017
Assigned Fleet 2017	304	460	16	62	6	**848**
Ideal fleet	255	464	42	63	8	**832**
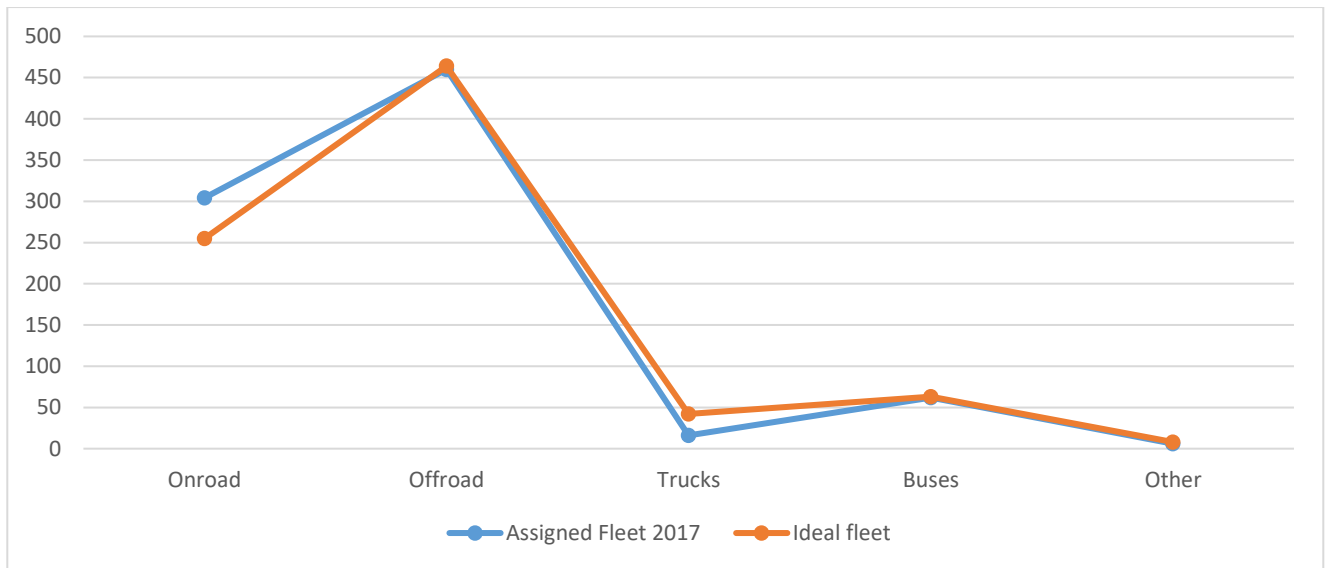
Figure 4.2. 4 Ideal fleet size versus assigned fleet per fleet type (2017)
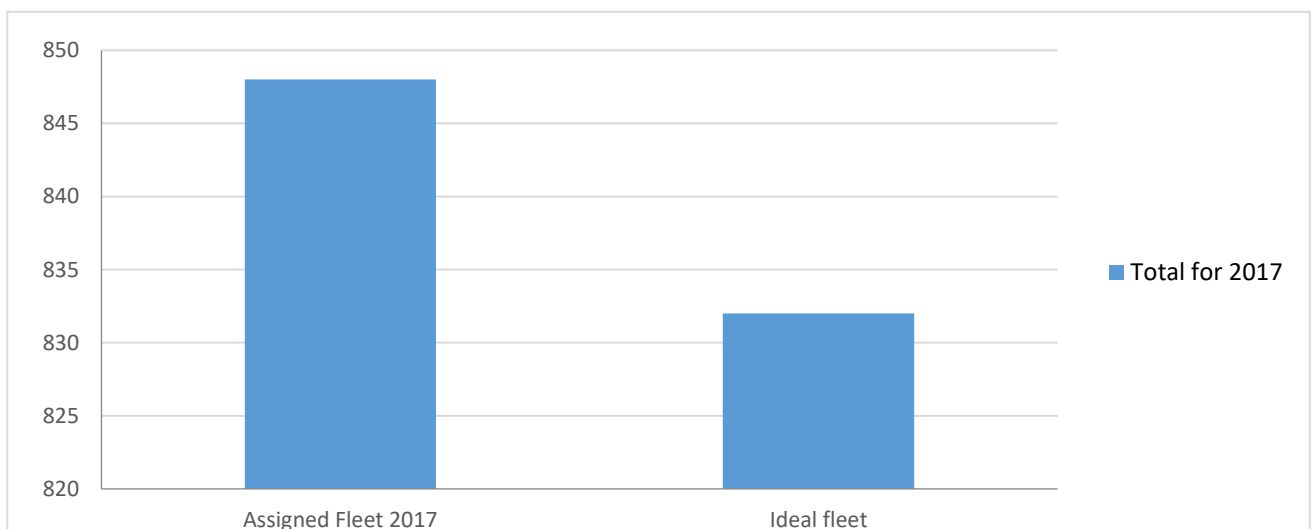
Figure 4.2. 5 Overall assigned vehicles versus overall ideal vehicles

g) Table 4.2.5 shows the respondents yes and no responses for vehicle demand met during the year 2017:

- The majority of the respondents (16 respondents) indicated by means of a 'Yes' that their vehicle demand for the year 2017 was met by the service provider.

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- While eight (8) responded with a 'No' for demands met by the service provider.

Table 4.2. 5 Vehicle requirement satisfaction (2017)

Valid	Yes	16	66.7	66.7	66.7
	No	8	33.3	33.3	100.0
	Total	24	100.0	100.0	

h) Figure 4.2.6 shows the alternate vehicle source available for the respondents. Alternate vehicles means that in cases where the assigned vehicles are not operational due to many various reasons, the respondents can temporarily be assisted from the the following sources:

- The same service provider (Government-Garage), provide the respondents with their pool vehicle until the assigned vehicles become available again. This is mostly the case as per the 14.5 respondents.
- Followed by leasing from private service providers by 4.5 respondents.
- At times there is no alternative, this were indicated by three (3) respondents.
- Two (2) respondents indicated that they source alternate vehicles elsewhere.
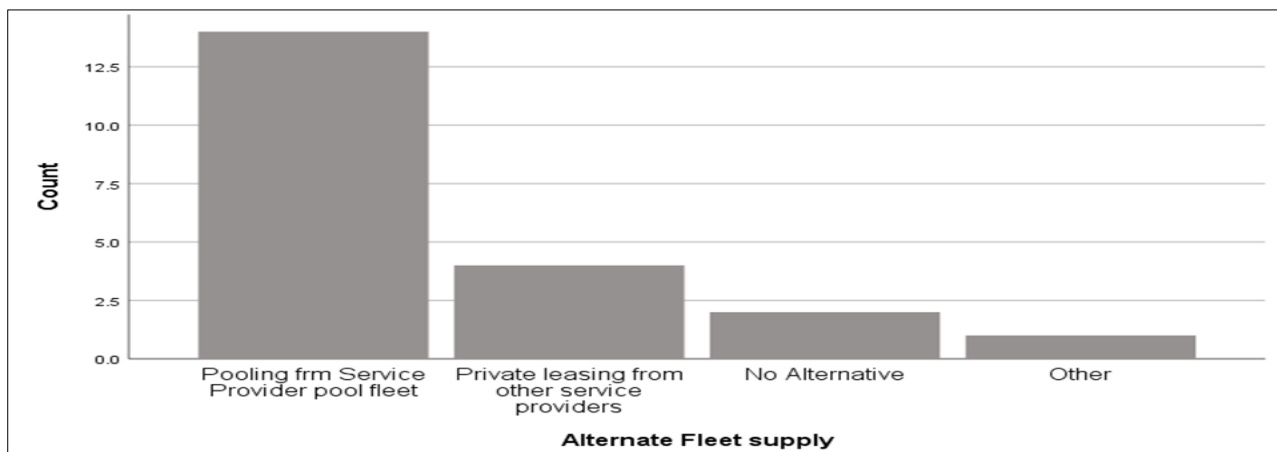
Figure 4.2. 6 Alterative vehicle source for Government Fleet Suppy

i) Figure 4.2.7 shows vehicle brands preferred overall by respondents:

- The Toyota brands were the most preferred vehicle brand by far.

- The second preferred brand was the VW (Volkswagens).

- In third place was the Mercedes Benz.

- Fourth place was Izuzu.

- Fifth prefered brand being Ford.
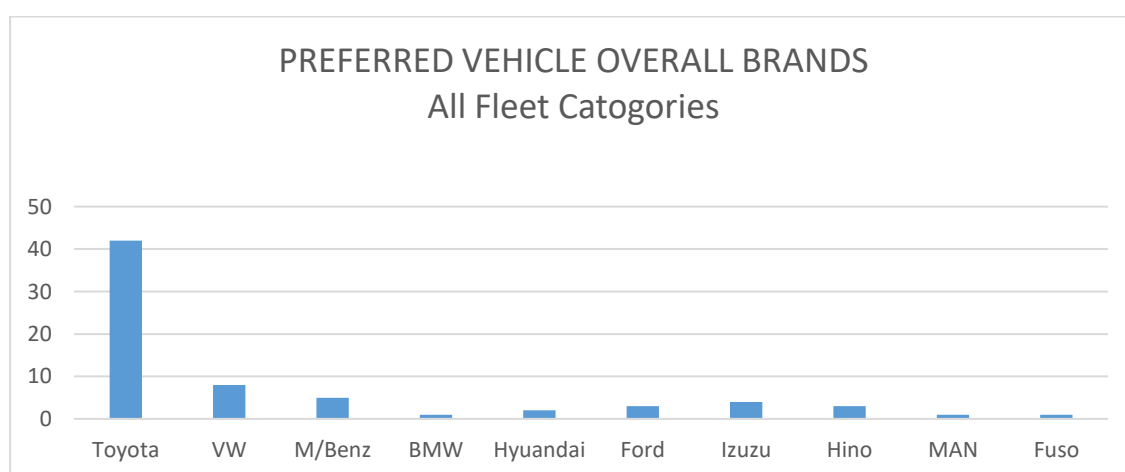
Figure 4.2. 7 Preferred Vehicle Brands as per indicated by survey respondents

j) Figure 4.2.8 indicates the reasons for the preferred brands by the respondents: Most respondents ticked more than one reason for the preferred brands as indicated below:

- Good after sale service toped the reasons at 83%.

- Long life cycle at 75%.

- Cost at 71% and good resale value came last at 21%.

Reasons of Preferred Brands

Percentage (%)	Good After sale Service	Long life cycle	Cost	Good Resale Value
Percentage (%)	83	75	71	21
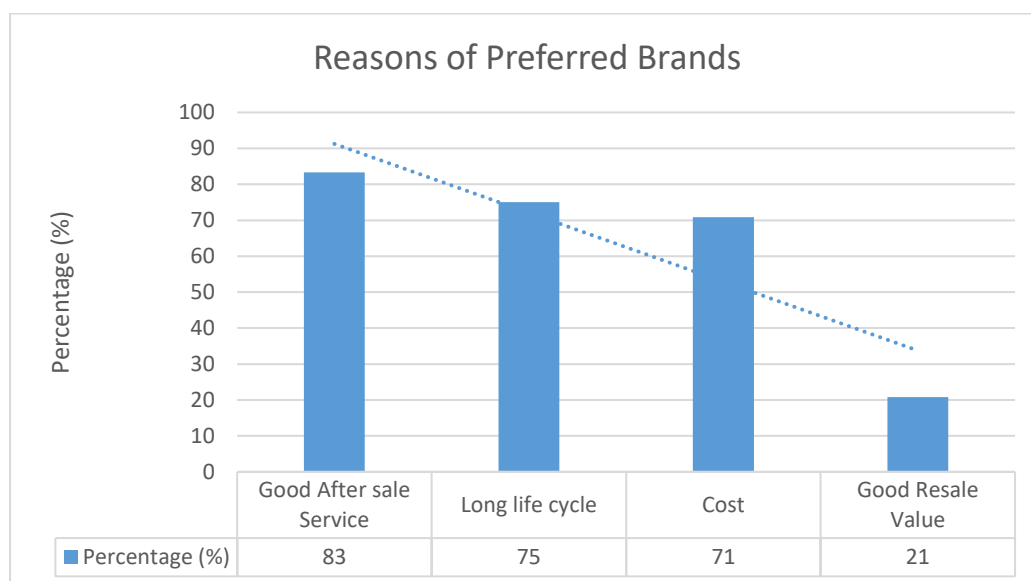
Figure 4.2. 8 Respondents reasons for preferred respective Vehicle Brands

4.3 Fleet Replacement Management

a) Table 4.3.1. shows the auctions conducted for Government-Garage Vehicles for the respective financial years of 2015/16 up until 2017/18.

- The number of vehicles auctioned off for the financial year 2015/2016 were 197. They generated a revenue for Government of N$ 9 099 464.14.

- For the financial year 2016/17, 419 vehicles were sold. They generated a revenue for Government of N$ 17 957 888.70.

- For the financial year 2017/18, 22 vehicles were sold. They generated a revenue for Government of N$ 2 435 538.71.

Table 4.3 1 Auction Details for Government-Garage vehicles for the period (2015/16 - 2017/18)

Financial Year	Number of Vehicle Auctioned	Amount collected (N$)
2015/16	197	N$ 9 099 464.14
2016/17	419	N$ 17 957 888.70
2017/18	22	N$ 2 435 538.71

b) Table 4.3.2. shows the tools used for fleet replacement decision as per the responses. The tools basically constitute the mechanisms which the respondents felt were used by the service provider in the replacement of vehicles in general.

- Repair versus replace policy at 62.5 %.

- Other tools used 25%.

- Replacement cycle policies - formal analysis of the cycle cost used 12 %.5.

Table 4.3 2 Responses on vehicle replacement tools currently used by Government-Garage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Replacement cycle policies - formal analysis of the cycle cost	3	12.5	12.5	12.5
	Repair versus replace policy	15	62.5	62.5	75.0
	Other tools	6	25.0	25.0	100.0
	Total	24	100.0	100.0	

4.4 Total Fleet Expenditures

a) Table 4.4.1 shows the Government-Garage fleet expenditure activities. This expenditure table looks at vehicle acquisition, vehicle hire, fuel, lubricants, spares and accessories, maintenance and all vehicle repairs costs for the financial years 2015/16 up to 2017/18 for all Government-Garage vehicles and not just the vehicles assigned to the respondents.

- Fuel expenditure, throughout the three financial years, can be seen as the most spent on activity amongst all activities. There is however a downward trend were the actual fuel consumed (costs) per financial year decreased. From (N$ 120 126 335) for the 2015/16, it decreased to (N$ 96 779 203) in the year 2017/18.

- Vehicles were bought in 2015/16 at N$1 145 777 250. In 2016/17 no vehicles were bought, and in 2017/18 vehicles were bought to the value of (N$1 020 774).

- The cost of preventative maintenance for the year 2015/16 was (N$ 3 473 787), this cost increased during 2016/17 to (N$ 3 617 762) and further increased to (N$ 4 712 696) in the year 2017/18.

Table 4.4. 1 Expenditure of Government-Garage vehicles for the periods (2015 – 2018)

	2015-2016	2016-2017	2017-2018	Remarks
Vehicles Purchased	1 145 777 250.44	0	1 020 774.00	(sedan,light delivery,lorries,station wagens,buses,ambulan ces etc)
Vehicles Hired	175 240.14	18 781.73	14 143.36	
Fuel	120 126 335.02	115 704 406.13	96 779 203.36	
Lubricants	400158.09	572 496.34	349 225.00	
Spares & Accessories	37 268 232.94	23 181 084.89	21 849 111.98	(e.g spare parts, batteries, tyres, steel&equipment,gas& welding rods etc)
Preventivie Maintenance	3 473 787.19	3 617 762.80	4 712 696.77	
General repairs	17 112 865.71	11 979 877.74	11 053 113.78	
Accident repairs	10 721 150.35	14 110 697.74	8 430 251.33	
Equipment repairs	2 392 411.58	1 221 672.39	2 146 684.73	
Claim against the state	2 196 636.34	0	-	
	1 339 644 067.80	170 406 779.76	146 355 204.31	

b) Table 4.4.2 zooms in on the fuel expenditure in particular. Fuel, in general, account for the biggest portion of the total transport expenditure of any transport business, besides the acquisition cost.

- As with the previous table, this table shows that the fuel expenditure decreased. In the years 2014/15 the fuel cost was the highest at (N$ 132 223 586). During the years 2015/16 the fuel cost dropped to (N$ 120 126 335), in 2016/17 that cost decreased further to (N$115 704 406) to where it can be seen that during 2017/18 that cost went down even further to (N$ 96 779 203).

- The litres of total fuel in the year 2014 were 10 593 795 litres, in the year 2015 the litres went up to 11 069 716 litres and dropped again in the year 2016 to 10 864 871 and finally dropped further in the last year, 2017, to 8 668 416 litres.

Table 4.4. 2 Fuel - usage of Government-Garage vehicles for the periods (2014-2017)

Category	2014	2015	2016	2017
Fuel cost (N$)	132 223 586.73	120 126 335.02	115 704 406.13	96 779 203.36
Total liters (Petrol & Diesel)	10 593 795.37	11 069 716.13	10 864 871.25	8 668 416.26
Total km's travelled	243 243 342	195 506 406	199053499	285 003 632
Total number of vehilces	3 363	4 350	4 069	3 639
Diesel (Liters)	3 589 158.50	4 955 586.34	5 131 441.19	4 021 619.29
Petrol (Liters)	7 004 636.87	6 114 129.79	5 733 430.06	4 646 796.97
Cost of diesel (average price per liter)	12.81	10.85	10.43	11.15
Cost of petrol (average price per liter)	12.32	10.79	10.81	11.19

5 CHAPTER 5: FINDINGS AND DISCUSSION

The discussions is aimed at answering the first two research questions. Question one and two's purpose was to establish if Government-Garage transport service provision is effective and efficient.

It is important for research findings to have addressed the research questions, indicating if the research question were anwered and if so, to what extent, as well as the shortfalls of not addressing all research questions. The purpose of the finding was to obtain answers to the questions and this chapter will by all means, try and answer the research questions looking at the findings of the previous chapter, Chapter 4.

Question 1: What are the Government-Garage customers' perception of Government Garage effectiveness? According to (dictionary.com, n.d.), being effective means to adequately accomplish a purpose, producing the intended or expected result.

The active fleet total for 2017, in specific, as obtained from the respondents was 848. This total comprises 460 off-road vehicles (54%), 304 on-road vehicles (36%), 12 trucks (2%), 62 buses (7%) and six other types of vehicles (1%). The off-road vehicles are the majority of the fleet types.

Namibia is a widely populated country, with a road network ranked as among the safest, most efficient and sustainable, worldwide. According to the Roads Authority Road - Referencing System of 19 June 2018, the majority of roads in Namibia are gravel (26 046.5), followed by bitumen (7 892.7), earth (13 315.6) and salt (299.9) roads (Roads Authority Namibia, 2019).

The mere fact that the Namibian road network is dominated by gravel roads, might be one good reason why off-road vehicles top the vehicle type, assigned to the respective OMA. Namibia's bitumen roads connect all its main city and towns, as well as linking its ports and neighbouring countries. The condition of roads in Namibia is fairly good. Operating an off-road vehicle should be limited to mostly in rural areas, where terrains are rough. The on-road vehicles' utilisation can be improved to limit the unnecessary use of off-road vehicles. Off-road vehicles are bigger and requires more fuel to operate, and this can be better managed by GG to save Government-money.

The study informs that during the year 2017, more assigned vehicle fleets were operational than fleets not-operational. This is particularly a good sign because one of GG objectives is to provide operational vehicles to its clients. The non-operational fleet was mostly due to general repairs and services (preventative maintenance especially vehicles that were still under warranty). Fewer vehicles were non-operational because of accident repairs and old age. Temporary replacement vehicles are reported to be availed by GG to the OMAs when an OMA so requests it. The alternative vehicles are available, mostly from the GG's own pool of vehicles, and on less frequent occasions are sourced from private vehicle hire companies.

The study further indicates that OMAs vehicle fleet demand is mismatched with their vehicle fleet needs. According to the information provided by the respondants, they would prefer less onroad vehicls and more trucks. The rest of the fleet types (buses, offroad and other) were appropriately supplied according to their needs meaning their needs were met by GG. Overall, the OMAs were over supplied with vehicles they do not need.

Question 2: What are the Government-Garage customers' perception of Government-Garage efficiency? According to (dictionary.com, n.d.), being efficient means performing or functioning in the best possible manner with the least waste of time and effort.

The questionnaire respondents as per Table 4.1.1; consisted of the following job titles: Administrative Officers at 37.5% which were the majority, Chief Administrative Officers at 29.2%, Senior Administrative Officers at 25% and Control Administrative Officers at 8.3%.The supervisors of the respondents, ranged from Chief Administrative Officers, Control Administrative Officers, and Deputy Directors, Senior Administrative Officers to Deputy Permanent Secretaries, as seen in Table 4.2.2.

The respondents all work in the *Department of Administration* under subsections of either Auxiliary Support Services or General Services. The reporting lines are mismatched; this can be clearly picked up from the questionnaires, where junior staff members like the administrative officer reports directly to the Deputy Director. This can be attributed to the many vacant positions in Government which emanated from the freezing of positions, a directive currently in place.

The Namibian Government is undergoing financial constraints and as a means of cutting costs, froze all vacant positions. As much as this directive was enforced to provide a cost saving to Government, it also has the potential to hamper performance within the respective OMAs, as work is left vacant by staff members either, going on retirement, passing on, or resigning. Only vacant positions which are considered as critical are cleared for filling. This is, however, a minimum amount of positions.

Further noted from the study, was that the respondents' total assigned vehicle fleets for the year period (2014 to 2017), were not consistent. Looking at the Y2014 total assigned fleet, it was 217, and the next year Y2015 it hiked to almost three times the amount of the previous year, to 758, and dropped again in Y2016 to 584. The assigned total vehicles hiked up again in Y2017 to 886. This tells us that Government-Garage, assign vehicles according to the clients (OMAs) own request, provided there are sufficient vehicles available. Factors like; the OMA actual utilisation of already assigned vehicles; the already assigned fleet efficiency, including vehicle usage and accident rates etc. are not considered when adhering to OMA transport demands.

5.1 Fleet Replacement Management

According to the respondents, GG do not have a specific fleet replacement tool but rather use by far, mostly the 'repair versus replace policy' to dispose of vehicles. This tool is only used partially by GG, as vehicles are disposed of by means of costing the repair of the vehicles versus the cost to replace them, but once these vehicles are disposed of, they usually do not buy new vehicles and usually the gap left by the disposed vehicles remains.

5.2 Total Fleet Expenditures

'The primary measure in evaluating fleet costs is the total cost per mile. Tracking the cost to own and operate state vehicles is essential to making informed decisions regarding the state fleet' (Steelman, 2017).

The Namibian-Government made significant investment in maintaining and supporting its vehicle fleet to enable OMAs in providing essential services to its people. This is supported by

the mere fact that GG operations are financed by an account called the trade account. This trade account, like the name implies is to be used for road transport trading purposes. It is an account to be used for all operational expenses of GG. The money spent on GG operations is recovered from the OMA's with additional handling fees. The recovered funds are deposited into the GG trade account, with the aim of generating profits. The GG trade account was created to be self-sustaining.

Fuel costs is the highest running cost, thus it is imperative to manage the fuel consumption and vehicle usage to curb the high costs associated with fuel. The fuel costs trend from 2014 to 2017 shows a downward trend; this is not directly proportional to the amount of vehicles consuming this fuel, nor is it directly proportional to the amount of kilometres driven during the respective periods. The decrease is attributed to the decrease in fuel price which was on average 12.70 cents per litre in 2014 to 11.17 cents per litre in 2017. The fuel management system used by GG, is a card manual system managed by one of the National Banks. This card fuel system is reported to be prone to fraud and abuse by the OMAs.

This is the main reason that GG is looking to outsource the management of its fuel via a fully automated card-less system. Fuel prices are very volatile and unpredictable; this reason is enough to encourage GG to not rely on the fuel prices decreasing but also to start looking at other means to curb fuel expenditure. In Namibia in general, only fuel vehicles are permitted by law. There are no alternate vehicles using other types of energy, like hybrid or electrical vehicles. However, more can be done operationally by advocating all State vehicle drivers to undergo defensive driving, as well as to ensure an effective vehicle replacement strategy. The study informs that the assigned vehicles are leased permanently to OMA without a definite replacement period. This means that vehicles are used until old age or accident damaged before they are disposed of via public auctions. Table 4.3.1, under fleet replacement management shows that GG do carry out public auctions where old damaged vehicles are disposed of. Note that proceeds from the disposed vehicles go directly into the State account where it gets absorbed in the day to day overall expenditure of the whole Government - as seen appropriate by the Ministry of Finance. Table 4.4.1, under the fleet Expenditure Management section, on the contrary, shows that vehicles are not acquired every year, even though old damaged vehicles are sold off every year.

The older the vehicles are the more fuel they consume and thus the more expenditure on fuel. The day to day usage of State vehicles are strongly encouraged to be managed by means of a fleet management IT system which has tracking capabilities. This will also curb running costs. The study also showed that most of the vehicles are relatively old, older than nine (9) years.

Total expenditure for fuel, spares and accessories and repair of state vehicles has been decreasing from 2014 to 2017. Preventive Maintenance costs, were noticed to have increased over the same period of between 2014 and 2017. Attributors can be that more maintenance is being performed by GG; most vehicles bought from 2015 were bought with a service plan, thus the service providers (agents) require adherence to these service schedules in order for client vehicles to keep the vehicle warranty status. Another reason that can contribute to high maintenance costs, can be old fleets that needs regular and more services to keep them running.

The means to keep state vehicles costs low can be achieved through several costs containment strategies, like procuring vehicles through state contracts at significant discounts from sticker prices due to fleet incentives from the auto manufacturers. The GG can reduce operating costs of state vehicles by utilising state maintenance facilities and contracts such as a state tire contract.

One measure of the state fleet's efficiency is the number of licensed vehicles per 100 employees. This is difficult to determine with GG, as the drivers are managed by the OMA themselves and the OMA do not always adhere to completing of the trip authorities. The trip authority is also a manual process which proves difficult to consolidate between OMAs and GG.

Another measure would be taking into account the total km's driven measurement which reflects the total business km's travelled on official state business in licensed vehicles. Using state vehicles to travel, like in the Nambibian case, is believed to be a lower cost option in comparison to a cost option of reimbursement of kilometres and usage of private rentals of vehicles, as shown in (Steelman, 2017, p. 26 of 47).

State vehicles are of many different types and are utilized for a variety of functions. The Namibian State classifies their vehicles according to their assignment (pool and assigned vehicles). Pool vehicles are available for use by multiple individuals of dfferent OMAs and this increases their utilisation which is an advantage. This long term and short term usage of state vehicles provision is not unique to Namibia alone but is exercised in many various other States. However, this must be controlled and one way of doing so is by setting a minimum requirement of say an average of 25 000 kilometres per year and ensuring that it is not exceeded. This is to ensure controlled utilisation of state vehicles.

6 CHAPTER 6: CONCLUSION

Governments in general are entrusted to actively promote and maintain the welfare of their people, environments and resources. The Namibian Government is no exception and goes about promoting this well-being by using many policies within its many respective arms of governance. It can be argued that in order for any Government to carry out their work, it needs to move from point to point. Transportation and travel demand, in all forms, is increasing daily in a globalised world. This ever increasing demand for transport poses various challenges for institutions as to how they manage their fleet - assets. This is where transport planning becomes essential, where there is a need to move away from a 'predict and provide' approach of transport planning, to a more centred approach on how to best manage existing assets and provide the best transport services taking into account the resource limitations of an institution, especially where budgets are constrained.

The Government-Garage is the custodian of Government road transport services (Namibia); tasked with the responsibility of the acquisition of fleets; parts of or any fleet component, taxing, licencing, fuelling, repairs and maintenance of all Government vehicle fleets, on behalf of the OMA. GG however, recovers all funds spend on public entities transport needs from the respective OMAs. GG is a service based division providing road transport services at a fixed monthly fee.

There is a dire need for an overhaul of Government divisions like Government-Garage day to day operational performance, to ensure a cost-effective, efficiency division that gives its customer's demand satisfaction as well as for overall continuous improvement. Currently the Office of the Auditor General tasked with this responsibility has not carried out any performance audits on any public entity.

The main objective of this study was to evaluate the level of operational performance of the Government-Garage, focusing on the level of service provided by Government-Garage to its customers in terms of vehicle fleet provision - capacities, cost implications and fleet specifications, as well as to make appropriate recommendations for improvement.

The research methodology was initially going to be a mixed methods approach but after consideration of actual data collected and analysed, it was corrected to be quantitative

because all questions could be answered with the quantitative data metrics, collected and analysed. A questionnaire was designed and distributed to key personnel within the respective public entities in most cases the Administrative Officers referred to as Transport Officers, who were best positioned to respond to the questionnaires.

The research population was 50 public entities which were listed by the Government Garage as clients, within the Namibian Government. Purposive sampling procedure was used as it was the most applicable sampling method for this study, because only a group of people work with transport service provision in these offices and thus those persons were the best group of people who were in a position to provide tangible feedback on the questionnaires. A total research population of 50 public entities, were used for this research, however only 25 out of the 50 public entities responded. The respondents were all from OMA - Offices, Ministries and Agencies as defined in Section 1 of the Public Service Act, 1995 (Act No. 13 of 1995). Getting the 25 respondents that responded to complete the questionnaire at least within a specified timeframe was a real challenge. Most of these public servants were either never at their duty stations or if present did not have the information readily available. This process of having the questionnaires completed took much more time and effect than initially anticipated. Relevant data was populated electronically and analysed using programmes such as Microsoft Office Outlook Excel and IBM SPSS. The questionnaire that was used for the study was structured. Secondary resources such as, strategic and annual plans and reports were used as well historical/existing data from the Ministry of Works and Transport historical fleet operational records.

Government-Garage transport service provision was found to be relatively effective as they meet their objective of providing vehicles to their clients, the OMA. In fact, they provided more vehicles to OMA than needed by the OMA. This over-supply could be pinned to Government-Garage 'predict and provide' approach, an approach that must be done away with, to be replaced by a centric - fleet provision approach. The 'predict and provide' approach creates a mismatch between demand and supply, and the study shows that GG, over-supplied their customers with vehicles that their customers didn't need. This over supply comes at a high expenditure cost, for maintaining these vehicles. Holding unnecessary

inventory has financial implications, which if not kept could have released the capital for other much needed activities or simply could have provided a saving.

However, the same cannot be said about their efficiency. Government-Garage proved not to be efficient in the execution of their objectives. The study confirmed that on many grounds, there were wastages of resources. Over supplying the OMAs led to wastage. Other points of GG inefficiency are: Keeping vehicles with high kilometres and that have aged as part of the fleet without reviewing the requirement needs of the OMA to determine their actual needs for further replacement or removal. Aging fleets are costly as they consume more fuel and require more and regular maintenance because of wear and tear. The drivers of State vehicles are rarely tested for defensive driving, especially with assigned vehicles which are not controlled by the GG for efficient vehicle usage or utilisation. All control and monitoring processes are manual and fragmented. The only control GG have over their vehicles are the payment of suppliers who renders them the many different services, e.g. fuel provision. GG also do not have control over the fund-recovery process, from OMA, this is the reason why it takes OMA years to settle their invoices with GG despite being regularly invoiced for it.

7   CHAPTER 7: RECOMMENDATIONS

The recommendations herein address the last research question, question three (3), which aimed at providing mechanisms that might assist with improving GG overall transport provison to provide an effective and efficient service delivery.

- First and foremost, it is recommended that the Ministry of Works and Transport as the mother ministry under which Government-Garage resides, appoint council members with the purpose of looking into the tactical and operational strategies of State vehicle fleet provision. Hereby, it will conduct research and advice GG via the line Minister on continuous improvement of GG activities by developing winning State vehicle strategies, plans, policies and regulations and ensuring compliance for governing the acquisition, assignment, use, replacement and maintenance of state-owned vehicles.

- The Ministry is advised to appoint a 'Fleet Management Task Force', to review the utilisation data to specifically examine the use of vehicles for each day of the week, and to review the number of vehicles needed per OMA with the purpose of eliminating waste.

- The study showed that the off-road (4x4's and SUV's) are very popular amongst the OMAs, but might not be needed for in town, but are needed really for non-tarred roads travels. It is recommended that GG downsized to compact mid-size sedans from full size sedans or right size the vehicles as per OMA needs. Downsizing from the off-road vehicles to compacted mid-size sedans or full size vehicles cannot be over stated.

- The benefits of co-sharing or pooling was dully explained in the paper, and it is against this background that consolidation of assigned vehicles from the OMAs into one shared pool is recommended.

- Continue efforts to replace the aging state fleet to minimize maintenance and repair costs, in a regular, timely fashion to ensure that state employees have reliable and safe vehicles to conduct state business, adopting a fleet replacement strategy/ policy.

- The Government-Garage is still operating on an UNIX IT system, this system is so ancient that it does not address the present challenges. Investing in a State Fleet Information

System/Fleet Management System is highly recommended. IT systems provide solutions to organisational problems and thus will aid GG efficiency to a great extent.

- Interfacing the fleet management system with the NATIS Driver's License System to ensure that state employees operating official vehicles have a valid driver's license and alerting status change of employees driver's license by means of an email, which is sent to the designated OMA contact person displaying the relevant information so appropriate action can be taken.

- Continuous regular stakeholder engagement cannot be over emphasized, all stakeholders must be aligned to the expectations, the processes and their contributions to the overall success of transport service provision.

- Identity and outsource support functions for value addition, efficiency and high quality (Outsourcing: A Strategy for Optimising Resources, 2015).

References

ABB. (2016). Four key questions to optimize performance and align your asset maintenance strategy with business objectives.

Admin. (2017). Supply Chain Management Review. *Best Practices for fleet Operations: Managing Cost, Compliance & Centralised control.*

Amandi-Echendu et al. (2010). *Definitions, Concepts and Scope of Engineering Asset Management.*

Babbie, E. (2007). *The Practice of Social Research.*

Beaujon, G. & Turnquist, A. (2001). *A Model for Fleet Sizing and Allocation: EBSCOhost.*

Bochtis, S. A. (2010). *Conceptual Model of Fleet Management in Agriculture.*

dictionary.com. (n.d). Retrieved from https://www.dictionary.com/browse/efficient?s=t

Department of Administration: *Division of Fleet Services Neveda. (n.d).*

Retrieved: http://motorpool.nv.gov/Maintenance/AgencyOwnedVehicles/

Gareth, G. (2013). The Difference Between Effectiveness And Efficiency Explained. *Articles Sales and Marketing.*

Hasting, J. (2010). *Physical Asset Management.*

Iles, R. (2005a). Public Transport Vehicle Types, . *Public Transport in Developing.*

Iles, R. (2005b). 10 Vehicle Design and Fleet Planning. *Public Transport in Developing Countries.*

Kuntz et. al., (2015). Centralized vehicle leasing in humanitarian fleet management: the UNHCR case: *Journal of Humanitarian Logistics and Supply Chain Management,* Vol. 5 Issue: 3, pp.387-404. Retrieved from https://doi.org/10.1108/JHLSCM-07-2015-0034

Namibian Government Portal. (n.d). Retrieved from http://www.opm.gov.na/

Nora Leggett, J. S. (2009). BVRLA ICFM professional fleet consultant development programme.

O'Looney, J. (1998). In *Outsourcing State and Local Government Services: Decision Making Strategies and Management Methods.*

Outsourcing in the Asset Management Industry. (2003). Thematic Project Findings Report. Financial Conduct Authority.

Outsourcing In The Asset Management Industry. (2014). Retrieved from http://www.nortonrosefulbright.com/knowledge/publications/114101/outsourcing-in-the-asset-management-industry

Outsourcing: A Strategy for Optimising Resources. (2015). Retrieved from TD Ameritrade Institutional: https://www.tdainstitutional.com/tdai-en_us/resources/document/wp_tdai8756_outsourcing_a_strategy_for_optimizing_resources.pdf

Public Procurement Act No. 15 of 2015. Namibia Government Gazette.

Public Service Act , Act No.13. of 1995. Namibia Government Gazette.

Roads Authority Namibia. (2019)). Retrieved from http://www.ra.org.na/Pages/network.aspx

RiverLogic. (2016). Optimize Supply and Demand Alignment Through Demand Shaping.

Sperling, D. & Salon, A. (2002). Transportation in Developing Countries: An Overview of Greenhouse Gas Reduction Strategies.

State Fleet- Australia. (n.d.). Retrieved from Department of Finance: https://www.finance.wa.gov.au/cms/Government_Procurement/Fleet_Management/State_Fleet.aspx

State Fleet Management Services. (n.d). *Fleet Management Services - Colorado .*

Steelman, S. (2017). *State of Missouri Fleet Management Annual Report Office of Administratiion.* Missouri.

Strategic Considerations for Investment-Management Outsourcing. (2009). Retrieved from EMC Coroperation: https://www.emc.com/collateral/emc-perspective/h6817-investment-mgmt-outsourcing-ep.pdf

Why fleet hire is in top gear: Industrial Management. (1976). *Why fleet hire is in top gear: Industrial Management*, 18-24.

Vehiclemaster.Text. (n.d). Retrieved from UNIX Governmnet Garage

Zhang & Liu. (2011). Exploration of Fixed Assets Inspection of University (J).

APPENDICES

APPENDIX C:COMPARITIVE: (Namibia versus Western Ausralia and State of Neveda)

		Namibia State fleet	Western Australia State Fleet		State of Neveda	
Administrator		Ministry of Works and Transport				
		Department of Adminstration	Department of Finance		Department of Adminstration	
		Division: Government Garage	Government Procurement - State Fleet		Fleet Services	
Clients		Office, Ministries and Agencies	Agencies		Aencies	
Pool		Yes- for shared use	Yes- for shared use		Yes- for shared use	
Lease contract		Yes-for OMA's own use	Yes- for Agencies own use		Yes-for Agencies own use	
Lease period		Infinite	a) 60 months/100 000km for passenger vehicles		a) 10 years/100 000km for passenger vehicles	
			b) 72 months or 120 000km for SUV's/ Commercial vehicles		b) 10 years or 125 000km for SUV's/ Commercial vehicles	
Disposal policy		No	Yes		Yes	
Lease responsibilities	*Government Garage*	*OMA*	*State Fleet*	*Agencies*	*Fleet Management Services*	*Agencies*
	Procure, maintain, repair, fuel, licence, and dispose of state fleet from their own budget under the Trade account and recoup the funds from the OMA's	Must ensure they pay their dues: monthly rental fees, fuel, repairs, services and maintainance (which in many cases are not paid or paid on time, no interest is claimed on late payments	Facilitate the purchase of vehicles	Enter into lease agreement with State fleet	Facilitates the procurement of agency vehicles with own funds provided the agencies have approval to procure and the budget for recover the funds from the agencies	Must ensure they pay their dues: monthly rental fees plus a mileage fee
	GG enter into contractors for the various needs e.g. vehicle purchase, services, repairs, supply of parts, tyres, batteries and fuel themselves etc	OMA's must ensure all persons driving state vehicle are licenced properly and areauthorised to do so, but this is not done all the time	Lease procured vehicles to agencies for a monthly fee	Ensure vehicles are serviced, repaired etc via the State Fleet contractors	Service & maintain, repair, fuel, licence, insure and dispose of state fleet on behalf of agencies - enabled by the mileage fee paid by the agencies to them either themselves or through service providers	
	No adequate fleet management system assist	OMA's don't take any accountibility of state vehicles because all responsibility lies with GG	Facilitate the disposal of vehicles at the end of the lease period	Insure leased vehicles with an insurance company	Facilitate the disposal of vehicles at the end of the lease period	
	State fleet are not insured	No OMA's have their own individuel fleet management system ..thus no intergration of fleet information are available	Facilitate contracted service providers of all state vehicles services, repairs, licencing management, tracking,fuel provision, data management & reporting, accident/crash managememtn, tyres supply and fitment etc.	Ensure their monthly charged rental fees are paid for on time, else they run the risks of being charged interest on late payment	Enter into agreements with service providers of all state vehicles services, repairs, licencing management, tracking,fuel provision, data management & reporting, accident/crash managememtn, tyres supply and fitment etc and ensure these are performed on behalf of the agencies	
	Vehicles are licenced under the Governemnt Garage and not under the lessee		Coordinate all leased vehicle fleet services - with the aid of a good IT system that intergrate with all agencies systems		Coordinate all leased vehicle fleet services - with the aid of a good IT system that intergrate with all agencies systems	
					Ensure no abuse of state vehicles (mileage, fuel,	

APPENDIX: B							
Ministry/Office/Agency:					**Date:**		
VEHICLES MAKES	**YEAR MODEL**						
SEDANS	>1990	1990-1995	1995-2000	2000-2005	2005- 2010	2010- 2015	<2015
M /Benz E200 - S 600							
BMW 528i							
Volvo S40 - S80							
Audi Q7							
Lexus 2.5i							
Hyundai Accent /Sonata 1.6 – 2.0							
Toyota Etios/Corolla/Avensis/Camry 1.5 – 2.0							
V/W Golf /Polo/Jetta 1.4 - 2.0							
Ford Tracer/Ikon/Fiesta 1.3 - 1.6							
Nissan Tiida /Almera 1.6							
Chevrolet Cruiz/Aveo 1.6 - 2.0							
Honda /Accent Accord 1.6 - 2.4							
Opel Astra/Cadet 1.6							
Mazda Etude 1.6 – 2.5							
Suzuki 2.0							
Other							
PICK UP	>1990	1990-1995	1995-2000	2000-2005	2005- 2010	2010- 2015	<2015
Toyota Hilux/L/Cruiser 2.0 – 4.5							
Ford Courier/Ranger 2.2 – 2.5							
Nissan 1 Ton/ NP300/1400/H/Body/Navara 1.4 – 4.0							
Mazda Drifter/BT50 2.6 – 3.0							
Isuzu KB/LE/LX 2.4 – 3.0							
Mitsubishi Colt 2.4 – 2.8							
Chevrolet 4.0							
Land Rover 4.0							
Other							
STATION WAGON	>1990	1990-1995	1995-2000	2000-2005	2005- 2010	2010- 2015	<2015
Toyota Prado/Condor/GX/Fortuner/L/Cruiser 2.4 – 4.5							
M/Benz ML 500 - GL500							
Suzuki MLT 2.0							
Land Rover 4.0							
Other							
PANEL VAN	>1990	1990-1995	1995-2000	2000-2005	2005- 2010	2010- 2015	<2015
Peugeot Parter 1.9							
Nissan Visia 2.0							
Other							
MINIBUS / BUSES	>1990	1990-1995	1995-2000	2000-2005	2005- 2010	2010- 2015	<2015
M/Benz Sprinter/Busmark 2000 2.6 - 6.3							
Toyota Hi-Ace/Quantum/Hino 2.4 – 5.0							
Volkswagen Kombi/Caravale/Crafter 2.0 – 2.3							
Iveco Daily/50cijv15/Erocargo 2.9							
Isuzu Pur900 7.7							
Nissan 16 - 65 seater							
Mitsubishi 65 seater							
Other							
TRUCKS	>1990	1990-1995	1995-2000	2000-2005	2005- 2010	2010- 2015	<2015
Isuzu 7 ton							
MAN 5 – 10 ton							
M/Benz 5 – 8 ton							

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