



**POLYTECHNIC OF NAMIBIA**

**HAROLD PUPKEWITZ GRADUATE SCHOOL OF BUSINESS**

**Outsourcing third party logistics services usage in the Namibian manufacturing  
industry**

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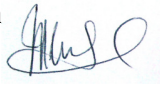
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International Business in the Harold Pupkewitz Graduate School of Business at the  
Polytechnic of Namibia

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### **DECLARATION OF ORIGINAL WORK**


I, Indileni Set-Sam Ipinge, declare that this thesis is my own unaided work. Any assistance that I have received has been acknowledged in the thesis.

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I finally dedicate this study to my late uncle Erasmus Iiyambo Shingenge who passed away on the 3<sup>rd</sup> June 2013 while I was still finalising this study. May his soul rest in peace!

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### **Abstract**

The aim of the study is to give a comprehensive understanding of the Namibian manufacturers' current status of using third party logistics (3PL) services in Namibia. An exploratory survey was conducted to investigate the extent use of 3PL services by Namibian manufacturers, the reasons for Namibian manufacturers using 3PL service, the reasons for Namibian manufacturers not using 3PL services, the level of satisfaction of Namibia manufacturing firms using 3PL services, the organizational impact of using 3PL services on the Namibian manufacturers and the future plans of current 3PL users in Namibia's manufacturing industry. The findings of this study were collected through the use of an e-mail survey questionnaire. The respondents are logistics managers working for the Namibian manufacturing firms that are listed on the membership list including 140 members of the Namibian Manufacturers Association (NMA). The data was analysed by using Excel program. The current study found out that more than 50% of the Namibian manufacturers outsource 3PL services. Namibian manufacturing companies that outsource indicated that cost reduction was the main reason for outsourcing. Overall, the user manufacturers are satisfied with the 3PL provider's level of performance. In addition, the use of 3PL services will moderately increase in the future. However, 3PL providers need to be aware of this prospective development in the outsourcing logistic industry to improve their performance and commit to the service level set forth. In general, the Namibian manufacturers believe that their business benefits largely from the use of 3PL services in many areas of their firms.

*Keywords:* Third party logistics (3PL), outsourcing, logistics, manufacturing.

## **1. Introduction**

### **1.1 Introduction**

The aim of this paper is to explore the existing position of third party logistics (3PL) within the Namibian manufacturing industry from a user perspective.

Logistics outsourcing has attracted the attention of lots of industrialists in recent years. As firms enlarge their global reach, they often find that they need to reconsider their internal capabilities in managing the global supply chain. Trent and Roberts (2009) commented that many cases firms decide to outsource this function in whole or in part to agents or 3PL firms. Primary services offered by agents and 3PL firms are outbound transportation, warehousing, inbound transportation, freight-bill auditing and payment, customs brokerage, freight forwarding, and customs clearance. Transportation and storage are often regarded as a non value creating process and therefore may be considered as waste. Therefore many industrial corporations have attempted to shift these processes out of their core focus business areas (Selier, 2012).

The first third-party logistics providers (3PLs) arrived on the scene in the 1970s, mainly as the result of diversification by either transportation or public warehousing companies (Gattorna, 2009). This gives a history of over 40 years since the emergence of 3PLs. Tompkins (2004) commented that having the product in the right place at the right time in the right condition is a key to the success of any distribution system. Therefore it

is clear that getting the product to the customer is of great importance to any organization and customer.

In the last ten to fifteen years, a lot of studies have been carried out in the area of the third party logistics industry. Most of the 3PL studies have been carried out from the user's perspective. In an exploratory study of outsourcing 3PL services in Australia, Rahman (2011) revealed that these studies have been carried in United States (Richardson, 1990a, b; Sheffi, 1990; Bardi and Tracey, 1991; Lieb and Randall, 1996; Dapiran, Lieb, Millen, Sohal, 1996; Boyson, Corsi, Dresner, and Rabinovich, 1999; Bhatnagar, Sohal, and Millen, 1999; Larson and Gammelgaard, 2001; Arroyo, P., Gaytan, De Boer, 2006). Bookbinder (2011) revealed that several studies have been conducted in the Asia—Pacific region. Those studies have been carried out in Singapore (Bhatnagar et al., 1999), India (Sahay & Mohan, 2006), Malaysia (Sohail & Sohal, 2003), and Australia (Sohail, Millen, & Moss, 2002; Rahman, 2009). Zhang (2009) and Chen (2012) carried out related studies in New Zealand and China respectively. Most of these studies focused on examining the extent of use of the third party logistics in their respective countries.

## **1.2 Logistics in Namibia**

Logistics is essentially a planning orientation and framework that seeks to create a single plan for the flow of product and information through a business (Christopher, 2005). Jomini defined logistics as “the practical art of moving armies” and included a vast range of functions involved in moving and sustaining military forces: planning,

administration, supply, billeting and encampments, bridge and road building, and even reconnaissance and intelligence insofar as they were related to maneuvers off the battlefield (Rezapour, 2011).

The speedy growth of third party logistics (3PL) is a worldwide occurrence. Third party logistics (3PL) is a business dynamic of growing importance all over the world. However, it is at a very middle stage in Namibia, though some domestic and multinational companies have established themselves in this sector.

Namibia provides a broad range of logistics services such as delivery of parcels worldwide, shipping of large, heavy and high value goods, special services repair and return, time definite delivery and Saturday delivery, shipper's insurance and import express (Belda, 2007).

Namibia hosts DHL offices that offer 3PL services since 1988. The services are International Mail Processing Centre (IMPC), DHL Express and DHL Global Forwarding. According to the Namibian Sun newspaper (2011), the IMPC is the only operation of its kind on the African continent and one of only seven world-wide. After a sustained presence in Namibia over the past 23 years, DHL Namibia has invested substantially in new premises to the tune of N\$10 million over a period of five years. Fedex is another 3PL multinational company represented in Walvis Bay and Windhoek, Namibia by a nominated Service Contractor, Namibia (Pty) Ltd to offering export and import services, according to its website. The UPS Website indicates that the company also has its presence in Namibia via an Authorised Service Contractor, Transworld Cargo

(Pty) Ltd offering complete range of freight forwarding services, shipping services, ground and air transportation, truckloads, customs clearance as well as fully integrated logistics solutions.

In view of the above there is major potential for logistic in Namibia.

### **1.3 Manufacturing in Namibia**

The manufacturing sector in Namibia is facilitated by the Namibian Manufacturers Association (NMA). According to its website, the association was established in 1994 as the Association of Namibia Manufacturers, but it was transformed into a Section 21 Company (company not for gain but full corporate responsibility) in 2002. The NMA has a membership of more than 140 and works in cooperation with the Ministry of Trade & Industry (MTI) and the Namibia Chamber of Commerce and Industry (NCCI) with a key supportive function to the Government in the development of the manufacturing industry.

In 2010, the manufacturing sector contributed 14.4 % to GDP which was the highest contributor to GDP within the secondary industries. Other manufacturing was the highest manufacturing subsector contributor to GDP with 7.8%. Table 1.1 shows that, manufacturing's contribution increased from 11.7 % in 2000 to its highest figure of 15.7 % in 2007 and then a drop to 14.4 % in 2010. In short, there has been an upward trend in the manufacturing activities for the considered period. Table 1.1 illustrates contribution by manufacturing activity to GDP for the period 2000-2010.

Table 1-1

*GDP by activity Current prices – percentage contribution to GDP*

<i>Secondary Industries</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Manufacturing</b>	11.7	11.6	11.9	13.8	12.5	12.4	14.4	15.7	12.9	13.4	14.4
<b>Meat processing</b>	0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.2	0.3	0.3
<b>Fish processing on shore</b>	1.9	1.7	2.0	2.4	1.8	1.0	1.2	1.5	1.4	1.3	1.0
<b>Other food products and beverages</b>	4.9	4.9	5.3	5.8	5.0	4.9	4.7	4.7	5.0	5.5	5.3
<b>Other manufacturing</b>	4.6	4.8	4.3	5.3	5.4	6.1	8.2	9.2	6.3	6.3	7.8
<b>Electricity and water</b>	1.9	1.9	2.1	2.0	2.1	2.4	1.9	2.5	2.2	2.5	2.6
<b>Construction</b>	2.0	3.0	2.0	2.6	2.7	2.7	3.4	3.7	3.9	3.9	4.0
<b>Total</b>	<b>15.5</b>	<b>16.5</b>	<b>16.0</b>	<b>18.4</b>	<b>17.3</b>	<b>17.5</b>	<b>19.7</b>	<b>21.9</b>	<b>19.0</b>	<b>19.8</b>	<b>20.9</b>

Source: CBS, National Accounts

On the growth side, the manufacturing sector witnessed a growth of 9.1 % in 2010 in contrast to the growth of 5.6 % that was recorded in 2009. Table 1.2 depicts that during the period 2000-2010, the sector has had an average of 6 % growth.

Table 1-2

*GDP by activity constant prices – annual percentage change*

<i>Industry</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Manufacturing</b>		5.9	4.0	13.9	0.4	7.5	2.7	8.5	2.1	5.6	9.1
<b>Meat processing</b>		7.7	4.2	-7.5	-0.3	21.9	-8.5	4.3	-8.4	4.9	5.1
<b>Fish processing on shore</b>		5.1	-1.2	31.7	-10.4	-5.2	-31.7	29.6	-3.6	33.1	-14.2
<b>Other food products and beverages</b>		5.3	12.2	0.6	-4.7	4.2	3.0	5.1	10.0	7.8	2.9
<b>Other manufacturing</b>		6.8	-3.7	27.0	10.3	14.0	12.7	8.0	-2.1	-1.7	21.4

Source: CBS, National Accounts

The manufacturing sector is the third biggest employer (20,961) after the construction sector in Namibia. The position proves that the manufacturing sector is playing a major role in the Namibian economy. The agriculture sector is the largest employment provider with the highest number of employed persons (52,788). Table 1.3 indicates the distribution of employed persons by industry.

Table 1-3

*Number of people employed in selected economic sectors*

Economic Sector	Number of people employed
Agriculture	52,788
Construction	23,316
Manufacturing	20,961
Fishing	1,318
Mining and Quarrying	8,894

Source: Ministry of Labour, Labour Force Survey (2008)

Therefore, with regards to the above the manufacturing sector is of major importance to the Namibian economy.

#### **1.4 Statement of the Problem**

In order to realise the industrialisation goals and targets of Namibia's Vision 2030, the focus would be on the services and manufacturing sectors in areas where Namibia has a clear comparative advantage. To further bolster the realization, the existing position of third party logistics (3PL) within the Namibian manufacturing industry from a user perspective needs to be mapped and known. This would involve analysing the current environment of 3PL services with the aim to future develop and move the manufacturing sector forward. It is believed that it would be vital to divert attention to manufacturing for employment creation, productivity improvement and increasing income equality targeted to reducing poverty in the country. Furthermore, Namibia's Fourth National Development Plan (NDP 4) launched in 2012, identified the growth of the manufacturing industry in Namibia by 50% during the next 5 years (2012 – 2017) as one of the economic priorities.

Unfortunately, Namibia's manufacturing sector is currently only about 5% of the GDP. However, Vision 2030, manufacturing and service industries are to constitute about 80% of GDP, export and processed goods, or a total of 70% exports (Allen, 2010). This status quo poses a challenge and there is still a long way to go for the manufacturing sector to achieve the desired results by 2030 given the timeframe left. Therefore, the third party logistic (3PL) industry is expected to be of significance in helping the manufacturing sector develop to further develop Namibia's manufacturing sector

through, for example, the movement of the manufactured products around and or out of Namibia through this expected expansion of the manufacturing sector.

Already in the direction of using the 3PL, is Ohorongo cement, one of the members of the Namibian manufacturing firms, which opened on 3 February 2011 and was reported to be outsourcing the transportation of cement (Namibian Sun, 2011). Ohorongo Cement Plant being one of the few world class plants could prove to be a hint that Namibia's manufacturing sector needed to take the route of outsourcing 3PL services.

Furthermore, there is no published survey that has studied the usage of 3PL services in Namibia. Hence also an attempt to fill this gap, the research task here is to highlight the existing 3PL services in Namibia that could help the development of the country's manufacturing sector and for the country to realize its goals and objectives, especially Vision 2030. The study examines the existing position of third party logistics (3PL) within the Namibian manufacturing industry from a user perspective. This thesis surveyed the Namibian 3PL industry from the users' perspective and presents an explanatory and numerical study.

### **1.5 Objectives of the study**

As earlier stated, over the last two decades, a large number of studies have been conducted in the field of outsourcing third-party logistics services and the field is growing. The main purpose of this paper is to examine the current usage of third party logistics in Namibian manufacturing industry from the users' perspective and provide a basis for comparison with the results in other countries. An experiential study is performed to achieve the following objectives:

- i. To investigate the extent of use of the third party logistics services in the Namibian manufacturing industry.
- ii. To investigate the reasons for Namibian manufacturers outsourcing logistics activities
- iii. To investigate the reasons for Namibian manufacturers not outsourcing logistics activities
- iv. To assess the level of satisfaction of Namibia manufacturing firms using 3PL services
- v. To investigate organizational impact of using 3PL services on the Namibian manufacturers.
- vi. To explore the future plans of current 3PL users in Namibia's manufacturing industry.

These objectives provide a holistic view on the level of use of 3PL services by the Namibian manufacturers.

## **1.6 Research questions**

The exploratory study intended to answer the following research questions:

- i. What is the extent of use of the third party logistics services in Namibian manufacturers?
- ii. What are the reasons for outsourcing and/or not outsourcing logistics activities in the Namibian manufacturing firms?
- iii. What are the reasons for not outsourcing logistics activities in the Namibian manufacturing firms?
- iv. What is the level of customer satisfaction of Namibian manufacturing firms?
- v. What are the organizational impacts of the use of 3PL on the user firms?
- vi. What are the future directions of third-party logistics users in the Namibian manufacturing industry?

### **1.7 Significance of the study**

Third Party logistics (3PL) is experiencing an accelerated growth globally and expanding to all parts of the world. The study is aimed at exploring the environment of third party logistic services in the manufacturing industry. The results of this study would not only benefit the manufacturing industry but other Namibian public and private companies and potential foreign investors that intend to outsource logistics services.

### **1.8 Limitations of the study**

The scope of the study includes only third party logistics services that are used by the manufacturing firms listed on the member directory of Namibia Manufacturers Association (NMA), irrespective of where they are located in Namibia. Hence this research might be subject to a mixture of favouritism as members of the NMA might not be representing the 13 regions of Namibia and hence not be representative of the factual population.

### **1.9 Thesis Outline**

The thesis consists of five chapters. This first chapter sets out the introduction of the subject to provide an overview and outline of the study carried out. The aim is to explore the 3 PL activities within the Namibian manufacturing industry. The objectives and contents for this research are based on the reviews of previous studies in similar conditions. This research is delimited by limitations that are discussed as well. This is then followed by a chapter on literature review.

The second chapter of this paper provides both a theoretical and an empirical framework for third party logistics. It starts looking at the concepts that lay the foundation for the extent of this research by defining supply chain management, logistics and third party logistics. The chapter then reviews the literature around the objectives of the research.

The third chapter elaborates the quantitative methods used to carry out the research and techniques that have been used for data collection and analysis during this study. This chapter is then followed by the survey results and discussion. The fourth chapter presents the survey results. The general information of the respondents is described first and then data is analysed using excel. This chapter discusses the results from the survey. The final chapter concludes the study by revisiting the research objectives. It summarises key findings, indicates contribution of the study and puts forward recommendations for future research.

## **2. Literature Review**

### **2.1 Introduction**

The available literature around the use of 3PL in the manufacturing sector is more empirical than theoretical. Hence a mixture of both but more empirical literature is considered in this paper.

In the last decade and a half, numerous studies have identified the 3PL usages in different countries around the world and have tried to answer why companies outsource or do not outsource their transportation and logistics requirements. Such studies have been carried out in Saudi Arabia (Sohail & Al-Abdali, 2005), India (Sahay & Mahan, 2006), Australia (Rahman, 2011; Dapiran, Lieb, Millen, & Sohal, 1996) and Europe, USA and Mexico (Arroyo et al, 2006). Besides, these studies identified challenges, 3PL industry trends, current and future directions of 3PL users and providers. However, despite the growing numbers of studies on this topic, efforts to combine the overall state of the art research on 3PL have so far been rather limited (Marasco, 2008). Such limitation is no exception to Namibia.

The recent spurt in outsourcing signals the tendency of organizations to buy rather than make their requirements in-house. In such a scenario, the importance of supply management further increases as suppliers' performance is likely to have an even greater impact on delivery and quality commitments made by an organization to its customers. The trend towards outsourcing in several organizations is driven primarily by four factors: cost, core versus non-core activities, management of capacity expansion, and strategic restructuring (Mahadevan, 2009).

Firms have to choose between transporting goods using a private fleet (the “make” option) and using external service providers to move freight (the “buy” option). Some organizations have decided that it is best to have external experts move the freight and/or manage the transportation process (Coyle, Langley, Gibson, Novack, and Bardi, 2008).

This chapter provides both theoretical and empirical framework for third party logistics. It starts with analysis of the definitions of logistics, supply chain management, logistics management and third party logistics. These concepts pave the way for the scope of the research and create a perspective of third party logistics.

## **2.2 Logistics**

### **2.2.1 Origins of Logistics and Supply Chain Management**

Logistics and supply chain management (SCM) has a primeval history. The word logistics is believed to have originated from the Greek word *logistikos* and the Latin word *logisticus*, that literally meaning the science of computing and calculating. The history of logistics and SCM dates back to the wars of the Greek and Roman empires in which the military functions called *logistics* were responsible for supplying and distributing needed resources and services (Rezapour, 2011). According to Havaladar (2010), the integration of operations with supplier;s suppliers and customer’s customer saw logistics management broaden to the theory of supply chain management. The latter author also revealed that the term “logistics” came into practice in the business environment in two ways of materials management (or physical supply) and market logistics (or physical distribution) in the 19070s. Frohne (2008) commented that logistics is part of our daily

lives. He further states that we naturally carry out logistics functions when we wake up, care for our bodies, do our jobs, partake in recreational and entertainment activities, and go back to sleep. This shows that logistics could mean a variety of things to different people, organizations and governments.

### **2.2.2 Definitions of supply chain/ supply chain management, logistics management and logistics**

Mentzer (2001, p. 4) defined supply chain “as a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances, and/or information from a source to a customer.”

A global definition by Govil and Proth (2002, p. 7) stated that the supply chain as “a global network of organizations that cooperate to improve the flows of material and information between suppliers and customers at the lowest cost and the highest speed. The objective of a supply chain is customer satisfaction”.

Cohen (1985) as cited by Wisma (2007, p. 11) define supply chain as “a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers”.

Chandra and Grabis (2007, p. 18) gave a definition stating that supply chain “is a network of suppliers, manufacturers, warehouses, distributors, and retailers who, through coordinated plans and activities, develops products by converting raw materials to finished goods inventory.

All the above-mentioned definitions states of a widespread set or network of bodies performing various linked tasks with a common end goal of satisfying the customer. This implies various activities should be performed with information flowing in both directions, while material flows from the point of origin (suppliers) all the way to the customers as a finished product. The definitions give an observation that a supply chain is holistic system that enables delivery of finished goods to the final customer. The above-mentioned definitions are also evidence that supply chains are present within the manufacturers and are treated as part of the companies.

There are many definitions of supply chain management (SCM) in the literature today. Simchi-Levi, D., Kaminsky, P., and Simchi-Levi, E. (2003, p. 1) defined SCM as:

“A set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements.”

According to Harland (1996, p. 564) supply chain management is “the management of an interconnected or interlinked between network, channel and node businesses involved in the provision of product and service packages required by the end customers in a supply chain”

Wisner, Tan, and Leong (2011, p. 8) stated:

“For supply chain management to be successful, firms must work together by sharing information on things like demand forecasts, production plans, capacity changes, new marketing strategies, new product and service developments, new

technologies employed, purchasing plans, delivery dates, and anything else impacting the firm's purchasing, production, and distributing plans.”

From the definition, it can simply be said that SCM is the management of all information and material flows within a network of organization to efficiently deliver satisfying products and/or services to customers.

The Council of Supply Chain Management Professionals (CSCMP) as cited by Lambert (2008) defined logistics management as:

“...that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point-of-origin and the point-of-consumption in order to meet customers' requirements.”

Another source defines logistics management as:

“...the management of a series of macro-level transportation and distribution activities, with the main objective of delivering the right amount of material at the right place at the right time at the right cost using the right methods. The decisions typically encountered in logistics management concern facility location, transportation, and goods handling and storage” (Heragu, 2006, p. 471).

All of these above mentioned definitions highlight the movement of goods and management of flow of goods during transportation and distribution.

Besides the above SCM and logistics management definitions, the terms “supply chain management” and logistics management” are often used interchangeably. The terms “logistics management” and “supply chain management” are often used

interchangeably, while more correctly logistics management is a division of supply chain management. The term supply chain management is normally understood to narrowly focus on the internal integration of processes within a firm (Kotzab & Müller, 2005). It is understood that logistics management plays an important role on the costs and customer satisfaction of manufacturing firms which gives the manufacturer a competitive advantage in the market. According to Lambert (2008, p. 4), in 2003 the Council of Logistics Management (CLM), revised the definition to mean that logistics management is only a part of SCM that says: “Logistics is part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point-of-origin and the point-of-consumption in order to meet customers’ requirements”. This revision cleared so many confusions of SCM with logistics.

On the other hand, Logistics has more than a few definitions. Havaladar (2010, p. 232) broadly defined logistics as: “having the right thing at the right place at the right time and at the right cost”. Walters (2006, p. 463) has defined logistics “is responsible for the movement of materials into a process from suppliers, through operations, and then out of the process to customers”. Council of Logistics Management has defined logistics as “the process of planning, implementing, and controlling the efficient, effective flow of goods, services, and related information from the point-of-origin (i.e. suppliers) to the point-of-consumption (i.e. customers) for the purpose of conforming to customer requirements”.

Sople (2012) revealed that logistics offers value to the final customer through three main stages in the supply chain:

**Inbound logistics** which consists of the movement of raw materials and components for productions from the suppliers.

**In-process logistics** which includes the storage and movement of raw materials and parts within the production as per production schedules.

**Outbound logistics** which includes the warehousing, transportation and inventory management and distribution of manufactured goods to customers.

Sople (2012) stated that the duty of the logistics system is to effectively and efficiently move materials and information so that the level of customer service is achieved at the least cost. The following key elements of effective logistics which are core to supply chain management (Sople, 2012):

- Product movement
- Information movement
- Time and service
- Cost
- Internal integration

This implies that both logistics and supply chain management needs each other's support to meet customer demand and achieve the overall objectives of the organization.

Havaladar (2010) argued that the above definition by the Council of Logistics Management was the same as that of supply chain management made by the same Council. They hence suggested the appropriate definition of logistics to be: "Logistics refers to the design and management of all activities (mainly transportation, warehousing, and inventory) necessary to make materials available for manufacturing and to make

finished goods/products available to customers, as they are needed and in the condition required”.

All the definitions above factually have the similarities due to the fact that they all indicate the activities that need to take place on the production and distribution side with the customer in focus. The main focus of logistics is on the activities required to ensure an efficient materials movement from original suppliers through the supply chains to the final customers. It is also learned that logistics includes supply chain management.

### **2.2.3 Role of logistics and SCM to manufacturing**

Logistics plays a critical role in manufacturing and service companies. The extent of logistics in manufacturing can include (Havaladar, 2010): (1) inventory management and control, (2) customer service, (3) transportation, (4) warehousing, (5) plant and warehouse locations, (6) order processing, (7) logistics communications, (8) packaging, and (9) material handling.

Nowadays, although the term “logistics” has its origin in the military world, it has a crucial role in business and especially in manufacturing. Logistics systems offer two major product movement (Havaladar, 2010): (i) Physical supply-supply of raw materials, components, and supplies to the manufacturing process, (material management or purchase function), (ii) physical distribution-finished product to customers and intermediaries (market logistics).

According to Baudin (2004), logistics includes the following types in manufacturing:

*Material flows:* Shipping, transportation, unloading, and storage space and retrieval between plants and between production lines within a plant.

*Information flows:* Transaction processing associated with the material flows, analysis of past activity, forecasting, planning, and scheduling future activity.

*Funds flows:* Payments triggered by the movements of goods and information.

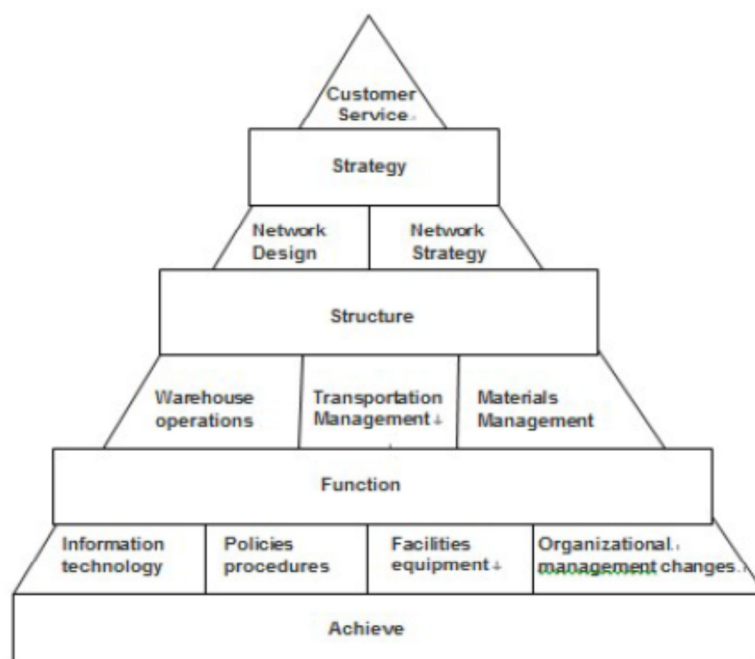
It appears that logistics enables almost all functions in manufacturing to take place. For this reason, logistics function is crucial in ensuring the success of manufacturing and delivery of finished products to customers with a maximised customer service. Therefore the success of a manufacturer depends on the quality of logistics activities and the resultant level of customer satisfaction.

#### **2.2.4 Logistics strategy**

Cooper (1993, p. 112) stated that logistics strategy “is concerned with designing or redesigning the supply chain to meet customer demand and service requirements in the best way.” It includes distribution strategy, aspects of manufacturing strategy and purchasing strategy. Logistics strategy is a crucial important part in customer service for businesses delivering goods, supplying spare parts, or providing on-site service (Murley, 1997). The logistics strategy is formulated corresponding to the overall business strategy of the firm to realize the desired business objectives (Sople, 2007). Unless a logistics strategy is developed that assists the achievement of the corporate strategy, the chance of the company to realise the desired competitive advantage will hugely be reduced (Ross, 1998). Figure 2.1 shows the building elements of logistics strategy. It shows that customer service is the main strategy that supports all the logistics activities within a

manufacturer. This implies that, manufacturing companies need to decide how to carry their logistics activities based on their logistics and corporate strategy that best serve their customers based on their type of products.

*Figure 2-1. Building elements of logistics strategy*



Source: Xu, Jiang, and Wang (2012)

Xu, Jiang, and Wang (2012) stated that the implementation of the logistics strategy is crucial in creating the integration of order management and replenishment processes. The order management plays a big role in manufacturing as it determines whether there is enough raw materials to make the finished products. A well managed order management system ensures that customers get the finished products at the right time.

### 2.3 Third party logistics

The terms of ‘third party logistics’, ‘logistics outsourcing’, and ‘contract logistics’ have generally been used interchangeably both in literature and practice. 3PL was originally designed to provide transportation and related services to regional importers and exporters but has now evolved into a worldwide industry that complements customer initiatives through a host of primary and value-added services (Gardner, 2004).

There are many definitions of 3PL.

Lieb and Randall, 1996 as cited by Soh (2010, p. 340) defined this as:

“3PL refers to the utilization of external organizations to perform all or part of the logistics activities that have traditionally been performed within an organization.”

This definition emphasized that an organisation partners with the outside world to perform logistics activities previously performed in-house. Bourlakis, Vlachos, and Zeimpekis (2011) provided another definition of third-party logistics by quoting Lieb, Milller and Van Wassenhove (1993, p. 37) “as the use of external companies to perform logistics functions which have traditionally been performed within an organization. The functions performed by the third party firm can encompass the entire logistics process or selective activities within that process.

Consistently in all definitions, a company which specializes in logistics activities is contracted by another firm to manage its sourcing and distribution of products.

Kotzab and Müller (2005, p. 204) stated that third party logistics (3PL) “is the employment of outside companies whose expertise is in the logistics are of handling a firm’s logistical processes.” The authors further commented that the rising downsizing and outsourcing in today’s global economy makes it possible for 3PL to be embraced

many organisations. The outside companies called *3pl providers* are left with the responsibility to perform and manage the logistics functions while the user companies focus on their core functions (Kotzab & Müller, 2005).

Based on the available literature, there is an increasing tendency of manufacturing firms to outsource or subcontract, their logistics functions to outside companies, rather than performing all logistics activities in-house. Consequently, there are also an increasing number of 3PL providers to carry out particular logistics activities for user manufacturers.

The decision whether to outsource or perform in-house is taken by the strategic level or senior management of the company. Tactical decisions are made more on the ways to bring cost benefits to the company.

## **2.4 The development of the manufacturing sector in Namibia**

It is said that a nation can increase its economic growth through the development of a domestic manufacturing sector to produce goods that can substitute for imported manufactured goods and producing manufactured goods for export (Boyes & Melvin, 2013). Trimings (2004, p. 2) defined manufacturing “as the conversion of raw materials into useful articles by means of physical labour or the use of power driven machinery.”

A study by Kadhikwa & Ndalikokule (2007) found that Namibian manufactured products were marketed; locally regionally and internationally. Namibian beer, for example, was exported to diverse markets such as Angola, Botswana, Mozambique, Kenya, the UK and South Africa. They discovered that products such as tiles and slabs, dairy products, maize meal and hand-woven carpets amongst others could be exported on

a large scale to available markets. The survey also indicated that apart from the local markets, manufacturers had indicated a number of potential markets to which their products could be exported such as the SADC, the EU, the USA and the East Asia.

By the end of the 1990's the industrial development in Namibia was still in its premature period (Happe, 1997). The study by Happe found that food processing has been the major activity, as the largest contributions have come from the fish processing and meat processing industries. For these few reasons, the government has established export processing zones (EPZs) to broaden the manufacturing base and promote employment-generating activities.

Manufacturers are increasingly focusing on their core competencies. This means that transport, packaging, and other supply chain services are often outsourced to third-party providers (Pienaar & Vogt, 2005). This is proof that companies are considering possibilities of engaging third-party logistics (3PL) providers in the process of moving products to the consumer.

According to Vision 2030 as approved by the Namibian Government, the Namibian economy needs to grow by at least 6% per annum to achieve full industrialisation and sustainable development. Vision 2030 further shows that the expansion of the manufacturing sector is a key contributing factor to developing the economy of a country. Vision 2030 states that manufacturing and the service sector constituted about 80% of the country's gross domestic product. Therefore, taking into consideration the above, there is potential in the increased manufacturing development in Namibia.

## **2.5 Extent of use of the Third Party Logistics Services**

The longer the relationship between user firms and 3PL providers, the more extensive the use of 3PL services would be, the higher the level of commitment would be, and more willingness of user firms to spend on outsourcing (Bhatnagar et al., 1999). Lieb et al. (1993b) made a comparison of experienced American and European manufacturers. Tests were conducted and the following factors to define the extent of usage of 3PL services were defined:

- Level of commitment to the usage of third party logistics  
(extensive to very limited)
- Percentage of total logistics budget allocated to third party providers
- Geographical coverage provided by third party firms (domestic vs. international)
- Third party services used
- Nature and length of third party contracts

Each of these factors will be considered in more detail below.

### **2.5.1 Level of Commitment to the Usage of Third Party Logistics**

When comparing experienced American with European manufacturers, Lieb et al. (1993b) found out that US manufacturers were considerably less committed as compared to the European firms. Dapiran et al. (1996) as cited by Sahay and Mohan (2006) studied the 3PL usage by large Australian firms, and also compared the Australian firms to US

firms in their usage of 3PL services. They found that over one-fifth of Australian firms classify their commitment to 3PL as “extensive”. Another study compared Australian 3pl usage versus American firms and Western European firms (Millen, Sohal, Daparin, Lieb and Van Wassenhove, 1997 cited by Chen, 2012). The study revealed that approximately half of the users in Western Europe firms characterised their commitment as “extensive”, whereas in US firms more than half of the companies classified their commitment as limited or very limited. Bhatnagar et al. (1999) studied the third party logistics services in Singapore and found that the degree of commitment to the usage of the third-party logistical services varied significantly amid the respondents. Just over three-quarters (76.3%) of the users showed that their firm’s commitment to the contract services notion was “moderate” or “extensive”, while the remaining users indicated that their firms' commitment was “limited” or “very limited.”

These findings show that there are mixed levels of commitment to 3PL services from the user firms in different countries around the world.

### **2.5.2 Percentage of total logistics budget allocated to third party providers**

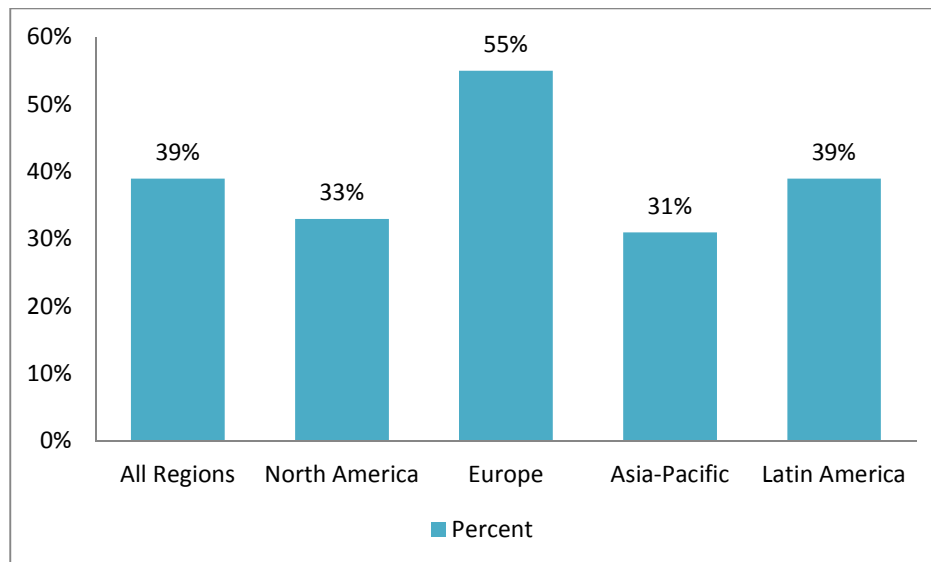
Dapiran et al. (1996) as cited by Bhatnagar et al. (1999) in their study of 3PL usage by large Australian firms revealed that one quarter of the firms allocate more than 50 % of their total logistics budget to contract providers. Millen et al., (1997) cited by Sohail and Al-Abdali (2005) indicated that 17 % of USA respondent firms and 12% of Western Europe respondent firms both allocated between 11 – 20 % of logistics budget on outsourcing respectively. While 2% of USA respondent firms allocated over 60% of logistic budget to outsourcing as compared to 12 % of Western Europe respondent firms.

Lieb et al. (1993b) found out that European manufacturers allocated a greater share of the overall logistics budget to their 3PL providers as compared to the American manufacturers.

Another study of 3PL usage in India, Sahay and Mohan (2006) revealed that 63 % of the firms allocated 11-20 % of their budget to 3PL and 29 % allocated over 50 % of logistics budget to 3PL providers. Zhang (2009) revealed that 39 % of the firms in New Zealand allocated over 40 % of their total budget to third party logistics service providers. In China, more than 60 % firms allocated more than 40 % logistics budget to third party logistics providers (Chen, 2012).

Almost 45 % of the users in Saudi Arabia allocate 20 % or less of their logistic budget to 3PL and just 13% of users allocated a budget of over 60 % of the total logistics budget to 3PL (Sohail & Al-Abdali, 2005). The same authors cited Sohail, Ausrin and Rushdi (2004) revealing that 10 % of 3PL users in Ghana allocate around 20 % of their logistic budget on outsourcing and only 6 % respondent firms spent over 60 % of their logistics budget on third party logistics services. According to the Cap Gemini's 17<sup>th</sup> Annual Report (2013), Europe has the highest percentage of total logistics expenditure directed to outsourcing with 55 % (See figure 2-2).

Figure 2-2. Percentage of Total Logistics Expenditure Directed to Outsourcing



Note: percentage as per Cap Gemini, 2013 annual report

The latest figures researched in 2009 and 2012 for New Zealand and China respectively show mixed results on the percentage of user firms, but have the same spending over 40% of their total budget to third party logistics service providers.

The varying degree of commitment is reflected in Table 2.1 which shows information related to the percentage of the total logistics budget paid to outsourcing companies.

Table 2-1

*Percentage of the total logistics budget paid to outsourcing companies*

	Percentage of respondents in that commitment							
Expenditure category (%)	Australia (Dapiran et al., 1996)	USA (Millen et al., 1997)	Western Europe (Millen et al., 1997)	India (Sahay and Mohan, 2006)	New Zealand (Zhang, 2009)	China (Chen, 2012)	Saudi Arabia (Sohail & Al-Abdali, 2005)	Ghana (Sohail et al., 2004)
0-10								
11-20		17	12	63			45	10
21-30								
31-40								
41-50					39	60		
51-60	25			29				
61-70		2	12				13	6
71-80								
81-90								
91-100								

### **2.5.3 Geographical Coverage (whether domestic or international)**

Sohail & Al-Abdali (2005) revealed that 46% of the firms in Saud Arabia use 3PL services for domestic operations. Furthermore 46% of the respondent firms used 3PL services for both international and domestic operations. The same study cited various researchers who indicate results for domestic and international operations; Western Europe with the highest percentage of 70% (Millen et al. (1997) of the respondent firms using 3PL service while other countries, such as Malaysia had 66% (Sohail and Sohal, 2003); the USA 60% (Millen et al. (1997); Singapore 59% (Bhatnagar et al. (1999); Ghana 51% (Sohail et al., 2004) and Australia 35% (Millen et al. (1997). They further cited the same authors to reveal percentage of respondent firms using 3PL for the domestic only with Australia on top with 65%; Ghana (41%); USA (36%); Malaysia (30%); Western Europe (26%); and Singapore (24%). Chen (2012) indicated that over 60% of the Chinese firms use 3PL services for both domestic and international operations, and about 20% and 13% used such services for domestic and international only respectively. In New Zealand, almost 46% of 3PL users use 3PL providers for both domestic and international operations (Zhang, 2009). The study by Zhang (2009) also indicated that 23% use 3PL services for international operations only and 31% of users use such services for domestic operations only.

### **2.5.4 Third Party Logistics Services Used**

Chen (2012) listed 15 different logistics services that were generally used in order to find out the most outsourced logistics services in China. The study reported that the most frequently outsourced logistics services are transportation (98%); warehouse

management (77 %); custom clearance & brokerage (76%) and shipment consolidation (53%). Over 50 % of respondent firms indicated their firms outsource these mentioned four 3PL logistics services. In comparing the experienced American with the European manufacturers, Lieb et al. (1993b) found out that the three most outsourced functions in both the American and European manufacturers were; warehousing, shipment consolidation, and fleet management.

The Cap Gemini's 17<sup>th</sup> Annual Report (2013) reported that the top five most common logistics functions across all regions were international transportation (76%), domestic transportation (71%), warehousing (63%) and custom brokerage (62%). The least frequently used 3PL services were order management and fulfilment (16%), IT services (13%), supply chain consultancy services (10%), fleet management (8%), customer service (10%) and LLP/4PL services (8%). Further information about outsourced logistics services on different regions are shown in figure 2.3 next page.

Figure 2-3. Outsourced logistics services

Outsourced Logistics Service	Shipper Percentages				
	All Regions	North America	Europe	Asia-Pacific	Latin America
International Transportation	76%	64%	86%	79%	82%
Domestic Transportation	71	67	81	76	61
Warehousing	63	61	72	59	51
Freight Forwarding	53	54	60	46	47
Customs Brokerage	52	52	57	44	57
Reverse Logistics (defective, repair, return)	26	27	31	23	19
Cross-Docking	25	29	31	18	19
Product Labeling, Packaging, Assembly, Kitting	25	25	31	21	20
Transportation Planning and Management	22	24	27	19	15
Inventory Management	19	16	15	21	17
Freight Bill Auditing and Payment	18	32	13	11	5
Order Management and Fulfillment	16	20	18	16	9
Information Technology (IT) Services	13	16	16	14	9
Service Parts Logistics	12	11	14	12	12
Customer Service	10	8	7	17	14
Supply Chain Consultancy Services Provided by 3PLs	10	14	7	9	9
Fleet Management	8	8	8	8	9
LLP (Lead Logistics Provider) / 4PL Services	8	8	17	4	4
Sustainability/Green Supply Chain-Related Services	6	3	7	6	6

Source: Cap Gemini, 2013

The most frequently outsourced logistics services in New Zealand were domestic transportation (82%), freight forwarding (64%), warehousing (62%), international transportation (62%), and customs clearance and brokerage (47%) (Zhang, 2009). Over 70 % of the respondent firms in New Zealand outsourced these above-mentioned 3PL logistics services. Sohail & Al-Abdali (2005) indicated that the top four most frequently

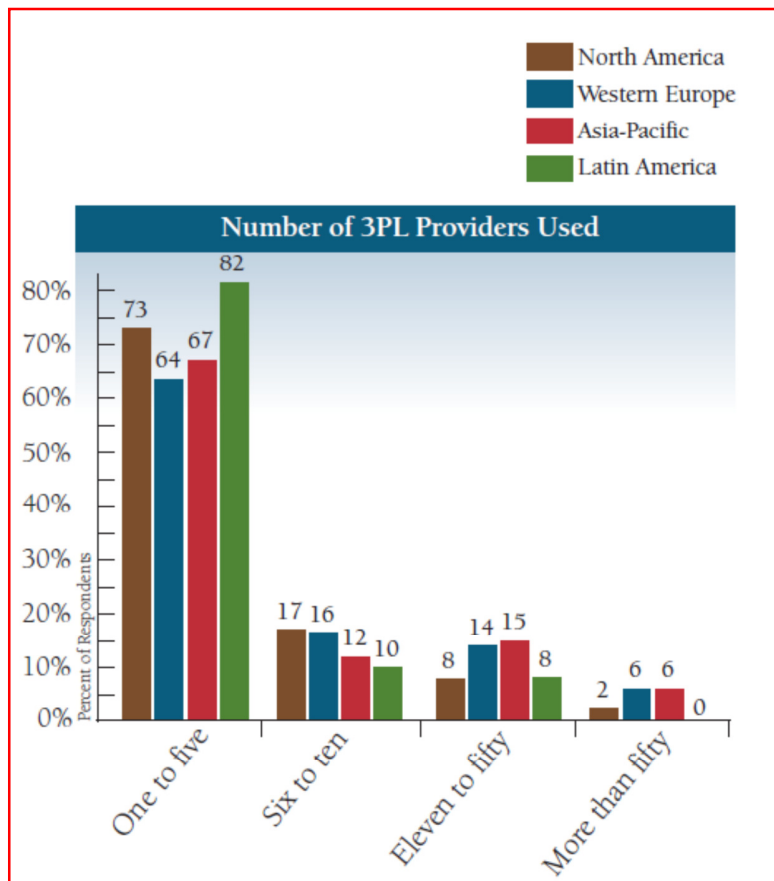
used 3PL logistics services in Saudi Arabia were Carrier selection (33%), Shipment consolidation (28%), Freight payment (19%) and, Order fulfilment (17%). The study revealed that information systems were the least frequently outsourced 3PL logistics services with 11 %.

In summary, it seems that transportation and warehouse were the most frequently outsourced 3PL functions.

#### **2.5.5 Number of 3PL used**

The Cap Gemini's 10<sup>th</sup> Annual Report (2005) reported that Latin America had the highest percentage (82%) of 3PL users that employed between one to five 3PL providers. They were followed by North America (73%); Asia-Pacific (67%) and Western Europe (64%). In the second category of, North America had the highest percentage (17%) of using six to ten 3PL providers. It is important to see that in all regions the users were more than 50% (See figure 2.4 next page). This is an indication of the competitive markets of 3PL in those regions.

Figure 2-4. Number of 3PL providers used across the regions



Source: Cap Gemini, 2005

### 2.5.6 Length of use of Third Party Logistics

The study in New Zealand (Zhang, 2009) had shown that 71% of the users outsourced logistics for more than 3 years. A mere 4% of users indicated that they had been using 3PL services less than one year. The results of the survey in China (Chen, 2012) showed that 68 % of companies outsourced 3PL services for more than 5 years and just 5% of user firms outsourced logistics for less than one year. Lieb & Bentz (2005) as cited by Chen (2012) indicated that 67% of USA firms had outsourced logistics services

for more than five years. Sohail & Al-Abdali (2005) indicated that 34% of user firms in Saudi Arabia had been using 3PL services for over five years; 35% used 3PL services between 1 to 3 years and 16% between 3 and 5 years. Only 15% indicated to have been using 3PL services for a year or less. Sohail et al. (2004) as cited by Sohail & Al-Abdali (2005) indicated that 68% of firms in Ghana had been using 3PL for more than 3 years; 27% between 1 and 3 years and 5% between a year and less than one year.

## **2.6 Reasons for outsourcing logistics activities**

Bookbinder (2011) stated that the motivation to outsource logistics services arises from numerous factors. The two most frequently cited reasons for outsourcing logistics activities are cost savings and service improvement expectations through outsourcing (Soh, 2010). The two critical factors associated with the motivation for outsourcing logistics services found in the study carried out by Rahman (2009) in Australia include cost reduction and capital investment reduction. Studying the US companies, Sheffi (1990) as cited by Bookbinder (2011) suggested that cost savings, the necessity to give attention to core business, and enhanced services were the main reasons to outsource.

Dolcemascolo (2006) revealed that the top three reasons to outsource are:

- Cost Considerations
- Lack of Resources
- Core Competency Considerations

Rahman (2009) summarised the main motivational factors for firms to outsource logistics functions in Table 2.2. Table 2.2 reveals that in the early and middle 1990s the main reason for organizations to turn to outsourcing was to increase competitive

advantage through cost savings, whereas confirmation from more recent studies indicate that organizations are focusing more and more on developing capabilities through outsourcing as a potential source of value creation and to gain competitive advantage.

Table 2-2

*Motivation for outsourcing 3PL services*

Motivational factor	Author
<i>Economic</i>	
Cost savings/reduction/capital investment reduction	Richardson (1990), Sheffi (1990), Bardi and Tracey (1991), Lieb and Randall (1996), Dapiran et al. (1996), Gooley (1997), Boyson et al. (1999), Bhatnagar et al. (1999), Larson and Gammelgaard (2001a, b) and Sahay and Mohan (2006)
<i>Capability building/enhancement</i>	
Concentrate on core business	Sheffi (1990), Boyson et al. (1999), Bhatnagar et al. (1999), Larson and Gammelgaard (2001a, b), Sahay and Mohan (2006) and Arroyo et al. (2006)
Flexibility of operations	Gooley (1997), Bhatnagar et al. (1999), van Laarhoven (2000), Larson and Gammelgaard (2001a, b) and Arroyo et al. (2006)
Access to sophisticated technology	Bhatnagar et al. (1999) and Arroyo et al. (2006)
Reduce risk	Lynch (2004) and Arroyo et al. (2006)

Source: Rahman, 2009

Several other reasons or motivations for outsourcing logistics activities to 3PL appear in previous literature. These reasons are (Altekar, 2005):

- Improved strategic focus - when using 3PLs companies can concentrate on their core tasks and improve satisfaction
- Resource Constraints - Using a 3PL's resources means that the company does not have to make capital investment

- Lowered costs - According to research reports companies can reduce their inventory management costs by around 15-30 %. In addition, 3PL service providers invest large sums of money in developing processes that aim to achieve logistical excellence, which are unavailable to other companies.
- Expansion of markets - Outsourcing logistical activities to 3PLs allows companies to get into new businesses, new markets or a new channel of distribution quickly and with a limited outlay of cash.
- For more professional and scientific approach to logistical problems.
- For efficient management of inventory resulting in better utilization of working capital.
- Increased flexibility - A 3PL contract provides for relatively short term commitments as compared to building and maintaining the same resources by the company itself, thus freeing up resources for other uses.

The following reasons have been stated in a table adapted from Coyle, J. J., Novack, R.A., Gibson, B., Bardi, E.J., 2011, p. 409:

- Opportunity for cost reductions
- Ability to focus on core competencies
- Opportunity to improve customer service
- Improve return on assets
- Increase in inventory turns
- Productivity improvement opportunities

- Imbibe more flexibility into logistics processes
- Access to emerging technology
- Expansion to unfamiliar markets
- Ability to divert capital investments

## **2.7 Reasons for not outsourcing logistics activities**

Coyle et al. (2011) tabled the following reasons against using 3PL services;

- Logistics is a core competency of company
- Cost reductions would not be experienced
- Control over outsourced function would diminish
- Service level commitments would not be realized
- Company has more expertise than 3PL providers
- Logistics is too important to consider outsourcing
- Outsourcing is not a corporate philosophy
- Global capabilities of 3PL need improvement
- Inability of 3PLs to form meaningful relationships
- Issues related to security of shipments

## **2.8 Level of customer satisfaction of user firms**

An overwhelming 79% of users in Saudi Arabia (Sohail & Al-Abdali, 2005) indicated that the use of 3PL was a positive development in the organisation. The majority of users in New Zealand (Zhang, 2009) were satisfied with their current 3PL providers and only 17 % were very satisfied with 3PL services offered. 8% of Chinese companies (Chen, 2012) were “satisfied” with their current 3PL providers (Very satisfied 20% + satisfied 60%) and only 20% of companies were “dissatisfied” or “very dissatisfied” with their current 3PL services.

The high figures of customer satisfaction levels in the countries considered above are testimony of positive developments as a result of the use of 3PL.

## **2.9 Organizational impacts of the use of 3PL on the user firms**

Outsourcing logistics services offers various organisational benefits. According to the Cap Gemini’s 17<sup>th</sup> Annual Report (2013), 15% of firms’ respondents reported their use of 3PLs has led to logistics cost reduction while 8% of user respondents reported their use of user firms in all regions reported inventory cost reduction benefits. Figure 2.5 shows other benefits through the of 3PL usage from all regions.

Figure 2-5. Benefits through the of 3PL usage from all regions

Results		All Regions
Logistics Cost Reduction (%)		15%
Inventory Cost Reduction (%)		8%
Logistics Fixed Asset Reduction (%)		26%
Order Fill Rate	Changed From	58%
	Changed To	65%
Order Accuracy	Changed From	67%
	Changed To	72%

Source: Cap Gemini, 2013

Bhatnagar et al., (1999) as cited by Chen (2012) indicated that the use of 3PL services had positive or negative impacts on logistics costs, customer satisfaction and logistics system performance. 81 % of user firms in New Zealand (Zhang, 2009) believed that there was an impact on on-time delivery performance. Millen et al., (1997) as cited by Chen (2012), indicated worldwide the majority of firms believed there was an impact on “on-time delivery performance” with Australia (94%), Europe (98%) and USA (90%). The study in New Zealand (Zhang, 2009) showed that 77% of respondents indicated an impact on reducing logistics costs; 62% of respondents indicated a high or very high impact on customer service satisfaction. Sohail & Al-Abdali (2005) indicated that 55% of the firms in Saudi Arabia indicated that the use of 3PL on customer satisfaction costs, system performance and employee morale was “positive”. The study in China (Chen,

2012) indicated that more than half of respondents believed that the use of 3PL services had positive impacts through on-time delivery, expansion of geographic reach, logistics system performance, customer satisfaction, reduced inventory levels and sales revenue. The study states that 3% of user firms eliminated logistics related positions after entering into agreement with 3PL providers.

In the light of the above, the use of 3PL has more positive impacts than negative impacts on organizations.

## **2.10 Future directions of third-party logistics users**

User firms in Saudi Arabia (Sohail & Al-Abdali, 2005) were asked how their companies were to increase their use of 3PL during the next three years. 50% of the respondents indicated that they were very likely to increase their use of contract logistics services and 21% were “very likely” to increase their use. 57% of firms in New Zealand (Zhang, 2009) indicated they would not change the use of 3PL services, 21% indicated they would moderately increase the use of 3PL; no company showed substantial increase and 22% indicated they would like to moderately decrease or substantially decrease the use of 3PL services. The study in China (Chen, 2012) revealed that 50% of firms would “moderately increase” or “substantially increase” the use of 3PL in the near future. 33% of Chinese firms indicated to remain the same. Sohail et al. (2004) as cited by Sohail & Al-Abdali, (2005) indicates 90% of firms in Ghana would moderately increase use of 3PL and only 10% would moderately decrease the use of 3PL services.

Overall results indicate that the use of 3PL would continue to increase in various parts of the world.

## 2.11 Summary

This chapter reviewed relevant previous literature covering origins of logistics and various definitions of logistics, supply chain management, logistics management and third party logistics. The critical role that logistics play in manufacturing and service companies was also uncovered in literature. Although limited, the relevant literature on the development of manufacturing and its contribution to Namibia's GDP was revealed. There after the chapter then looked at the following subheadings related to the research objectives;

The extent of usage of 3PL services in this study includes:

- Level of commitment to the usage of third party logistics  
(extensive to very limited)
- Percentage of total logistics budget allocated to third party providers
- Geographical coverage provided by third party firms (domestic vs. international)
- Third party services used
- Nature and length of third party contracts

The list of outsourced logistics services that have been frequently used on different regions includes (Cap Gemini, 2013);

- Domestic transportation

- International transportation
- Freight forwarding
- Carrier selection
- Cross docking
- Product labelling, packaging, assembling, kitting
- Fleet management
- Warehousing
- Customer service
- Reverse logistics (Defective, Repair, Return)
- Shipment consolidation
- Inventory management
- Freight bill auditing and payment
- Order entry, processing and fulfilment
- Customs clearance and brokerage
- Consulting services
- Operation of IT systems
- LLP/4PL services

The major reasons for firms outsourcing 3PL functions were as follows (Coyle et al., 2011, p. 409);

- Opportunity for cost reductions
- Ability to focus on core competencies
- Opportunity to improve customer service

- Improve return on assets
- Increase in inventory turns
- Productivity improvement opportunities
- Imbibe more flexibility into logistics processes
- Access to emerging technology
- Expansion to unfamiliar markets
- Ability to divert capital investments

The reviewed main reasons for firms not outsourcing were (Coyle et al., 2011):

- Logistics is a core competency of company
- Cost reductions would not be experienced
- Control over outsourced function would diminish
- Service level commitments would not be realized
- Company has more expertise than 3PL providers
- Logistics is too important to consider outsourcing
- Outsourcing is not a corporate philosophy
- Global capabilities of 3PL need improvement
- Inability of 3PLs to form meaningful relationships
- Issues related to security of shipments

The level of customer satisfaction of user firms was considered positive.

The use of 3PL services had positive impacts because of the following aspects:

- On-time delivery,
- Expansion of geographic reach

- Logistics system performance
- Customer satisfaction
- Reduced inventory levels
- Sales revenue

The overall review of literature indicates positive signs of 3PL being considered in various countries around the world. The future of 3PL looks promising for both 3PL user firms and providers with an expected increase in the 3PL usage thereof. The literature provides evidence that the use of 3PL would continue to grow in various parts of the world.

### **3. Research Methodology**

#### **3.1 Introduction**

The research questions and research objectives have already been delineated in Chapter one. In this chapter the following is discussed:

- Research philosophies
- The research design for this study
- The research methods used
- The introduction of the research instruments used to collect the data

The research design for this research is an exploratory and this study examined the current usage of third party logistics within the Namibian manufacturing industry from the users' perspective and provides the basis for comparison with the results in other countries.

#### **3.2 Research Philosophies**

The purpose of this study was to examine the current usage of third party logistics in the Namibian manufacturing industry from the users' perspective and provide a basis for comparison with the results in other countries. Creswell (2003) identified four research philosophies, namely post positivism, constructivism, advocacy and pragmatism. Creswell (2003, p. 7) defined the research philosophies. Postpositivism, "reflects a deterministic philosophy in which causes probably determine effects or outcomes." Social constructivists "hold assumptions that individuals seek understanding of the world

in which they live and work”. An advocacy/participatory worldview “holds that research inquiry needs to be intertwined with politics and a political agenda.” Pragmatism is defined as “a worldview arises out of actions, situations, and consequences rather than antecedent conditions”.

Table 3-1

*Key features of four research philosophies*

<b><i>Postpositivism</i></b> <i>Determination</i> <i>Reductionism</i> <i>Empirical observation and measurement</i> <i>Theory verification</i>	<b><i>Constructivism</i></b> <i>Understanding</i> <i>Multiple participant meanings</i> <i>Social and historical construction</i> <i>Theory generation</i>
<b><i>Advocacy/Participatory</i></b> <i>Political</i> <i>Empowerment issue-oriented</i> <i>Collaborative</i> <i>Change-oriented</i>	<b><i>Pragmatism</i></b> <i>Consequences of actions</i> <i>Problem-centered</i> <i>Pluaralistic</i> <i>Real-world practice oriented</i>

Adapted from Creswell (2003)

According to Creswell (2003), postpositivist assumptions hold true more for quantitative research than qualitative research. Key features of each position are summarised in table 3.1. Postpositivism is also called positivist/postpositivist research, empirical science, and postpositivism. Table 3.2 presents the paradigms with applicable methods and data collection tools (examples). Postpositivism methods include measurements, structured questionnaires, interviews and observation (Creswell, 2003). Based on the features presented above and the methods earlier looked at, postpositivism position is best suited to be applied in this quantitative research.

Table 3-2

*Paradigms, methods and tools*

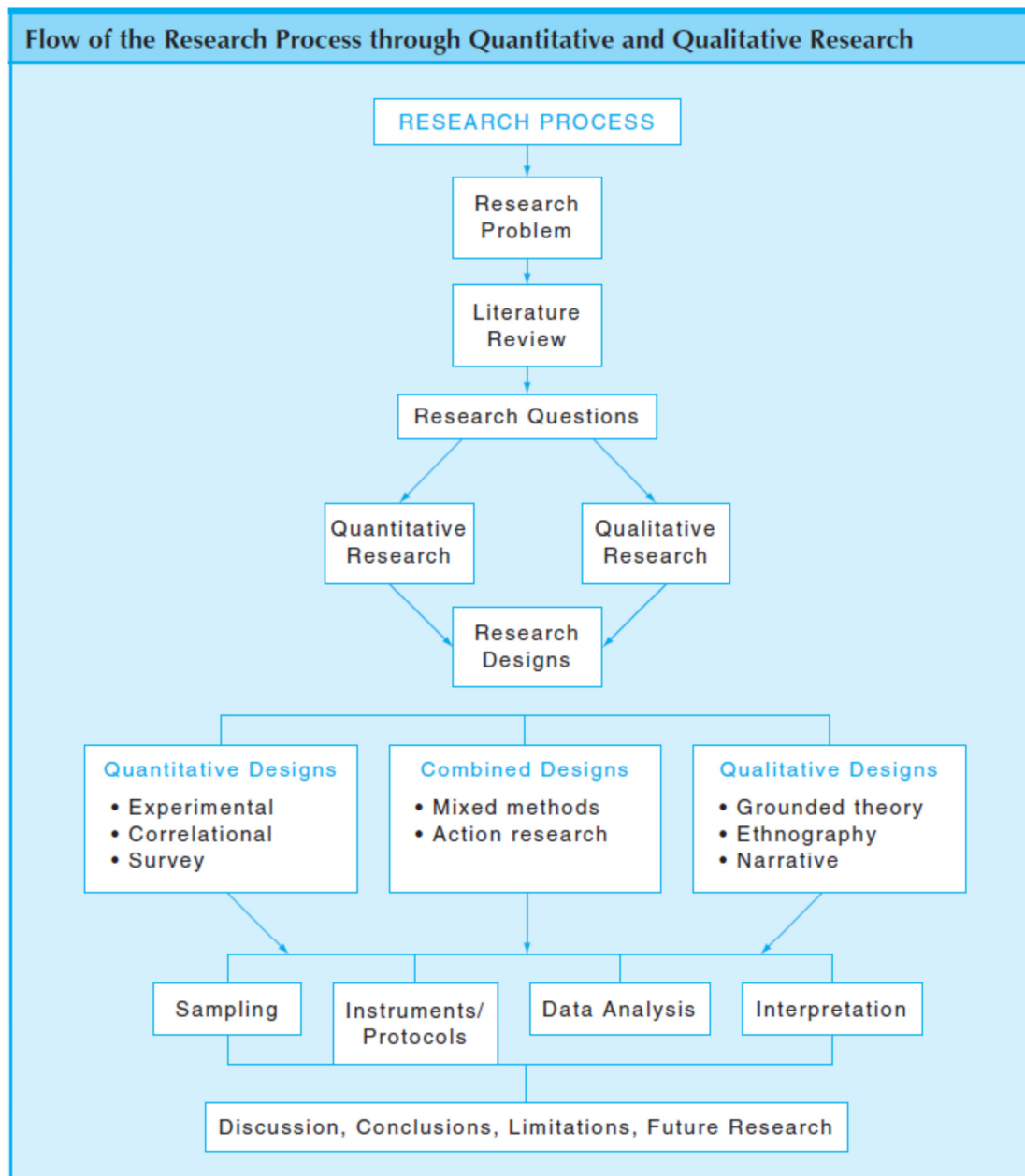
Paradigm	Methods (primarily)	Data collection tools (examples)
Positivist/ Postpositivist	Quantitative. "Although qualitative methods can be used within this paradigm, quantitative methods tend to be predominant . . ." (Mertens, 2005, p. 12)	Experiments Quasi-experiments Tests Scales
Interpretivist/ Constructivist	Qualitative methods predominate although quantitative methods may also be utilised.	Interviews Observations Document reviews Visual data analysis
Transformative	Qualitative methods with quantitative and mixed methods. <i>Contextual and historical factors described, especially as they relate to oppression</i> (Mertens, 2005, p. 9)	Diverse range of tools - particular need to avoid discrimination. Eg: sexism, racism, and homophobia.
Pragmatic	Qualitative and/or quantitative methods may be employed. Methods are matched to the specific questions and purpose of the research.	May include tools from both positivist and interpretivist paradigms. Eg Interviews, observations and testing and experiments.

Adapted from: Mackenzie and Knipe (2006)

### 3.3 Research approach and design

There are two types of research approaches - qualitative and quantitative research approaches. A quantitative approach was used for this study. To enable the aim of this study to be fulfilled, a selection between two was done by defining the approaches and meriting the best appropriate. Figure 3.1 shows the flow of the research process through quantitative and qualitative research. It shows that that the research questions for both designs differ depending on what the researcher wants to achieve.

Figure 3-1. Flow of the research process through quantitative and qualitative research



Source: Creswell, 2005

Qualitative research involves the studied use and collection of a variety of empirical materials – case study, personal experience, introspection, life story, interview,

artefacts, and cultural texts and productions, along with observational, historical, interactional, and visual texts – that describe routine and problematic moments and meanings in individuals' lives Denzin & Lincoln (2011). Creswell (2005, p. 56) states that:

“Qualitative research is a type of educational research in which the researcher relies on the views of participants; asks broad, general questions; collects data consisting largely of words (or text) from participants; describes and analyzes these words for themes; and conducts the inquiry in a subjective, biased manner.”

The aim of qualitative research is to discover different patterns which come from close observation, careful documentation, and thoughtful analysis of the research topic (Maykut & Morehouse 1994). Qualitative methods use both structured and unstructured data (Mantas & Hasman, 2002).

Creswell (2005, p. 56) defined quantitative research as “a type of educational research in which the researcher decides what to study; asks specific, narrow questions; collects numeric (numbered) data from participants; analyzes these numbers using statistics; and conducts the inquiry in an unbiased, objective manner.”

The objective of quantitative research is to develop and employ mathematical models, theories and hypotheses pertaining to natural phenomena (Cavana et al. (2001) as cited by Islam (2010). The quantitative research also develops statistically reliable information from sample data that can be generalised to a larger population (Dutka (1995) as cited by Grigoroudis & Siskos (2010).

Dantzker & Hunter, (2012) compared the two approaches by adding that, quantitative research refers to counting and measuring items associated with the

observable fact in question, whereas qualitative research focuses on concepts and oral description. The qualitative research is normally exploratory and directional, whereas the aim of quantitative research is to test (Vos & Schoemaker, 2006). Quantitative research refers to research using numerical values, and qualitative research refers to that which does not use numerical values (Thomas, 2009). Figure 3-2 depicts the differences between the qualitative and quantitative research (Biemans, 2003).

*Figure 3-2. Differences between qualitative and quantitative research*

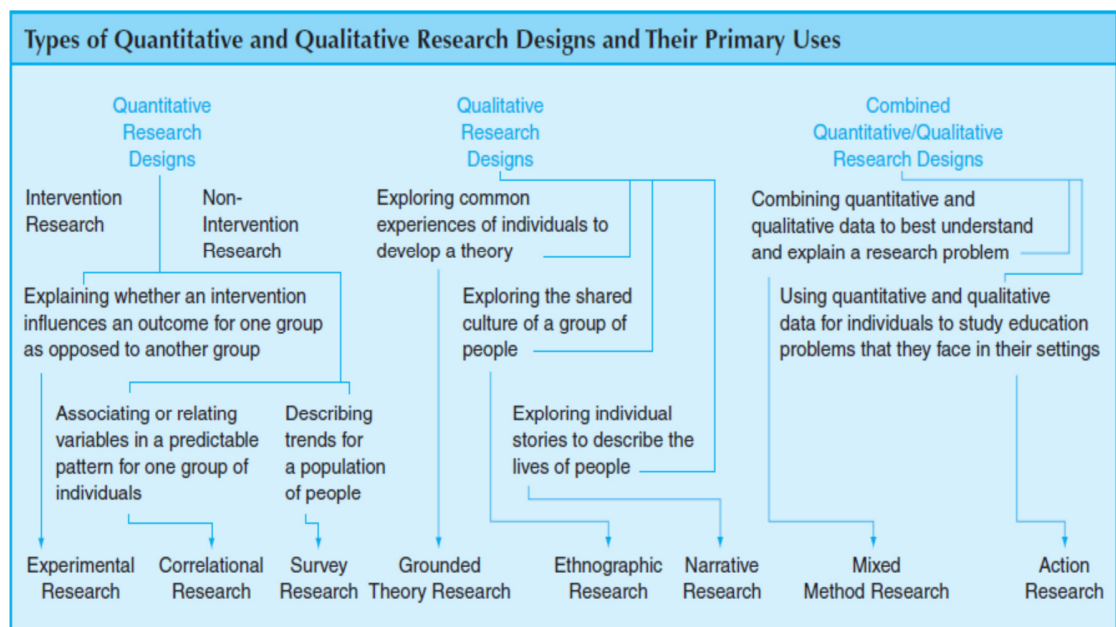
Qualitative research	Quantitative research
Inductive	Deductive
Subjective	Objective
Impressionistic	Conclusive
Holistic, interdependent system	Independent and dependent variables
Purposeful, key informants	Random, probabilistic sample
Not focused on generalization	Focused on generalization
Aims at understanding, new perspectives	Aims at truth, scientific acceptance
Case studies, content and pattern analysis	Statistical analysis
Focus on words	Focus on numbers
Probing	Counting

Source: Biemans (2003)

Research designs provide specific procedures within the research process: data collection, data analysis and report writing (Creswell, 2005). Survey research involves the collection of information from a sample of individuals through their responses to questions (Schutt, 2001). In quantitative research, survey designs are procedures in which a survey or questionnaire is sent to a small group of people the (sample) to identify in attitudes, opinions, behaviours, or characteristics of a large group of people (the

population) (Creswell, 2005). Surveys can be used for exploratory, descriptive, and explanatory research. Wohlin, Runeson, Höst, Ohlsson, Regnell, and Wesslén (2000) listed three types of surveys: Descriptive, exploratory, and explanatory surveys. A descriptive survey enables assertions about some population, exploratory surveys are used as a pre-study to find out opportunities and risks for a more thorough empirical investigation; and explanatory surveys make explanatory claims about the population. In this research an exploratory survey was conducted because the study aims at seeking developments within the manufacturing industry in a large population of individual companies. Figure 3.3 shows the how the research process' steps lead to a selection of the survey research of the quantitative research and research design.

Figure 3-3. Steps in the research process of the quantitative research and research design.



Source: Creswell (2005)

In this study a quantitative research was used because of the nature of the research objective and questions that aimed at analysing numerical data from respondents rather than views or words of participants. In the light of the above, this study is more qualified to be carried out through the quantitative method than the qualitative method.

### **3.4. Research methods**

#### **3.4.1 Email Questionnaire**

The questionnaire sent as an attachment to an email message is the method used for collecting responses from participants in this study. Online questionnaires are divided into two main types: email surveys and web-based surveys. Email surveys were used in this study to gather data due to the cost associated with web-based surveys. Email surveys involve attaching it to, an email message (Dörnyei & Taguchi (2010). Schaefer and Dillman as cited by Butler (2007) conducted a comparative analysis response rates to regular mail surveys and web based surveys and found that email letter requesting participation in a survey was more effective in generating completed questionnaires in a shorter time than respondents to the regular mail study. The purpose of using an email questionnaire was to carry out an empirical research study and determine the 3PL practices by the Namibian manufacturers.

Since Namibia is a largely spaced country, the questionnaire sent via email made it easier for the researcher to obtain data from participants in the respective towns of Namibia.. The email had an advantage of reaching participants in all corners of Namibia and saves researcher's crucial time, money and effort as a single click allows a researcher to reach all participants in a few seconds. Due to limited resources, the email

questionnaires were considered to be the best communication tool for the successful conducting of this study.

Email questionnaires also have an advantage of being easy to send and easy to reply. Additional advantages and disadvantages provided by Seale (2012) are as follows:

#### ***3.4.1.1 Advantages of Email Questionnaire***

- Speed: email questionnaires has the ability to get many responses in a day or two
- Zero cost: practically it costs nothing to set up emails
- Ability to attach images and sound files
- The novelty element of email surveys to stimulate relatively higher responses

#### ***3.4.1.2 Disadvantages of Email Questionnaire***

- A mailing list is required.
- Duplicate responses may be received.
- The possibility of it being treated junk mail.
- Impossible to use email surveys to generalise findings to the whole population.

The disadvantage of the questionnaire sent as an attachment is also that the participants needs to open, save it, complete it and save it and then attach it to the response email (Denscombe, 2010). This indeed needs a bit of a computer literate participant to do effectively go through the process for effective reply.

E-mail questionnaires were sent out to all members of the Namibian manufacturers Association, and requested back within four weeks. Compared with the use of telephone questionnaires, e-mail questionnaires can be read, answered and sent at the convenience of the user. E-mail questionnaire surveys are cheaper than face to face and mail questionnaires. Responses and feedback are quick (Webb, 2002). The e-questionnaire was targeted to the management employees of 3PL user firms. The data gathered from the questionnaire was analysed statistically by using Excel for calculations of means and plotting of graphs. The studies elsewhere that are related to this topic also used quantitative approach only and their results were in numerical format (Chen, 2012; Zhang, 2009; Sohail et al., 2003; Bhatnagar et al., 1999).

As earlier mentioned the aim of this study was to examine the current usage of third party logistics in the Namibian manufacturing industry from the users' perspective and provide a basis for comparison with the results in other countries. Taking the research questions as stated in section 1.6, it was decided that an empirical study was the best approach.

This study was based on a standardised e-questionnaire survey sent to logistic managers of 3PL users manufacturers in Namibia. The sample was drawn from companies listed in Namibia Manufacturers Association's member directory. The NMA's list has close to 140 member firms and invitations were sent to all members from the 13 regions in Namibia. Data was collected against a number of items with regard to the extent of third-party logistics use in the Namibian manufacturing industry.

This research aimed at exploring the extent to which 3PL services were outsourced by Namibian manufacturers. Therefore, a quantitative method was more suitable about this topic.

### 3.5 Research instruments

A questionnaire listing structured questions was designed to cover the research objectives and to answer the questions. The purpose of the questions was to give a comprehensive understanding of the Namibian manufacturers' current status of using 3PL services and hence a comprehensive questionnaire was prepared. The study questionnaire (appendix B) was designed in line with the previous studies carried out on various literatures on logistics, third party logistics and manufacturing sectors around the world as adapted from Lieb et al. (1993b) and Dapiran et al (1996). The survey instruments focused on the subjects as stated from section 2.6 to 2.10.

A total of 18 questions were used for this survey covering all the areas that enables all objectives to be achieved (See questionnaire in appendix B). The survey questions include:

- Basic manufacturer's information
- Extent of use of the third party logistics services in the Namibian manufacturing industry.
- Reasons for Namibian manufacturers outsourcing logistics activities
- Reasons for Namibian manufacturers not outsourcing logistics activities
- Level of satisfaction of Namibia manufacturing firms using 3PL services

- Organizational impact of using 3PL services on the Namibian manufacturers
- Future plans of current 3PL users in Namibia's manufacturing industry

With the aim to make the questions easy to answer, questions were made straightforward, clear and short. The questions contained mostly multiple questions. The questionnaire included a "other, please specify" section to allow the participants to provide extra options.

To test if the all questions were well understood and if the questionnaire was respondent friendly before sending it out to all participants, a pilot testing was conducted. This was done by sending invitations to 10 respondents. None of them had a query regarding the content, structure and layout of the questionnaire. All responded to the researcher indicated that it took them less than five minutes to answer the questionnaires.

### **3.6 Data collection methods**

The study aimed at collecting data from manufacturers in Namibia's thirteen (13) regions. The sample was drawn from a total of 140 companies registered with the of the Namibia Manufacturers Association. The study targeted all companies listed on the database of the NMA. Logistics/operations managers from the manufacturers were identified and copies of survey questionnaires and a cover letter (appendix A) was sent to them via e-mail. In order to increase the response rate and avoid non-response prejudice affecting the findings, the following course of action was used. First, firms listed in the NMA database were contacted by telephone. The names of appropriate managers and

their e-mails were obtained. The e-mail was then sent to the respective managers and they were asked to respond within a month. A weekly call was done to follow up and an e-mail was sent to the relevant managers as a reminder to ensure the completion of the questionnaires. Data was collected against a number of items related to the outsourcing of logistics activities to third-party providers and its impact on the user firms as set out in the questionnaire (see appendix B).

### **3.7 Data analysis**

The study was a quantitative research on the use of third-party logistics within the Namibian manufacturing industry. The data was analyzed using the Excel programme to generate much more composite graphical function (i.e. bar charts) essential for this research.

### **3.8 Ethical Consideration**

The information provided by the respondents was treated as confidential. All respondents' identities were treated as anonymous. The objective of the study was explained to the respondents prior to the presentation of questions and the answers were given on a voluntary basis.

### **3.9 Summary**

The research was carried out following these steps:

- i. Identify the research topic, problems, questions and objectives of the study based on previous literature
- ii. Develop the questionnaire.

- iii. After the questionnaire was created and reviewed by the supervisor, a pilot study was carried out involving 10 participants
- iv. Gather the data: data collection took one month to finish. Each participant was contacted via phone before survey invitations were emailed.
- v. Analyse the data collected from 43 responses by using Excel program and discussing the results.
- vi. Conclude the study by summarising research findings. And finally, pointing out limitations of the study and make recommendations for future research.

## **4. Results and Discussions**

### **4.1 Introduction**

In this chapter the survey results are presented, analysed and discussed. The data that forms the basis of this research's investigation are presented. This chapter is concerned with presenting the analysis of data. The results provide the general information of the respondent's company, the reasons for outsourcing or not outsourcing, the extent of use of the third party logistics services, organizational impacts and the future development of logistics services in the Namibian manufacturing sector. There were 43 responses from the 140 email invitations sent.

### **4.2 Research objectives**

As mentioned in section 1.5., the objectives were set up to achieve the aim of this investigation. These objectives provide a holistic view on the level use of 3PL services by the Namibian manufacturers. The data collected was used in the numerical analysis for the presentation of results.

### **4.3 Description of the sample**

The survey questionnaire contains 19 questions (See Appendix B). The first four questions aimed at getting the general information of the respondents' companies. The remaining questions then focused on obtaining necessary information linked to the research objectives. The questionnaire was anonymous and therefore there were no company details for respondents' companies. Of the 140 email invitations sent, only 43

useful responses were received and useful for analysis. Of the 43 companies that replied, slightly more than half (53%) outsource 3PL services.

#### **4.3.1 Number of Employees**

The respondents were first of all asked how many employees worked at their companies. This question aimed at obtaining information regarding the size of the respondent's business. In this study, responses were categorised into four groups with 0-9 employees categorised as micro sized companies, 10-49 were regarded as small companies, medium companies were those with 50-249 employees and 250+ were large companies, as shown in table 4.1. From the table, it could be seen that the majority of the firms that took part in this survey were mostly the medium sized companies with the percentage of 37%. This is an indication that the manufacturing industry is still growing.

The second most represented category was the micro sized firms and at the same position with the group of category large sized firms with a percentage of 23%. The smallest group was that of 250+ with 16%. The results indicate 65% of the firms that do not outsource were small sized company and the remaining 37% were micro sized firms. The most frequent companies to outsource (23%) were those with 50 – 249 employees. The lowest represented companies to do outsourcing (7%) were micro sized companies and 10-49 employees. The manufacturing companies with 10 -49 employees had the highest percentage of not outsourcing (30%). However, all the medium and large sized manufacturing companies were outsourcing and hence they had 0% of not outsourcing.

The bigger firms seem to be more interested in outsourcing logistics activities as these user respondents made use of 3PL services. This reveals that the small sized

companies tend not to outsource as compared to the medium and large companies. This relationship between the size of the company and the use of 3PL could be studied in future research.

Table 4-1

*Number of employees and number of 3pl users and non users in each category*

			Use of 3PL		Do not use 3PL	
Categories	No.	Percentage	No.	Percentage	No.	Percentage
<b>Number of Employees</b>						
<b>0-9 (micro sized company)</b>	10	23%	3	13%	7	35%
<b>10-49 (small sized company)</b>	16	37%	3	13%	13	65%
<b>50-249 (medium sized company)</b>	10	23%	10	43%	0	0%
<b>250+ (large sized company)</b>	7	16%	7	30%	0	0%
<b>Total</b>	43	100%	23	100%	20	100%

#### **4.3.2 Manufacturing**

This part of the survey intended to find out the respondents' category of manufacturing. The survey asked the respondents to indicate the type of manufacturing they were involved in. Table 4.2 shows the thirteen manufacturing categories which were provided to the respondents and an additional one "Other (specify)" was made available. Over 50% of the respondents were manufacturing food products, beverages and tobacco. The second highest category was basic metals and fabricated metal products with 14%. The remaining manufacturing categories were below 10%. 2% of the respondents chose 'Other' which included aluminium construction and shop interiors. The respondents from rubber and plastic products, coke, refined petroleum products and nuclear fuels and textile and textile products fell into the lowest category with 2%. The results show that 52 % of the companies which manufacture food products, beverages and tobacco manufacturing sector were using 3PL and 50 % of those respondents' companies that did not use 3PL services also fell under the same category. This result gives an indication that the category of food products, beverages and tobacco in Namibia seems to be well advanced in terms of outsourcing logistics services.

Table 4-2

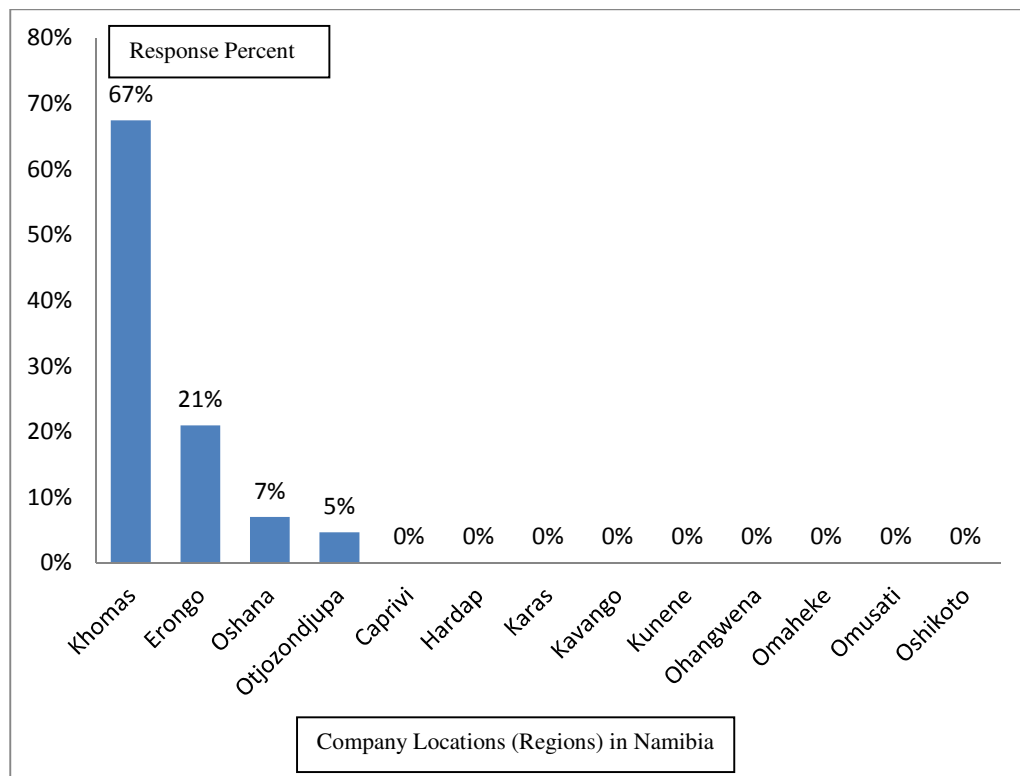
*Manufacturing category and number of 3pl users and non users in each category*

			Use of 3PL		Do not use 3PL	
Manufacturing category	No.	Percentage	No.	Percentage	No.	Percentage
Chemicals, chemical products and man-made fibres	3	7%	3	13%	0	0%
Transport Equipment	0	0%	0	0%	0	0%
Electrical and Optical Equipment	0	0%	0	0%	0	0%
Food products, beverages and tobacco	22	51%	12	52%	10	50%
Leather and Leather Products	2	5%	0	0%	2	10%
Machinery and Equipment	0	0%	0	0%	0	0%
Basic Metals and fabricated metal products	6	14%	2	9%	4	20%
Other non-metallic mineral products	2	5%	1	4%	1	5%
Rubber and Plastic products	1	2%	1	4%	0	0%
Coke, refined Petroleum products and Nuclear fuels	1	2%	1	4%	0	0%
Pulp, Paper and paper products	2	5%	1	4%	1	5%
Wood and wood products	2	5%	1	4%	1	5%
Textile and textile products	1	2%	0	0%	1	5%
Others	1	2%	1	4%	0	0%
<b>Total</b>	<b>43</b>	<b>100%</b>	<b>23</b>	<b>1</b>	<b>20</b>	<b>100%</b>

### 4.3.3 Company Location

Figure 4.1 shows that the majority of manufacturing respondents were located in the Khomas Region (67%) and Erongo Region of Namibia (21%). The respondents located in the Oshana Region were 7 % while Otjozondjupa hosted the lowest, which was 5 %. There was no respondent in the remaining nine regions.

*Figure 4-1. Company Locations in Namibia.*



The Khomas Region hosts the capital city of Namibia, Windhoek, while the Erongo Region includes Walvis Bay which is the main harbour town in Namibia. Most respondents that use 3PL services were from the Khomas Region with the highest percentage of 74% (See table 4.3) and from Erongo Region with 22%. Otjozondjupa had 5% of the respondents that utilise 3PL services. These findings

indicate that the major towns in Namibia attracted investment from manufacturers and this could mainly be due the availability of infrastructure and for hosting world class 3PL providers such as DHL, Fedex and many others.

Table 4-3

*Company locations/regions and respondents using 3PL and not using 3PL*

Company Location	Using 3PL	Not using 3PL
Caprivi	0%	0%
Erongo	22%	20%
Hardap	0%	0%
Karas	0%	0%
Kavango	0%	0%
Khomas	74%	60%
Kunene	0%	0%
Ohangwena	0%	0%
Omaheke	0%	0%
Omusati	0%	0%
Oshana	0%	15%
Oshikoto	0%	0%
Otjozondjupa	4%	5%

#### 4.3.4 Sales Revenue

The respondents' company size in terms of annual sales revenue was measured by asking respondents to indicate the level of annual company turnover in 2012. The respondents were asked to indicate the level of sales turnover from "less than one million

Namibia Dollars” to more than “100 million Namibian Dollars”. Table 4.4 shows that the annual sales revenue of the respondents with sales revenue of less than one million Namibian Dollars was 23%. The respondents with sales revenue of the range from above one million up to five million Namibian Dollars were also 23%. Only 16% of respondents’ manufacturing companies earned over twenty five million Namibian Dollars in 2012. The results also showed that 30% of the respondent companies that were using 3PL services earned over twenty five million Namibian Dollars in 2012. On the contrary, 70% of the respondents’ firms that were not using 3PL did not surpass the annual sales revenue of five million Namibian Dollars. This reveals that smaller companies earning up to five million Namibian dollars did not use the services of 3PL as compared to bigger companies that earned in excess of twenty five million Namibian dollars. The results show that all manufacturers earning over 20 million Namibian dollars were using 3PL services. The companies with high earnings tend to outsource as compared to the lower earning firms. This gives an impression that there is a direct relationship between sales revenue and the use of 3PL services.

Table 4-4

*Sales revenue and number of 3pl users and non users in each category*

Annual sales revenues (N\$ millions) in 2012			Use of 3PL		Do not use 3PL	
	No.	Percentage	No.	Percentage	No.	Percentage
<1 m	10	23%	3	13%	7	35%
1.1 - 5m	10	23%	3	13%	7	35%
5.1-10m	5	12%	2	9%	3	15%
10.1-15m	5	12%	3	13%	2	10%
15.1-20m	3	7%	2	9%	1	5%
20.1-25m	3	7%	3	13%	0	0%
25+	7	16%	7	30%	0	0%
<b>Total</b>	<b>43</b>	<b>100%</b>	<b>23</b>	<b>100%</b>	<b>20</b>	<b>100%</b>

Notes:\* Total respondents are 43, with 23 using 3PL(s)

#### 4.4 Outsourcing or Not Outsourcing 3PL services

##### 4.4.1 The Use of 3PLservices

Table 4.5 sums up the percentage of the respondents that outsource and those that do not outsource 3PL services in each category based on the number of employees of each respondent's company. The results show that 53% of the respondents' manufacturing companies outsourced 3PL services whereas 47% of the companies did not outsource 3PL services.

Table 4-5

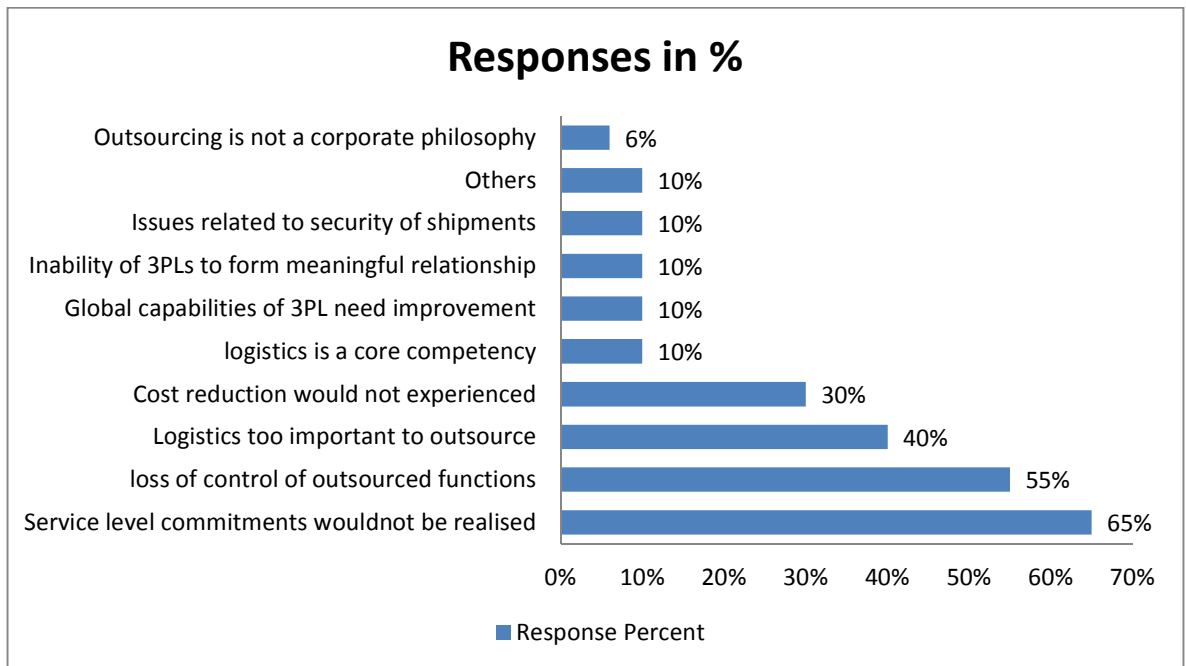
*Total companies that outsources and not outsource*

<b><i>Number of Employees</i></b>	<b><i>Outsourcing</i></b>	<b><i>Not Outsourcing</i></b>
0-9 (micro sized company)	<b>7%</b>	<b>16%</b>
10-49 (small sized company)	<b>7%</b>	<b>30%</b>
50-249 (medium sized company)	<b>23%</b>	<b>0%</b>
250+ (large sized company)	<b>16%</b>	<b>0%</b>
	<b>53%</b>	<b>47%</b>

#### **4.4.2 Reasons for not outsourcing 3PL services**

The respondents were asked to select the reasons for not using 3PL services. The results in figure 4.2 showed that 65 % of the respondents' manufacturing companies that did not outsource believe that their main reason for not outsourcing was that the service level commitments would not be realised. The second fear was that there would be a loss of control of outsourced function (55%). This was followed by logistics being too important to outsource (40%), and cost reduction not experienced (30%). 10% of the manufacturing companies do not outsource due to the concerns of logistics being a core competency of company, global capabilities of 3PL need improvement, inability of 3PLs to form meaningful relationships, issues related to security of shipments, other reasons and outsourcing not a corporate philosophy.

*Figure 4-2. Reasons for not using 3PL services*



Notes: Number of not outsourcing =20

As a result, manufacturing companies seem to be not interested in outsourcing mainly because that the service level commitments would not be realised. This may be due to a lack of performance by the available 3PL providers in the market.

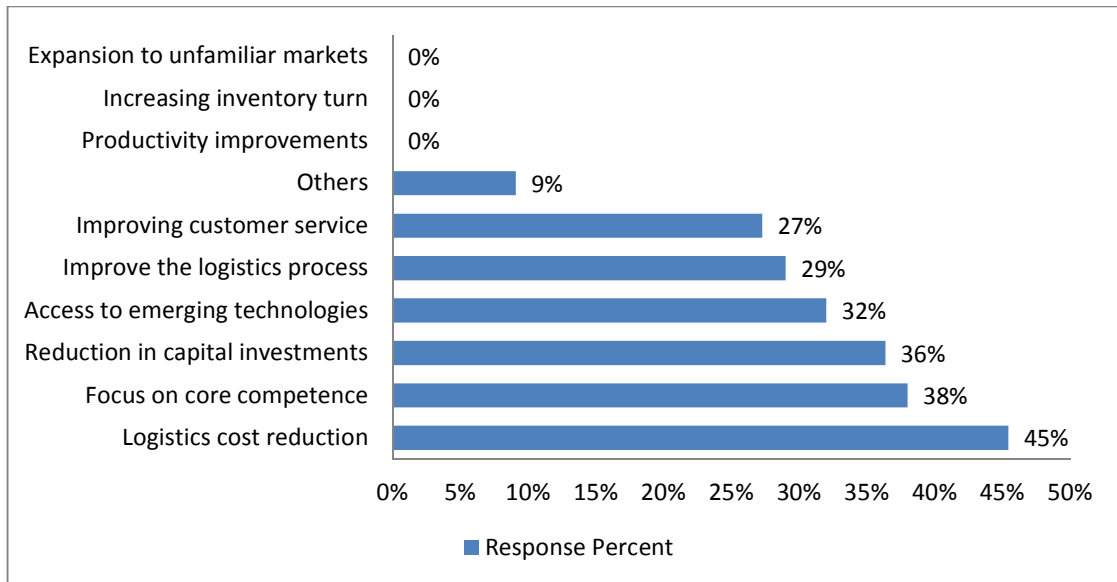
#### 4.4.3 Reasons for outsourcing 3PL services

The researcher wanted to find out the respondents to indicate the main reasons for using 3PL services. Figure 4.3 showed that the majority of respondents from manufacturing companies that outsource indicated that cost reduction (45%), focus on core competence (38%) and reduction in capital investments (36%) were the top three key reasons for outsourcing 3PL services. 32% of the respondents from manufacturing companies that outsource indicated that their main reason for outsourcing was “access to emerging markets”. 29% of manufacturing firms were using 3PL services for reasons of

“improving the logistics process” and 27% of manufacturing companies pointed out “improving customer service” as the main reason for outsourcing. Two manufacturing companies indicated that other reasons for using 3PL services were “benefit from economies of scale” and “quicker delivery”. The results reveal that Namibian manufacturers consider cost/benefit factors as extremely important as compared to process and service linked factors.

These results with regard to the main reasons for using 3PL services are comparable with previous studies carried out in Australia (Dapiran et al., 1996), USA (Millen et al, 1997), Western Europe (Millen et al., 1997), Singapore (Bhatnagar et al. (1999), Malaysia (Sohail and Sohal, 2003), Ghana (Sohail et al., 2004), Saudi Arabia (Sohail & Al-Abdali, 2005), India (Sahay and Mohan, 2006), New Zealand (Zhang, 2009), and China (Chen, 2012). As compared to the previous studies “improving customer service” had low response percentage (27%) than other countries. This implies an area that could be considered of low importance by the manufacturers when outsourcing 3PL services.

Figure 4-3. Main reasons for using 3PL services



Notes: Number of respondents using 3PL is 23

## 4.5 The Extent of Use of the 3PL Services

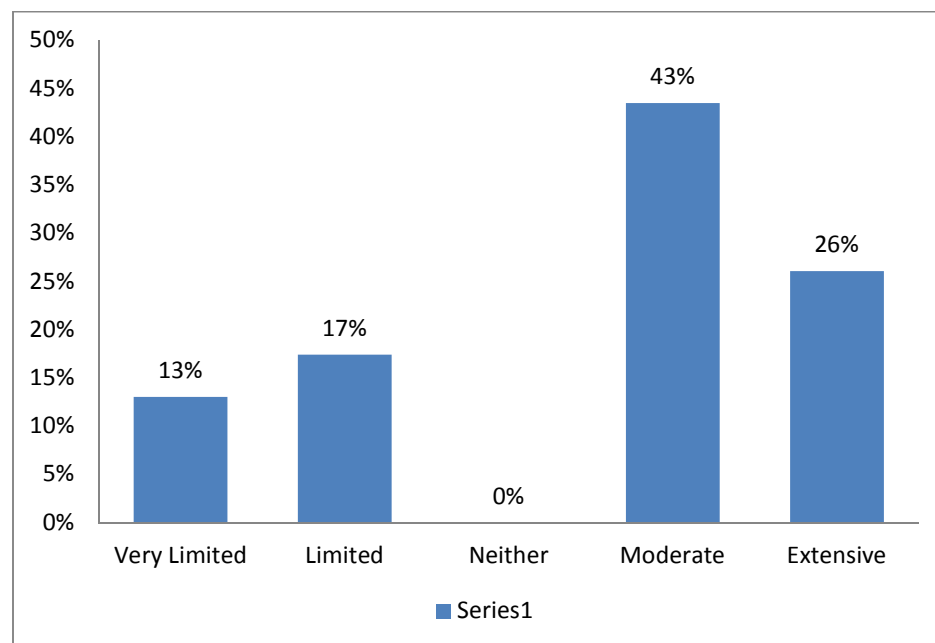
### 4.5.1 The Company's level of commitment to the utilization of third party logistics

The result in figure 4.4 shows that 43 % of the Namibian manufacturers grade their level of commitment to the usage of 3PL as “moderate”. 26 % of the respondents indicated that their commitment to the usage of 3PL as “extensive”. 17 % of the 3PL users described their level of commitment to the use of 3PL services as “Limited” and 13 % of the users characterised their commitment to 3PL services as “very limited”. No manufacturer using the 3PL services indicated “neither” as far as commitment to the usage of 3PL is concerned. There seems to be manufacturers firms in Namibia that are committed to the use of 3PL. This level of commitment indicates that there is potential in

the 3PL sector for the manufacturers and 3PL providers to improve this commitment level.

The results on the level of commitment to the use of 3PL are similar to the previous studies carried in Western Europe (Millen et al., 1997) and Ghana (Sohail et al., 2004).

*Figure 4-4. Level of Commitment to the Usage of Third Party Logistics*



Notes: Number of respondents using 3PL is 23

#### 4.5.2 Logistics budget allocation

Figure 4-5. Total logistics budget allocated to 3PL providers

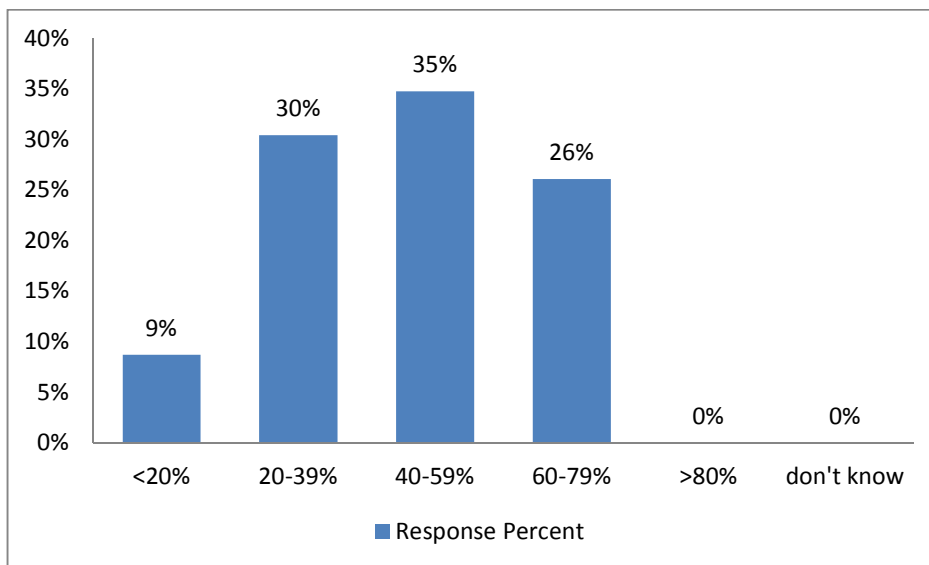


Figure 4.5 indicates the response percentage of the Namibian manufacturers on the manner in which they allocate their logistic budget to 3PL providers. The highest budget was “40-59%” with 35 %, followed by the 3PL budget allocation of “20-39%” with 30%, then “60-79%” with 26 % and below 20% with (9%). There was no respondent indicating that they do not know their budget and/or with the budget allocation of more than 80%. Over 60 % of manufacturers in Namibia allocated more than 40 % of their logistics budget to 3PL services. This result is similar to that found in China (Chen, 2012). In China, 62 % of firms allocated over 40 % of their logistic budget to 3PL providers. The remaining manufacturers allocated less than 35 % of their yearly logistics budget to 3PL. On the other hand, the percentage of firms that allocated about 40 % of the budget to the use of 3PL in previous studies in other countries was lower. With reference to New Zealand (Zhang, 2009), only 39 % of firms allocated over 40 % of

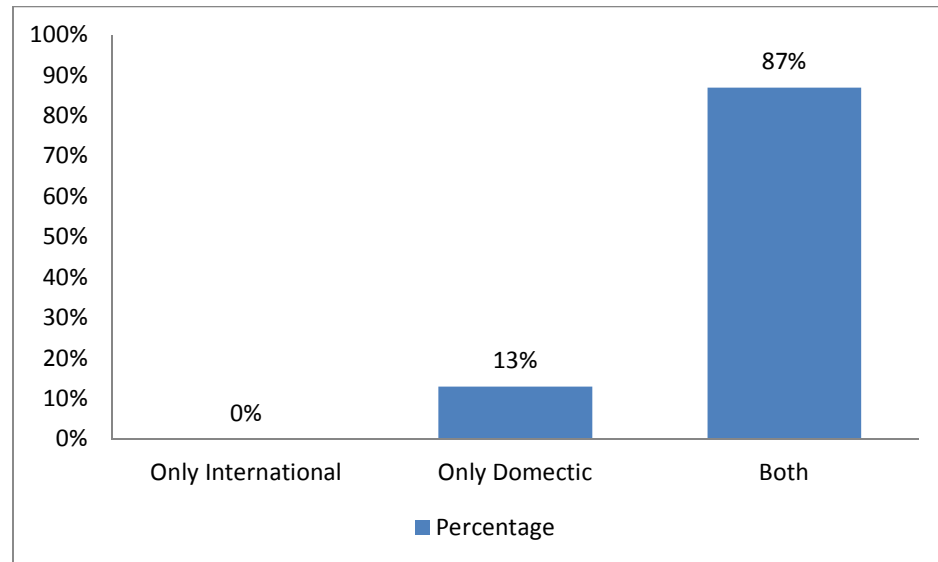
their annual logistics budget to the use of 3PL, and the remainder of the companies allocated below 40 % of their yearly logistic budget to 3PL services. Depending on the amount of money put forward for the 3PL providers, the allocated budget of 40 % could be a huge investment in terms of larger firms that earn over 20 million Namibian dollars. This is a signal of a potential market for existing and upcoming 3PL providers to take advantage thereof.

#### **4.5.3 Geographical coverage**

Figure 4.6 shows that above 85 % of companies indicated that they were using 3PL providers for both domestic and international functions, and just 13 % of the firms were using 3PL services for domestic only. No company reported that they were using 3PL providers for international purposes only. The results were higher than the figures found in the study carried out in China (Chen, 2012). In China, above 60 % of companies were using 3PL for both domestic and international purposes.

The result show that the manufacturers in Namibia supply both the domestic and international markets but more export oriented. This could be related to the market size of Namibia that is unable to consume the manufactured goods by the manufacturers and hence companies tend to use 3PL both inside and export outside Namibia.

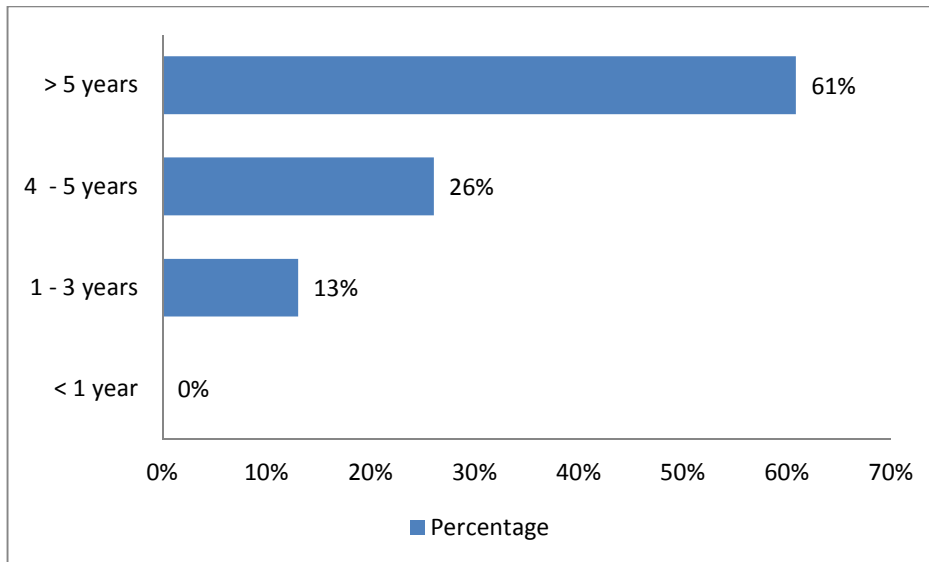
Figure 4-6. Geographical Coverage



#### 4.5.4 Length of using 3PL

This part of the study deals with the time periods in which 3PL are used. The respondents were asked to indicate how long they used a 3PL provider at their company. Figure 4.7 indicate that the majority of Namibian manufacturers were outsourcing 3PL services for over five years (61 %) and no company used 3PL services for less than a year. This result was similar to the findings previously conducted in Singapore (Bhatnagar et al., 1999), New Zealand (Zhang, 2009) and China (Chen, 2012), all with over 60 % of companies using 3PL services for over five years. The period of over five years indeed places the 3PL usage within the manufacturing industry in a position of having some history of using 3PLs and hosting some experienced 3PL providers.

Figure 4-7. Length of using 3PL



#### 4.5.5 Number of 3PL services used

Table 4.6 shows the percentage of the number of 3PL services providers used by the Namibian manufacturers. The table shows that over 90 % of the Namibian manufacturers used more than 2 different 3PL services providers. 9% of the manufacturers used one 3PL service provider, and 30 % of firms used four 3PL services, and over 40 % of the manufacturing companies in Namibia used five different 3PL service providers. This result indicates that Namibian manufacturers use various 3PL services to meet their logistics requirement. These findings were the same as those found in the previous studies conducted in Singapore (Bhatnagar et al., 1999), New Zealand (Zhang, 2009) and China (Chen, 2012) with all having over 60% firms using more than 2 providers. Namibia with more than 70% of manufacturing firms using more than 2 providers cements the different types of 3PL services that the Namibian manufacturers

have to choose from. It further also proves that there are many different 3PL providing a variety of outsourcing functions to the Namibian manufacturers.

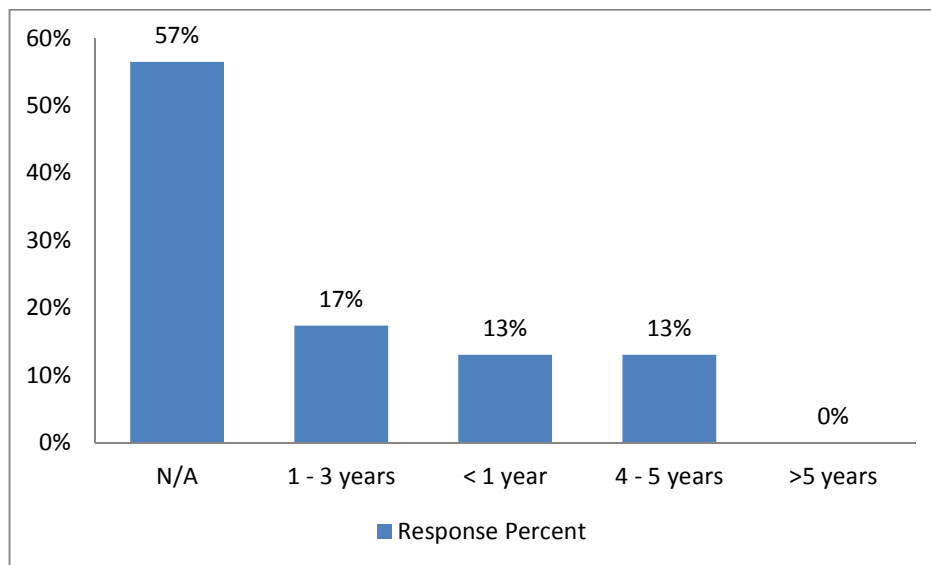
Table 4-6

*Number of 3PL services used*

<i><b>Number of 3PL services</b></i>	<i><b>Percentage</b></i>
<b>1</b>	9%
<b>2</b>	9%
<b>3</b>	9%
<b>4</b>	30%
<b>5</b>	43%
<b>Total</b>	100%

#### 4.5.6 Length of Third Party Contracts

Figure 4-8. Length of 3PL contract



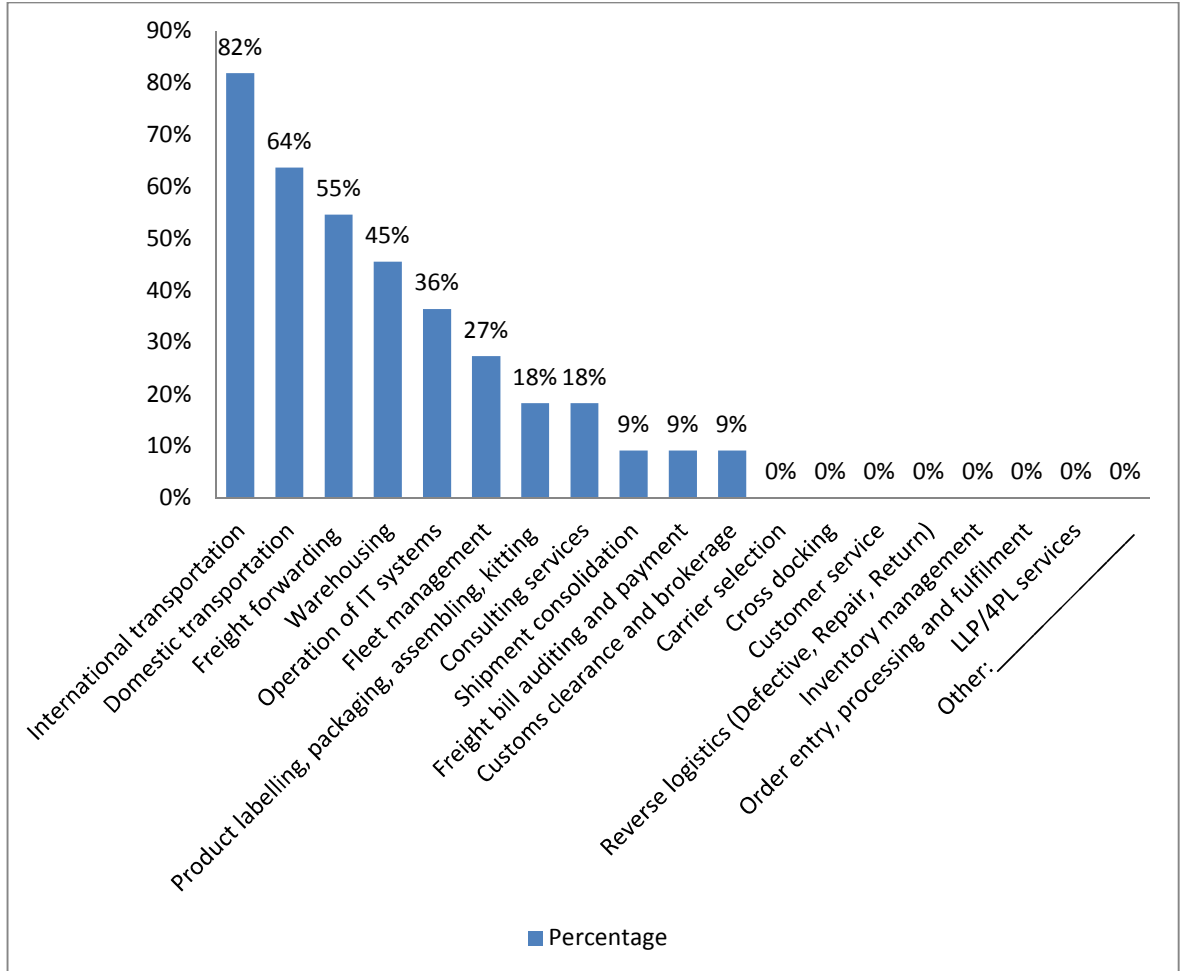
Respondent manufacturers were asked to indicate the duration of their current 3PL contracts. Figure 4.8 shows that the majority (57 %) of the manufacturers in Namibia indicated they had no contracts with the 3PL providers or they were buying services “as and when required”, meaning that only 43 % of the Namibian manufacturers had signed contracts with the 3PL service providers. Amongst the manufacturers with contracts in place, 17 % of them signed contracts with their 3PL service providers for “1-3 years”, 13 % signed their contracts for “4-5 years, and same percent with manufacturers that signed contracts for less than one year. There was no respondent with contract duration of “more than 5 years”. This result indicates a smaller percent (43%) of firms that had contracts in place compared to the study carried out in China (Chen, 2012) that found about 80 % of firms that had signed contracts with 3PL providers. The Namibian manufacturers could be using 3PL services only when necessary. This could be an ad hoc

type of 3PL usage which could be attributed to other factors of trustworthiness or the fear within manufactures that the service level might not be achieved by having an obligation to do business with 3PL providers as per the contract.

#### **4.5.7 3PL service used**

With the aim of discovering the most outsourced 3PL services in the manufacturing industry and potential future 3PL services, a roll of 18 selections was made that include all the various 3PL services. Figure 4.9 indicates that the top five 3PL services frequently used by the Namibian manufacturing companies were international transportation (82%), domestic transportation (64%), freight forwarding (55%), warehousing (45%) and operation of IT systems (36%). Shipment consolidation, Freight bill auditing and payment, and Customs clearance and brokerage were the least often used 3PL services within the Namibian manufacturers. There was no single user manufacturer who indicated that they would like a potential future 3PL service in this survey. This is an indication of fully established large firms that have used 3PL services for some time and believe that the current 3PL service(s) is adequate for their business success. It could also be related to the fact that there might be no need of such 3PL services within the manufacturer's business activities. This also indicates that manufacturers were satisfied with the current 3PL services. This result could provide a starting point for further future research in this area to find out as to why user firms tend not to demand for other 3PL services.

Figure 4-9. Percentages of 3PL services used by Namibian manufacturers



Notes: Number of respondents using 3PL is 23 for each 3PL service used

The study conducted in China by Chen (2012) pointed out that the top ranked 3PL services in China were transportation, warehouse management, custom clearance & brokerage and shipment consolidation. Through comparison with China (See table 4.7), transportation was the most used 3PL services used in Namibian manufacturers transportation (82% opposed to 98%), and warehousing (45% opposed to 77%). Comparing with New Zealand, the most outsourced 3PL activities were domestic

transportation (82%), freight forwarding (64%), warehousing (62%), international transportation (62%) and customs clearance and brokerage (47%) (Zhang, 2009). In Namibia, the percentage of warehousing was lower than in China and New Zealand while international transportation was higher than that of New Zealand (see table 4.7). The lower percentage could be attributed to the well managed inventory control by the manufacturers. It could also mean that the 3PL providers of warehousing were still entering the market or simply growing the market. The results could also be a sign of manufacturers having enough space for warehousing as compared to other areas like China and New Zealand where land could be scarce. A future research could investigate this area for more insight look as to why a few manufacturers tend to outsource warehousing functions.

Table 4-7

*Top 5 most 3PL services Namibia vs China/New Zealand*

<b>Top 3PL Services</b>	<b>Namibia</b>	<b>China</b>	<b>New Zealand</b>
<b>International transportation</b>	82%	98%	62%
<b>Domestic transportation</b>	64 %	98%	82%
<b>Freight forwarding</b>	55%	N/A	64%
<b>Warehouse management</b>	45%	77%	62%

<b>Operation of IT systems</b>	36%	33%	13%
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Nevertheless, lower than 30 % of the Namibian manufacturers outsourced other 3PL services. 3PL services that were not used by the Namibian manufacturers were carrier selection, cross docking, customer service, Reverse logistics, inventory management, order entry, processing and fulfilment and LLP/4PL services. This indicates that there were some 3PL services that had yet to get recognition and acceptance by the Namibian manufacturers.

#### 4.6 Satisfaction level of current 3PL services

The respondents were then asked to indicate the level of the satisfaction of their current 3PL services (1: very dissatisfied, 2: Dissatisfied, 3: Neither, 4: Satisfied, 5: Very satisfied). Table 4.8 shows the response of using logistics services and the satisfaction level. The most satisfying 3PL service was “Freight forwarding” with a mean score of 5 and a standard deviation of 0.00, followed by “Freight bill auditing and payment” with a mean of 5.00 and standard deviation of 0, “International transportation” with a mean of 4.42 and standard deviation of 0.51, “Operation of IT systems with a mean of 4.38 and standard deviation of 0.52 and “Warehousing” with a mean of 4.3 and standard deviation of 0.48. The most dissatisfying 3PL service went to “Product labelling, packaging, assembling, kitting” with a mean of 1 and standard deviation of 0. The positive results are testimony of good service and job well done by the 3PL providers. The negative results in “Product labelling, packaging, assembling, kitting” puts a warning sign to the 3PL providers in this market to really up their performance to satisfy their customers’ needs.



Table 4-8

*Level of Satisfaction of 3PL used*

<i>3PL services used</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Very dissatisfied</i>	<i>Dissatisfied</i>	<i>Neither</i>	<i>Satisfied</i>	<i>Very satisfied</i>
<b>Freight forwarding</b>	13	5.00	0.00	0%	0%	0%	100%	0%
<b>Freight bill auditing and payment</b>	2	5.00	0.00	0%	0%	0%	0%	100%
<b>International transportation</b>	19	4.42	0.51	0%	0%	0%	58%	42%
<b>Operation of IT systems</b>	8	4.38	0.52	0%	0%	0%	63%	37%
<b>Warehousing</b>	10	4.30	0.48	0%	0%	0%	70%	30%
<b>Domestic transportation</b>	17	4.06	0.90	0%	12%	0%	59%	29%
<b>Fleet management</b>	6	4.00	0.00	0%	0%	0%	100%	0%
<b>Consulting services</b>	4	4.00	0.00	0%	0%	0%	100%	0%
<b>Shipment consolidation</b>	2	4.00	0.00	0%	0%	0%	100%	0%
<b>Customs clearance and brokerage</b>	2	4.00	0.00	0%	0%	0%	100%	0%
<b>Product labelling, packaging, assembling, kitting</b>	4	1.00	0.00	100%	0%	0%	0%	0%

100% of the manufacturers that were using freight bill auditing and payment indicated that they were “very satisfied” with the 3PL service providers. More than 85 % of the manufacturers in Namibia that used international transportation, operation of IT systems, warehousing, domestic transportation, fleet management, consulting services, shipment consolidation, and customs clearance and brokerage indicated that they were either “satisfied” or “very satisfied”. This is in line with the results previously studied in China (Chen, 2012) where 80% were “satisfied” and “very satisfied” with their 3PL services providers. User manufacturers indicated that the worst dissatisfying (100 %) 3PL service was product labelling, packaging, assembling and kitting.

In short, manufacturers using 3PL services were satisfied with the service offered from their 3PL service providers and it had been a satisfying advance for the manufacturing industry.

## **4.7 Organizational Impacts**

### **4.7.1 Impact of Outsourcing 3PL Services**

Outsourcing logistics services can have positive or negative impacts on the organisation. The respondents' manufacturers who use 3PL services were asked to rate the impact of outsourcing 3PL services on their firms. The rating was done on a 5-point Likert scale with a rank of 1 showing "Very Negative" up to 5 which show "Very Positive". Table 4.9 presents the results by average (mean) and percentage of respondents under each rating on the impact of the use of outsourcing. The respondents rated each of the eight impacts of outsourcing on a five-point Likert scale, with 1= very negative; 2=negative; 3=neither; 4=positive and 5=very positive. The overall mean was 3.73 with a minimum of 2.74 and a maximum of 4.13. Based on the overall mean, the survey shows that manufacturers using 3PL services believe that outsourcing have a positive impact on their company. The respondents believe that "reducing logistics costs" and "logistics system performance" had the most equal positive impact on their trade with a mean score of 4.13. The survey results show that user manufacturers experienced reduced logistics costs and logistics systems performance through the use of 3PL services. The second in the positive impact rating was sales revenue with a mean score of 4.09. The respondents ranked employee morale with the most negative impact of outsourcing with a mean score of 2.74. This result could imply that the employee morale can be negatively affected by

the use of 3PL due to the abolishing of the logistic position in the company to make way for the 3PL services.

Table 4.9 further shows that more than 85 % of the respondents believe that reducing logistics costs had positive impact by outsourcing logistics services. This is along the lines of other countries like New Zealand (77%) (Zhang, 2009). The same positive impact was given by over 85 % was given to logistics system performance. This almost matches the results previously done in China (66.7%) (Chen, 2012) and New Zealand (64%) (Zhang, 2009). Over 75% of the respondents' manufacturers indicated that the impact of 3PL services on sales revenue was either positive or very positive. This is in line with the results from countries such as New Zealand (Zhang, 2009) and China (Chen, 2012) both at above 50 %.

Table 4-9

*Organizational impact of 3PL service on manufacturer*

<i>Impacts of 3PL services on manufacturer</i>	<i>Mean</i>	<i>Very Negative</i>	<i>Negative</i>	<i>Neither</i>	<i>Positive</i>	<i>Very Positive</i>
Reducing logistics costs	4.13	0%	0%	12%	63%	25%
Logistics system performance	4.13	0%	0%	12%	63%	25%
Sales revenue	4.09	0%	0%	25%	38%	37%
Reducing inventory levels	3.78	0%	0%	46%	27%	27%
Expanding geographic reach	3.78	0%	0%	50%	25%	25%
Customer service satisfaction level	3.65	0%	17%	17%	50%	17%
On-time delivery performance	3.57	0%	12%	38%	25%	25%
Employee morale	2.74	0%	25%	75%	0%	0%

Notes: The values are in percentage (%) except Mean values

About 50 % and more of the Namibian manufacturers that responded and those that use 3PL services indicated that the impact of 3PL services was either positive or very positive on “customer service satisfaction level” (67%), “reducing inventory levels” (54%) , “expanding geographic reach” (50%) , and “on-time delivery performance” (50%) . On the other hand, 25 % of the user manufacturers pointed out that using 3PL services had a negative impact on “employee morale”.

The notable difference is in the impact of on-time delivery performance that had a rating of either positive or positive impact of from more than 80 % of respondents in previous studies carried out in other countries such as Australia (94%) (Dapiran et al., 1996), China (85%) (Chen, 2012), (Europe (98 %) (Millen et al., 1997), USA (90%) (Millen et al., 1997) and New Zealand (81%) (Zhang, 2009). This difference could imply a poor delivery performance by some 3PL providers and hence there is need for improvement in this regard. Since the majority of manufacturers use 3PL for international, the factors of other factors such border crossing administrations could come into sight. This also provides a set off point for future research in this regard.

#### **4.8 Future Trend of Logistics Services in the Namibian manufacturing sector**

##### **4.8.1 Alternative 3PL service and Use of 3PL Services in the Future**

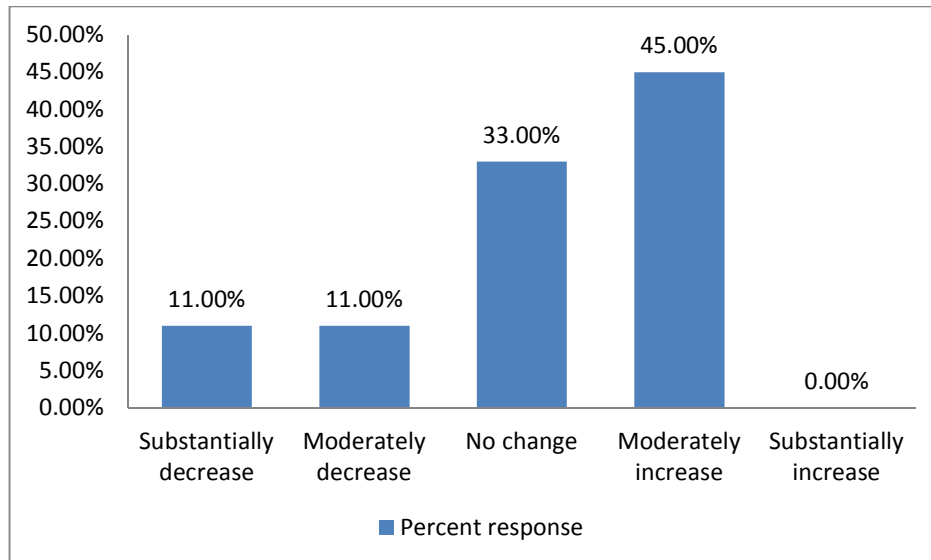
In the last two questions, the Namibian manufacturers were then asked to indicate whether they would like to have any outsourcing services that were not available in the market. 100 % of the manufacturers indicated “No” that the 3PL services available were

enough. This shows that the Namibian manufacturers were satisfied with the 3PL services available.

Respondents were then finally asked to indicate how they would change the use of 3PL services in the near future, with five options to choose from. The options were; “substantially decrease”, “moderately decrease”, “no change”, “moderately increase” and “substantially increase”. Figure 4.10 indicates that manufacturers who responded and were currently using 3PL services, 45 % of them indicated that they would moderately increase outsourcing of logistics activities, 33 % believe that they would not change their use of 3PL services and there was no manufacturer who indicated they would substantially increase. Only 22 % of the manufacturers that responded indicated they would moderately decrease or substantially decrease outsourcing logistics activities. This implies that manufacturers would continue to increase the use of 3PL services in future with a few keeping the status quo. This could be attributed to the positive satisfaction service the manufacturers were getting from the 3PL service providers, as presented earlier and interest of the users to continue growing the 3PL market in the near future.

The possible increase in the use of contract logistics services found in this survey is the same as those found previously in other countries such as in Saudi Arabia (50 %) (Sohail & Al-Abdali, 2005), New Zealand (21%) (Zhang, 2009), China (50%) (Chen, 2012) and Ghana (90%) Sohail et al. (2004) as cited by Sohail & Al-Abdali, (2005).

Figure 4-10. Users' future modification of the usage of 3PL services



Number of respondents that outsource = 23

#### **4.9 Summary**

The results obtained in this survey were analyzed statistically by using Excel for calculations of means and plotting of graphs. The key results are summarised below:

Over one third of the respondents were small companies with a range of 10 – 49 employees.

Over 50% of the respondents were manufacturing food products, beverages and tobacco.

The majority of respondents were located in the Khomas Region (67%) and the Erongo Region of Namibia (21%).

Three quarters of the respondents were businesses located in the Khomas Region and around one fifth in the Erongo Region.

The results also showed that 30 % of the respondent companies that were using 3PL services earned over twenty five million Namibian Dollars in 2012. 70 % of the respondents' firms that were not using 3PL did not surpass the annual sales revenue of five million Namibian Dollars.

Over half of the respondents outsource 3PL services whereas 47% of the companies do not outsource 3PL services. The most frequent companies to do outsourcing (23% of outsourcing) were those with 50 – 249 employees (medium sized companies). All the respondents' manufacturing companies in the range of 50-249 (medium companies) and 250+ employees (large companies) outsource 3PL services in Namibia.

Close to two thirds of the respondents' Namibian manufacturing companies do not outsource and believe that the most important reason for not outsourcing was "Service level commitments would not be realised". 55% of the manufacturers fear loss of control when outsourcing this function of the business.

Nearly 45% of the respondents that outsource indicated that cost reduction was the main reason for outsourcing. 38% believe focus on core competence was their main reason for using 3PL services. Only 36% indicated they do outsourcing for reasons of reduction in capital investment.

43% of the Namibian manufacturers classify their level of commitment to the usage of 3PL as "moderate". Only 26 % of the respondents regard their commitment to the usage of 3PL as "extensive".

Over 60% of manufacturers in Namibia allocated more than 40% of their logistics budget to 3PL services. The largely frequent respondents' allocated budget was "40-59%" (35%), then followed by the 3PL budget allocation of "20-39%" (30 %) , "60-79%" (26%) and "<20%" (9%).

More than 85 % of Namibian manufacturing companies that took part in this survey use 3PL providers for both domestic and international functions, and only 13% of the manufacturers use 3PL services for domestic only. No company uses the 3PL providers for international purposes only.

The majority (61%) of Namibian manufacturers that responded to the survey use the 3PL services for over five years and no company uses 3PL services for less than a year.

In excess of 90% of the respondents' Namibian manufacturers use more than two different 3PL services providers. Only nine % of the manufacturers use one 3PL service provider. Over 40% of the manufacturing companies in Namibia use more than five different 3PL services.

The majority (57%) of the manufacturers in Namibia had no contracts in place with their 3PL providers. In the midst of the manufacturers with contracts in position, 17% of those signed contracts with their 3PL service providers for "1-3 years", 13% signed contracts with 3PL providers for "4-5 years, and same % with manufacturers that signed contracts with 3PL providers for less than one year. There were no respondent with 3PL contracts in place for longer than five years.

The top five frequently used 3PL services by Namibian manufacturing companies were international transportation (82%), domestic transportation (64%), freight forwarding (55%), warehousing (45%) and operation of IT systems (36%). Shipment consolidation, freight bill auditing and payment, and customs clearance and brokerage were seldom used 3PL services within the Namibian manufacturers industry. No respondent indicated whether they would like a potential future 3PL service apart from what they were using in this survey.

All Namibian manufacturers that make use of freight bill auditing and payment implied that they were "very satisfied" with the 3PL service providers. More than 85 % of the manufacturers in Namibia that used international transportation, operation of IT systems, warehousing, domestic transportation, fleet management, consulting services, shipment consolidation, and customs clearance and brokerage indicated that they were

either “satisfied” or “very satisfied”. The least satisfying (100%) 3PL service was product labelling, packaging, assembling and kitting.

More than two thirds of the manufacturers had rated the impact of 3PL services as either positive or very positive on “customer service satisfaction level” (67%), “reducing inventory levels” (54%), “expanding geographic reach” (50%), and “on-time delivery performance” (50%).

100 % of the manufacturers indicated “No” that the 3PL services available were enough. 45 % of the respondents would moderately increase outsourcing of logistics activities, 33 % would not change the use of 3PL services. Only 22 % of the manufacturers would moderately decrease or substantially decrease outsourcing logistics activities.

## **5. Conclusion and Recommendation**

### **5.1 Introduction**

This chapter concludes the survey by revisiting the objectives, summarizing survey findings, discussions. The chapter is then completed by looking at limitations of the research and recommendations for further research in the field studied.

### **5.2 Research objectives**

The aim of this research was to identify the current standing of third party logistics within the Namibian manufacturing industry. The study was conducted to achieve the following set objectives;

- i. To investigate the extent of use of the third party logistics services in the Namibian manufacturing industry.
- ii. To investigate the reasons for Namibian firms outsourcing logistics activities
- iii. To investigate the reasons for Namibian firms not outsourcing logistics activities
- iv. To assess the level of satisfaction of Namibia manufacturing firms using 3PL services
- v. To investigate organizational impact of using 3PL services on the manufacturers in Namibia
- vi. To explore the future plans of current 3PL users in Namibia's manufacturing industry.

### **5.3 Conclusions**

The concerns of cutting down logistics costs and focusing on core competency have caused manufacturers to outsource 3PL functions. The aim of this research was to explore the existing position of third party logistics (3PL) within the Namibian manufacturing industry from a user perspective. This was conducted through the fulfilling of the following objectives.

#### **5.3.1 Objective 1: To investigate the extent of use of the third party logistics services in the Namibian manufacturing industry**

The study revealed that 3PL services were used by Namibian manufacturers. The use of such service has been on the rise. 53% of the respondents are currently using 3PL services.

More than 50% of the respondents were manufacturers who were producing food, beverages and tobacco.

Over 70% of these companies were medium and large sized companies employing 50-250 people.

Over 80% of the respondents that utilise 3PL are located in the Khomas Region and the Erongo Region of Namibia. These two regions offer a competitive edge in terms of infrastructure as the capital city, Windhoek, and the main harbour, Walvisbay, are located in them. They are also home to world class logistics companies compared to other regions.

The sales revenue of the more than 50 % of the manufacturers that use 3PL were in excess of fifteen million Namibian dollars in 2012.

More than 50% of the Namibian manufacturers using 3PL are either moderately or extensively committed to the usage of 3PL services.

Over 60% of manufacturers in Namibia allocate more than 40% of their logistics budget to 3PL services. The majority used more than one 3PL providers, but with the minority having signed agreements with their 3PL service providers.

Similar to the survey results of the study conducted in China (Chen, 2012), more than half of the Namibian manufacturing companies use 3PL providers for both domestic and international functions. Namibia is an export oriented country with the majority of the manufacturers making use of more of the international 3PL services as compared to domestic ones.

The majority of respondents have utilized outsourcing 3PL services for over five years. This is evidence that the 3PL services have been in Namibia for some time.

Almost all of the respondents use more than two different 3PL service providers.

The majority (57 %) of the manufacturers in Namibia have no contracts in place with their 3PL service providers.

The most frequent 3PL services used by respondents were international transportation, domestic transportation, freight forwarding, warehousing and operation of IT systems. 3PL services that were not used by the Namibian manufacturers were carrier selection, cross docking, customer service, reverse logistics, inventory management, order entry, processing and fulfilment and LLP/4PL services.

The experience of the manufacturers provided in the above findings provides crucial information on the Namibian situation regarding outsourcing logistics to current 3PL providers and potential 3PL service providers who wish to establish a 3PL service

providing firm in the near future. 3PL providers should be made aware of this prospective development in the outsourcing logistic industry and to make use of the great opportunity.

### **5.3.2 Objective 2: To investigate the reasons for Namibian manufacturers not outsourcing logistics activities**

There are two main reasons for not outsourcing. 65% of the respondents' Namibian manufacturers do not outsource because they feel that service level commitments would not be realised. IT is therefore recommended that the 3PL providers need to/should seek the opportunity to improve their performance and commit themselves to the service level set forth. Furthermore, more than half of the manufacturers do not outsource 3PL services because they believe that there would be a loss of control of outsourced function.

### **5.3.3 Objective 3: To investigate the reasons for Namibian manufacturers outsourcing logistics activities**

Nearly half of the respondents outsource 3PL services because of cost reduction grounds, focus on core competence and reduce capital investments. The survey results are the same to the studies carried out in Australia (Dapiran et al., 1996), USA (Millen et al., 1997), Western Europe (Millen et al., 1997), Singapore (Bhatnagar et al. (1999), Malaysia (Sohail and Sohal, 2003), Ghana (Sohail et al., 2004), Saudi Arabia (Sohail & Al-Abdali, 2005), India (Sahay and Mohan, 2006), New Zealand (Zhang, 2009), and China (Chen, 2012). Manufacturers consider customer service of low importance when it

comes to motivational reasons for outsourcing. Manufacturers should start to consider customer service as of equally high importance as other reasons for outsourcing.

#### **5.3.4 Objective 4: To assess the level of satisfaction of Namibia manufacturing firms using 3PL services**

All Namibian manufacturers using 3PL services in the form of freight bill auditing and payment services are very satisfied. More than 85 % of the manufacturers in Namibia that outsource international transportation, operation of IT systems, warehousing, domestic transportation, fleet management, consulting services, shipment consolidation, and customs clearance and brokerage are either “satisfied” or “very satisfied”. The least satisfying (100%) 3PL service was product labelling, packaging, assembling and kitting. Overall, the manufacturers are generally satisfied with the performance of 3PL providers.

#### **5.3.5 Objective 5: To investigate organizational impact of using 3PL services**

Manufacturers who responded to this survey reported numerous benefits derived from outsourcing 3PL. The main impact on the manufacturers’ business emerges to be equally that using 3PL earned them a reduction in reduce logistics cost and better logistics system performance. Another high impact was the benefit of increased sales revenue. However, manufacturers believe that the use of 3PL negatively affects the employee morale. The issue of retrenching employees occupying logistic position comes into play a crucial role. Hence this should be carefully done not to bring the employee drive down.

### **5.3.6 Objective 6: To explore the future plans of current 3PL users in Namibia**

All respondents' manufacturers using 3PL service believe that the outsourcing services currently offered in Namibia were sufficient. More than 70 % user manufacturers would moderately increase or remain unchanged in the way they outsource logistics activity.

## **5.4 Recommendations**

Based on the discussions and conclusions of the survey, the following recommendations are made for current/future 3PL service user Namibian manufacturers and their providers.

Manufacturers should learn to understand the whole function of logistics. This understanding could help manufacturers to use logistics to better enhance improve customer service, capital investment reduction and cost reduction.

Manufacturers need to set up contracts with the 3PL service provider to strengthen the relationship.

3PL providers need to continue improving their performance in areas that user manufacturers feel dissatisfied with their services.

Manufacturers need to fully understand their core business in order to understand the reasons for them to outsource logistics services.

Manufacturers should start to realise customer service as of equally high importance as other reasons for outsourcing.

3PL providers need to be aware of this prospective development in the outsourcing logistic industry and to make use of this emerging business opportunity.

The 3PL providers need to improve their performance and commit themselves to the service level set forth.

### **5.5 Limitations**

This study attempts to give the current status of logistics activities within the Namibian manufacturing industry. On the other hand, there are some limitations to be observed. Above all, the study was limited by the time and financial resources. More time was needed to contact various people in management level in Namibian manufacturers. The size of the manufacturing industry in Namibia is small to provide better results about outsourced logistics services. A more detailed questionnaire is needed for future research.

### **5.6 Future Research**

There is a need for further studies on the usage of 3PL within various industries in Namibia. Namibia is a huge country with vast distances between towns and cities. It is difficult to present the state of affairs of 3PL services given the various areas of the country. The Namibian Manufacturing Association (NMA) has members that are concentrated in one or two areas only. Further studies could hence be narrowed to one region or even town. The manufacturing industry in Namibia is still in its developing stage with small to medium sized firms that are not registered members of the NMA. There are many towns in Namibia where the situation of 3PL services has not been mapped out yet. Future studies could carry out an investigation on the usage of 3PL within one town and compare it with another or in another industry and compare it with other industries in Namibia to discover similarities and differences. Another area open for study would be to investigate the topic from the 3PL service provider's perspective.

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## 7. Appendices

### Appendix A: Cover Letter

Indie Ipinge  
P.O. Box 456  
Oshakati

15 April 2013

To Whom It May Concern

Dear Sir/Madam,

My name is Indie Ipinge (Student Number 200100260). I am studying towards the Masters degree in International Business at the Harold Pupkewitz Graduate School of Business within the Polytechnic of Namibia and it is a partial requirement to do a research project. The aim of my paper is to explore the existing position of third party logistics (3PL) within the Namibian manufacturing industry from a user perspective. 3PL refers to a process whereby the logistics of a company are outsourced and managed by another company. Your input is highly crucial towards the success of my research. The research takes only five minutes of your precious time to answer the simple questions and return via my private fax to email number: 088613223 or scan and email to my email address: [indileni@gmail.com](mailto:indileni@gmail.com) or [s200100260@students.polytechnic.edu.na](mailto:s200100260@students.polytechnic.edu.na).

Research findings will only be used for the purpose of this study and your response will be extremely treated as anonymous and confidential. If you wish to receive a copy of this survey results, please supply your details at the end of the questionnaire.

Thank you for your valuable time, input and support to this research. It would be appreciated if responses could be sent no later than 15 May 2013.

Sincerely,

Indie Ipinge

Mobile: 081 392 8460 /Tel: 065 229 165

Enclosed: Questionnaire

## Appendix B: Questionnaire

### Survey on the Use of 3PL in Namibia's manufacturing industry

1. About how many employees work at your company?

- ☐ 0 – 9                      ☐ 0-49                      ☐ 50-249                      ☐ 250+

2. Which of the following categories best describes your manufacturing business?

- ☐ Chemicals, chemical products and man-made fibres    ☐ Transport Equipment  
☐ Electrical and Optical Equipment                      ☐ Food products, beverages and tobacco  
☐ Leather and Leather Products                      ☐ Machinery and Equipment  
☐ Basic Metals and fabricated metal products                      ☐ Other non-metallic mineral products  
☐ Rubber and Plastic products                      ☐ Coke, refined Petroleum products and Nuclear fuels  
☐ Pulp, Paper and paper products                      ☐ Wood and wood products  
☐ Textile and textile products    ☐ Other (Specify) \_\_\_\_\_

3. Which region of Namibia is your business located?

- ☐ Caprivi Region    ☐ Erongo Region    ☐ Hardap Region    ☐ Karas Region  
☐ Kavango Region    ☐ Khomas Region    ☐ Kunene Region    ☐ Ohangwena Region  
☐ Omaheke Region    ☐ Omusati Region    ☐ Oshana Region    ☐ Oshikoto Region  
☐ Otjozondjupa Region

4. What was the annual sales revenues (N\$ millions) of your company in 2012?

- ☐ <1                      ☐ 1.1-5                      ☐ 5.1-10  
☐ 10.1-15                      ☐ 15.1-20                      ☐ 20.1-25  
☐ 25+

5. Does your organisation currently use third party logistics (3PL) services?

- ☐ Yes (Move to question 7)                      ☐ No (Only answer question 6)

6. What are the main reasons for not using 3PL services (You may select more than one)?

- ☐ Logistics is a core competency of company                      ☐ Cost reductions would not be experienced  
☐ Control over outsourced function would diminish                      ☐ Service level commitments would not be realized  
☐ Company has more expertise than 3PL providers                      ☐ Logistics is too important to consider outsourcing  
☐ Outsourcing is not a corporate philosophy                      ☐ Global capabilities of 3PL need improvement  
☐ Inability of 3PLs to form meaningful relationship                      ☐ Issues related to security of shipments  
☐ Others (please specify): \_\_\_\_\_

7. What are the main reasons for using 3PL services? (You may select more than one)

- |  |   |
|--|---|
| <input type="checkbox"/> Focus on core competence        | <input type="checkbox"/> Logistics cost reduction         |
| <input type="checkbox"/> Access to emerging technologies | <input type="checkbox"/> Improving customer service       |
| <input type="checkbox"/> Improve the logistics process   | <input type="checkbox"/> Reduction in capital investments |
| <input type="checkbox"/> Productivity improvements       | <input type="checkbox"/> Increasing inventory turn        |
| <input type="checkbox"/> Expansion to unfamiliar markets | <input type="checkbox"/> Others (please specify): _____   |

8. How do you rate the level of your company's commitment to the usage of Third Party Logistics?

- ☐ Very Limited    ☐ Limited    ☐ Neither    ☐ Moderate    ☐ Extensive

9. What is the percentage of the total logistics budget allocated to the 3PL providers?

- ☐ <20%    ☐ 20-39%    ☐ 40-59%    ☐ 60-79%    ☐ >80%    ☐ don't know

10. How long has a 3PL been used to provide services to your company?

- ☐ <1 year    ☐ 1-3 years    ☐ 4-5 years    ☐ >5 years

11. Is your company using 3PL services for domestic purposes or international purposes?

- ☐ Only international    ☐ Only domestic    ☐ Both

12. How many different 3PL services providers does your company use? \_\_\_\_\_

13. Overall how do you rate the level of satisfaction with your current 3PL providers?

- ☐ Very dissatisfied    ☐ Dissatisfied    ☐ Neither    ☐ Satisfied    ☐ Very satisfied

14. What is the length of your current main third party contracts? (If no contracts is in place, please choose N/A)

- ☐ N/A    ☐ <1 year    ☐ 1-3 years    ☐ 4-5 years    ☐ >5 years

15. Which of the following 3PL services do you use currently and will use in the future? How do you rate them? (1:Very dissatisfied, 2: Dissatisfied, 3:Neither, 4:Satisfied, 5: Very satisfied)

[illegible]

16. What has the impact on your company been after using 3PL services? And how would you rate the level of impact?

		1 Very Negative	2 Negative	3 Neither	4 Positive	5 Very Positive
<input type="checkbox"/> Sales revenue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> On-time delivery performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Reducing logistics costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Reducing inventory levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Employee morale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Expanding geographic reach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Logistics system performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Customer service satisfaction level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other (please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. Would you like to have any 3PL services that are currently not available in the market?

☐ No ☐ Yes, please specify: \_\_\_\_\_

18. How would you change the use of 3PL services in the future?

☐ Substantially decrease      ☐ Moderately decrease      ☐ No change  
☐ Moderately increase      ☐ Substantially increase

Thank you for your time!

If you are interested in the survey results, please leave your name and e-mail address here:

Name: \_\_\_\_\_ Email: \_\_\_\_\_