



**Addis Ababa University, College of Business and Economics, School of Commerce**

**Analysis on the Performance of Third Party Transporters: the Case of Heineken Breweries S.C.**

*A thesis submitted to Addis Ababa University, College of Business and Economics, School of Commerce In partial Fulfillment of the Requirements for the Award of Master of Arts Degree in Logistics and Supply Chain Management*

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**Addis Ababa, Ethiopia**

**Addis Ababa University,**

**College of Business and Economics, School of Commerce**

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Breweries S.C.”**

**By**

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## **DECLARATION**

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Tekelgiorgis Assefa (Asst. Professor). All sources of material used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institutions for the purpose of earning any degree.

Afewerk Legesse

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Signature

**Addis Ababa University, College of Business and Economics, School of Commerce, Addis Ababa, May, 2018**

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## **Acronyms/Abbreviations**

- KPI: Key Performance Indicators
- HBSC: Heineken Breweries S.C
- OTIF: On-Time-In- Full

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## **Abstract**

This study focuses on evaluating the performance of existing third party transporters using performance indicators. The research is descriptive study applying quantitative approach in which data was collected across a population through random and non-random sampling and uses descriptive statistics for the data analysis. The objective of the study is to analyze the performance of third party transporters and make recommendations on possible improvement areas. The study has revealed that the performance of the transporters is not similar across the performance indicators. The study shows that Vehicle Fill of the transporters performance is significantly above average with 83% performance rate all across the transporters. The study also signified Empty Running, On-Time-In-Full, Deviations from Schedule and Safety performance is different from transporters to transporter and the existing performance is far lower than the expected level. In conclusion given each of the stakeholders agree to work closely with high sense of cooperation and work appropriately on their areas of responsibilities, there is a potential to drive down the performance gaps. The performance measurement should be done properly by reviewing the performance of the transporters. If corrective measures are taken on the identified performance gaps, this can lead to great benefits and improvements. Based on the findings of the research it is recommended that Heineken should focus on continuously measuring the performance of the transporters. It should also organize experience sharing mechanisms among the transporters because this will provide an opportunity to learn from each other.

**Keywords:** Transporters, Heineken Breweries S.C, Vehicle Fill, Empty Running, On-Time-In-Full, Deviations from Schedule, Safety

## **Chapter one: Introduction**

### **1.1. Background of the study**

Nowadays, the market competition has become more and more intense, in order to improve the core competitiveness of enterprises, the non-core business were be outsourced to those professional companies, thus forming the third-party transporters. The evaluation of the third party transporter is a critical step for a manufacturer seeking to understand the performance third party transporters as a business partner. In general, the third party transporters evaluation is a multi-criteria analysis and thus a complex process in which multiple criteria, both tangible and intangible, must be considered (Aguazzoul, 2014). Transportation occupies very important position in the modern logistics industry. Therefore, transportation performance evaluation is important for undertaking the performance of third party transporters (Yuan & Meng, 2013).

The case of Heineken Breweries S. C were be used to analyze the performance of third party transporters in this research work. The privatization of state owned breweries has attracted giant brewing companies such as Heineken, Diageo and Bavaria to invest and participate in the local market. Heineken acquired Bedele Brewery SC and Harar Brewery SC, and built its own factory on the Outskirt of Addis at a place called Kilinto. Heineken Breweries S.C belongs to the Heineken International B.V. Heineken Breweries S.C acquired Bedele and Harar Brewery S.C on open tender from Ethiopian Governemnt in the year 2011 G.C. Bedele brewery is located in Bedele town which is one of the largest populations in the Oromia Region, with more than 32 million people. Bedele Brewery started operations in 1993 and currently has an annual technical production of 50,000,000 liters with more than 200 employees. The brewery produces Bedele and Bedele Special brands brewed from 100% natural ingredients and refreshing natural water. Harar brewery is located in the lively city of Harar in Harari region. It is one of the only region in Ethiopia where the majority of its population lives in an urban area, with more than 100,000 population. The brewery started operations in 1984 and currently has an annual technical production of 50,000,000 liters with more than 200 employees. Harar brewery is known for producing brands like Harar, Hakim Stout, Buckler and Sofi Malt. These brands are of high quality brewed from 100% natural ingredients Kilinto brewery is located in the outskirts of Addis Ababa, in Kilinto. It started operations in July 2014 and has an annual technical production of 300,000,000 liters with more than 200 employees. It is a state of the art and

technologically advanced brewery. The brewery is home to the Walia brand but also produces our other brands and is producing the company's flagship Heineken brand. The production capacity of Harar Brewery S.C and Bedele Brewery S.C combined together is 1 million hector liter. Heineken Breweries S.C which is located at Kilinto has a production capacity of 3 million hector litter which is soon to be 6 million hector litter by the end of 2018 G.C. By 2030 Heineken Breweries S.C envisions also to increase the capacity to 14 million hector liter. This company has outsourced its transportation service to third party providers and currently five transporters are providing contractual service. Therefore, with its intention to keep on growing in the coming years, its demand for transportation service were be growing proportionally. As a result, it remains essential to evaluate the performance of these providers and work on improvement areas.

## **1.2. Statement of the problem**

The ability to transport goods quickly, economically and reliably is vital for companies to compete in the market and if these could not be realized it can also be a major impediment for competitiveness of companies. Subsequently, there had been a number of studies on outsourcing logistics service in manufacturing firms in Ethiopia. However very little had been said on third party transporters performance analysis in the same field. According to Abrahamsson & Rehme (2010), Schramm-klein & Morschett (2006), a well-managed transportation was capable of positively influencing firm performance. This was in agreement with Fugate, Mentzer& Stank (2010) study which established that there was a positive relationship between logistics performance and firm performance. Studies by Shang & Marlow (2005); Bowersox, Closs & Cooper, (2010); Graeml, & Peinado, (2011) confirm there was a strong link between logistics performance and firm performance.

Heineken Breweries S.C has set a goal for itself to be the unrivaled brewer in the Ethiopia by 2030 by increasing its production capacity to 14 million hecto liter. To advance this goal the company identifies the transportation service providers as a key partners in increasing its competitiveness in the market. To this end, Heineken Breweries S.C has been continuously putting efforts to improve the performance of transporters. Despite these efforts , the transporters performance working with the company is characterized by inadequate fleet size and age, frequent damage to the goods, quality deterioration of goods while transporting,

unavailability of the trucks in required number and time, coordination of the delivery plans and thus high empty running, on road accidents, and frequent deviations from schedule. However, there are no agreed on important key performance indicators against which to evaluate the performance with a goal to improve the overall efficiency. The transportation service providers are working business as usual which is typically a traditional approach providing no clear and measureable performance indicators. The transporting companies are not yet at stage to professionalize their performance to work with such multinational companies such as Heineken. There is a serious dearth of volumetric data. This results in an over-reliance weight-based performance measures. This may be acceptable for dense commodities that typically 'weigh-out' but puts companies moving low density products at a disadvantage when comparing load factors, energy intensity and carbon efficiency. The increasing importance of efficiency and a focus on core competencies opened up many business opportunities for logistics service providers (Christopher, 1998). Customers increasingly expect shorter delivery times and more accurate services. As a result control of logistics service providers increases in complexity. Performance indicators can support the management of complex systems. The increasing use of information and communication technology – also in small and medium sized companies – facilitates data collection on a broader scale and could lead to more extensive performance measurement (Melnyk *et al.*, 2004).

Central to most, if not all, companies freight transport policies is a desire to improve efficiency. This used to be justified purely on economic grounds, but it is now recognized that it yields environmental co-benefits and so is considered more sustainable in the 'green-gold' sense of the word. Given the importance attached to this policy objective, it is surprising that so little effort is made to collect the data required to monitor freight transport efficiency at a company level. There is even uncertainty about the choice of metrics that should be used for this purpose. In this section, we were focus on the efficiency with which vehicle capacity and fuel are used in the freight sector (McKinnon, 2010: p.7). Different metrics can give differing impressions of freight transport performance: This is well illustrated by the alternative use of productivity or utilization measures. A high score on one criterion can sometimes be achieved at the expense of a low score in another, making it

important to keep freight performance measurement multi-dimensional. It should also be recognized that in the interests of maximizing logistical and overall corporate performance the efficiency of freight transport may have to be compromised.

Poor choice of metrics can induce the wrong behavioral response: For example, pre-occupation with maximizing the lading factor on a multiple drop round can encourage carriers to deliver the largest and heaviest loads last (Arvidsson, 2013) increasing overall fuel consumption and emissions. Again, a combination of KPIs may be required to correct anomalies and drive optimal behavior.

More importantly, for the fact that Heineken breweries S.C is not putting in place a clearly defined third party performance measurement indicators to analyze their performance, there is no clear picture of how the transporters are performing currently. Therefore, it is important to identify what key performance indicators should be used and to analyze how well the third party transporters are performing in the current condition so as to improve the performance of third party transporters in full compliance with Heineken Breweries S.C vision to be efficient and responsive brewery in the country.

### **1.3. Research Questions:**

- What key performance indicators could be used in analyzing the performance of third party transporters?
- Which of these performance indicators are being/could be used by Heineken Breweries S.C?
- How could these key performance indicators be combined together to measure overall performance of the transporters?
- How Heineken Breweries S.C could put into use these performance indicators?
- What are the key deficiency seeking improvement and what options could be taken to improve the performance of transporters in terms of on-time- in full, deviation from schedule, safety, vehicle fill, empty running?

**1.4.1 General Objective:** is to analyze the performance of third party transporters and make recommendations on possible improvement areas;

#### **1.4.2. Specific Objectives:**

- To define key performance indicators for appraisal of performance of third party transporters;
- To evaluate the performance of the existing third party transporters using key performance indicators;
- To identify the key performance deficiencies;
- To suggest improvements on the performance of transporters;

**1.5. Significance of the Study:** the benefit of this research would be to different organizations directly or indirectly. To mention some:

- Heineken Breweries S.C were be having a better understanding of how its third party transporters are performing. This provides an opportunity to work with its service providers on efficiency and responsiveness;
- Third party transporter working for Heineken Breweries S.c were have a better awareness of their strength and weakness. As a result, they might be undertaking improvement initiatives;
- This research could also serve as essential input for individuals and organizations to carry out further research works.

**1.6. Scope of the Study:** The selection of KPIs for the present study was tightly restricted in several respects. First, the KPIs are related solely to the transport function. Second, it was decided to exclude any reference to the cost of transport operations as the transporters would consider this as sensitive information and, as a consequence, be discouraged from participating. The KPIs were designed therefore to measure operational, rather than commercial performance. They had also to relate to the wider impact of transport operations on the safety in contrast to many of the traditional metrics which are concerned only with economic efficiency. Thirdly, third party transporters which the company intermittently uses during peak seasons and in circumstances whereby the need for transportation is not fully covered with long-term contract transporters, are not included in the scope of this study. All third party transporters whose location is in Addis Ababa are included in this scope.

**1.7.Limitations of the Study:** The main limitation of this research is that it assumes third party transporters working for Heineken Breweries S.C and thus the analysis and recommendation are based on this assumption. This research did not take into account other third party transporters working for competitors and operating in the country as a whole. The data collected is from third party transporters working for Heineken Breweries S.C and thus this result in homogenous source of data, a wide array of transporters operating in the country is not included in this research.

## **Chapter 2: Review of Literature**

### **2.1 Theoretical Literature Review**

In this paper, in order to identify appropriate key performance indicators firstly a review of various literatures related to key performance indicators are reviewed. Secondly a review literature on logistics and supply chains performance measurement is undertaken. Finally, literatures specifically related to choice of third party transporters performance indicators are reviewed. This were enable us to establish a framework of the performance indicators for measurement of third party transporters performance.

#### **2.1.1 Performance Measurement**

Performance measurement (PM) is the process of collecting and analyzing data regarding the performance of an organisation or individual (Crow, 2012). Performance measurement is also defined as the process of quantifying the efficiency and effectiveness of the undertaken actions. Effectiveness is understood as the degree of fulfilment of customer expectations, while efficiency is a measure of the extent to which business assets are used to provide a given level of customer satisfaction (Neely et al. 1995). In turn, the performance measuring system should be understood as a set of indicators used to quantify the efficiency and effectiveness of operations (Shepherd, Günter 2012).

Performance Measurement is used in some or other ways in every business and industry but the form and extent of the measurement systems varies. The challenge is therefore now more related to what Key Performance Indicators needs to be used and how to put together and aggregate data, how to present them and how to interpret and use them correctly (Andersen and Fagerhaug, 2002). The underlying drive for performance measurement anchors around the needs to provide feedback from the work or project functionality that is performed. This feedback is part of an organizational feedback control system that is important in order to manage the systems, processes and activities that are measured. This is even more as the tool in the improvement of work or project functionality. According to ( Fagerhaug, 2002) “you cannot manage what you cannot measure, what gets measured gets done, and measurements influence behaviour”. Kaplan and Norton (1996) stated that companies must use measurement systems if they want to survive and prosper in the information age competition.

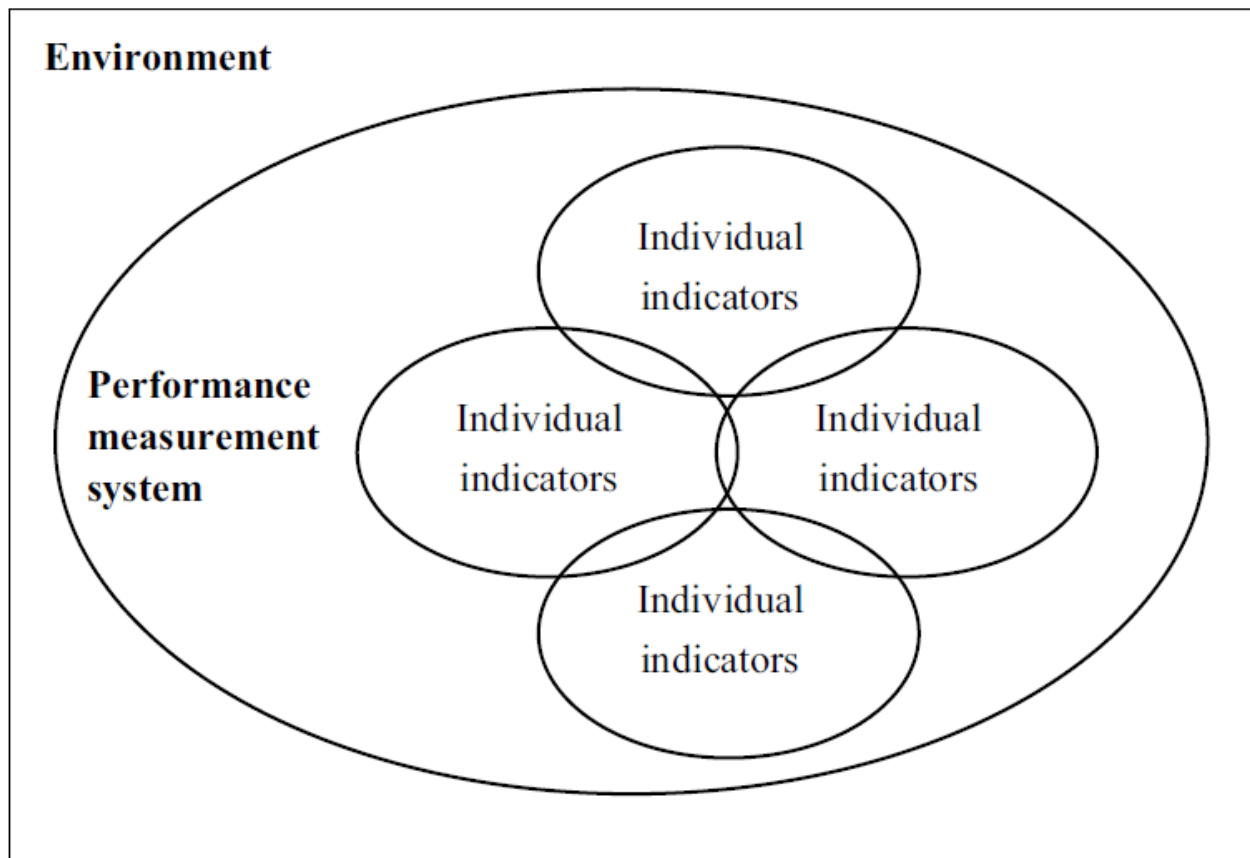
Three purposes of performance measurement can be identified as (Melnik et al., 2004): control, communication and improvement. According to Melnik et al. (2004) literature has until now mainly focused on the use of performance measurement indicators, but less on generating performance indicators and putting them into execution. They mention several reasons for an increased interest in performance measurement such as ever changing and ever increasing demands of customers, the moving focus from internal operations to a chain of collaborating companies, decreasing product life cycles, increased amount of data (not necessarily data quality) and Growing number of options a company can choose from.

Performance indicators need to move from static measurement to a more proactive style. Metrics were contribute to creating competitive advantages if they also allow on the spot recognizing of business opportunities as well as business threats.

Performance measurement system may be analyzed on three different levels: individual performance indicators, a set of performance indicators (as a whole) and the relationship between the performance measurement system and the environment in which it operates.

The relationship and thus the framework between the performance indicators is as depicted as follows ( Source: Neely et el 1995).

Figure1.1: A Frame of Performance Measurement Design



Source: Neely et al, 1995

### 2.1.2 Performance Measurement in Supply Chain

Supply chain performance is defined as the ability of the supply chain to deliver the right product to the correct location at the appropriate time at the lowest cost of logistics (Zhang, Okoroafo 2015). This definition takes into account the time of delivery, cost, and value for the end consumer. This definition includes the most important aspects of the supply chain (Zhang, Okoroafo 2015). Supply chain performance is also the ability (of the entire supply chain) to meet end-customer needs, associated with ensuring the availability of product, deliver it on time in the right way and ensure appropriate inventory levels. It also exceeds the functional boundaries of organizations, i.e. production, distribution, marketing and sales,

research and development. The functioning of the supply chains should be constantly improved. Therefore, measures to support the improvement of the performance of the supply chain should be used, not only those that relate to the individual companies and their functions (Hausman 2004).

Supply chains can typically be categorized into either efficient or responsive supply chains (Fisher, 1997). Logistics service providers must be aligned with the supply chain they serve; measuring flexibility, efficiency and responsibility levels is a first step. Weber (2002) is using a hierarchical model to measure supply chain agility. The SCOR model further provides insight into metrics and indicators of supply chains (SCOR - Supply Chain Council, 2003; Stewart, 1995) However, the SCOR model was originally developed for manufacturing processes and therefore it might not be directly applicable to logistics service provision (Lai et al. 2004).

### **2.1.3 Performance Measurement in Logistics:**

A Third Party Logistics Service Providers are private firms that provide logistics services under a contract to a primary manufacturer, vendor, or user of a product or service. It is called third-party because the logistics provider does not own the products but participate in the supply chain at points between the manufacturer and the user of a given product. The Third Party Logistics Service Providers(3PL) can perform logistics functions of their customer either completely or only in part (Razzaque et el, 1998). Initially, they were carriers, storage companies or forwarding agents. Currently, they diversified by offering various services and by ensuring various activities. The principal 3PL have their own warehouses, transport fleets and their credits are often deployed throughout the world. Most 3PL have specialized their services through differentiation, with the scope of services encompassing a variety of options ranging from limited services to broad activities covering the supply chain. Logistics service providers offer services in a wide variety of areas (Sink et al. 1996). Transportation, warehousing, inventory management, order processing and value added services. Lieb and Kendrick (2003) report that third

party logistics service providers also offer services such as contract manufacturing, assisting customers with purchasing and offering financial services (e.g. insurances, real estate, et cetera).

A variety of measures needs to be investigated to measure general or specific performance of logistics service providers regarding transport activities (Van Donselaar et al. 1998), timeliness and accuracy (Bromley et el, 2001), delivery performance (Stewart, 1995), personnel scheduling and safety measures ( Mejza et al., 2003). Logistics service providers can also be distinguished based on characteristics of customer relationships (Knemeyer et al., 2003), customer satisfaction and loyalty (Stank et al., 2003). Long lists of possible KPIs have been compiled to assess the performance of virtually every aspect of a logistical operation ( Caplice et el, 1994). The researchers has had discussions with third party transporters, senior managers of Heineken Breweries S.C and with concerned staffs to collect their opinions on possible KPIs. During this discussions various options have been deliberated and examined the practical problems they might present. The KPI's have been derived using "bottom-up" approach. The following criteria have been used in selection of the KPI's ( McKinnon, 1998). The KPIs have to be: defined in clear and unambiguous terms so that they could be easily understood by staff responsible for data collection, capable of direct and detailed measurement at operational level, measurable in a consistent manner by all participating companies, compatible with data recording systems already in place and software packages with which company staff were familiar, of direct relevance to the management of the transport operation, and widely acceptable across the industry and of possible application in other sectors.

#### **2.1.4 Choice of Key Performance Indicators**

The below performance indicators used for this research study are.

##### **2.1.4.1 Vehicle fill:** measured by payload weight, pallet numbers and average pallet height.

Most freight surveys measure load factors solely with respect to weight. In sectors such as food, where products are of relatively low density, vehicle loading is constrained much more by volume than weight. Weight-based measures of utilization are, therefore,

misleading. Volume was defined by the number of pallets carried and hence the proportion of vehicle deck area covered, giving a two-dimensional measure of utilization ( McKinnon ,1998). This measurement extends into the vertical dimension by asking companies to estimate the proportion of trips on which average height of pallet loads fell into one of four intervals (<0.8 metres, 0.8-1.5 metres, 1.5-1.7 metres and over 1.5 metres). This permitted the calculation of cube utilisation. Data were collected on the maximum carrying capacity of trailers (by weight, pallet numbers and height) and the actual loading expressed as a proportion of these maxima.

**2.1.4.2 Empty running:** This refers to the distance the vehicle travelled empty. There often exists ambiguities in companies' understanding of empty running, with some considering vehicles carrying empty roll cages to be empty (McKinnon1998). To overcome this problem, the third party transporter are to monitor the return of empty handling equipment separately.

**2.1.4.3 On-Time and In-full (OTIF):** it is a measurement of logistics or delivery performance within a supply chain. Usually expressed as a percentage, it measures whether the supply chain was able to deliver the expected product (reference and quality) in the quantity, ordered by the customer, at the place agreed by the customer and at the time expected by the customer (in many cases, with a tolerance defined in conjunction with the customer).

Calculation: Generally OTIF is calculated by taking into account the number of deliveries:

$$\text{OTIF ( \% )} = \frac{\text{number of deliveries OTIF}}{\text{total number of deliveries}} * 100$$

Typically, a practice in Heineken Breweries S.C would demand an OTIF in excess of 97 per cent.

**2.1.4.4 Deviations from Schedule:** This is covering any delay deemed to be significant, with causes such as congestion en route or waiting at delivery point. According to (McKinnon, 1998), these delays are attributed to problem at collection point (consigning company's responsibility), problem at delivery point (receiving company's

responsibility), own company actions, traffic congestion, equipment breakdown and lack of a driver

#### **2.1.4.5 Safety:**

Ethiopia has a major road safety problem. Road traffic crashes occur frequently in Ethiopia with thousands of people losing their lives and many others sustaining minor or severe injuries.

Generally, the calculation is:

Safety = Safety Events (Accidents, incidents and Near misses)/ Number of trips managed  
DunDalk Institute of Technology defines these terms as follows. An **Accident** is defined as an unplanned event resulting in personal injury or property damage. A **Near Miss** is defined as an incident in which there was no injury or property damage but where the potential for serious consequences existed. An **Incident** is one of a number of specific, reportable adverse events with a high potential to cause death or serious injury, but which happen relatively infrequently.

## **2.2 Empirical Literature Review**

According to Aguezel (2007) trade networks demand superior logistics services and centers that minimize financial and time costs while ensuring reliable delivery of goods. Transportation takes the largest share from logistic services and infrastructures such as highways and railways can reduce distribution margins of the transportation cost in narrowing the gap between prices faced by producers and consumers, thereby facilitating better improvements for both; in general efficient transportation infrastructures lower transaction costs, raise value added, and increase potential profitability. The cost of transportation globally is 15-16% of the logistics cost, in Asia a 10% reduction in transport costs would boost trade by about 3–4% (Guezel, 2007).

Forrest et al. (2008) in their study on the role of a third-party logistics provider revealed that with the increasing focus of business expansion into the global market, companies need to have an extremely lean, efficient supply chain to achieve successful integration into new markets. Third party logistics providers can assist companies to cut operational costs and focus on core competencies. The study further established that there are many

advantages for outsourcing logistics services to third parties as the amount of services being offered by logistics providers continues to grow each year. The study also revealed that 3PL are becoming involved in the long-term strategic direction of their client companies. The key to successful outsourcing of logistics services lies in finding a 3PL provider that has the most strategic fit with the company's goals.

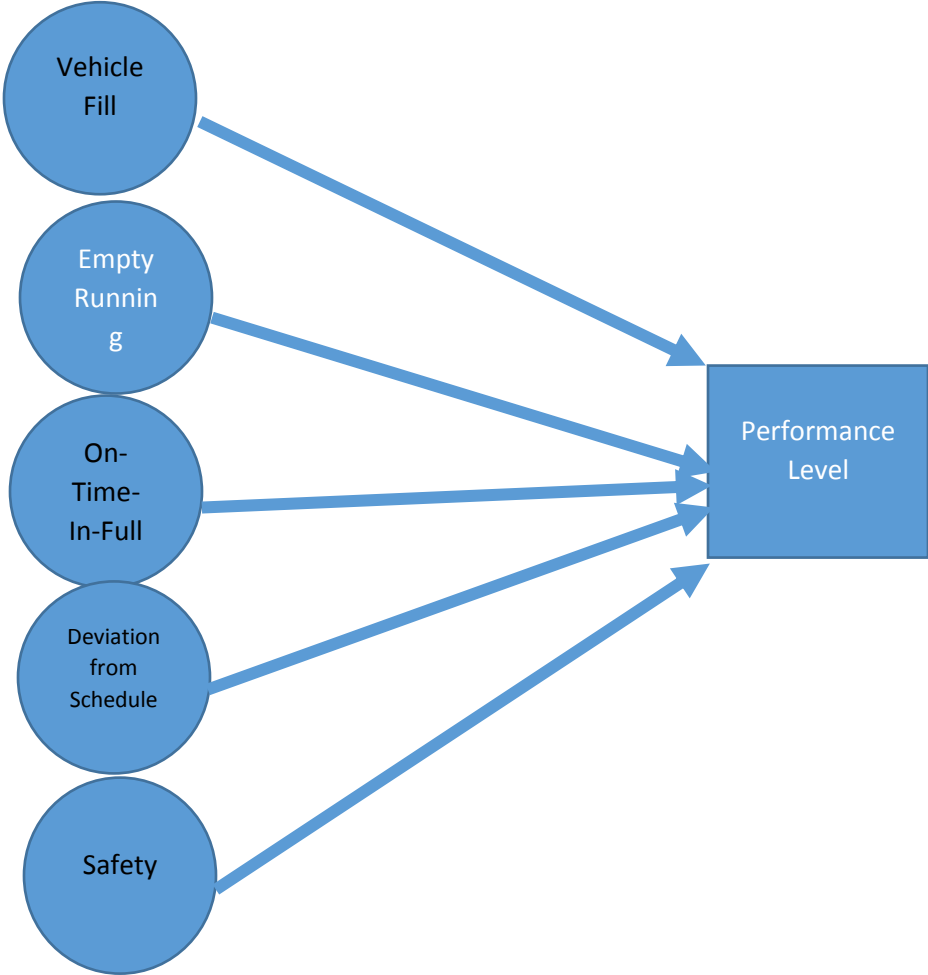
A study by Vishal et al. (2013) on third party logistical obstacles in manufacturing industries revealed that, third party logistics provider's plays vital role in cost reduction, productivity, profits as well as the improvement of the service quality of their customers and thus become important part of supply chain management. Successful logistics outsourcing can provide significant benefits, both, to industries and third party logistics providers. The outsourcing of logistics activities, manufacturing industries can save on capital investments, and, reduce financial risks. The objectives and concerns related to 3PL logistics outsourcing are cost reduction, improvement of delivery time, achieving quality service, risk assessment, concentration on core competencies, increasing flexibility and concerns are loss of control, dependence on service provider, losing direct customer contact. The main challenges for 3PL services providers are to maintain relationship with customers at the same time to earn profits under price pressures from customers also delivering the services in different geographical regions. Third party logistics providers have an opportunity of growth in technology, management solutions, IT sectors and the Physical Services such as Freight carriage. As far as Indian manufacturing industries are concerned, there is wide scope for 3PL service providers to earn the maximum profit along with satisfying customers need.

Lucie and Hudziak (2012) in their study on addressing quality problems in 3PL processes, it was revealed that as a consequence of technology developments and globalization, shippers are increasingly outsourcing their logistics activities to third party logistics providers whose activities efficiency and effectiveness are responsible for the success of shippers' business. At the same time, shippers decrease the number of 3PLs they use making the competition tougher for logistics providers. To enable 3PLs to stay competitive, the study revealed that 3PLs can improve their customers' satisfaction by

studying their operational processes from a Lean perspective. Further, the research showed that Lean is applied in manufacturing and service environments to enable decrease operational costs and increase customer satisfaction.

**2.3 Conceptual Framework**

Figure 2.1 : Conceptual framework



Source: Developed by the researcher, 2017

## **Chapter 3: Methodology**

### **3.1 Research Approach:**

Qualitative and quantitative research strategies were pursued. Qualitative data were collected mainly from literature, company's documents and by researcher's personal observation. Theoretical framework of this research is based on theories of performance measurement and key performance measurement. The source of quantitative data consists of third party transporters data templates, and also records of Heineken Breweries S.C.

Case study research is usually seen rather as a research strategy than a method where both qualitative and quantitative research orientation can be deployed. The method focuses on one case, which can be an individual, an institution or a community. Case study research is not striving to represent generalizations; thus, it is interested in individual cases and focuses on descriptive explanation rather than interpretation. Case study strategy is beneficial for gathering background information, illuminating integral processes and interactions. (Gillham 2010, Virtuaali Ammattikorkeakoulu, 2007)

Both primary and secondary data were used in this study. For primary data collection purpose, survey questionnaires were used. Both third party transporters and customers were approached personally and were asked to fill the questionnaire; all relevant explanations were given to the respondents where they need.

### **3.2 Research design:**

This research was conducted using descriptive research design. The following research design approach was followed in carrying out this research. The research problem was identified through intensive review of literature and observation of on ground reality. To solve the problem, an appropriate research objective and questions were defined. In the next stage key concepts were defined based on the literature review and its relationship to the on ground operation were articulated. Primary and secondary data were collected and due analysis was followed at different stages. The current condition of the transporters was evaluated, improvement areas were identified and relevant recommendations were forwarded.

### 3.3 Population and Sample

According to (Prat, 1995) sample is a set of objects from a parent population that includes all such objects that satisfy a set of well-defined selection criteria. A sample is a portion of elements taken from a population, which is considered to be representative of the population.

The target population for this study are third party transporters owners or senior managers working for Heineken Breweries S.C, senior managers working for Heineken Breweries S.C, drivers, helpers, appropriate staffs of the brewery and other appropriate third party transporters staffs who are directly involved in the transportation activities. In order to collect the primary data the researcher were be using a questionnaire survey developed by the researcher. Random sampling of respondents were be conducted as it were ensure unbiased information is collected arbitrarily. The study also uses structured, semi-structured, and unstructured observation, and questionnaires to obtain primary information from respondents designed by the researcher of this study. In addition, the researcher maintains diary to collect information. The transporters, drivers, the staffs operating at the brewery and senior managers were be approached and discussions were be done. Secondary source of information were be from the company Enterprise resource Planning (ERP), and different records of the transporters and Heineken Breweries S.C were be referred.

Systematic sampling was chosen as both random and non-random approaches were applied. The random one was used in the representation of ordinary staffs and the non-random served to extract information from company heads, logistics officers and some people from the key management positions. This is because interviewing resourceful informants gives more precision than doing it in a random manner. The target sample size were be 110 from different third party transporters and also from Heineken Breweries S.C.

**Table 3.1: Target Population & Number of Samples**

Name of Company	Total Number of Employees	Number of Employees For Questionnaire	Remark
Heineken Breweries S.C	250	30	
Habesha Transport	150	20	
Fekadu Hailu Transport	30	15	
Heartland Transport	20	15	
Asdem Transport	33	15	
Abinet Tilahun Transport	52	15	
Total	535	110	

Source: Own Information Summarized from Heineken Breweries SC Supplier Data Base, 2018

### 3.4 Data Analysis

While collecting primary and secondary data, it is systematically sorted. Likert's 5 scale model were be used to convert the qualitative data into quantitative data using, ranging from best to the worst like 5 (strongly agree), 4 (agree), 3 (undecided), 2 (disagree), and 1 (strongly disagree). Necessary tabulation of the data were be conducted. Secondary data are reorganized and tabulated in the systematic way. In order to analyze data, appropriate tools and techniques were be used. Statistical tools like average, standard deviation and coefficient of standard deviation, is used. Tables, charts, graphs etc. were also be used whenever required to show and analyze the data.

The collected data were be analyzed and interpreted in accordance with statistical tools that included tables and tabular tools. In the interpretation part, descriptive type of interpretation

that involved percentage, frequency, ranges, and mean were be used. The researcher prefers to use descriptive statistics because descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data. Descriptive Statistics are used to present quantitative descriptions in a manageable form

### **3.5 Reliability and Validity**

Factors like methods of data collection, tools and models of analysis, interaction, response of respondents, bias of researcher etc. directly affect the validity and reliability of the study. Therefore, reliability and validity is given the utmost attention to such factors as using reliable data sources, tools and methods in the course of action to make sure its credibility.

Cronbach's alpha is a coefficient of reliability. It is commonly used as a measure of the internal consistency or reliability of a psychometric test score for a sample of examinees. It was first named by Lee Cronbach in 1951, as he had intended to continue with further coefficients. The measures can be viewed as an extension of the Kuder-Richardson Formula 20 (KR-20), which is an equivalent measure for dichotomous items. Hence, according to Lombard (2010), Coefficients of .90 or greater are nearly always acceptable, .80 Or greater is acceptable in most situations, and .70 may be appropriate in some exploratory studies for some indices. By tracing this literature the researcher were be testing the reliability of the items which were developed for respondents.

Validity is the degree to which conclusions about the relationship among variables based on the data are correct or 'reasonable'. This began as being solely about whether the statistical conclusion about the relationship of the variables was correct. Statistical conclusion validity involves ensuring the use of adequate sampling procedures, appropriate statistical tests, and reliable measurement procedures.

### **3.6 Ethical Considerations**

Utmost attention is given to respect individual and company information which is directly or indirectly related to ethical matters. Any form of practices such as one-way mirror, concealed tape-recording or telephone-tapping were not be allowed and it is with great care that any action that might lead to criminal proceedings is avoided.



## **CHAPTER FOUR**

### **RESEARCH FINDINGS AND DISCUSSIONS**

This chapter deals with the analysis and discussions of data collected from different sources. It primarily discusses the performance of the transporters measured against five performance metrics. The data were gathered through questionnaire and also from secondary sources from Heineken Breweries S.C. The data analysis is supported by literatures and also researchers own opinion.

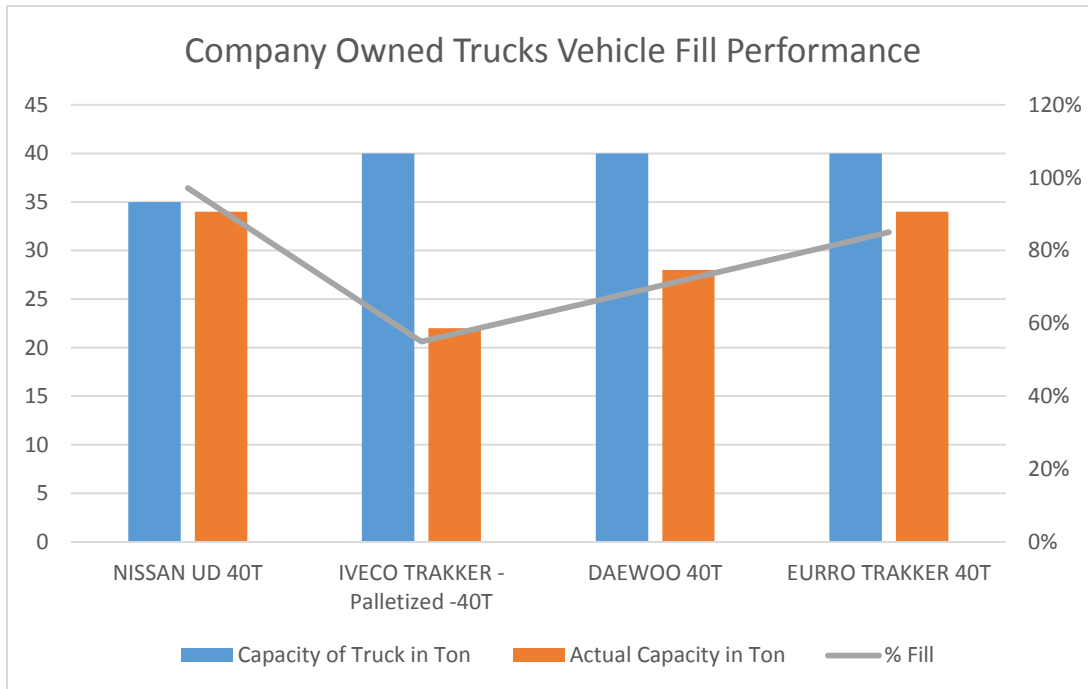
#### **4.1.VEHICLE FILL:**

Measuring the vehicle fill utilization in the beverage business is not as easy as it appears. To effectively identify the vehicle fill level, selecting the appropriate unit of measure is very important because failing to do so leads to misleading conclusions. In line with the other metrics, the unit of measure to be used for this research is weight. Since the vehicles also vary in loading capacity from one vehicle to another, caution is required in appropriately identifying the loading capacity of the trucks. Truck being of the same model, type, year of manufacture and maximum weight to load can have a different loading capacity due to additional works on the bodies of the truck. For example, an Iveco Trakker 40 ton capacity normally loads 2400 crates but modified Iveco Trakker 40 ton capacity can only load 1980 crates.

For some of company owned trucks, Heineken modified the body and the basic vehicle structure for palletized loading. As result of this palletized loading, such advantage as significant time reduction of loading and unloading operations is able to be achieved. This, however, is further resulted in disadvantages of higher cost for pallet production. The company record shows that at least 40,000.00 pallets should be actively in good working condition all the time, the initial production cost is estimated to be 21 million ETB. Moreover, modifying the trucks to fit into standard pallet size also requires a significant sum of initial investment.

As shown below palletized trucks have the lowest vehicle fill performance. In the case of palletized trucks, the space of the truck is fully utilized but the trucks are not fully modified to enable loading to the limit. Specially, the size of the Heineken pallet is 1.25meter width with 1.040 meter length, this is not the standard Euro pallet. Thus, palletized trucks needs to be modified to accommodate the unique Heineken pallets sizes.

Figure 4.1: Vehicle fill performance for company owned trucks.

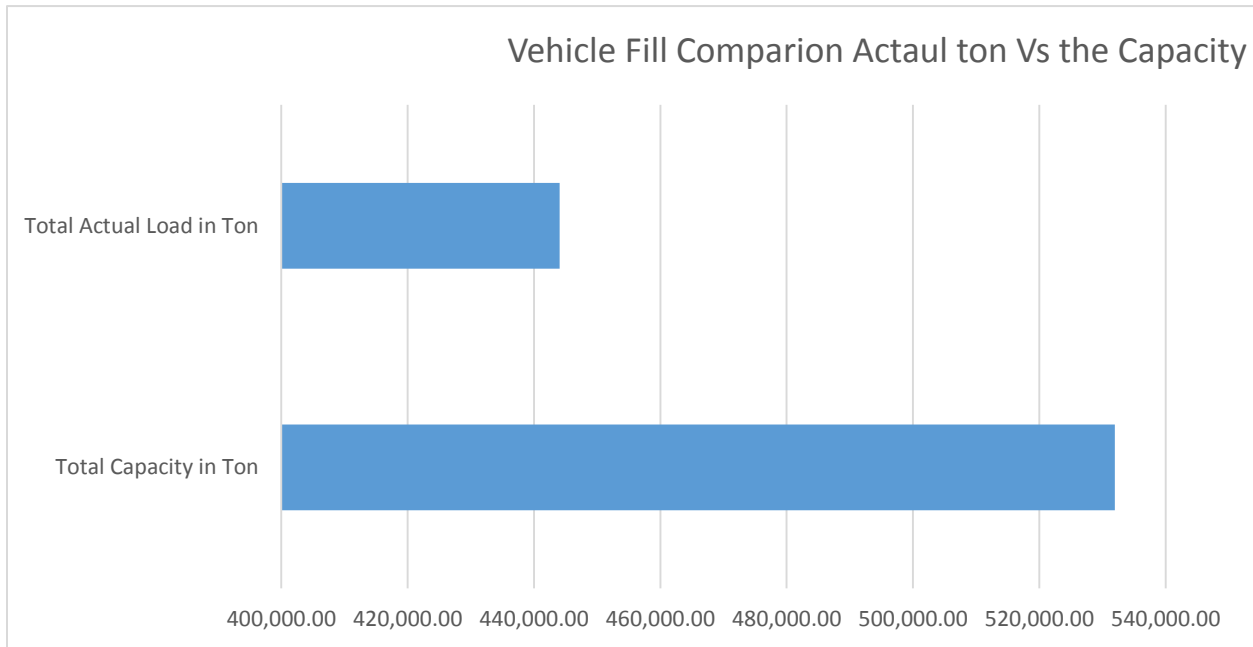


Source: HBSC Transportation Report, 2018

While Nissan UD 40 Ton have the highest level of performance, IVECO Trakkers Palletized 40 ton is having the lowest vehicle fill performance which is only about 60% of the total loading capacity. All the other truck types’ also have better performance compared against the palletized IVECO Trakkers. This implies that a great care needs to be taken in trading off the other advantages of palletizing against vehicle fill. This emphasizes a need to make further study in evaluating the advantage and disadvantage of palletizing trucks.

On the other hand, all of the outsourced trucks are non-palletized and it is mandatory for the transporters to assign Iveco Trakker’s 40 ton for all of its transportation operation despite the proximity of the loading and unloading centers. This is also applicable whether the journey is one way or two way. The transportation rate is fixed for Iveco Trakker’s 40 ton and thus assigning other types of trucks is not acceptable to drive for Heineken operation. Accordingly, the loading capacity per trip 40 ton per truck trailer for every one way trip. The two way trip is 80 ton per truck. The vehicle fill capacity is based on this fundamental agreement.

Figure 4.2: Vehicle Fill Comparison Actual Vs the capacity



Source: HBSC Transportation Report, 2018

As clearly shown in the above figure, it had been possible to move 531,984.96 ton of load during this period. However, the actual load moved is only 444,063.56 ton. This implies that the vehicle fill rate was just only 83%. If this performance gap is converted to financial impact, it has far reaching implication which needs to practical measures to improve.

In summary the table below shows the vehicle fill rate:

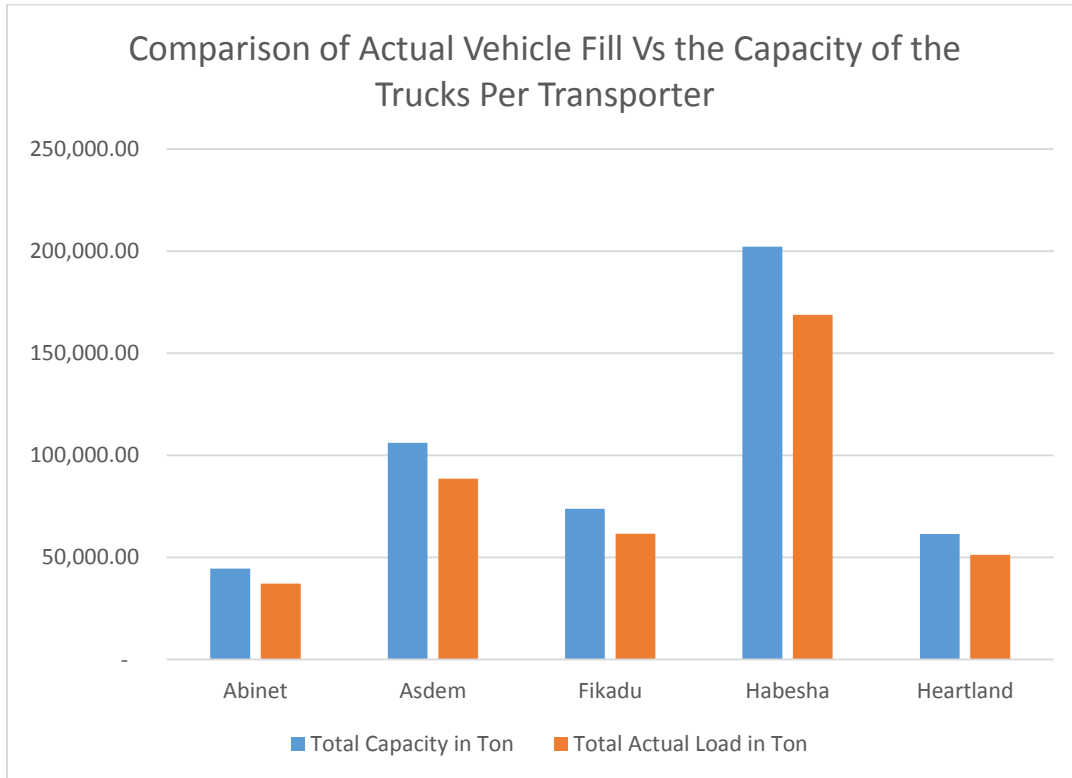
Table 4.1: Comparison of Vehicle Fill Actual Vs Capacity

Total Capacity in Ton	Total Actual Load in Ton	Vehicle Fill in %
531,984.96	444,063.56	83%

Source: HBSC Transportation Report, 2018

The subsequent section shows the vehicle fill rate among the different transporters.

Figure 4.3: Comparison of Actual Vehicle Fill Vs the Capacity Per Transporter



Source: HBSC Transportation Report, 2018

As the summary below shows, the highest volume of load is transported by Habesha and the lowest volume of delivery is conducted by heartland. However, in percentile the vehicle fill rate is consistently 83% of the total loading capacity of the trucks.

Table 4.2: Comparison of Actual Vehicle Fill Vs the Capacity Per Transporter

Transporter	Total Capacity in Ton	Total Actual Load	Vehicle Fill in %
Abinet	44,615.15	37,240.27	0.83
Asdem	106,033.89	88,522.20	0.83
Fikadu	73,884.35	61,671.26	0.83
Habesha	202171.5695	168752.6	0.83
Heartland	61440	51284.0	0.83

Source: HBSC Transportation Report, 2018

Because the type of trucks used by all of the transporter is similar, it is contractually mandatory for transporters to assign Iveco Trakker 40 ton for all operations of Heineken, they all have similar vehicle fill rate. However, it appears that the trucks are under-utilized. It is wise to think that options of improving the fill rate such as by modifying the body of the trucks which indeed requires a significant sum of initial investment. The trucks modified for Heineken transportation purpose might also not be easily fit for other operations and a mechanism of ensuring long term contract should be arranged. The researcher suggests to further scrutinize the advantage and disadvantage of measures taken to improve the vehicle fill rate.

#### **4.2. EMPTY RUNNING:**

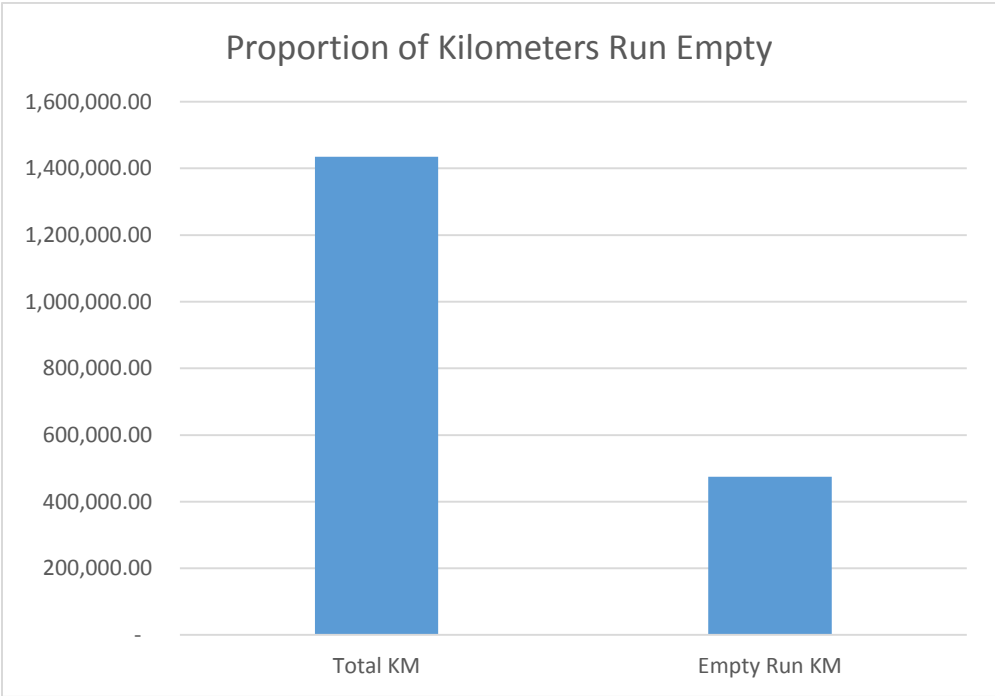
Companies make every effort to drive down empty running rate for the fact that it represents vehicle is running with no direct commercial use or in the best case condition they might be collecting unrelated loads when they return or go extra miles to collect another loads or they go empty with no loads to collect loads. All of the transporters included in this research paper operate from Addis Ababa and thus it would be normal to assume the occurrence of a significant number of empty running trips. Empty running therefore in this business context refers to three condition. Firstly, when vehicles go to warehouse or customers with full product and return without no loads. Secondly, when vehicles travel to the warehouse or customers to collect empty crates. Thirdly, when vehicles transport empty crates in between the breweries with no return loads and make extra kilometers to collect unrelated shipments from another customer.

It is mandatory for beer sector to return empty kegs and crates back to the brewery. It appears also that it is the only means of supplying draft beers and lagers as it is very far expensive to be anything other than returnable. Among the different distribution operations such as primary, secondary and tertiary distribution mechanisms, this research paper is limited to the primary distribution operation. A primary route operation involves moving of a full product to main distribution centers and returning of empties back to the brewery for refilling. Therefore, if a proper planning is not set up there is a high possibility to run most of the vehicles empty for most of the time. Since the brewery also operates on a very long lanes as far as to Gonder, the cost of running empty remains to be a point of concern for the transporters as well as for the brewery.

The transporters indeed take different measures to reduce the empty running rates. Although Heineken operates some palletized trucks, the transporters fully operate non-palletized trucks. In fact since the vehicles are not fully modified to palletized loading, they can find backloads in the locality. This is only achieved by staying further out or days looking for back shipments and thus affecting truck utilization rate. It appears not avoidable to run empty though there is a huge opportunity to drive the existing empty running rate by certain proportions down. Close cooperation among the different actors including customers, transporters and from the Heineken side is placed the highest value in this respect.

It is a commonly held belief that vehicles run over half of the trips on empty run basis or run for most of the time on half empty. In fact this research work shows that **475,154.00 Km** of the **total 1,435,100.77 Km** run by the vehicles which is **33%** of the Kilometers were empty run.

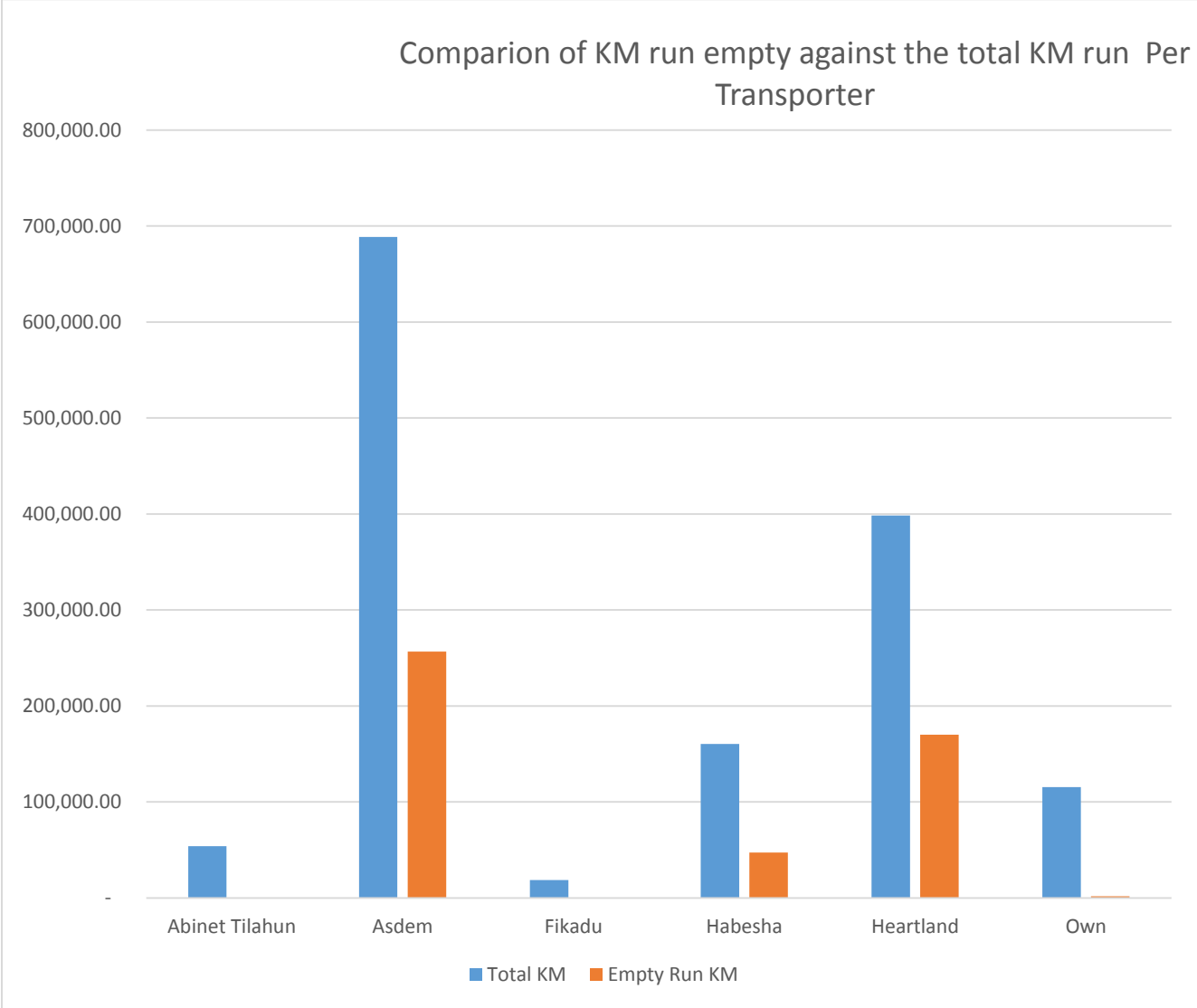
Figure 4.4: The proportion of Kilometers Run Empty



Source: HBSC Transportation Report, 2018.

Interestingly the empty run from transporter to transporter varies significantly. The contractual agreement the transporters have with Heineken is based on two arrangements. On certain lanes, the transporters have an empty run obligation and on other lanes the contract does bind them to drive two way. In the latter case, the transporters were not be running empty as Heineken takes the obligation to prepare empty ahead or pay the transporters two way rate in case it fails to make available the backload. The diagram below clearly shows how this is reflected in their real performance.

Figure 4.5: Comparison of KM Run Empty Against the Total KM Run Per Transporter



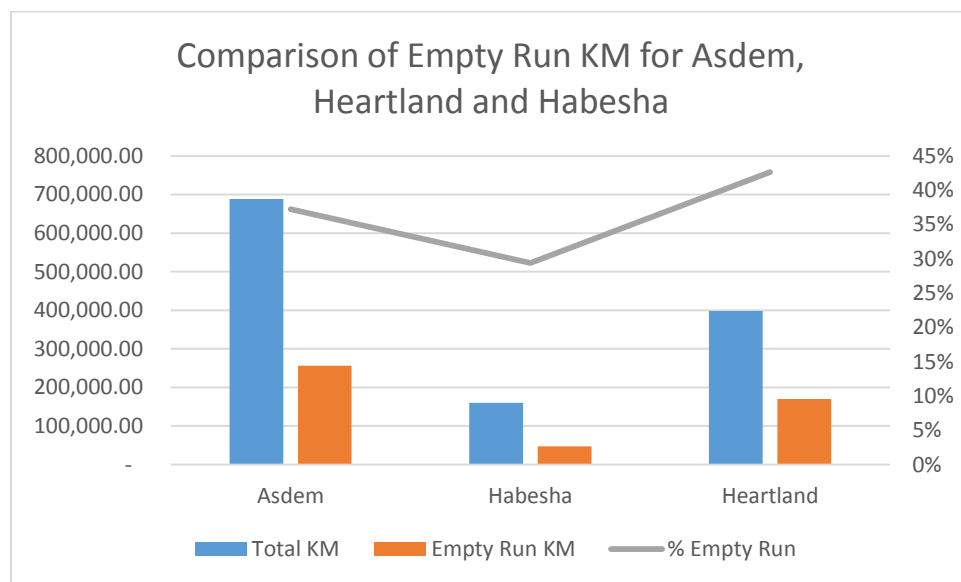
Source: HBSC Transportation Report, 2018

Both Abinet Tilahun and Fikadu have only two way contractual commitment and having no empty run. The total kilometer run by this two companies is very small compared to those which run both two ways and one way, it is just only 72,399.61 Km. This is only 5% of the total distance covered during this period.

Heineken also prioritizes in allocation of loads its one way transporters. As shown in the table below, Asdem, Habesha and Heartland have contract for two way and one way. These three companies covered 1, 247,281. 16 km. This is 86% of the total km covered during this period.

However, the proportion of the empty run from among the three transporters compared against the total kilometer covered is not equivalent. It is different from transporter to transporter. The chart below shows the disparity between allocation empties between this transporters.

Figure 4.6: Comparison Of Empty Run KM for Asdem, Heartland and Habesha

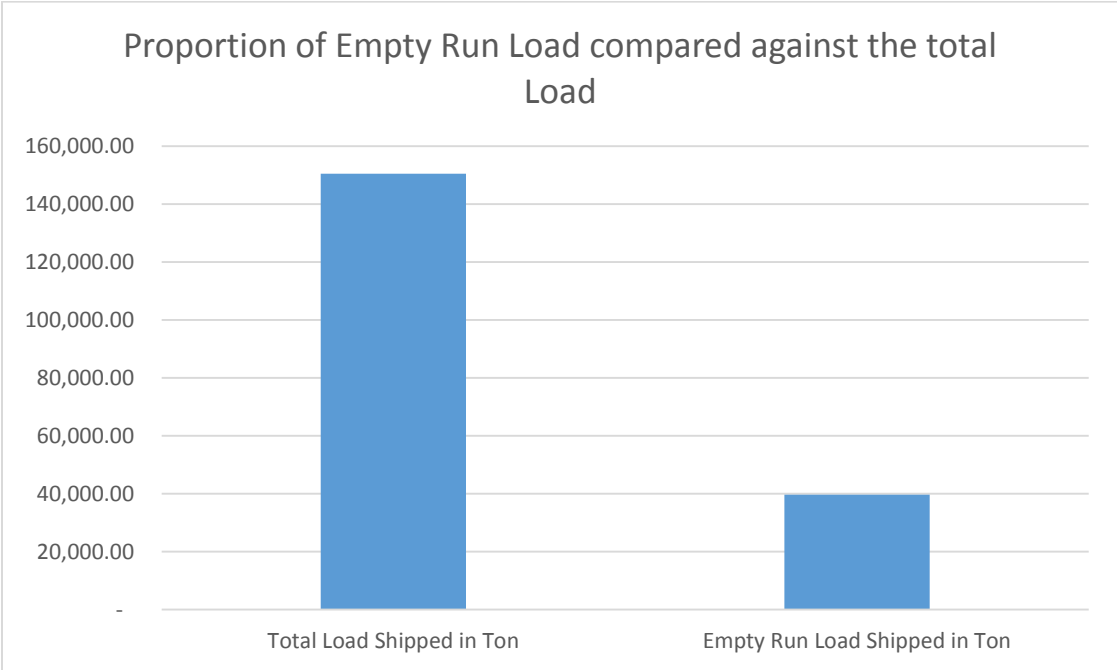


Source: HBSC Transportation Report, 2018

Asdem made the highest empty run which is 256,424 km in terms of distance. This is 37 % of the total distance travelled. However, Heartland made an empty run of 169,850.00 Km which is 43% of the total km covered during this period. Percentage wise the highest empty run is covered by heartland. Habesha, on the other hand made 29% of empty run making them the least empty run company.

On the other hand, the total ton covered on return of the empty running is **26.4%** only which is **39,731.7 ton** of the total load moved **150,468.00 ton** during this period. The percentage of load moved by ton is lower as compared to the percentage of kilometers run empty which is 33% of the total KM covered. The chart below shows the comparison of the total load moved against the total load made during empty run. It is important to understand that load in the empty run refers to the backload made after moving empty. Empty run in this case is not to say that the truck is running empty. It is, however, to show that the truck is running empty either after delivering full product to distribution centers with no back load or the truck is travelling with no load to collect empties or full product from warehouse or the brewery.

Figure 4.7: Proportion of Empty Run Load Compared Against the Total Load



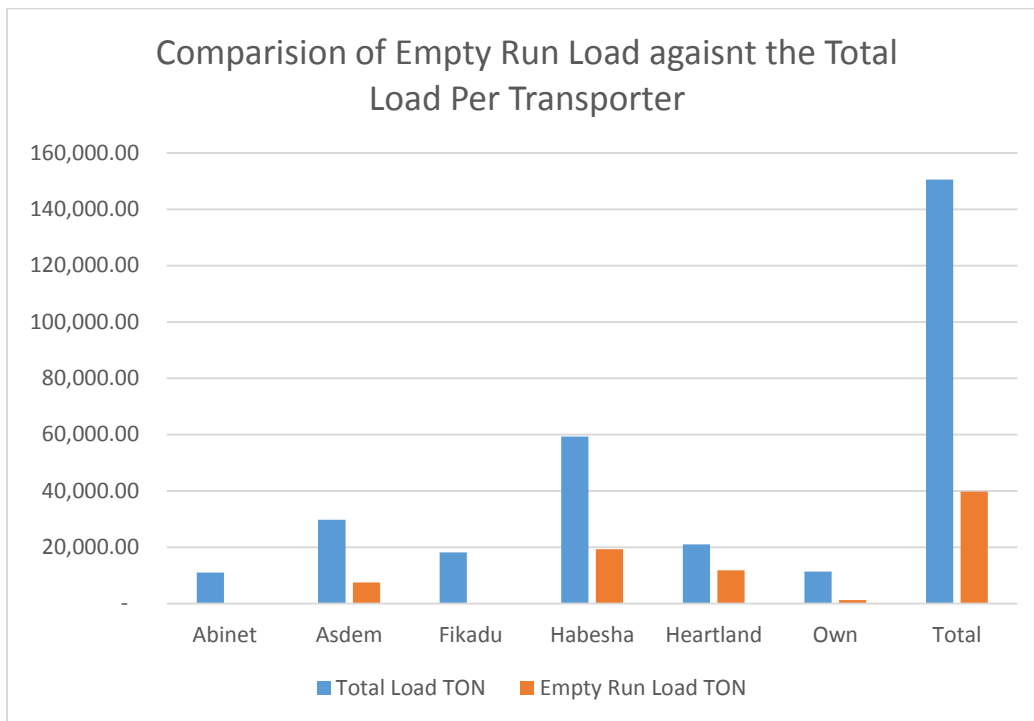
Source: HBSC Transportation Report, 2018

In the subsequent section, the researcher were be discussing the performance of the transporters measured in terms of the total shipments made in tons against the empty run loads. Due to the fact that different actors get involved in the distribution channel of beer, empty running gets complicated .After delivering products to distributions centers, the empty crates should be collected back from customer for refilling purpose. The crates are with restaurants, bars, hotels

and also at other retailing points. The crates which are collected back from this customers often are not able to the full loading capacity of the truck or trucks should be waiting at the warehouses for number of hours or days to get full. As a result of this, the return journey were not be made with the full loading capacity of the trucks.

Since the trucks are carrying empty crates it leaves a room for argument to also view that the truck is also running empty. The truck is not carrying a product ready for selling. However, according to the contract between the transporters and Heineken, a vehicle loaded with empty crates is considered as loading full crates even though there is no saleable product loaded. It is because the carrying of empty crates in any way takes up space and it is not possible for the vehicle to carry any other load in this condition if especially loads are palletized loads. As set out in the chart below, the performance of the transports clearly varies on empty running.

Figure 4..8: Comparison of Empty Run Load against the Total Load Per Transporter



Source: HBSC Transportation Report, 2018

Habesha moved the highest portion of the load 59,256.72 ton which is indeed 39% of the loads of the total load 150,468.17 ton. The empty run covers 32% of the total shipment made Habesha. The second highest volume of the load is moved by Asdem which is 29,792.38 ton.

This is actually 20 % of the total load. From this the empty run load covers 25% of the shipment made by Asdem. The third company which is Heartland which moved 14% of the total shipment made by the company intotal. The empty run makes 56% of the total shipment. This clearly shows that the highest part of Heartland was moving was empty run basis. The other two company Abinet and Fikadu does not have contractual engagement to move empty run loads and thus the practically moved 0% on empty run basis.

The below table provides a brief summary of the aforementioned comparisons.

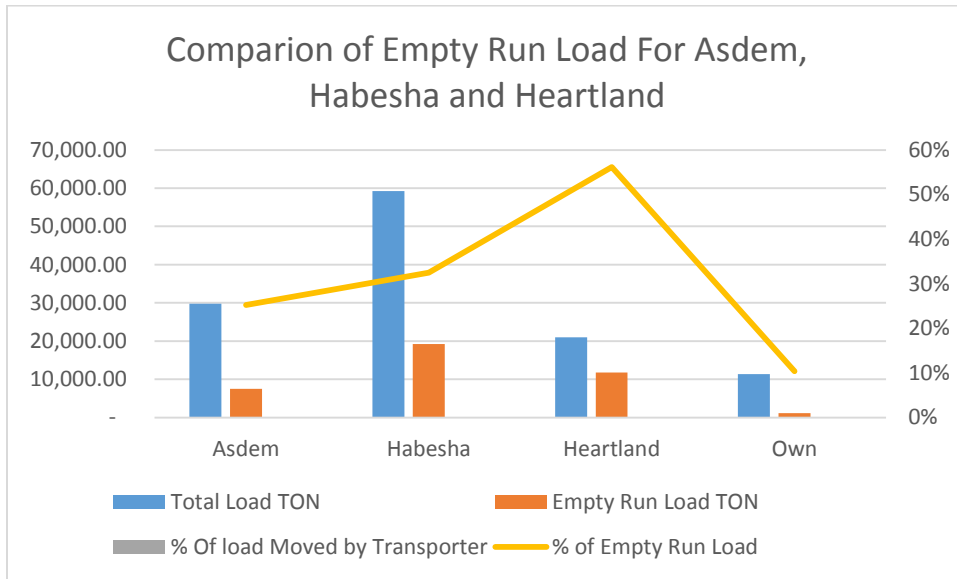
Table 4.3: Comparison of Empty Run Load against the Total Load Per Transporter

<b>Transporter</b>	<b>Total Load TON</b>	<b>Empty Run Load TON</b>	<b>% Of load Moved by Transporter</b>	<b>% of Empty Run Load</b>
<b>Abinet</b>	10,953.02	0	7%	0%
<b>Asdem</b>	29,792.38	7,522.12	20%	25%
<b>Fikadu</b>	18,138.61	0	12%	0%
<b>Habesha</b>	59,256.72	19247.2	39%	32%
<b>Heartland</b>	20,975.52	11784.0	14%	56%
<b>Own</b>	11,351.92	1178.4	8%	10%
<b>Total</b>	<b>150,468.17</b>	<b>39,731.72</b>		<b>26.4%</b>

Source: HBSC Transportation Report, 2018

Making a comparison of the three transporters namely Asdem, Habesha and Heartland were shed more light on understanding the performance difference in terms of the carried load on empty run basis against the total load shipped. This three companies have a contract for both two way and one way transportation of the load. The one way is practically empty run load. As Heineken does not commit itself to make any arrangement for backload shipping. The transporters are clearly communicated prior to dispatching that their assignment for a given is empty run load before 24 hours. This provides them to explore opportunities for loading by their own means.

Figure 4.9: Comparison Of Empty Run Load for Asdem, Habesha ad Heartland



Source: HBSC Transportation Report, 2018

**4.3. On-Time and In-full (OTIF):** The very essence of having the transporter is to get items delivered to the customers at the time needed and in the quantity required to the determined location. It remains important to measure the performance of the transporters on how well they are doing measured against this very objective. OTIF is simply a measure of quantity delivered with the right number and on the right time to the customer.

In order for companies to become closer and work together with improvements in their level of customer’s service in their supply chain, they need to be able to speak the same language, and through that intend the same thing in their communications (Griffis et al., 2004). Thus they need a mutually conducted and agreed-upon PM process that is characterized as having a shared and clearly defined delivery service metric, i.e. on-time delivery.

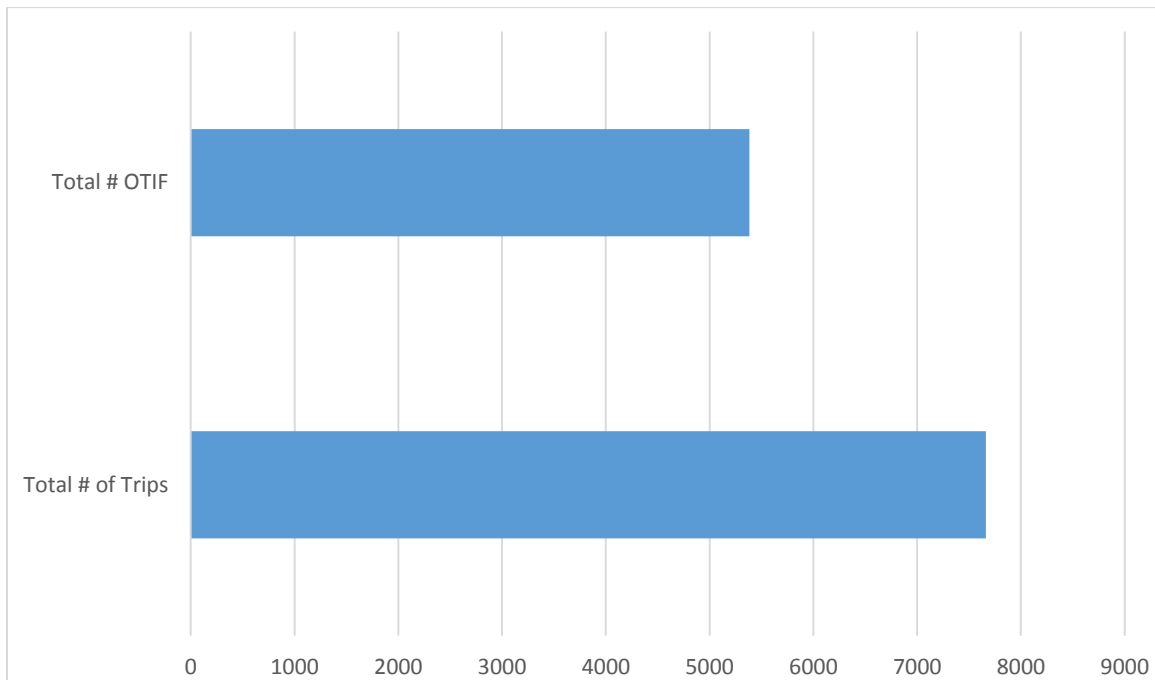
It is interesting that there is a mutually agreed on target for the entire cycle time from collection to delivery locations between Heineken and transporters. The metrics is also clearly set out in the contractual agreement between the transporters and Heineken. The contractual obligation stipulates that 97% is the target set for the transporters to achieve. However, there is no specific reference in the contract as to what happens in cases whereby

the transports fail to carry out the contractual obligation to OTIF performance. There is penalty reference for any OTIF non-performance from the transporters side. In similar fashion, the OTIF performance needs cooperation from Heineken side as well. Since a sizeable amount of time is spent waiting for loading, longer unloading and loading times are not under the total influence of the transporters.

The performance measurement of this metrics is based on secondary data collected from Heineken Business Resource Planning. A comparison of the performance of the transporters against the expected performance goal and a comparison of how differ from each other is discussed in the next part of this study.

According the collected data of the total 7661 trips done, it is only 5382 trips which are done OTIF, this 70% of the total shipments conducted during this period. This is indeed a significant gap compared against the target of 97% set. The actual performance is way 27% lower than the expected level of performance.

Figure 4.10: Comparison of total Number of Trips Vs the OTIF Deliveries



Source: HBSC Transportation Report, 2018

In the existing logistics set up the sales department raises the sale order and gives the customer requirement to ware house and transport department. The warehouse and transport unit were communicate the transporters to assign adequate number of trucks for the quantity mentioned on the sales order. The selection of transporters is made on contractual agreement. The transporters drive only on the lanes determined in the contract agreement. Each lane has a fixed kilometer and the time to drive on each lane is calculated based on 30Km/hr drive speed. Therefore, the OTIF is calculated based on pre-agreed time frame. The time starts ticking from the very moment the transporter is communicated to assign truck up until it is delivered to desired location. The total number of deliveries conducted by each transporter divided by the total number of OTIF deliveries gives the average OTIF for each of the transporters. The table below summarizes the OTIF performance among the transporters.

Table 4.3: Comparison of total number of deliveries Vs OTIF deliveries

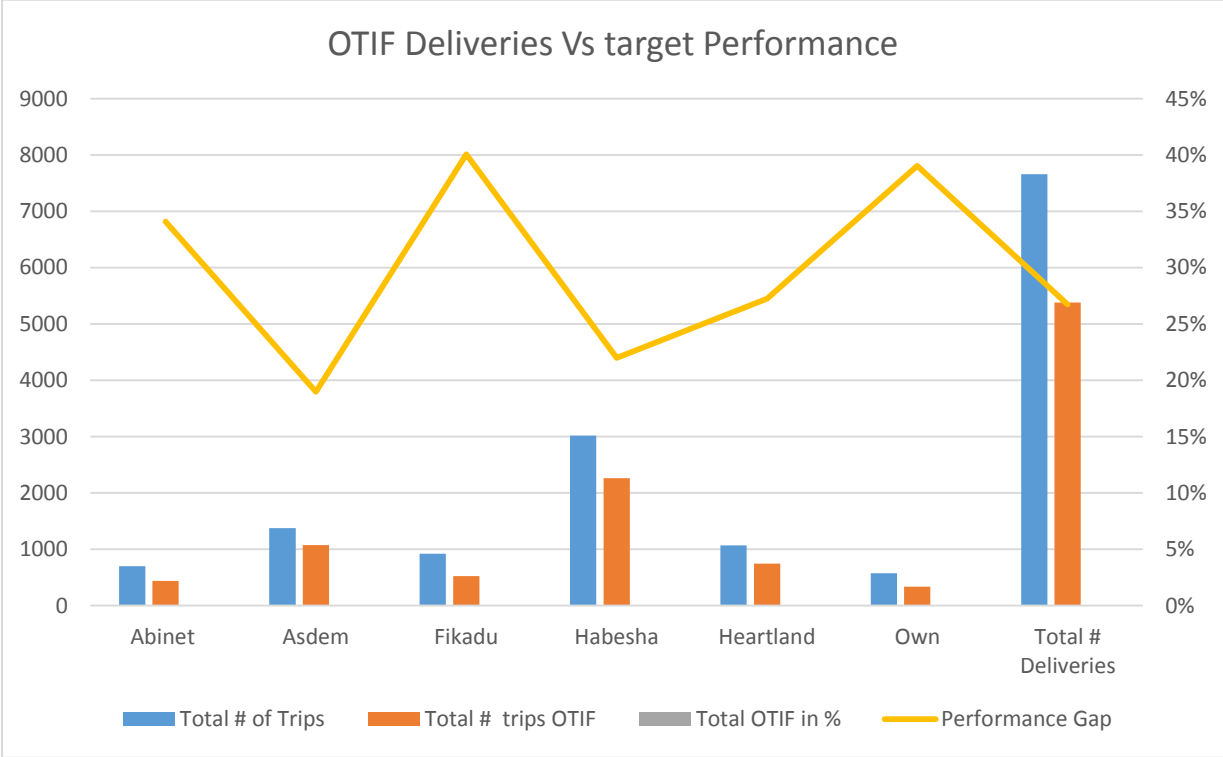
Transporter	Total # of Trips	Total # trips OTIF	Total OTIF in %
Abinet	698	439	63%
Asdem	1377	1074	78%
Fikadu	924	526	57%
Habesha	3017	2263	75%
Heartland	1068	745	70%
Own	578	335	58%
Total # Deliveries	7661	5382	70%

Source: HBSC Transportation Report, 2018

As the summary of table above shows, the highest performing transporter is Asdem with 78% OTIF. And the lowest performing transporter is Fikadu with 57% performance. The comparison among of the two performance extremes i.e. the lowest Vs the highest is a gap of 21%. The average performance is at 70% OTIF from the total number of deliveries. Heartland is at average performance level but with a gap of 8% from the best performing company. The Heineken owned companies is just at 58% and way far lower than the average performance of 70%.

It also appears that the OTIF performance across the transporters is not uniform. All of the transporters are performing from below the desired level. How far each of the transporter perform indeed varies from individual transporter to another transporter.

Figure 4.11: OTIF Deliveries Vs Target Performance



Source: HBSC Transportation Report, 2018.

The worst performance gap is with Fikadu with a gap of 40% lower than the agreed performance target. Heineken owned trucks rank the second worst performance with a gap of 39%. The best performing transporter is Asdem, it has only 19% lower than the agreed performance goal. This clearly shows that the poor performing transporters can benchmark best practice from the best performer and this provide a huge room opportunity to learn from each other.

**4.4.DEVIATIONS FROM SCHEDULE:** Delay is one of the major challenges of managing vehicle operations. It still remains a significant issue in the case under study. Quite a significant percentage of deliveries are deviating from the schedule. From the total number of deliveries conducted 30% of the deliveries are delayed, in terms of number 2327 of the deliveries is delayed of the total 5334 deliveries conducted. The table below provides a summary of the total deliveries made against the total number of deliveries delayed.

Table 4.4: Comparison of total number of deliveries against the total number of delays.

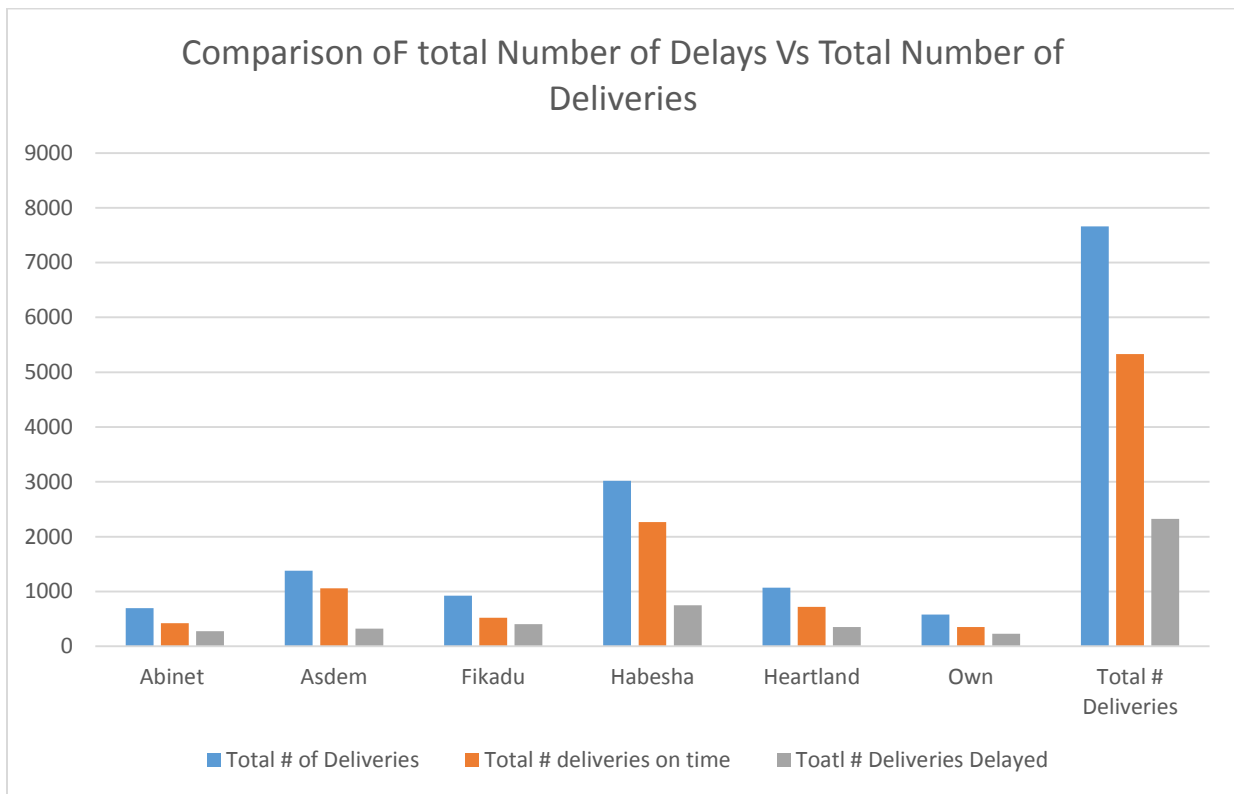
Transporter	Total # of Deliveries	Total # deliveries on time	Total # Deliveries Delayed	% Delay
Abinet	698	421	277	40%
Asdem	1377	1057	320	23%
Fikadu	924	521	403	44%
Habesha	3017	2267	750	25%
Heartland	1068	719	349	33%
Own	578	349	229	40%
Total # Deliveries	7661	5334	2327	30%

Source: HBSC Transportation Report, 2018

As shown in the table the company operated vehicles have the worst record of making deliveries on time. Among the third party transporters the highest percentage of delay goes to Fikadu with 44% of delay in deliveries and the lowest percentage of delay is for Asdem with 23% delay. The performance gap among the two transporters is as high as 21%. Asdem and Habesha have nearly similar number of delays with 23% and 25% delays respectively.

The figure below provides a comparison of delay against the total number of shipments done and the deliveries made on time.

Figure 4.12: Comparison of Total Number of Delays Vs Total Number of Deliveries



Source: HBSC Transportation Report, 2018

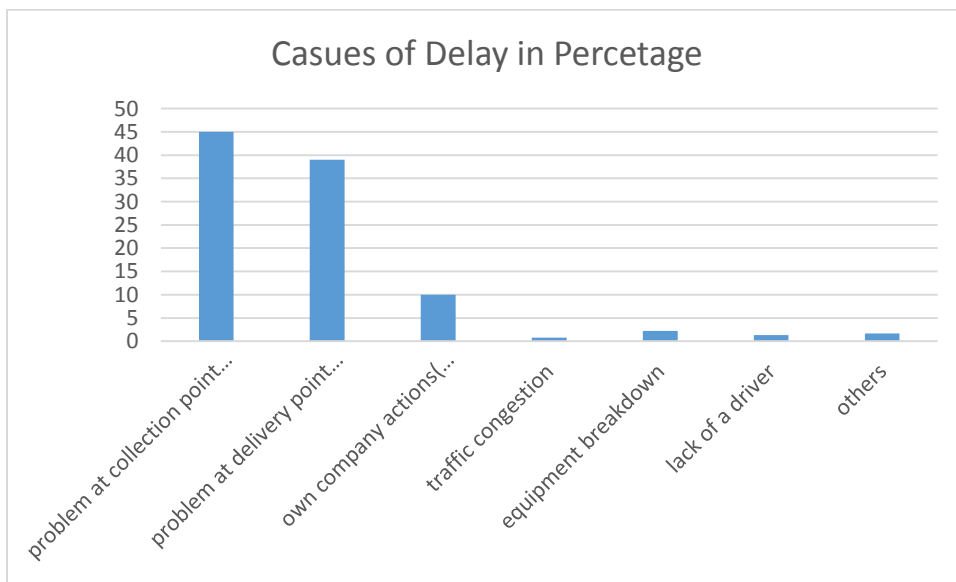
#### 4.4.1 Causes of Delay

There is almost no recorded data as to the causes of the delays from the transporter or from Heineken side. Therefore, the researcher have conducted questionnaire to get an insight into as to what are the evaluation of different participants as to the causes of the delay. The analysis into this figure were provide an opportunity to assess the overall impact of each type of delay. The participants were asked to record which of the possible causes of delay are related to the deviations from schedule by ranking them in order.

This shows that the largest impact from delays comes from those caused by delay at collection points, delivery points and the transporter actions respectively. This clearly shows that the highest percentage of delay is caused by Heineken itself contributing as high as 45% of the delays. The second cause of delays is due to problems at delivery locations of the customers

making 39 % of the delays in delivery. This two factors combined together contribute to 84 % of the delays. It is very surprising that both causes of delays could be highly influenced by Heineken itself. However, the third cause of delay is related to the transporters own action making 10% of the delays. If the transporters and Heineken work hand-in hand it is possible to improve the deviations from schedule quite in signification portion because their causes contribute to 94% of delays. The researcher strongly recommend for this two companies to closely cooperate in this regard.

Figure 4.13: Causes of Delay in Percentage



Source: Questionnaire Survey, 2018

#### 4.5. SAFETY

Heineken is committed to reducing accidents and ill-health to not only its staff but also to all third party service providers including transporters. As a result, they must agree to the occupational health and safety standard set out by Heineken. “Safety First” is the Heineken company global strategy and all its operating companies around the globe including Heineken Ethiopia embeds this at its core of its business strategy. Traditionally the company safety activity has been focused around production area only. However, records over the years has shown that accidents with the business occurs outside of the production sites. Therefore, it has also made a

priority in every contract management to set safety targets and measure performance of its suppliers. Within Heineken all line managers and general managers must ensure that the terms and conditions in the contract are complied with and deviations from the agreed terms are reported and remedial actions are taken before it is too late. And, therefore, the company is making all transporters to start implementing the safety requirements. Accordingly, the transporters committed themselves contractually to comply with safety requirement from Heineken side. The mutually agreed safety goals are near-misses, incident, and accident at the three basic measures. The target for each of the measures is as presented as below:

Table 4.5: Safety Target for Transporters

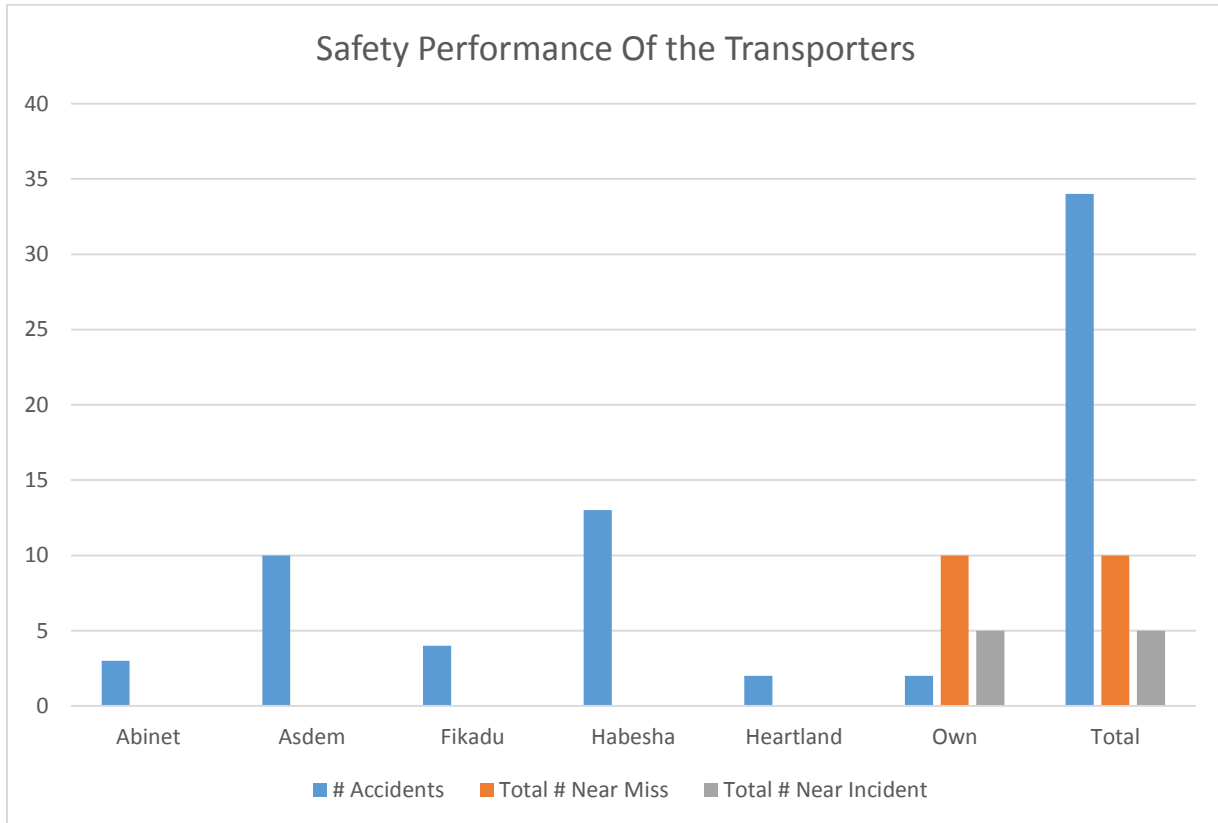
Description	Target of Occurrence	Remark
Near Miss	No limit	Highly encouraged to be reported
Incident	0	
Accident	0	

Source: HBSC Transportation Report, 2018

The targets are applicable not only for the third party transporters but also for company operated vehicles. The target for near misses is to get a report as many as possible without no limit as this were serve to avoid the potential occurrence of accidents and incidents. The chance to learn from incident, accident and near misses can only be ensured if it is measured and all transporters adapt a culture of reporting the safety performance.

The figure below provides the safety performance of the transporters measured against the three set target

Figure 4.14: Safety Performance of the Transporters



Source: HBSC Transportation Report, 2018

As summary above shows, there is no near misses and incidents from the third party transporters reported to Heineken. It is obvious that this figure does not represent the reality the transporters are facing on their operations but because such occurrences are not properly recorded and reported. Heineken staffs are not also requesting such reports from the third party transporters even though the contractual obligation is to get report from the transporters on the three of aforementioned targets and make a quarterly discussion on improvement areas with the transporters. Because owned trucks are fully under control of the Heineken Company, a better recording of the safety practice is achieved. To encourage also near misses reporting, the company has set an incentive scheme that a driver which has registered higher number of near

miss reports were receive a prize on monthly basis. The driver were be named “safety hero” of the month, the name and picture of the driver is posted at a location visible to most of employees.

On the other hand, as shown on the figure above, there is a report of accidents for the fact that every time accidents happens there is a delay of shipments to deliver points or from collection points. The entire focus of the logistics team of Heineken is to get on time in full deliveries of shipments as such they request explanation for deviations from schedule. As a result of this the transporters were report happening of accidents and it were get recoded in this fashion. The transporters does not provide accident in a formal way due to this the cause of the accidents, the extent of accident and lessons from such accidents are not fully captured and recorded.

Table 4.6: Comparison of Safety Performance per Transporter

<b>Transporter</b>	<b>Number of Accidents</b>	<b>% Accident</b>	<b>Cumulative Percent</b>
Abinet	3	9%	9%
Asdem	10	29%	38%
Fikadu	4	12%	50%
Habesha	13	38%	88%
Heartland	2	6%	94%
Own	2	6%	100%
<b>Total</b>	<b>34</b>		

Source: HBSC Transportation Report, 2018

As shown in the table above, the target of the accident was zero. But none of the transporters including owned trucks failed to achieve this performance target. Over all 34 accidents happened and the highest portion of the accident goes to Habesha with 38 % of the accident. Asdem is with the second highest record of accident. The lowest record of accident is registered with own and Heartland, 6% of the total number of accidents.

The following actions indeed needs to be undertaken to improve the safety performances:

- Heineken should provide a road safety training to key stake holders of transporters and should arrange a situation whereby the transporters discuss on safety issues. This were provide an opportunity for the transporters to share experiences to play their part in

contributing to reduce the number of road safety fatal accidents and to change unsafe driving behaviors.

- Heineken must also continuously evaluate the performance of the transporters against agreed goals. It must enforce the obligation to report all occurrences of near misses, incident and accident as stipulated in the contract agreement. The report should be presented on quarterly meeting so that each of the transporters were see how far below they are performing from their obligation.
- An incentive to encourage safety performance could be considered like certificate recognitions and trophy for the best performing transporters. A consistently low performing company should also see the potential of contract termination.

The researcher have conducted a questionnaire to look into how well the transporters are integrating safety into their business strategy and mechanism of ensuring its implementation across their respective organization. The researcher have selected three factors for this purpose: safety policy, defensive driving training plan and reporting on safety performance against the set targets.

As provided in the summary below, none of the transporters are yet in position to make safety a serious business commitment.

Table 4.7: Transporters Performance against Selected Factors

<b>Transporter</b>	<b>Safety Policy</b>	<b>Defensive Driving Training Plan</b>	<b>Regular Reporting on Safety Targets</b>
<b>Abinet</b>	No	No	No
<b>Asdem</b>	No	No	No
<b>Fikadu</b>	No	No	No
<b>Habesha</b>	No	No	No
<b>Heartland</b>	No	No	No

Source: Questionnaire Survey, 2018

## **Chapter Five: Summary, Conclusion and Recommendation**

This chapter discusses summary of major findings, conclusions of the study findings and recommendation presented by the researcher.

### **5.1 Summary of Major Findings:**

The key findings of this study is as discussed as follows. In the study the researcher has attempted to identify how well the transporters are performing against key performance indicators. Quite different number of metrics could possibly be utilized in measuring third party transporters. Vehicle Fill, Empty Running, On-Time-In-Full, Deviations from schedule have been the five key indicators employed for this research paper.

It has been revealed in this research that the performance of the transporters is not similar across these factors. On Vehicle Fill the transporters performance is significantly above average with 83% performance rate. This is uniform all across the transporters because of the fact that it is contractually binding for them to assign similar trucks for each of the journey allocated by Heineken. The study also signified Empty Running is another factor where there is a significant disparity among the transporters the highest being 43% and the lowest 29% measured in km travelled. Some of the transporters are significantly far from the average empty running rate which is **33%**.

Another core metrics is to measure whether the delivery is made in the required quantity to the desired locations in good condition. Therefore, the performance of transports in terms of on-time-in-full measure is a subject of big concern. The average performance is just at 78% while some of the transporters are as low as 57%. This indeed is very disturbing compared against the goal of 97% OTIF. There is now a performance gap of 19% between the target and the actual performance of the transporters.

It also appears that Deviation from Schedule is another with 30% of the deliveries being delayed is a subject of big concern. There is however big opportunity to improve for the fact that the major causes of the delay as high as 94% is due to the transporter, the customer and Heineken side. Given each of agree to work closely with high sense of cooperation and work appropriately on their internal responsibilities, there is a potential to drive down the deviations from schedule.

Lastly Safety is another pillar employed for this research paper. The research showed that the “as is” performance is quite uninspiring. There is a significant number of accidents as high as 34 accidents over this research period. Incidents and near misses are not properly recoded and reported and thus there is no an opportunity to learn from these occurrences. The transporters are not integrating safety as part of their business strategy.

## **5.2. Conclusion**

The major conclusions of this research is as presented as follows:

- Heineken has outsourced its primary distribution transportation services to third party transporters. Outsourcing is an arrangement based on contract to allow another company to perform some kind of work for the contracting company. Since the recent past almost all companies outsource their activities in one or another way. As a result, there is a need to establish a performance measurement systems in order to keep the performance on the desired track. Performance measurement if done properly by reviewing the performance of the organisation and identifying the right Key performance Indicators (KPIs) that are relevant to the goals of the organisation can lead to great benefits and improvements. Performance measurement should not be a once in a life time event, rather it should be a continuous process, it should be done from time to time to keep the organization’s performance in track, and if possible stay ahead of its competitors and also to enhance continuous improvement.
- The research has revealed that the performance of the transporters measured against Vehicle Fill, empty Running, OTIF, Deviations from schedule and Safety is not in line with expected level. However, it is true that Heineken is focusing on its core business due to outsourcing of the transportation services.

### 5.3 Recommendation

It is clear that many companies are outsourcing their non-core business activities to another company. As a result, they can focus on areas related to their core business function. As a result, Heineken also outsourced the transportation services to third party transporters. It is also placed high value to set a clear performance measurement indicators and make measurement to stay in track and take corrective measures when deviations come to surface. Therefore, based on the finding of this the research, the following suggestions are forwarded:

- Heineken should focus on continuously measuring the performance of the transporters. Low performance in beer industry is a big concern not only because they contribute to lost sales but also because it allows consumers to switch to competitor's products. It is highly recommended that a monthly report is produced and results are discussed with transporters on regular basis for this allows to take corrective measures timely.
- The performance among the transporters is not of the same level. Therefore, organizing experience sharing mechanisms among the transporters were provide an opportunity to learn from each other. Therefore, it is to my belief that a quarterly experience sharing platform should be organized whereby best practices are discussed and necessary lessons gathered.
- The researcher also recommend that Heineken produces monthly performance report and the report is presented to senior managers in the Heineken Company. The support of senior managers were be of great importance in alleviating problems that are within the scope of Heineken but affecting the performance of the transporters.
- Third party transporters are also highly recommended to evaluate their performance against these performance measurement metrics. In addition to the financial performance metrics they currently using, operational performance metrics identified in this research were enable to them to enable them to be responsive and effectively operating companies.

### **Suggestions for Future Researches**

Outsourcing of transportation service is a common practice in most parts of the world. However, the experience of measuring the third party transporters in Ethiopia is very minimal. In addition, no formal research has been done in this area to analyze the performance of third party transporters in Ethiopia. As a result, this preliminary research provides findings, which can also serve as a stepping stone for other related research, regarding analysis on performance of Third Party Transporters in Ethiopia. However, this research has narrow scope which requires further investigations both in breadth and depth. Thus, future researches should consider an in-depth study on the analysis of third party transports across different sectors in Ethiopia.

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# Annex

**ADDIS ABABA UNIVERSITY**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
**SCHOOL OF COMMERCE**

## **The Analysis on The Performance of Third Party Transporters**

(The Case of HEINEKEN BREWERIES S.C )

### **Questionnaire**

Dear Sir/Madam;

#### ***Request for Participation in a Research Study***

I am a Postgraduate student at Addis Ababa University, College of Business and Economics, School of Commerce. As partial fulfillment for the Masters of Logistics and Supply Chain Management, I am conducting a research study on “The Analysis on the Performance of Third Party Transporters: the Case of Heineken Breweries S.C”

Therefore, I would appreciate if you could spare a few minutes of your time to answer the following questions in regard to practices in your organization. All the information provided were be purely used for academic purposes and your identity were be treated with utmost confidentiality.

Your assistance were be highly appreciated and thank you in advance.

Yours faithfully,

**Afewerk Legesse**

## Part I: Demographic Information

Please mark (X) in appropriate box to your response.

### 1. Gender:

- Male
- Female

### 2. Age in years:

- Less than 30
- 31-40
- 41 – 50
- above 50

### 3. Your Department

- Management Level-First Reports
- Sales
- Packaging
- Technical
- Quality
- Warehouse & Transport
- Planning

### 4. For how long have you held the position (in years)

- Less than 2
- 2-5
- 5-10
- Above 10

### 5. Level of Education

- Diploma
- Bachelor Degree
- Masters
- PhD

**Part two: Causes of Deviation from Schedule**

6. To what extent do you think that the possible causes of delay are related to deviations from schedule? (Please mark X in appropriate box to your opinion)

Where; SU = strongly unrelated, U = unrelated, N = neutral R=related and SR = strongly related

<b>Causes of Delay</b>	<b>SU</b>	<b>U</b>	<b>N</b>	<b>R</b>	<b>SR</b>
Problem at collection point( responsibility of both at Heineken and Customer location)					
Problems at Delivery Point ( responsibility of both at Heineken and Customer location)					
Own company Action (Transporters Internal responsibility).					
Traffic Congestion					
Equipment Break Down					
Lack of A driver					
Others					

### Part three: Safety Performance

Please briefly below the safety performance of your company.

7. Does your organization have occupational safety policy?
  - Yes
  - No
8. Does your drivers, helpers and other transport operation staffs fully aware of your safety requirements?
  - a. Yes
  - b. NO
9. Do you have planned defensive driving training program to ensure road safety targets?
  - a. Yes
  - b. No
10. If yes, how often you conduct the training? Please tick one of the below
  - a. Every three months
  - b. Every Six Months
  - c. Every One year
  - d. Other, please  
describe. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
11. Do you keep record and report safety non-compliances?
  - a. Yes
  - b. No

## Thanks for Your Cooperation