

University of Economics, Prague

International Business – Central European Business Realities



Procurement of Transport Services in Anheuser-Busch InBev

Author: Alexandra Ivashkevich

Thesis instructor: Ing. Marek Vinš, Ph.D.

Scholar year: 2014/2016

Table of Contents

<u>Declaration:</u>	4
<u>Acknowledgement</u>	5
<u>Abstract:</u>	6
<u>1. Introduction</u>	7
<u>2. Methodology</u>	10
<u>3. Literature Overview</u>	12
<u>3.1 Transportation & Its Place in the Supply Chain</u>	12
<u>3.2 Business environment of Transportation Services</u>	14
<u>3.3 Theoretical Background of Outsourcing: Transportation Services Perspective</u>	19
<u>3.3.1 Transaction Cost Economics</u>	20
<u>3.3.2. Competitive Advantage and Resource-based view</u>	29
<u>3.2.1 Motives for outsourcing transportation services</u>	31
<u>3.2.2. Concerns and Risks of outsourcing transportation services</u>	33
<u>3.3 Procurement Process of Transportation Services</u>	35
<u>3.3.1 Transportation contractual roles</u>	36
<u>3.3.2. Selection of Transportation Services Providers</u>	38
<u>3.3.2.1. Process of Identifying transportation service requirements</u>	39
<u>3.3. Supplier Relationship Management Strategies</u>	53
<u>4. Practical Part</u>	54
<u>4.1. Ab-InBev Business Profile</u>	55
<u>4.2. Transportation Operations Profile</u>	58
<u>4.3. Procurement Strategy Profile</u>	60
<u>4.4. Environmental Focus</u>	62
<u>4.5. Carrier Relationship</u>	63
<u>4.6. Strategy Evolution</u>	66
<u>Conclusion</u>	68
<u>Appendix: Interview: Procurement of Transportation Services Ab Inbev</u>	69
<u>References</u>	71

Declaration:

I hereby declare that I am the sole author of the thesis entitled “Procurement of Transport Services in Anheuser-Busch InBev“. I duly marked out all quotations. The used literature and sources are stated in the attached list of references.

In Prague on

Alexandra Ivashkevich

Acknowledgement

I hereby wish to express my appreciation and gratitude to my supervisor Ing. Marek Vinš for the guidance of my work with his valuable insight, as well as support for my ideas. Special thanks I want to dedicate to the Program Coordinator Mrs. Ivana Krejčí, who with all her great kindness and patience supported students through the most difficult moments of the study plan. Furthermore, I would like to thank all participants in my interview for finding time and giving me opportunity to conduct my research. Last but not least, I warmly thank my family and friends for always being by my side.

Abstract:

Nowadays, companies involved in the international trade and production of goods in order to retain customers and increase market share are forced to assure excellence in the performance at all stages of their supply chains. Transportation plays critical role and can be argued to be the most crucial link in the supply chain determining its success or failure. However, regardless of such high importance, this process is very often outsourced as companies do not possess sufficient expertise and resources to deploy this function in-house. Thus, companies have to develop effective strategies and plan their procurement activities accordingly and then manage the outcome. There is not a lot of studies that would take a narrow look at the development of procurement strategy for transportation services in particular. This work is aimed to get the insight and discuss strategic, planning level and post operational evaluation of the procurement of transportation services and explore practical implication on the example of AB InBev through in-depth interviews with company employees. As an outcome this work is aimed to provide an outline of the company performance, value added or negative aspects as result of application of previously discussed strategies.

1. Introduction

Economic conditions which had been re-shaped by the Global Financial Crisis forced many companies to take an alternative perspective on how they can enhance their profitability. This is especially true in the areas of strategy that facilitate cost-cutting. Fierce competition between companies created strong demand for constant innovation and variation of product lines to be delivered through different distribution channels in the shortest period of time and ideally at minimal cost. As a result, it highly increased pace and time pressure throughout the supply chain. At the same time, it is true that each firm has a unique manner of resource utilisation and management - thus making it essential for the company to take advantage throughout each operational element in the supply chain as this will be instrumental in creating competitive advantage.

However, it is hard to imagine that someone in the company would ever identify the procurement and logistics departments as the critical units for the development and stewardship of business core competence. Historically, both of these functions were identified as non-core. Procurement has been considered as an administrative process that solely aimed to acquire requested items for the lowest price. At the same time, logistics has been considered solely as an operational task and an unavoidable outcome of the company's activities, such that it was rather seen as a cost centre than something that can impact business profitability. Nevertheless, with the development of international and global markets these processes have significantly evolved, shifting from simply getting goods from point A to point B towards a strategic, wholly integrated management approach that provides opportunity for these functions to become competitive differentiators.

Procurement, as a fact, is uniquely positioned within a company and certainly is the common and primary function for all types of organisations that require inputs. It is also the main function that is responsible for most of a company's external costs. A study of company financial reports conducted in 2009-2011 in major countries revealed that nearly '70 percent of an organization's revenues are used to buy goods or services from suppliers'¹. With respect to this statistic – there is in fact a growing trend in terms of the

¹ Proxima (2013) *Corporate Virtualization A global study of cost externalization and its implications on profitability 2011*. [Online] Available from: <http://cdn2.hubspot.net/hub/28326/file-294650841->

proportion of spend with suppliers and partners. This contrasts directly with the trend toward digressive spend on labour as a percentage of revenues which accounts for an average of 12.5 percent. As an outcome, the importance of procurement as a business unit is increased and it becomes essential for the company, especially in terms of the relationship with suppliers, as they get more integrated and further transformed to the clients' extension.

Looking within the supply chain it becomes especially vital when talking about outsourcing activities, as access to global market creates plenty of such opportunities that is necessary for companies to take advantage of.

Outsourcing of transport services to external suppliers became a very common activity for both small companies and large corporations. Expertise of logistics integrators allows everyone to minimize risk and costs. However, market saturation made it more challenging and complex task for a customer, in particular the procurement team to develop effective sourcing strategy with the transport providers.

Strategic management realised the importance of effective development of operational and administrative functions, as a contributor to a competitive advantage. Thus, nowadays the supplier relationship management (SRM) developed into separate practice that is aimed to maximise value derived from such cooperation. Simultaneously, such an approach guarantees not only allocation of savings through the supply chain but also and no less important - sustainable and environmentally responsible development. Despite that today the majority of organisations still operate with home-grown procurement systems in place that are unable to realise its full potential.

The main objective of this project is to identify and discuss strategies that a company has to take when outsourcing transport services. This will be in a way that demonstrates how customer-supplier relationships could benefit and therefore to sustain competitive advantage for this company. The main subject of the discussion will be the strategy that links together the procurement business unit, supply chain management unit and logistics providers - and in a way that assures quality, speed and reliability of shipping in a long run

cooperation, as well as the possibility of contribution to the overall company competitive advantage. This paper is intended to take a very narrow and defined look at the concrete steps taken at strategic, tactical and operational levels.

The first part of my paper will be devoted to **outline forms of logistics procurement in terms of methods of cooperation, their peculiarities, advantages and disadvantages.**

The second part will concentrate particularly on **outsourcing** as the most commonly applied tactic nowadays, following with the analysis of SRM methodologies that discuss how a company can elevate relations with suppliers in regards to outsourced logistics providers; concentrating on whether those tactics bring feasible results or just remain as theoretical frameworks. These parts will also concentrate on the procurement practices and strategies that companies have to apply inside their own organisation in order to be able to develop and maintain such external relationship with suppliers through strategic, tactical and operational levels. An ultimate goal of this part will be an extraction of the concrete strategy for the company to follow in order to be able to gain competitive advantage through these particular channel. As a result of this work the business model case study approach will be used in order to explore practical implication of the theoretical content and aims to provide recommendations for this particular company on further improvements.

This work represents my personal interest due to direct professional involvement into logistics procurement activity and taking into consideration active changing market nature I am highly motivated to investigate most recent and innovative approaches in this field.

2. Methodology

The comprehensive aim of this dissertation is to describe how to develop and implement a sustainable outsourcing relationship based on the specifics of outsourcing of transport services and also to give guidance on how accordingly the company (client) should adjust its processes to gain the maximum from such cooperation.

In order to give answer to such a complex question variety of approaches should be taken. In the beginning appropriate transport outsourcing terminology and problematics will be outlined following with the discussion of procurement terminology and strategy in the context to logistics services using secondary data, mainly, previous thesis works, professional articles and scientific literature devoted to this subject. Definition of supplier relationship and further analysis with respect to SRM strategies will be presented from the standpoint of the client company. This part will incorporate both types of research methods: secondary research to build theoretical framework to complement and elaborate most recent trends in the industry and portrait whether those theories reflect the reality and manage promised expectations. As an outcome key aspects of the strategy will be generated according to strategic, tactical and operational levels of the company.

The second major part of this work will be dedicated to an explorative case study of particular existing business. As it was discussed previously, organisations where logistics and procurement are not core capabilities generally neglect the potential of these functions and view them as irredeemable by-effect of core activities. However, especially for manufacturing and production-related organisations an effectively set supply chain is crucial where logistics and procurement functions overarch and support all the other core business activities. Thus, such organisation can illustrate how maintaining supplier and customer relations can contribute to its core activities.

The case company Anheuser-Busch InBev (AB InBev) represents the leading brewer and one of the top ten consumer products producers in the world that aimed to continuously improving not only its core processes but also secondary functions. According, to Gartner

Ranking of Top European Supply Chain Organizations 2015 ² AB InBev appeared on the 13th place. Thus, it represents a company that still requires further development but at the same time it has already rich data and strong background in this field. The data about the company would be gathered through the range of different sources. Secondary data research will be based on academic works, articles, news and company official reports. Also, master data about logistics and procurement operations in European Market including contracts with transport suppliers and pricing terms for last 5 years is available directly from the company. Primary data will be gathered in the form of interviews with different levels of employees to get insight focusing on procurement and logistics strategies in Europe including distribution operations, procurement cycle of transport outsourcing contracts, SRM with logistics providers. In the recent 2 years, improvement of logistics outsourcing strategy was one of the key priorities for AB InBev Europe. The company underwent major transitions and process optimisations in recent 10 years from manual and non-standardised way towards more comprehensive and complex approach providing opportunity to portrait how strategic advantages were gained from more effective procurement and logistics performance.

² Gartner Announces Ranking of Top European Supply Chain Organizations for 2015 (September 24, 2015). [Online] Available from: <http://www.gartner.com/newsroom/id/3136419> Accessed: 01.12.2015

3. Literature Overview

The aim of this chapter is to explain terminology and general concept related to transport services outsourcing as well as its specifics in terms of procurement process and establishing beneficial relationship between buyer and supplier. As a result this chapter will provide guidelines for the case analysis.

3.1 Transportation & Its Place in the Supply Chain

Logistics is an economically vital cross-section sector covering such activities as transportation, warehousing, packaging and others. These activities are extremely vital and their performance impact whole supply chain including stock replenishment, product life cycle and as a result customer satisfaction and consequently even a cash flow and revenues of the company.

Supply chain can be broken into its basic essence – planning, buying, making and moving. The transportation in particular connects all the stages of production and refers to “*the movement of a product from one location to another as it makes its way from the beginning of a supply chain to the customer’s hands*” (Bhatnagar, 2010)³. The transportation provides a key component in the delivery process and it can be argued that it is critical one, as the supply chain is only good as its transportation process. It is possible to create product, demand, precisely forecast production needs and future demand and have enough product in inventory but if product is not moved effectively and safely to get it where the customer wants company will suffer from retail stock outs, some production wide shut downs, excessive cost and other types of supply chain failures.

Transportation is not something that is managed in the vacuum, but it is an integral part of the supply chain. Companies that are able ‘*to consequently and accurately forecast the number of truckloads they require to deliver those products, by providing visibility of truckloads forecasts to the carriers and 3PL transportation providers, allow carriers to know in advance their asset requirements so they could better optimize assets ultimately allowing lower their transportation costs to the client*’ (Brian Everett, Mindshare

³ Bhatnagar, Ashish. Textbook of Supply Chain Management. Series 9380257104. Word-Press, 2010.

*Strategies, Inc.*⁴). This idea demonstrates how transportation is so intertwined with supply chain management today. It is important to realize that transportation decisions impact more than the cost and item availability levels. Decisions that organisation makes in terms of transportation impact overall supply chain success and how other supply processes are organised. Transportation's role is to physically link key supply chain partners to their customer base.

Transportation decisions impact different areas e.g. high transportation cost will encourage an organisation to purchase more of a product to obtain purchase quantity discount and assure higher quantities of freight that to low the transportation rate through the quantity weight discount. However, assuring filled capacity of container without overloading might conflict with the goal of just-in-time delivery (JIT) and adjusting time system. Additionally, transportation has an influence on companies' network design and facility location. Inbound and outbound transportation costs are key factors that need to be considered as more facilities is established shorter transportation trips and perhaps lower delivery cost. At the same time optimization of inventory requires frequent transportation and thus higher cost. Transportation decisions and capabilities impact market area opportunities, purchasing options and practices, network design and facility location, product pricing and supply chain participants. So it is really one of the last links in the supply chain that makes the difference as to whether company will succeed or fail ultimately. Transportation in the framework of logistics plays highly important role in the corporate structure as one of precisely the decisive competitive factors of customer satisfaction.

Because transportation plays such a critical role in supply chain management, transportation management became a very important function in most organisations. Those companies recognise the need for expertise implemented internally by hiring right people or externally through development of effective strategies and planning their purchasing activities accordingly and then manage the outcome. It is no longer sufficient to focus on day-to-day operations and lowest rate per mile but rather concentrating on a strategic and planning levels and a post operational type of measurement issue. It is important to strive for overall supply chain quality and promote lowest total cost of ownership.

⁴ Brian Everett (2011) *An Introduction to MindShare Strategies* . Available at: Anon, 2011. *An Introduction to MindShare Strategies* , Keller International Publishing Corp . Available at:

3.2 Business environment of Transportation Services

Initially logistics was perceived by manufactures as a necessary evil and its activities were performed by separate companies for production, storage, transportation, wholesaling, etc. In 1960s the increase in the international trade and benefits of lower costs of production in the third countries fostered the development of globalised supply chain. At that period growing energy prices and acute need of companies involved in international logistics to optimise their performance fostered the significant development in administration practices, quality management, customer service, carrier tactics, synergy strategies, that created separate area of ‘business logistics’. Based on the literature review nowadays, there are several strong business trends that shape current state of transportation service industry.

- **Increasing demand for freight transport**

In 2015 logistics market by transport infrastructure was valued at USD 8183.46 billion and is expected to reach USD 15522.02 billion by 2023 (Albany, 2016)⁵. Among all modes of transport road freight known as the most widely used infrastructure globally. In Europe 74.9 per cent of goods distribution is done by road (Eurostat, 2015)⁶ making it the most significant share of mode in terms of contractual relationship. Today international trade structure has changed significantly. The notable part of 55 per cent of international trade in manufactured goods is done in semi-parts and through intra trade (Nicita, 2015)⁷. The retail and consumer industry products are the largest user of in-house and outsourced logistics by value across all world geographical regions. Automotive industry follows with the second size market share. Both of these categories driven by the demand of end users making transportation a very valuable asset as it is required to respond to time sensitivity of the market.

⁵ Albany ed., 2016. Global Logistics Market to Reach US\$15.5 Trillion by 2023. *PRNewswire*. Available at: <http://www.prnewswire.com/news-releases/global-logistics-market-to-reach-us155-trillion-by-2023-research-report-published-by-transparency-market-research-597595561.html> [Accessed November 4, 2016].

⁶ European Commission, 2016. Freight transport statistics. Eurostat Statistics. Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Freight_transport_statistics [Accessed June 4, 2016].

⁷ Nicita, A., 2015. Statistics and Trends in International Trends 2015. Division of International Trade in Goods and Services and Commodities. Available at: http://unctad.org/en/PublicationsLibrary/ditctab2015d1_en.pdf [Accessed September 4, 2016].

- **Market Saturation**

Transportation service sector considered as a highly competitive and saturated and therefore exhibits very low profit margins. In US about 48,000 carriers went out of the business within the two decades from 1980 to 1999 (Nagarajan, Canessa , Mitchell, 2001)⁸. In order to remain in the game providers required to advance their service levels every year and diversify their portfolio with value added services and cross-docking activities such as customized packaging and kitting, international shipment preparation and the traditional activities of storage and order assembly. Customers set high expectations leaving almost zero margin for mistake in terms of lead-time, number of delivery failures at the same time aiming for the beneficial cost-balance. Eventually carriers forced to increase both fleet and number of employees even when it comes to the opportunity of serving only one single customer. At the same time, there is a strong developing trend of consolidation and convergence among providers themselves as carriers try to improve capabilities and extend their geographical reach (Chapman, 2016)⁹.

- **Customer service**

Aiming to satisfy the clientele companies are required to have an effective order capabilities that can be achieved through variety of order sizes and delivery time. Thus the pace of deliveries became more frequent but with less volumes to assure flexibility and decreasing risks of failures. Adoption and growth of customer-driven designs, mass customization and omni-channel distribution¹⁰ as a result of widespread use of e-commerce increased the pace and number of day-one and day-two orders requiring products to be moved in smaller quantities and longer distances going to direct consumer and direct store delivery. All these factors generate larger number of shipments. Such volumes are complex

⁸ Nagarajan A., Canessa E., Mitchell W., (2001). E-commerce and the Terms of Competition in Industries. Available at: https://faculty.fuqua.duke.edu/~willm/bio/cv/papers/BRIE2001_Trucks.pdf

⁹ Chapman, D., 2016. Global Transportation and Logistics M&A Deals Insights. PwC. Available at: <http://www.pwc.com/us/en/industrial-products/publications/intersections.html> [Accessed July 29, 2016].

¹⁰ 'Omni Chanel - the customer experience it delivers is seamless, consistent and personalized through the integration of agent-assisted channels with digital channels such as social media, so customers can interact whenever, wherever and however they want with the provider, across all channels'. Carroll, D. & Guzman, I., 2015. The New Omni-Channel Approach to Serve Customer. Omni-channel Communications Service Strategy - Accenture. Available at: https://www.accenture.com/us-en/~media/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Industries_2/accenture-new-omni-channel-approach-serving-customers.pdf#zoom=50 [Accessed June 19, 2016].

to coordinate especially when it comes to just in time (JIT) production that is aimed to reduce inventory matching in real-time supply and demand. Thus reduction of inventory carrying costs can be also partially achieved through effective transportation. Additionally, increasing use of recycling requires setting up larger number of backhauls.

- **Outsourcing**

In the face of such challenges manufactures and transport service providers tend to share supply chains, distribution facilities and transportation to allow synergies to achieve possibility of saving costs for both providers and consumers. Generally, manufactures prefer to limit themselves to the production of goods including warehousing and storage as a part of the production stage. Whether, transportation requires attentive control and optimization and as a non-core function companies prefer to outsource it to the external providers who poses the expertise and can derive the advantage of the economy of scale. Taking into account of sharing control over the supply chain, manufactures tend to develop stronger long-lasting relationship with fewer reliable providers to reflect all aspects of their particular business¹¹. As a result companies prefer centralised approach in terms of setting up plants and distribution centres as it reduces costs of logistics network. Companies by providing the status of "Carrier of Choice" to the best performing provider based on fulfilled capacity commitments and excellent service level foster the continuous improvement of activities and developing of mutual win-win long term partnership strategy. This is also beneficial for the carriers as such status helps to increase their marketing exposure.

Effectiveness of outsourcing has been recognised worldwide and logistics providers were actively exploring new territories to originate more integrated forms of cooperation with the customer over last two decades. Logistics competency and outsourcing largely embedded within manufacturing industries, gave start to logistics alliances, Third Party Logistics (3PL) and 4PL. Understanding of effective and robust relationship engagement and management with transportation partners became central and critical for companies success.

¹¹ Langley, J., 2015. The 20th Annual, 2016 Third-Party Logistics Study: The State of Logistics Outsourcing. *Korn Ferry*. Available at: <https://www.kornferry.com/institute/the-20th-annual-2016-third-party-logistics-study> [Accessed September 24, 2016].

- **Technology**

One of the biggest drivers of the logistics market is due to investment in technological innovation¹². Such transformations require an effective transportation management, data monitoring and right metrics to assure the healthy state of the supply chain. This could not been achieved without the development and support of the information and communication technology (ICT). Streamline of communication and 24/7 availability of supply chain units steadily declined order cycle from weeks to days and hours. Increasing integration within the customer supply chain by using EDI (European Comission, 2015)¹³ made it feasible to develop more sophisticated networks on the international and reginal levels. Shipment tracking gained the ability to proactively tackle the disruptions that appear through supply chain and prevent any distress. Today, transportation providers are required to become more technology-orientated investing into IT solutions to minimize stocks and optimise delivery patterns. Gaining visibility into the big data enabled both carrier and business to analyse freight spent, generate reports on all customer and product levels and review functions through the prism of LEAN methodology and continuous improvement to identify opportunities for change. It became possible for business to better understand how transportation affects other parts of the business including customer service, marketing, and sales. However, despite constant progress majority of studies still indicate that there is a large gap between desired IT capabilities of logistics providers and the reality with 40% of customers requiring better technological solutions in place (European Comission, 2015)¹⁴. Eventually, the level of technological advances of transportation services and logistics in whole today may distinguish the winners from losers.

¹² Albany ed., 2016. Global Logistics Market to Reach US\$15.5 Trillion by 2023. *PRNewswire*. Available at: <http://www.prnewswire.com/news-releases/global-logistics-market-to-reach-us155-trillion-by-2023-research-report-published-by-transparency-market-research-597595561.html> [Accessed November 4, 2016].

¹³ European Comission, 2015. Analysis of the EU logistics sector. Available at: <http://ec.europa.eu/transport/themes/strategies/studies/doc/2015-01-freight-logistics-lot1-logistics-sector.pdf>

¹⁴ European Comission, 2015. Analysis of the EU logistics sector. Available at: <http://ec.europa.eu/transport/themes/strategies/studies/doc/2015-01-freight-logistics-lot1-logistics-sector.pdf>

- **Environmental sustainability**

Environmental considerations and optimization initiatives in the procurement of service providers (Bekiaris, 2004¹⁵, Wolf & Seuring, 2010¹⁶; Isaksson, Björklund, 2011)¹⁷ are one of the acute matters of transport sector operations as it implies negative externalities such as CO2 emission and increasing energy use. Environment factor requires lower carbon footprint maintenance. Planning of shortest routes can reduce fuel consumption as well as usage of the modern technology of continuing growth¹⁸ and mode shift capabilities. There is a strong trend through the last decade of reduction of CO2 emission due to government regulation and improvement of technology. The CO2 emission level in 2014 continued to decrease, to a value of 123.3 g/km according to the European Environment Agency (EEA, 2015)¹⁹. As a result procurement of logistics services should consciously seek of sustainable development as one of the ways to attract and retain customers and beat out the competition.

For organisations transportation as the largest cost contributor among logistics functions has direct impact on profitability of the supply chain and as one of the key operational activities should be developed within corporate strategy and being responsive to the constantly changing external environment. Any organisation in order to pivot transportation management to a strategic look should be able to embed effective change management to deliver value and eliminate all the wastes, such as unnecessary costs, externalities and time within the supply chain that requires effective response to the environmental factors and trends.

- | |
|--|
| <ul style="list-style-type: none"> • Increasing demand for freight transport • Closer relationship with fewer suppliers and customisation • Consolidation of the carrier base |
|--|

¹⁵ Bekiaris E., Nakanishi Y.,(2004). Economic Impacts of Intelligent Transportation Systems: Innovations and Case Studies. Elsevier, 24. 7.

¹⁶ Wolf C. , Seuring S. (2010). Environmental impacts as buying criteria for third party logistical services. Available at: <http://www.emeraldinsight.com/doi/abs/10.1108/09600031011020377> [Accessed September 7, 2016].

¹⁷ Isaksson K., Björklund M., Evangelista P., (2011). THE CHALLENGE AND ADOPTION OF GREEN INITIATIVES FOR TRANSPORT AND LOGISTICS SERVICE PROVIDERS Available at: <http://liu.diva-portal.org/smash/get/diva2:476094/FULLTEXT01.pdf> [Accessed August 11, 2016].

¹⁸ Mock, P., 2015. EUROPEAN VEHICLE MARKET STATISTICS 2015/16. *International Council on Clean Transportation Europe*. Available at: http://www.theicct.org/sites/default/files/publications/ICCT_EU-pocketbook_2015.pdf [Accessed August 11, 2016].

¹⁹ Anon, 2015. CO2 emissions from new vehicles in Europe continued to decrease in 2014. *European Environment Agency*. Available at: <http://www.eea.europa.eu/highlights/co2-emissions-from-new-vehicles> [Accessed September 7, 2016].

- Higher frequency and smaller volumes of deliveries, increased flexibility and SLA requirements
- Extensive use of IT and automation in transport planning and cost management
- Standardisation of processes and systems
- Shared control over transport and performance metrics and increasing use of 3PL

3.3 Theoretical Background of Outsourcing: Transportation Services Perspective

Thanks to outsourcing it became possible for different size organisations to obtain and control the effective supply chain without possession of actual assets and expertise reducing fixed costs and achieving economy of scale through the capabilities of carriers. However, in regards to the benefits of outsourcing any activity there is an initial question that each organisation asks first – ‘shall we make it or buy it?’. Procurement as a function implies costs of carrying out any type of purchasing transaction for an enterprise as well it is aimed on finding the best possible solution for particular need. Understanding of how carriers establish profitable prices within the market conditions and how they translate them into the actual rates for customers is fundamental in decision making for outsourcing and for procurement in order to conclude fair contract.

There is a variety of theoretical frameworks that help to explain the decision making process concerning outsourcing (Selig, LeFave, Bullen, 2010)²⁰ such as division of labour, co-ordination theory, core competence theory, unit of competitive advantage, agency theory etc. The most predominant paradigm for studies of many researchers (Holcomb and Hitt 2006²¹; McIvor 2009²²; Ivanaj and Franzil, 2006; David and Han, 2004²³) trying to answer the make-or-buy question of organisations is the theory of Transaction Cost Economics (TCE) formulated by Economics Nobel Laureate R. Coase in 1937. It provides a scientific support for the firm’s major concern in a process of outsourcing that is looking for minimized production and transaction costs (Sanders 2007).

²⁰ Selig G., LeFave R., Bullen C. (2010). Implementing Strategic Sourcing. Van Haren, 7. 7. 2010

²¹ Holcomb, T., Hitt M.,(2006). Toward a model of strategic outsourcing. Available at: https://www.researchgate.net/publication/228233296_Toward_a_Model_of_Strategic_Outsourcing [Accessed August 11, 2016].

²² McIvor R., Humphreys P., McKittrick A., Wall T., Performance management and the outsourcing process: Lessons from a financial services organisation Available at: <http://www.emeraldinsight.com/doi/abs/10.1108/01443570910993474> [Accessed August 11, 2016].

²³ DAVID, R.J. & HAN, S.K. 2004. A systematic assessment of the empirical support for transaction cost economics. Strategic Management Journal, 25: 39-58.

3.3.1 Transaction Cost Economics

The TCE theory states that firms bear 'transaction costs' during the economic exchange when purchasing a product or a service. TCE views firms and markets as two main alternatives by whom different economic transactions can be performed. The extent of transaction cost is defined as a reason for the firm to adopt market solution (outsource) rather than deploy some activities internally (insource). According to Coase this cost includes three categories: 1) '**search and information costs**' that include research of price, benchmarking; market information, potential providers; 2) '**bargaining cost**' that includes negotiating, drawing up and enforcing contracts and 3) '**policing and enforcement costs**'²⁴ that covers monitoring fulfilment of duties and conflict resolution such as legal prosecution in case breaching the contract and renegotiation (Coase 1937).

As an extension of the theory Williamson (1975, 1979, 1981a, 1981b, 1985a,b) continued work on TCE giving it a new perspective. He pointed out that better or worse cost of the same transaction is an aftermath of organisational structures. In other words the effectiveness of the administrative hierarchy and methods of resource allocation are incorporated in the company's strategy by the senior level management that directly influence the extent of transaction costs. As a result of companies' structures relative inefficiencies Williamson suggested the additional group of '**upcoming transition costs**'. This idea is based on the assumption by Simon (1947)²⁵, that all humans demonstrate 'bounded rationality' and cannot predict all aspects of transactions. Additionally parties might be guided by opportunism or short-term interest that implies "*strategic manipulation of information or misrepresentation of intentions*" (Williamson, 1975). The suppliers "*may deliberately conceal or distort the information they possess in order to benefit from more favourable trade conditions*" (Paché 2002)²⁶. Williamson claims that information asymmetry and such behaviour can consequently become a boundary for the firm and generate incomplete contracts that as a result increase ex post costs such as policing and enforcement costs and re-negotiation of the initial agreement or for an agreement whose conditions would be more favourable (Paché, 2002). In order to minimise the risk company

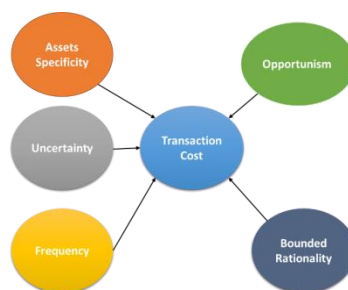
²⁴ Coase, R.H., 1937. The Nature of the Firm. *Economica*. Available at: [http://www.colorado.edu/ibs/es/alston/econ4504/readings/The Nature of the Firm by Coase.pdf](http://www.colorado.edu/ibs/es/alston/econ4504/readings/The%20Nature%20of%20the%20Firm%20by%20Coase.pdf) [Accessed May 13, 2016]. New Series, Vol. 4, No. 16 (Nov., 1937), pp. 386-405

²⁵ Simon H., 1947. Available at: <http://www.scielo.br/pdf/rep/v30n3/a06v30n3.pdf> [Accessed May 13, 2016].

²⁶ Paché, G. 2002. A problematic of the new logistical order: the piloting of competence networks. In N. Fabbe-Costes & P. Lievre (Eds.) *Orders and Disorders in Logistics*, Paris: Hermès, Lavoisier.

must collect the information about prospective vendors including their service levels and customers they serve etc. that in its turn generates ex ante costs. In regards to the transportation services this remain as an acute problem as providers often over promise and under deliver due to ineffective business model that fails to generate returns (IBM, 2005).

As a matter of fact, according to Aberdeen Group (2010)²⁷ research on the most successful strategies in transportation procurement, the best performing companies in terms of minimising transaction costs of purchasing transportation services are taking noticeably different actions in comparison to their peers. First of all it refers to the Williamson point of relative effectiveness of organisational structure. According to this research the best in class companies 1.5 times are likely to have centralized procurement and logistics teams. Such coordination increases negotiating leverage due to volume buying power in comparison to the business unit or local levels and as a result reducing both freight cost and transaction cost due to the economy of scale. Additionally centralised spend management focusing on the global vision and analytics can gain complete process visibility on the true cost by shipment, mode and lane that helps to avoid excessive charges. Besides that, to assure effective resource allocation all best in class companies apply technologically advanced solutions and abandon rudimental tools like spreadsheets preferring to atomize hand-operated processes with applications in procurement, payment and supply chain integration claiming an average savings of 8.8% on overall freight budget (Aberdeen Group, 2010).



²⁷ Anon, 2007. Winning Strategies for Transportation Procurement & Payment: How Leaders Are Taking Advantage of Market Conditions to Lower Freight Costs. *Aberdeen Group*. Available at: <http://chiletransporte.cl/portal/images/Documentos/StrategiesForTransportationProcurement.pdf> [Accessed July 14, 2016].

Taking a closer look at the particular transaction to assess its cost Williamson (1985a) developed three major features: assets specificity, uncertainty and frequency claiming that they can determine the choice to outsource or insource activities by the company. TCE highlights the importance of combining both production and transaction costs when estimating make-or-buy decision. Company when resorting transportation function to the carriers can increase savings due to economy of scale as well as economy of scope and synergy through combination of lanes. On the other side aggressive environment can force companies to insource transportation functions to assure desired level of service.

3.3.1a Assets specificity

Assets specificity identifies the nature of subject of transaction thus it was defined by Williamson as the most vital factor among the cost development dimensions. The level of cost increase depends on *'the degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice of productive value'* (Williamson, 1996)²⁸. Qualitative information on the importance of asset specify for an enterprise can be divided into four groups:

a) **Site specificity** means location of an asset or immobility of an asset. In case of transportation services this is reflected in the geographical proximity of the supply chain at different levels of production. Site specify is very vital factor for transportation operations, as geographical linkage is the initial compound for creating buyer-seller relationship between provider and the client. Aiming for geographical integration, provider can acquire the equipment for the final use in the close vicinity from the client. Such operations also are defined by the nature of goods and its volumes as well as they require thoroughly elaborated network of heavy facilities to assure cost reduction, flexibility, best quality and time (Dornier & Fender, 2001)²⁹. In terms of transportation services this factor can generate higher or lower cost depending on the transportation services specific market saturation and its level of development. Large number of providers can drive the cost down due to price competition and customer knowledge, whereas less undeveloped regions will require serious assessment of vendor capabilities and assuring contract safeguards in place (Williamson, 1989).

²⁸ Williamson , O.E., 1996. The Mechanisms of Governance. . *Oxford University Press Business & Economics*, 70(04), pp.594–596.

Available at: https://books.google.de/books?id=meERBVysP6YC&redir_esc=y [Accessed August 15, 2016].

²⁹ Dornier, P. P., & Fender, M. (2007, July). LA LOGISTIQUE GLOBALE ET LE SUPPLY CHAIN MANAGEMENT. Retrieved from http://www.eyrolles.com/Chapitres/9782708133846/TDM_Dornier.pdf [Accessed August 15, 2016].

b) **Physical asset specificity** refers to the level to which an asset is customised for particular production or client that minimises its alternative use. At the first glance, transportation services should be placed very low at this particular scale for the reason that solutions are mainly designed in a standardised form. However, all of these standard activities require costly initial investments e.g. refrigerated vehicles, sophisticated forklift trucks, guidance systems, ecological and safety compliance equipment etc. (Bienstock & Mentzer, 1999)³⁰. The sunk costs of such investments are very high thus in case of bilateral monopoly market there is a high risks of opportunist behaviour from the side of logistics provider as switching costs for such equipment is very high. In such cases companies eventually would have a tendency to develop operations in-house. Besides that, more sophisticated and tailored solution providers like 3PL or 4PL have been noticed to seems too complex and peculiar for customers and as these services require equipment that is very hard to re-deploy providers eventually might behave very opportunistically and propose cost-plus agreements.

c) **Human asset specificity** – keeping in mind the possibility of opportunistic behaviour and charges that conceal extra cost from the supplier side, it is important for the organisation to develop own knowledge about its processes first in order to know the true cost. Studies confirm that in most cases, outsourcing success is largely dependent on the skills of the management as well as the staff in the company (Kersten, Koch, Hohrath, 2007)³¹. Aberdeen Group (2010) noticed that 42 per cent of companies lack sufficient staff expertise to deal with the complexity of globalised transportation chains as well as cost management related to it. Importantly, in the conditions of the market no transportation provider or carrier will disclose or share with a customer any of actual or future plans and strategies regarding internal processes to sustain the know-how. Thus organisations require an investment in the human capital to develop skills in a very specialized area or to a specific trading partner that generally takes the form of ‘learning by doing’ process. Thus company should poses at least partially an effective in-house transportation

³⁰ Bienstock, C. C., & Mentzer, J. T. (1999). AN EXPERIMENTAL INVESTIGATION OF THE OUTSOURCING DECISION FOR MOTOR CARRIER TRANSPORTATION - Transport Research International Documentation - TRID. Retrieved August 19, 2016, from https://www.jstor.org/stable/20713409?seq=1#page_scan_tab_contents

³¹ Kersten, W., & Koch, J. & Hohrath, P. (2007, July). Motivation for the outsourcing of complex logistics services. Retrieved from <http://www.poms.org/conferences/cso2007/talks/09.pdf> [Accessed August 15, 2016].

management team that is able to reveal such costs and then challenge them through lean management, consolidation, collaboration with operations to meet final customer needs. In such situation company should develop internal expertise regardless if transportation services will be insourced or outsourced. However, developing in-house end to end process requires extensive variety of skilled candidates that is especially very challenging to acquire. Thus learning how to performance manage businesses with widely differing core competencies can limit core business activity.

d) **Dedicated asset** – general investment made for a purpose of this particular transaction that could be used alternatively elsewhere (e.g. inputs supplier adds to meet demand of specific buyer). In that sense, provider risks to be left with the excessive capacity in the event of prematurely terminated contract by the customer. Such situation is typical when carrier must make an irreversible investment and expand the number of vehicles to be able to cover new customers' volumes. Once it is made, carrier potentially can become dependent of the customer demand aiming to renegotiate the contract in order to get a greater profit margin, made under the threat of dissolving the whole relationship. However, in case company can afford going to another provider and receive same service the carrier will incur loss if customer withdraws. It is called a hold-up problem when the asset would diminish its value if it were used to support a transaction with another company.

In total high specificity assets require investment into capital and human resources that cannot be redeployed or will diminish its productive value if applied elsewhere. Number of studies in logistics confirmed the hypothesis that higher the asset specificity less probable company will outsource. (Yasuda 2005; Poppo & Zenger 1998; Grover & Malhotra, 2003)³².

As an outcome level of an asset specificity can be assigned to the different stages of outsourcing of transportation services.

³² Yasuda, H. (2005, July). Formation of strategic alliances in high-technology industries: comparative study of the resource-based theory and the transaction-cost theory. Retrieved August 2016, from <http://www.sciencedirect.com/science/article/pii/S0166497204000069>;

Poppo, L., & Zenger, T. (1998). Testing Alternative Theories of the Firm: Transaction Cost, Knowledge-based and Measurement Explanations for Make-or-Buy decisions in Information Services. Retrieved June 2016, from [https://www.business.illinois.edu/josephm/BA545_Fall2015/Poppo and Zenger \(1998\).pdf](https://www.business.illinois.edu/josephm/BA545_Fall2015/Poppo%20and%20Zenger%20(1998).pdf) ;

Grover, V., & Malhotra, M. (2001). Transaction cost framework in operations and supply chain management research: theory and measurement. Retrieved August 2, 2016, from <http://isiarticles.com/bundles/Article/pre/pdf/10737.pdf>

Provider Segments	3PL/ Customized Distribution	Freight Forwarding	Network- Transport Express- Parcels LTLs Containers	Point-to-Point + Charter Transport
Asset specificity	High	Low	High	Medium

3.3.1b Uncertainty

Uncertainty is described by two dimensions: ‘internal’ that relates to the complexity of insourced functions of the company and ‘external’ uncertainty that is linked to environmental changes such as economy, technological, legal, taxation, regulatory and competitors’ behaviour (Ghertmann, 1989)³³. TCE studies draw attention to the level of supplier industry maturity indicating that highly competitive nature of the motor carrier transportation leveraging the uncertainty by ‘*exaggerating the effects of structure and volume on efficiency*’ (Bienstock and Mentzer, 1999). Furthermore, works dealing with logistic outsourcing acknowledge the relation between the firm’s decision and its environment (Ivanaj, 2001)³⁴. Environmental uncertainty increase transaction cost. Therefore, decision making should be based on the environmental factors analysis.

In the context of transportation operations internal and external uncertainties appear to be closely linked through intermediate production specialisation and just-in-time manufacturing and logistics. Internal uncertainty is bound by the forecasting and precise estimation of company future needs in terms of volumes (Stank & Maltz, 1996)³⁵ and volatility of freight costs and fuel surcharges³⁶. Nevertheless, internal uncertainty is subject

³³ Ghertmann, M. (1989). L’approche fondée sur les coûts de transaction. Les Nouvelles Approches de la Gestion des Organisations, Arrègle J.L., Cauvin E., Economica. Retrieved from http://www.persee.fr/doc/rfec0_0769-0479_1989_num_4_4_1236 [Accessed August 19, 2016].

³⁴ IVANAJ, V., & MASSON FRANZIL, Y. (2006, June). Outsourcing logistics activities: a transaction cost economics perspective. XVème Conférence Internationale de Management Stratégique, Annecy / Genève 13-16 Juin 2006. Retrieved, from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.119.7659&rep=rep1&type=pdf> [Accessed August 15, 2016].

³⁵ STANK, T.P. & MALTZ, A.B. (1996). Some propositions on Third Party Choice: domestic vs international logistics providers. Journal of Marketing, Spring, 45- 54 Retrieved from https://www.jstor.org/stable/40469796?seq=1#page_scan_tab_contents [Accessed August 26, 2016].

³⁶ Heaney, B., (2010). Transportation Procurement & Payment: Gain Control Over Spend. Aberdeen Group. Available at <http://8c12cf0ca0d6cec91f49->

to control and can be effectively minimised by the company strategy in order to gain clearance and improve forecasting of external factors. Poor communication, inefficient structure, manual processes and lack of automation within an enterprise are common obstacles in analysing data on procurement and transportation spent creating more room for error that eventually can exacerbate cost for the whole supply chain. Sourcing complexity due to increased globalization and outsourcing emphasise efficient reporting system and smooth information flow between departments that involved into the decision making process and implementation phase of procurement projects such as transport procurement, logistics planners, reporting and forecasting, supplier relationship departments and even front offices for the customer feedback. In this sense procurement and the buyer should become owners of the service level of transportation providers they conclude contracts with. For them it is necessity to have defined level of flexibility and capacity that will satisfy the fluctuation of the end customer demand and the unstable conditions of the external environment (Bienstock & Mentzer, 1999)³⁷.

The number of studies confirms the hypothesis that high uncertainty decrease the desire to outsource (Patry, 1999³⁸) in medium or large size companies as they have capacity to develop required systems internally (Wang, 2002)³⁹. According to Williamson (1985), when negotiating and enforcing the agreements parties in order to minimise uncertainty risks aim to increase number of contingencies that can simply burden the process of contract drafting, enforcement and control and eventually increase ex ante cost for the search of information and ex post for re-negotiating contracts. Furthermore, uncertainty drives up inventory to increase safety stock that can be the largest driver of operational costs.

Potentially reduction of from external uncertainty can be achieved through the company structure and transparent and efficient communication and development of clear external

3bebbe33c01fdefb20dab8ed73fa2504.r68.cf2.rackcdn.com/Whitepaper_Transportation_Procurement_Payment.pdf [Accessed August 26, 2016].

³⁷ Bienstock, C. C., & Mentzer, J. T. (1999). An Experimental Investigation of the Outsourcing Decision for Motor Carrier Transportation - Transport Research. Available at <https://trid.trb.org/view.aspx?id=514638> [Accessed August 26, 2016].

³⁸ Patry, M. Tremblay, M. Lanoie, P. & Lacombe, M. (1999). Why Firms Outsource their Human Resources Activities: An Empirical Analysis. Centre Universitaire de Recherche et Analyse des Organisations Working Paper, Montréal, Août. Available at <http://econpapers.repec.org/paper/circirwor/99s-27.htm> [Accessed August 17, 2016].

³⁹ Wang, e., (2002). Transaction attributes and software outsourcing success: an empirical investigation of transaction cost theory. , National Central University, Chung-Li, Taiwan. Available at <http://folk.uio.no/patrickr/refdoc/transactionCost.pdf> [Accessed August 17, 2016].

and internal KPIs as a guidelines for all units involved. However, many researcher notice that the main obstacle here is generally the complexity of assessment process (Anderson & Schmittlein, 1984⁴⁰; Rindfleisch and Heide⁴¹, 1997; Robbertson and Gatignon, 1998; Poppo and Zenger, 1998)⁴².

Nowadays many successful companies share procurement risks with their suppliers such as the risk of demand uncertainty (Segeberg, 2010). As a result contracts have been designed to include risk sharing elements such as advanced purchase discounts and buy back or pull contracts (Cachon, 2004)⁴³. Similar to the provision of logistics services, being able to combine the procurement of different products can lead to cost savings due to reduced demand uncertainty. Similar to the situations describe before, the companies searching for a provider of such goods or services are faced with a problem of information asymmetry because they do not know the exact cost of their potential supplier. In such case the only way company can discover real cost is through the process of procurement and benchmark strategies.

3.3.1c Frequency

Last dimension of transaction cost accounts for the transaction repetitiveness. This feature is determined by the economies of scale (Williamson, 1985a). In case of occasional or exceptional transactions like spot buy, the involved parties should find transaction with the minimum possible cost as it cannot be compensated. On the opposite, recurring transactions should be automated and able to provoke synergy effect (Brousseau, 1993)⁴⁴. In terms of transportation, synergies are achieved when operating cost of set of lanes is lower than the sum of operating costs per each individual lane (Ma, 2008)⁴⁵. Generally

⁴⁰ Anderson E., Schmittlein D., Integration of the Sales Force: An Empirical Examination Available at https://www.jstor.org/stable/2555446?seq=1#page_scan_tab_contents [Accessed August 17, 2016].

⁴¹ Rindfleisch A. and Heide J. (1997). Available at <https://faculty.fuqua.duke.edu/~moorman/Marketing-Strategy-Seminar-2015/Channels/Rindfleisch,%20Heide%201997.PDF> [Accessed August 17, 2016].

⁴² Poppo, L., & Zenger, T. (1998). Testing Alternative Theories of the Firm: Transaction Cost, Knowledge-Based, and Measurement Explanation for Make-Or-buy Decision in Information Services. Retrieved June 2016, from [https://www.business.illinois.edu/josephm/BA545_Fall 2015/](https://www.business.illinois.edu/josephm/BA545_Fall%202015/) [Accessed August 17, 2016].

⁴³ Cachon, G. (2004). The allocation of inventory risk in a supply chain: push, pull and advance-purchase discount contracts. Management Science. Available at http://opim.wharton.upenn.edu/~cachon/pdf/air_ms.pdf [Accessed August 17, 2016].

⁴⁴ Brousseau, E., (1993). EDI and Inter-Firm Relationships: Toward a Standardization of Coordination. Processes? Information, Economics and Policy, vol. 6, N°3-4, 1994, pp. 319-347 Available at <http://brousseau.info/pdf/EBIEPStandEDI.pdf> [Accessed June 27, 2016].

⁴⁵ Ma, Z., (2008). Combinatorial Auctions for Truckload Transportation Procurement. Available at https://tspace.library.utoronto.ca/bitstream/1807/11230/1/Ma_Zhong_200806_PhD_thesis.pdf [Accessed September 3, 2016].

automated frequent transactions are accounted for low value and standardised items. On the contrary, low frequency generally implies complexity of transaction. Bienstock and Mentzer (1999) claimed that outsourcing of road transport can be justified when high frequency is combined with high degree of assets specificity. However, transportation generally considered as low specificity but at the same requires very costly assets. Thus, costs related to outsourcing are justified only in case of a high degree of frequency.

Frequency, volume and time spread of transactions can be considered as a bargaining power differentiator (Williamson 1979, 1985). These factors are strongly correlated to the size of the organisation and its level of competence and importance in the market of that particular activity. In case if transportation is the critical success factor and organisation has operational performance gaps then outsourcing with retention of control is necessary as provider will maintain direct relationship with the market. Outsourcing should not impact directly customer relationship and communication. Furthermore, a company should perform in-house where logistics performance is critical (Baron and Kreps, 1999)⁴⁶.

3.3.2. Competitive Advantage and Resource-based view

Besides TCE theory there are also alternative views that are worth mentioning in order to describe fuller picture. A cornerstone theory of outsourcing is the Economic Theory of Competitive Advantage that is derived from the International Trade between Countries following the idea that concertation on the performance of core competences activity is critical for long-term success. If provider is more effective in performing transportation function than the company, it should carry out these activities on the international or global markets allowing the outsourcing company to concentrate on achieving success on individual markets. As a result company releases resources necessary for the further development of the core business activities that potentially improves competitive position allowing economy of scale and capacity for flexibility as well as improvement of quality through innovation and the development (Kakabadse and Kakabadse, 2000)⁴⁷. Moreover, transport service providers are able to realize economies of scale and thus offer services at

⁴⁶ Baron J. N., Kreps, D. M., (1999). Strategic Human Resources, New York S. 461. New York: John Wiley.

⁴⁷ Kakabadse N., Kakabadse A. (2000). Critical review – Outsourcing: a paradigm shift. Available at: <http://www.emeraldinsight.com/doi/abs/10.1108/02621710010377508> [Accessed September 12, 2016].

lower costs. In some cases giving up some functions and concentrating on core business becomes only survival solution in terms of intervening macroeconomic conditions.

Resource-based view (RBN) is widely used by researchers in regards to explanation of outsourcing decisions. RBV serves as a background for the competitive advantage theory. Sustainable competitive advantage requires effective use of tangible and intangible resources within the company to develop superior capabilities for the key activity that can become a competitive differentiator. In other words, if process is not closely related to the core business activity, than there is higher probability of this process to be outsourced. Transportation in particular is very depended on the employees skills e.g. truck drivers experience, transportation volume forecasting and use of software. Vertical integration is typical when company already poses greater expertise and skills compare to vendors (Argyres, 1996; Mol, 2001).

Literature suggests that activities with close proximity to the core business won't be outsourced. Aberdeen report highlighted that best in class companies prefer to outsource components in the process that are not differentiators and require more resources to manage due to complexity of the supply chain (Heaney, 2010)⁴⁸. Besides that, many studies mention that the scale of supply chain complexity is a vital factor to consider outsourcing. Growing number of customers based in different geographical locations increases the complexity of the supply chain that companies face difficulty in managing it and opt to outsource (Sohail and Sohal, 2003)⁴⁹. Due to the high asset specificity required in such cases risks connected with operating can be shared between provider and hiring company decreasing costs (Persson and Virum, 2001)⁵⁰.

Proposition

Asset specificity: *High specificity leads to insourcing especially in case of vertical integration. In case of low degree of asset specify it is easier to conclude a transaction*

⁴⁸ Heaney, B., (2010).Transportation Procurement & Payment: Gain Control Over Spend. *Aberdeen Group*. Available at <http://8c12cf0ca0d6cec91f49-> [Accessed September 3, 2016]

⁴⁹ Sohail, M.S., Sohal, A.S (2003). The Use of Third Party Logistics Services: A Malaysian Perspective. *Technovation: An International Journal*, Vol. 23 No. 5, pp. 401-408. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2650360 [Accessed September 3, 2016]

⁵⁰ Persson, G., Virum, H. (2001). Growth Strategies for Logistics Service Providers: A Case Study. Available at <http://www.emeraldinsight.com/doi/abs/10.1108/09574090110806226> [Accessed September 2, 2016]

through the market options and outsourcing contract than with insourcing and employment of skilled specialists(Ruzzier, 2009).⁵¹ The lower the initial investment required in logistics assets the higher is the possibility for company to outsource.

Uncertainty: *There is a negative correlation between tendency to outsource and high uncertainty level. Uncertainty increase substantially transaction cost when outsourcing to the external provider. Thus, the higher the uncertainty level of outsourcing performance more likely a company will keep process in-house as contract for such transaction will require to be very complex and need to include many contingency options. Effective measurement of uncertainty is positively related to processes integration. The key difficulty is the complexity of assessment process.*

Frequency: *In terms of transportation higher frequency of transactions increases probability and justifies the cost of outsourcing regardless of the level of asset specificity. Retention of control over the process depends on the significance of transportation performance to the core business activity.*

Complexity: *Less transportation activity is critical to the core process and influence core competency of the company as well as less complex is the supply chain process itself, higher the probability of outsourcing.*

3.2.1 Motives for outsourcing transportation services

Decisions for outsourcing are one of the most difficult to make as it is concerned with strategic long-term perspective for the organisation. However, based on number of studies conducted during past two decades the strategic goals for engaging in outsourcing of logistics activities and transportation function remain constant (Kakabadse and Kakabadse, 2000; Laarhoven 1994, 2000; Razzaque, 1998; Selviaridis and Spring 2007). Underlining reasons being discussed in almost all of the publications can be grouped into three main categories: increase of revenue, quality and capabilities improvement, and cost reduction (David Food, 2016):

⁵¹ Ruzzier C. (2009). Asset Specificity and Vertical Integration: Williamson's Hypothesis Reconsidered. Available at <http://www.hbs.edu/faculty/Publication%20Files/09-119.pdf> [Accessed September 2, 2016]

Increase Revenue:	Improve Capabilities:	Cost Reduction:
Increase flexibility & responsiveness	Focus on core business	Reduce operating costs
Increase speed to market	Gain access to new technology	Meet downsizing requirements
Improve quality	Gain access to advanced skills	Reduce capital investments
Decrease customer response time	Provide flexible facility capacity	Transform fixed to variable costs
Gain access to new markets	Create additional capacity	Reduce development costs
New value-added services	Provide backup capability	Reduce healthcare exposure

Source: Food D. (2016). *Outsourcing to a 3PL Your Supply Chain Management & Logistics activities*. Available at: <https://www.linkedin.com/pulse/thinking-outsourcing-3pl-thoughts-david-food> [Accessed June 12, 2016]

The literature review demonstrates that cost reduction remains the most important aspect for transportation outsourcing (Kersten, Koch, Hohrath, 2007). By fact transport is the main contributor to the total costs of logistics. According to different resources total logistics costs were generated by transportation range of 20 to 50 per cent (Rodrigue, 2009)⁵² and using external provider can lower business operation costs. Logistics if insourced⁵³ requires initially large resources to build networks and other capacities. As a common sense transport services are outsourced by companies for the reason of decreasing fixed costs and capital investments with the help of eliminating the transport fleet and number of employees, etc. Companies report in average 15 per cent asset reduction and 9 per cent of overall cost reduction connected with transport activities being delegated to a third party (Langley, Van Dort, Ang, Sykes, 2005)⁵⁴.

The controversy of conclusions of these studies consist in whether cost-cutting should be viewed as a primary or secondary goal that accompany other objectives. Regardless the perception, before engaging in the outsourcing, company have to make sure that it has correctly quantified true costs of its transport operations, as one of the most important motivators concerning cost is improved transparency of cost structure (Laarhoven, 2000, Langle, 2005)⁵⁵.

⁵² Jean-Paul Rodrigue, J., P., *Logistics and Freight Distribution*. Available at <https://people.hofstra.edu/geotrans/eng/ch5en/conc5en/ch5c4en.html> [Accessed September 3, 2016]

⁵³ Insourcing (in-house-development)— *A common approach using the professional expertise within an organization to develop and maintain the organization's information technology systems*

⁵⁴ Langley J.(2015) *THIRD-PARTY LOGISTICS STUDY* Available at https://www.fr.capgeminiconsulting.com/resource-file-access/resource/pdf/2015_3pl_study.pdf [Accessed September 3, 2016]

⁵⁵ Laarhoven, P. V., Berglund, M. and Peters, M. (2000) *Third-Party Logistics in Europe - Five Years Later*. *International Journal of Physical Distribution & Logistics Management*. Available at <http://www.emeraldinsight.com/doi/abs/10.1108/09600030010336216> [Accessed September 3, 2016]

Thus outsourcing decisions are far from being purely cost-driven. Improvement of service, and focus on core competencies appear to be the most important factors. Outsourcing transportation services provides access to process expertise and competencies required to perform activities that are impossible to implement in the required quality by company itself. Due to experience, know-how, advanced equipment and global capability transport providers are able to deliver much better service level. Number of studies notice the increase of speed of delivery, better coverage of high peaks, and larger capacity availability that in aggregate gain flexibility as an ultimate advantage for the company (Razzaque and Sheng, 1998, Langley, Van Dort, Ang, Sykes , 2005). In addition, outsourcing redefine the structure of organisation as it simplify management of labour and exempt it from performance of non-core activities. On the management level, many manufactures are not able to control their logistics and transportation activities effectively that generates quality gap that can be solved by outsourcing (Kersten, Koch, Hohrath 2007).

Studies show that possibility of focusing on core competency of the business and gaining flexibility are equally strong triggers as cost reduction for companies to resort transportation services. On the contrary access to know-how and expertise are less relevant when considering outsourcing strategy that can be justified by the low asset specificity of services (Kersten, Koch, Hohrath 2007).

3.2.2. Concerns and Risks of outsourcing transportation services

Although there is a large number of studies discussing advantages of outsourcing there are only a few that concentrate on the negative aspects of this strategy (Damme, 1996⁵⁶; Sink and Langley, 1997; Razzaque and Sheng, 1998; Laarhoven, 2000). Based on them three main aspects can be distinguished:

- Loss of control on the set of activities and dependency on supplier's agenda
- Improper selection of provider and poor performance
- Loss of competitive knowledge and know-how

⁵⁶ Damme, D., (1996). Outsourcing Logistics Management Activities. Available at <http://www.emeraldinsight.com/doi/abs/10.1108/09574099610805548> [Accessed May 1, 2016]

All of them notice the loss of control as the main risk associated with logistics outsourcing (Sink and Langley, 1997⁵⁷; Razzaque and Sheng, 1998). However, some of them emphasize the importance of the stage of relationship between provider and the company, as once the outsourcing relationship was established companies still behave risk averse and maintain substantial control over process avoiding complete intrust to provider (Razzaque and Sheng, 1998). At the same time to intrust any portion of decision making over operational activities to provider requires implementation of effective and clear communication process between parties involved. Second concern is overdependence on one single provider. Such concern arise from the lack of trust that includes sharing of confidential information and innovation (Razzaque and Sheng, 1998, Laarhoven, 2000, Damme, 1996). This concern is mutual as transportation provider most of time would never disclose to the company internal processes to avoid sensitive information such as know-how and management practices being spread to competitors as it might cause the loss of competitive advantage.

Besides that companies are concerned with maintains of close direct contact with their customers. However, such concern should be clearly pre-discussed and inbuilt in the established ways of working. When adding to the equation the transportation provider it is important to assure transparency of delivery process to manage claims on discrepancies and establish clear borders of responsibility transfer over the product while transporting it. Companies have to make sure to remain the ability to react proactively and monitor feedback from the customer and keep in touch with important sources of information (Razzaque and Sheng, 1998). In case of increasing number of complains connected with transportation service, company should tackle such issues in a timely manner and assure putting the carrier in line with the service level.

Second critical factor that is always marked by researchers is poor performance in relation to expectations and eventually unsuitable choice of the provider. Once relationship has been established poor performance of the provider becomes major issue of logistics outsourcing (Razzaque and Sheng 1998). Key reasons for such cases is overpromise of the supplier, lack of supplier capacity and flexibility and poor comprehension of actual needs

⁵⁷ Sink, H. L. and Langley, C. J., (1997) A Managerial Framework for the Acquisition of Third-Party Logistics Services. Journal of Business Logistics Available at <https://trid.trb.org/view.aspx?id=570802> [Accessed September 3, 2016]

of the company and its processes. Issues that arise from such mistakes is the amount of time and resources dedicated to renegotiations and eventual fail to achieve planned cost-cutting (Sink and Langley, 1997) and overspent on spot-buying to back up the fails of initial provider.

Additional concern for any company that chooses outsourcing over insourcing is the change of company structure. Outsourcing regardless any function very often imply divisions reductions that is negatively perceived by employees that are apprehensive to lose their job and won't be willing to cooperate and transfer previously accumulated knowledge.

However, according to research conducted among 594 manufacturing companies and 229 logistics service providers assessing the relevance of the motives for and concerns against contract logistics conducted by Hamburg School of Logistics showed that negative aspects mentioned previously are not that important especially in comparison to the benefits that can be derived from outsourcing of logistics activities. The increasing dependence on providers that seen by many as the key negative aspect surprisingly appeared to be less valuable for customers than for providers. This can be explained by market saturation of transportation services as provider are ready to invest in fleet just for the opportunity of serving one new company whether it doesn't guarantee that customer will be fully satisfied. Furthermore, the level of desired maintains of direct contact with the customer varies upon the industry the company operates in. For example, companies that involved in industrial production are far less concerned then companies in retails. Eventually, retention of direct contact with the customer is achieved through development of different strategies and techniques to bypass the problem. In general, it can be said that this survey did not confirm the relevance of all factors identified as important in the literature research (Kersten, Koch, Hohrath, 2007). As a result the key reason for a failure or success is largely dependent on the skills of the management and staff in the company, on how well objectives and expectations defined by the company and openness to the change.

According to the literature review the cost reduction, service improvement, and concentration on core competencies are the key motives for outsourcing transportation

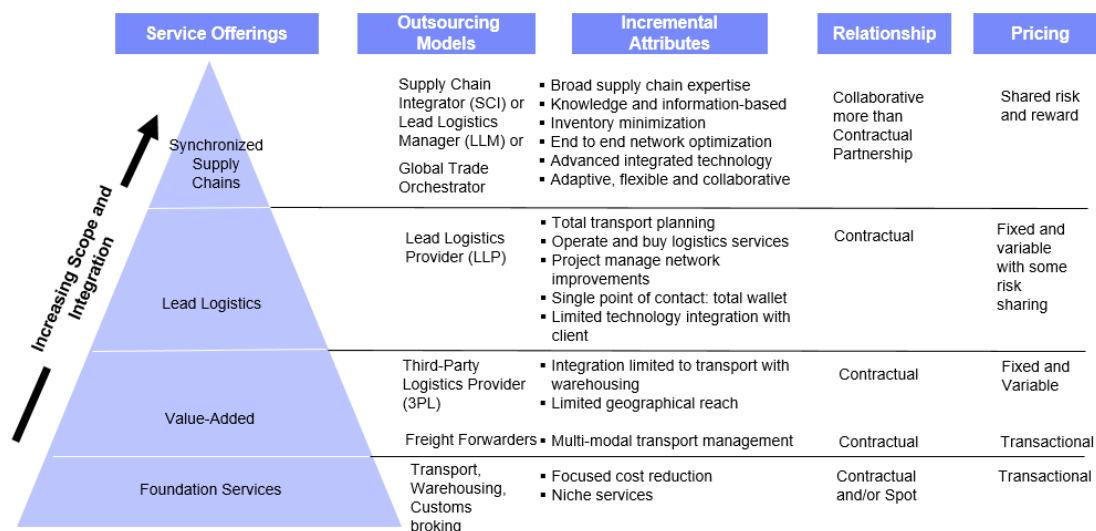
services according. The loss of control and the growing dependence were identified as the most pressing concerns against contract transportation services.

3.3 Procurement Process of Transportation Services

For any business it is no longer enough to focus on day to day operations and aiming at the lowest rate for carrier, but it is necessary to strive for overall supply chain quality that supports company initiative and promotes the lowest total cost of ownership. This requires companies to build good relationships with very effective carriers. Procurement process is generally very complex to assess as it produce impact on the business performance at various stages with respect to one particular procured activity in this case transportation services. It generates many questions for the organisation , such as planning of assignment or a modified rebuy; definition of the scope of services and the level of customization and performance required; the transport buyer strategy (competitive tendering or selection of a provider), and the control and relationship with the provider, such as arm's length relationships or partnerships as well as what the performance level to set up and what are the steps at a more strategic and planning levels, and how to assess the performance.

3.3.1 Transportation contractual roles

Active evolution of outsourcing over the past decade developed number of concepts of integration and contractual relations between customers and logistics providers. They differ according to the range of services provided, the length of partnership, providers' ownership over processes and its place in the supply chain. Types of relations employ both vertical and horizontal growth strategies. Expansion can take form of mergers and acquisitions, joint ventures, strategic alliances, piggybacking and organic growth.



Source: Services, Inc. Third-Party Logistics Results and Findings of the 2004 Ninth Annual Study IBM 2005. Available at: <http://doc.mbalib.com/view/56936e09618c237a1d4e0fd686085e43.html> [Accessed October 13, 2016] ⁵⁸

Foundation services that provided by **second-party logistics (2PL)** that refers to the asset-based carrier that actually owns the means of transport and provides traditional logistics function like transport or warehousing. In truckload transport it refers to private fleets when carrier owns and controls partially or completely trucking equipment and drivers.

Third party logistics (3PL/TPL) determines close relationship between a logistics provider and outsourcing company under long period contract covering larger range of value added services (SkjeJtt-Larsen, 2000)⁵⁹. It also refers to forwarding logistics, or contract logistics and can take form of strategic alliance. 3PL provide integrated functional services that can cover the entire logistics process or part of it and include variety of value added services such as inventory management, packaging, cross-docking or procurement of raw materials. Extension of the process offered by 3PL can ultimately reach the full control over the logistics function of the customer. The configuration depends solely on the particular customer demand.

⁵⁸ Services, Inc. Third-Party Logistics Results and Findings of the 2004 Ninth Annual Study IBM 2005 Adapted from "Third-Party Logistics Results and Findings of the 2004 Ninth Annual Study". Authors are C. J. Langley, Georgia Institute of Technology, G. R. Allen, Capgemini, and T. A. Dale, FedEx Supply Chain Available at: <http://doc.mbalib.com/view/56936e09618c237a1d4e0fd686085e43.html>

⁵⁹ Skjøtt-Larsen, T. (2000). Third party logistics: From an interorganizational point of view. International Journal of Physical Distribution & Logistics Management, Available at: [http://research.cbs.dk/en/publications/third-party-logistics\(441aa620-8eba-11db-a124-000ea68e967b\).html](http://research.cbs.dk/en/publications/third-party-logistics(441aa620-8eba-11db-a124-000ea68e967b).html) [Accessed October 13, 2016]

Fourth party logistics (4PL) also refers to supply chain logistics, or lead logistics provider. Frankly speaking, it is an evolutionary concept of 3PL with higher level of responsibility and risk sharing over the process that is aimed to implement comprehensive solution on behalf of the client. Such service imply increased level of customisation, flexibility and adaptability to the outsourcing company needs including usage of technology of the lead enterprise. The extension of such services falls into the definition of door-to-door delivery. 4PL is aimed to take full control over company's operational and functional activities including 3PL contracts. 4PL is often used by companies that are part of the joint venture or management company. The buyer-supplier relationship is based on a detailed contractual agreement and involves equity-based commercial arrangements. Recently 4PL attracts increasing attention from global companies due to its benefits. However, it is important to mention that this concept is widely misused for marketing purposes by many providers that do not possess sufficient capacity to provide such complex solutions.

Fifth party logistics (5PL) is mainly applied to manage and develop the supply chain without own capacity. Very often it is used to serve the e-business market and acts as a virtual integrator (Pernica, 2004)⁶⁰. The key to success in this area is the information technology and system.

For-hire carriers and more advanced mode of outsourcing allow to meet the market demand more effectively and with the capacities that company cannot accommodate on their own, as well as solely relying on won fleet may not be very efficient in term of core competency.

3.3.2. Selection of Transportation Services Providers

The key issue of procurement of transport services is that procurement becomes the owner of the service level of the carriers as transportation produce effect on different stages and is aimed to reduce costs and deliver desired customers level. Some of the organisations tend to fulfil this phase very informally. However, it is important to elaborate the list of expectations and to establish clear mission statement and goals specification, process including KPIs and strategy for what is expected from the carriers to tie them to the supply management activity. All those types of goals and criteria impact whom company is ought

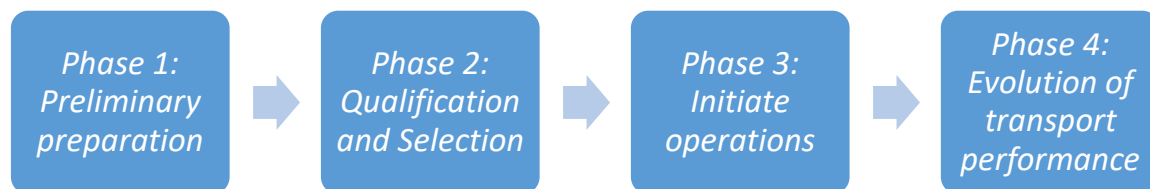
⁶⁰ Pernica, P., (2004). Logistics for the 21st Century, (Supply Chain Management) ISBN: 80-86031-59-4

to consider to work with and will help to reduce a pool of candidate carriers down to a few that may work more effectively.

Furthermore, procurement of any activity including transportation should account for specific service level and not only price and cost indicators. Effectively set up procurement process can substantially improve the whole outcome for the supply chain, as it can determine the most suitable carrier mix and minimise costs. Service level is usually measured as on-time performance, volume capacity, and damage or delivery discrepancies extend. However, the existence of the evaluation tools varies according to individual company. Business not always have overt rules and guidelines for evaluating key participants. Transportation is one activity that lacks standard measurement and reporting tools to aid decision makers. Choice of buyer scenario can determine future ex ante and ex post savings as it sets and maintains quality at a certain level. Following part will discuss what KPIs can be applied for transportation service providers, their procurement strategy and types of buyer scenarios as well as final performance evaluation.

3.3.2.1. Process of Identifying transportation service requirements

Nowadays, companies are running into challenges because there is variety of options and services providers nowadays, especially in terms of truckload carriers. At this point organisations have to make the main decisions and continue to exist with it till the contract expiration thus there is more at stake. The process of carrier choice can be split into four steps:



<i>Phase 1: Preliminary preparation</i>	<i>Phase 2: Qualification and Selection</i>	<i>Phase 3: Initiate operations</i>	<i>Phase 4: Evolution of transport performance</i>
Define:	Reward system	Negotiate	Evaluate
Philosophy	1) Pre-screen:	Contract	a) On-time performance
Goals/Objectives	a) Operating authority	Capacity requirements	b) Claims performance

Qualification Criteria	b) Service area	Lane assignment	c) Billing accuracy
Determine:	c) Equipment	Operating requirements	d) Customer service
Performance metrics	Evaluate	Rate/reward structure	e) Overall cost
Measurement methods	a) Financial status	Time frame	Categorise:
	b) Quality program	Establish:	a) Certified
	c) Technical expertise	Responsibilities	b) Qualified
	d) Performance history	Reporting structure	c) Non-qualified
	e) Recommendations	Commence activities	Review: Results and Status

Phase 1: KPIs overview

It's certainly critical that companies look at both the services they need and the physical requirements when identifying suitable modes and carriers as wrong decisions can certainly have tremendous consequences on the supply chain overall. Wrong transport mode can make product non-competitive or the incurred transaction can become unprofitable. Such situation is very common among new e-commerce entrepreneurs that realise too late that one-by-one distribution of cheap products across a country is completely unprofitable. Also it is necessary to assure enough purchase of service and its quality to meet the requirements as consistently it can decrease sales due to unsatisfied customers, emergencies where company ends up spending on expediting.

It is very crucial to define the key factors that drive the performance and relevant measurements. With such criteria it is possible to link on a broader scale company transportation into the supply chain goals and supply chain strategy. Identification of transport requirements can be done in four stages: planning, qualification and selection, operations and performance analysis. First step should be derived from the overall supply chain strategy to understand the choice of mode, expectations from the provider, characteristics, and its role within the supply chain and the process of carriers evaluation and support of their performance.

Transportation service requirements can be split into three categories: physical, service and service optional that correspond consequently to operational, tactical and strategic levels.

1. Physical issues: mode and carrier selection	2. Service Issues	3. Service optional
Volume of freight	1. Transit time:	1. Modal options
Customer location	1) Speed of movement	a) Road
Product characteristics	2) Terminal and delay times	b) Rail
Product value	2. Transportation cost of shipper	c) Maritime
Capacity	1) Rates	d) Air
Speed	2) Special services cost	e) Intermodal
Market areas served	3. Flexibility	f) Telecommunications
	4. Customer Service	2. Carrier options
	5. In-transit visibility	a) Private fleet vs for hire carrier
	6. Reliability	b) Single mode vs multimodal capabilities
	1) Delivery time variability	c) Regional vs national carrier
	2) Weather or other uncontrollable delays (traffic)	d) Spot market vs contract
	7. Loss or damage	
	1) Quantity	
	2) Damage costs	
	8. Communication (IT, Language)	
	9. Problem resolution	

1. Physical issues: mode and carrier selection

It is necessary to look at the question not only from the strategic point of view but also to take a hard look at what is company dealing with through the process of elimination to concentrate on the most feasible aspects. So organisation should identify the most appropriate method of transportation in terms of mode and carrier selection base on above aspects.

Certainly each load and each carrier have limitations which impact their feasibility. Once operational issues are defined, tactical and strategic level can be identified within the supply chain, essentially moving from the product to the service considerations. It is essential to look at more than just physical characteristics of what mode is capable of but also of how the product going to be moved through a supply chain.

2. Service Issues

Key primary tangible factors include answers to such questions of how fast we need to move it, what is the budget we can allocate, the reliability and consistency issues, the

stability and low variation service, and the lost and damage in the freight protection issue. This factors are easy to measure in terms of performance.

Additionally there are more intangible issues, such as communication, problem resolution, customer service and in-transit visibility. These intangibles grand credibility to a carrier as provision of extra services develops strong quality and thoroughness of the process. So the service issues narrow down the option again to a feasible few that meet your capability requirements overall. It is necessary to look all relative factors and not just cost. There should be a trade-off between transportation costs, inventory carrying cost, selling season, customer need, functional trade-offs and other issues. So it is necessary to evaluate carriers and modes in terms of what they can handle and what type of service overall can they provide.

Identification of what is the most important services issue to establish KPI depends on the particular organisation and where in the supply chain this organisation stands, as well as the nature of the product, the focus of the supply chain and the requirements of the customer.

However among research works, magazine and consultants variety of prepositions it is possible to constantly trace these particular factors – on time delivery, rates, transit time. Behind these factors there is a number of unrewarding activities that is required to be effectively optimised. One of the most significant proportions of total operating costs of transportation is dead miles or travel of empty vehicle. In order to minimise costs and achieve higher truck utilization rate, it is necessary to reposition the truck for other purposes or combine with other destinations. In relation to that there is a second problematic of dwell time - the time when the drivers and vehicles are left idle excluding loading and unloading time. There is a number of solutions to achieve that such as pooled operations, atomised processes and excellent coordination between carriers the company.

3. Service optional

In general there are six modal options: truck, rail, water, air and pipeline which is fairly limited in terms of type of goods. The intermodal combinations are especially useful in

international application. Their choice should be based on simple market availability and geographical specification.

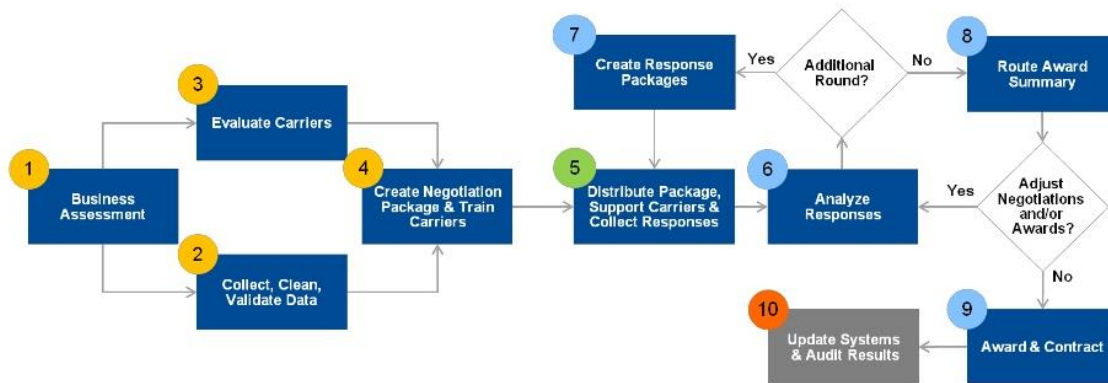
Phase 2: Qualification and Selection

The most time consuming process is narrowing down until the group of truly capable providers available on the market to deliver what company expects. This should be done through the request of proposal (RFP) and request for information (RFI) detailing the customer needs both price and qualitative as a first cut that will reduce the pool of potential suppliers till few that can be investigated thoroughly and organised negotiations wit. At the same time this is relatively most negative stage for carriers as they have no guarantees to be considered for the future business and at the same time for them it is very effort intensive process including provision of performance history, customers' references and RFP or bid packages that outline their financial stability and the prove that they will be in business for the long term assuring continuous improvement, technical expertise including real-time visibility and effective communication. Most common format for carriers to respond – bid package points include:

- Prove of insurance
- Past operating ratios
- Current financial statement
- Past claims ratios
- Reference list of major customers
- Evidence of carrier ability to deliver within specified transit times

Transport buyer strategy

Purchasing strategy offers possibilities to save procurement cost and to gain a cost advantage against other companies. There is number of strategies that are used by organisations. The core algorithm of any strategy implies following steps mapped on the graph below.



Source: Accenture (2006) Supply Chain Course. Chartered Institute of Logistics and Transport (CILT)

There are generally two key mechanisms that can be applied in procurement of transportation services such as auctions or direct negotiations. Nowadays, most widely used and claimed most effective by variety of researchers are auctions.

The main decision that company generally should face is the choice of auction format: a single or combinatorial. A single round format imply the single submission where bidders place their bid in a sealed envelope and simultaneously hand them to the auctioneer. The envelopes are opened and the individual with the lowest bid wins, paying a price equal to the exact amount that he or she bid. This auction aim is generally to reducing bids offers. Multi-round and combinatorial auctions are more complex and imply several rounds of bids submissions and preliminary determination of the winner until the ultimate criteria are met, generally price factor but also it can be more complex and include service level.

Request for Proposal (RFP)

Generally companies in order to purchase transportation services use the request for proposals (RFPs) from the number of carriers directly or organise sealed bid auction or combinatorial auction on the singular or combination of lanes.

This request is distributed to pre-screened list of carriers to submit a proposal on a specified transportation service on an individual lane. RFP includes application procedures and include other requirements such as a referrals and history of services provision, financial information, technical capability, estimated delivery period, and so on. After submission and evaluation of proposals, companies can discussions and negotiate financial

proposals to clarify technical capabilities, etc. Business is generally allocated for specific carrier for a year or two with further renegotiation.

There are certain negative aspects concerning RFP tactic. First of all, company determines the minimum cost based on the proposals submitted, thus decision is limited to the quality of received proposals and might not reflect the true costs valuations of the carrier. Simultaneously, carriers that bid for the minimum cost not necessary bid for the true cost. Also, carriers might win not packages they would optimally prefer. As a result there is no space for revealing true costs from both sides and thus RFPs minimises chances to optimise and develop best transportation strategy.

Also, due to RFP being relatively much standardised offer it implies so-called exposure problem. Carrier do not have an option to bid for combination of lanes at which they could achieve synergy on with respect to repositioning cost and own particular economies. As a result RFP is rather suitable of smaller companies or projects dedicated for small geographical coverage. Larger networks would waste a lot of time and effort for individual re-negotiation.

Combinatorial Auction

The negative effects of RFP including exposure problem is possible to overcome by application of combinatorial auction mechanism. It is considered by many researchers as one of the most effective scenarios for transportation procurement (Sheffi, 2004)⁶¹ due to efficient allocation allowing carriers to submit combinatorial bids on sets of lanes. The practice is also called combinatorial bidding, combinatorial procurement, and conditional bidding. The platform of combinatorial action makes it possible for providers to express their preferences on particular lanes combination as they are provided the possibility to form packages based on their own economic, client base and networks.

⁶¹ Sheffi Y. (2004). Combinatorial Auctions in the Procurement of Transportation Services Available at <http://sheffi.mit.edu/sites/default/files/CombinatorialAuctionsInTheProcurementOfTransportationServices.pdf> [Accessed October 13, 2016]

Then carriers submit prices at which they are able to haul the loads after which they are evaluated to choose the winner, mainly who has the best cost-structure, as more effective the operations the lower the submitted bid may be. Additionally, combinatorial auction framework can incorporate the requirement for service level commitments in packages. In fact service level can be as important as price.

Nowadays, combinatorial auctions became subject of many researchers and have wide practical application in many organisation. Number of leading multinational enterprises such as Colgate–Palmolive, Ford Motor Company, Nestle S. A., Procter and Gamble Company, Pepsico, Wal–Mart Stores Inc. etc. apply combinatorial auction in their operations in order to lower transportation services costs and maintain high level service (Sheffi, 2004).

Number of studies confirm savings in case of procurement optimisation for transportation services, Caplice and Sheffi (2003)⁶² and Ledyard J., Olson M., Swanson J., Porter D., Torma D. (2001)⁶³ describe an application of combinatorial auctions results in savings of six to twenty percent. Researchers confirm more effective results in terms of cost saving when procuring transportation services in comparison to RFP practice due to possibility of combination choice of lanes for carriers as well as more qualitative choice of carriers in terms of service level (Ledyard 2001; N. An, W. Elmaghraby; and P. Keskinocak⁶⁴). Furthermore, Elmaghraby and Keskinocak in their experiment notice that the second-round auction sometimes is necessary to be more effective as it leaves less inefficiencies and space for negotiations that as discussed previously negatively can affect transaction costs and negatively influence the decision to outsource. Thus multi-round combinatorial auctions can account for the most effective strategy in term of transportation services procurement.

⁶² Caplice C., Sheffi Y. (2003). OPTIMIZATION-BASED PROCUREMENT FOR TRANSPORTATION SERVICES. Available at <http://web.mit.edu/sheffi/www/documents/genMedia.optimization-BasedProcurementForTransportationServices.pdf> [Accessed October 13, 2016]

⁶³ Ledyard J., Olson M., Swanson J., Porter D., Torma D. (2001). The First Use of a Combined-Value Auction for Transportation Services. Available at <http://molsonecon.org/papers/SearsAuctionArticle.pdf> [Accessed October 13, 2016]

⁶⁴ N. An, W. Elmaghraby, and P. Keskinocak (2005), “Bidding Strategies and their Impact on Revenues in Combinatorial Auctions,” *Journal of Revenue and Pricing Management*, Vol.3, No.4, 337-357. Available at <http://www2.isye.gatech.edu/~pinar/comb-auction.pdf> [Accessed October 13, 2016]

In case of RFP there is a high level of uncertainty as carriers might artificially increase costs in order to secure themselves from risks; while combinatorial auctions work as a price discovery mechanism as company allows carriers to submit their true value on each particular lane desired. However, it doesn't mean that carrier will reveal the true cost, it allows them to achieve synergy effects.

E-Sourcing

Procurement has not been neglected by constantly developing technological applications. E-procurement or e-sourcing implying conduction auctions online allow companies to achieve greater efficiency and reduce costs. Specialised software allows companies to facilitate negotiations online and include both price and qualitative parameters as well as spend management and enforcement of the contracts that significantly reduces transaction costs. Huge part of B2B trade process in both goods and services has been adopted for e-sourcing solutions such as Ariba, Verticalnet, and Emptoris, etc.

E-Sourcing allows companies to reach larger number of suppliers and better discover their strengths and propositions in real time manner. General process includes pre-auction exchange to assess suppliers such as request for information (RFI) including qualifying questions and RFP for offer specification. Based on the information collected through RFI and the willingness of suppliers to participate the buyer organises an online event with consolidated bundle of preferred suppliers,

Online auctions generally have an open descending price-only format and short duration of 10-15 minutes (Elmaghraby , 2007)⁶⁵. In response to the feedback during the auction supplier can lower the asking price. Additionally, company can organise second round of negotiations on qualitative aspects to define the winner and apply different optimisation tools to assess different scenarios and their effects on total cost of ownership that includes out-of-pocket costs related to shipping, taxes, tariffs, financing, warranty and maintenance. It also includes soft costs and opportunity costs related to delivery, availability, quality and

⁶⁵ Elmaghraby W. (2007). Auctions within E-Sourcing Events. Available at https://www.researchgate.net/publication/227618323_Auctions_within_E-Sourcing_Events [Accessed October 13, 2016]

performance (Emptoris, 2005⁶⁶). Also, company can arrange multi-attribute auction to include non-price aspects such as KPIs, policies and discounts schemes.

As e-sourcing is aimed at standardisation, by using this process companies can reduce transaction cost, administrative work for buyers, system complexity and timescales. Additionally companies can maintain stable carrier base and achieve secure communications between carriers and the buyer that gains full picture of all sourcing activities and results in transparency and complete audit trail. However, the most important is that e-actions can reduce external uncertainty by increasing visibility to market prices and as a result help to develop competitive advantage by reducing final price on goods and services produced by the buyer.

Phase 3: Initiate operations

Requirement identification narrows the potential carrier base down to the number of carriers business needs. At this stage it is necessary to specify the details of the individual contract at that point. Negotiation and eventual results highly depend on the bargaining power, volumes, frequency and number of lanes. Critical service issues, required rates, communication framework should be established to the carriers per lanes. Contracts concluded between the supplier and the buyer should be clear, fair and effectively consolidated and standardised with reference to internal documentation in case of contingencies and force major situations. After that stage it is necessary to induct the carrier and conduct all required trainings to assure effective mutual activities as well as to introduce to the system of performance evaluation to make sure they are clear on service levels and KPIs. The system needs to be communicated to the carrier in a clear way within time necessary to adjust to requirements. As a result it is necessary to develop a ranking score to segment the carriers and as a result separate them.

Phase 4: Evaluation of transport performance

Once relationship are established with the carrier it is necessary to insure that they are serving the needs of the supply chain thus company need to audit the carrier performance

⁶⁶ Emptoris. 2005. Motorola Reinvents its Supplier Negotiation Process Using Emptoris and Saves \$ 600 Million: An Emptoris Case Study. Available at http://www.icesi.edu.co/blogs/logabastecimientoisem2010/files/2010/04/Emptoris_Mototora_Case-Study.pdf [Accessed October 13, 2016]

to assure that contractual commitments are met and this cooperation can aim for constant improvement and effective problem prevention and resolution.

In order to build life long relationship with provider it is essential to monitor and measure the performance. This phase might not traditionally fall into the transportation purchase process in terms of bid type scenario or individual negotiations or 3PL optimization. The responsibilities and reporting structure that was established in the third phase now can be measured and monitored. It is necessary to implement a pre-established, well-communicated, formal evaluation plan as carrier should be aware what it is going to be measured at and what is the time frame for managing the process. It is recommended to have a scoring mechanism and data collection process in place.

Functional Evaluation

It is impossible to manage what company can't measure. If company doesn't keep good oversight of its carriers, they could cause additional costs and impact service level of the whole supply chain. In order to understand how carriers live up to the expectations and how they are meeting the needs to serve the supply chain of the company effectively it is required to have some process in place. Below is the detailed list of KPIs that is mostly met in the literature overview:

Freight movement	Freight protection	Customer service
On-time deliveries	Percentage of claims	Billing accuracy
On-time pickups	Cost of claims vs total freight revenue	Quality of sales force
Transit time average	Speed of claim settlement	Quality of drivers and dispatchers
Transit time variations	Percentage of claims settled	Flexibility
Load rejection rate	Accident rates	Responsiveness
Equipment availability	Equipment condition	Expedite capabilities and special needs
Rate competitiveness		Quality improvement & corrective action plans
Communication	Technical capabilities	Special Service Issues
Timeliness & accuracy of service reports	Compatibility & performance of EDI system	Availability of pallet exchange
Timeliness of tracing request responses	Real time shipment tracking capability	Ability to handle hazardous materials
Timelines of PODs		
Timely notification of problems		
Frequent review meetings		

Source: Gibson B. (1995). Supplier Certification: Utilisation and Value in the Purchase of Industrial Transportation Services. Available at <https://trid.trb.org/view.aspx?id=424909> [Accessed October 13, 2016]

Each organisation have individual set and framework for evaluation criteria including hard criteria that are easy to track and measure on day-to-day basis such as movement issues, damaged goods; and intangible factors that are relatively complicated to monitor such as customer service. The balance between tangible and intangible issue is often stays at 70 to 30 per cent (Byrne, Markham, 1991)⁶⁷. However, the evaluation program cannot concentrate on all the aspects mentioned previously and rather aim at the most important for particular organisation. The framework should be clear and straight forward and concentrate on two, three most vital areas so it is easy to administrate and clear in communication to carriers.

Strategic performance evaluation – Score carding

This stage is where KPIs and operational performance or functional performance can be translated to strategic level. In other words, company strategy can be interpreted into set of key objectives that can be broken into operational terms. Set of indicators need to be linked to strategy that allow the company to track all the factors that are associated with performance. The ultimate goal is to make individual providers success being impacted by the success of the overall supply chain. Furthermore, it allows to move from short-term financial results to more comprehensive and long-term inclusive performance of the organisation overall that is large contribution to competitive advantage. Number of research studies claims that stronger long-term, trust-based relationship are established between carriers more likely company is able to reduce coordination costs and information asymmetries, thus making strategic advantages possible (Kakabadse 2004, Stölzle and Heusler, 2003). Transportation score carding helps companies to develop and report on KPIs achievement including costs and quality of services met by external transportation service providers.

3M Corporation, Tennant and Dow Chemical are frequently identified as pioneers of transportation score carding. They were first to implement set up of standards and

⁶⁷ Byrne ,P. Markham ,W., 1991. Improving Quality and Productivity in the Logistics Process: Achieving Customer Satisfaction Breakthroughs

measurement process of performance on different transportation categories including transit time, on-time loading and delivery, safety, EDI compatibility, communication, etc. (Gallagher , 1988, Frazee, 1991)⁶⁸ Nowadays, ongoing evaluation of a carrier's ability to meet buyer's needs is used by most innovative transportation departments and requires an ongoing commitment from both sides. However, according to Accenture (2007) research only 50-60 per cent of organisations have some type of regular measurement of carriers' performance in place and only 30-35 per cent of organisations have a formal program of carriers' certification.

The scorecards are typically standardised within a mode of transportation of carrier type to the individual results indexed to a target score allowing effective comparison of similar carriers to be made. The key objective of the score-carding system is to conduct formal, quantitative and objective assessment of carriers that are used in the supply chain. Of course set of scoring criteria are individual for each organisation as well as the scope of volume and time period assessments. A wide variety of score carding programs have emerged since its first implementation. Companies can focus on different evaluation criteria by mode used, product category and unique product characteristics, service region etc. Depth and breadth of score carding can also vary significantly as well as it can be developed as in-house solution, adopting carrier self-scoring framework or purchased standardised quality program e.g. ISO 9000. Proprietary method can also vary between categorical approach, cost-ratio method and weighted point approach. The last one is most widely used today by organisations as it combines elements of previous types blending qualitative procedures and cost-ratio method as well as measurement of preselected KPIs adjusted by weight factor according to buyer judgment.

It is important to take a holistic look at each carrier's performance rather than a single issue. Being only concentrated on the lowest rates can lead to the service failures and bankruptcy of the carrier. Below table demonstrates key steps in identification (Keebler, Mandrodt, Durtsche, Ledyard, 1999)⁶⁹:

⁶⁸ Gallagher J. (1988), *Quality in Transportation: Measurement Makes Some Headway*. Purchasing 1988
Frazee T. (1991). *Carrier Qualification and Evaluation*, Tennant

⁶⁹ Keebler, J, , Mandrodt ,K., Durtsche ,D., Ledyard ,M., (1999). *Keeping Score: Measuring the Business Value of Logistics in the Supply Chain*. Oak Brook, IL: Council of logistics Management.

Process	Purpose/Benefits
Selection of KPI criteria to be measured	Development of objective evaluation program
Price relative weight upon each measure	Establishing carrier relationship to strengthen carrier
Development scoring criteria and measurement frequency	Continuous improvement of cost and service
Communication of the system to the carriers	Improved internal and external communication
Data collection	Opportunities of reduced inventory
Performance calculation and application in decision making process	Possibility of single source purchasing Create Supply chain value

Rolling out such program requires resources in terms of budget, IT capabilities and stuff. However, according to different research papers 90 per cent of companies that implemented score carding framework realised transportation cost reduction and improved quality of services (Keebler, Mandrodt, Durtsche, Ledyard, 1999).

Such process can improve overall relationship with a carrier as they can clearly understand and adjust to well weighted expectations and needs. As a result it can help to push carriers toward continually improvement achieving better service level that eventually impact the cost structure. If carrier becomes more stable and consistent there will be less variation in transit time and delivery schedules, as a result company can decrease inventory and improve customer service that can be strong addition to competitive advantage of the company. The more company outsource more scorecard is useful making sure suppliers support companies goals. In a long-term perspective.

The main benefit of this framework is possibility to understand how well carriers are performing in the area of their expertise and how well their ideas are transferred into outcomes and what changes are required to implement in order to move collaboration further toward long-term goals. From the standpoint of transportation, it helps to focus on the broader impact of this activity and its service implications and not just transportation cost and speed.

So the key goal is to funnel down to the best carriers based on real performance by gaining a lot of actual information in terms of day-to date operations of the functional performance. Such centralised system can help to narrow the large pool of carrier down to the required number of excellent carriers. Such formal process of differentiation based on the actual company process allows to develop strategic relationship with the most suitable carriers.

One of the most common strategic uses of score carding is in the future of procurement of transportation services for the organisation. This primary revolves around reducing the carrier base and identifying potential partner carriers. Dramatic cost cut can be achieved by consolidating transportation purchases with fewer carriers to leverage the volume. Service benefits also result from working with fewer carriers who gain a more intimate knowledge of operations and provide more consistent service and reduce performance variations. Score carding is necessary to benchmark carrier performance thus it can be applied as a second stage and third cut of carriers in the long-term procurement process. Remaining carriers can progress to the position of the strategic partner based on evaluation results.

Score carding can modify and streamline the purchasing process. With scorecard results in hand buyers gain better understanding of provider capabilities, achievable service level and costs.

The use of KPIs in the score carding program provides the opportunity to check the performance of the carrier making it possible for the company to compare their results to the goals of the company and continuous improvement targets allowing to take steps to reduces mistakes and errors (Gibson, 1995)⁷⁰.

3.3. Supplier Relationship Management Strategies

As a result company can segment carriers to certified carriers or partner carriers, acceptable or unacceptable carriers in order to improve future possible decisions. At this stage company can segment carriers to identify the best partner with whom to develop stronger relationships and ultimately move away from the bid process and skip first three stages to negotiate directly with the carrier for new business. Those carriers that are committed to the principles of continuous process improvements, especially in meeting and

⁷⁰ Gibson, B. (1995). Supplier Certification: Utilization and Value in the Purchase of Industrial Transportation Services. Available at <http://www.worldcat.org/title/supplier-certification-utilization-and-value-in-the-purchase-of-industrial-transportation-services/oclc/34433555> [Accessed October 26, 2016]

exceeding the mutually-agreed upon requirements and performance standards, are one that will share in the rewards.

Scorecarding is the base ground for carrier certification or supplier certification process used by procurement departments in order to *‘evaluate a supplier’s quality management system and asses it’s ability to conform to the specific requirements that apply to the materials or components that it supplies’*. Certified suppliers are defined as *‘suppliers who, after extensive investigation, are found to supply material of such quality that it is not necessary to perform routine testing on each lot received’*(Maas, Brown, Bossert, 1990) ⁷¹.

Generally, carrier certification program combine traditional carrier selection criteria, performance monitoring and a structured scoring system to benchmark the quality. The highest scoring carriers are certified as ‘partner’ and rewarded with additional traffic, recognition awards and incentive payments.

By acting upon the results complied in the score carding program, certification programs effectively eliminate low performing carriers and promote use of exceptional performers. Hiring the best and firing the rest approach absolutely compliant with Six Sigma goals of reducing defects, saving money and enhancing customer satisfaction through drastic improvements in transit time, on-time performance, product protection and service consistency . Internal benefits include significant reduction in administrative cost, billing errors and claims processing. Carriers can benefit from the positive publicity of a customer feedback, ceremony industry related publication to expand their business.

Thus, company can shift volume from the spot-buy to contract-based purchases of transportation services. As it is no longer necessary to develop RFPs but instead company can ask narrow group of preferred carriers to develop service proposals. Such exclusive and initiation based approach to contracting is much faster and cost effective for both company and providers.

It can make annual renegotiation of contracts redundant and instead apply automatic extension or convergence to unlimited contract status in case carrier achieve the score

⁷¹ Maas R., Brown ,J., Bossert ,J. (1990) Supplier Certification : A Continious Improvement Strategy.. Amer Society for Quality. ISBN0873890833

carding target. Such strategy not only saves they buyer time and potential problems of negotiating annual contracts but also creates constant incentive for carriers to provide exceptional service.

Best performing carrier can also contribute to the strategic and tactical activities of the company and be participative in the development of the transportation goals, network design, transportation planning optimisation.

4. Practical Part

This part is aimed to find out if previously discussed strategic and tactical approaches for transportation services provider selection in terms of TCE theory framework dimensions, procurement scenarios, supplier performance evaluation and supplier relationship management impact the outcome for particular business case and if results are as positive as the theory claims to be in practice. The proposed business case for research is a company Anheuser-Busch InBev (AB InBev) for the number of reasons. First of all, AB InBev is the leading company in its industry in terms of revenues and market share, meaning it poses both buyer bargaining power and resources to assure deployment of best transportation practices. Second of all, being an absolute market leader over last two decades should be an outcome of effective solutions in place as well as motivation for continuous improvement. Last but not least, Ab InBev serves perfect example due to its extensive global supply chain and wide logistics profile.

This part is based on results of personal in-depth interviews, questions for which reflect the theoretical part analysis as such: decision to outsource; procurement process; supplier relationship management and as an outcome strategy evolution (see Appendix). Candidates were chosen upon their job scope and direct involvement into transportation sourcing and operations to assure comprehensive picture reflecting tactical and strategic levels represented by procurement: transport logistics category buyer, transport sourcing and spot buy leaders, transport budgeting, reporting and administration leaders and transportation administration: carrier collaboration expert and macro logistics process leader.

The key challenge identified through the interviews was the clash of opinions on tactical and strategic approaches between procurement and transportation operations. In particular, problematic of balancing cost reduction and service levels achievement is an ongoing internal argument. In fact, it was relieved that in Ab InBev procurement of transportation services is driven by financial factor and aimed at the lowest rate first that as a result hits the SLAs and challenges work of transport operations and as an ad hoc creates work load for other departments throughout the supply chain. As the most negative most negative outcome, poor quality of some carriers negatively affect customer satisfaction and increasing requests for backhauls deliveries in some market zones.

During the H2 2015 and H1 2016 it was agreed to tackle these issues and develop number of initiatives in order to balance and reevaluate procurement strategy and achieve better results in terms of internal and external customer service. This work is aimed to analyse suggested processes in the scope of theoretical part.

4.1. Ab-InBev Business Profile

AB InBev headquartered in Leuven, Belgium is the leading global brewery company in the world with more than 200 brands like global flagship beers Beck's, Hoegaarden, Budweiser, Corona, and Stella Artois. Its scale and footprint makes it 7th in the top FMCG Companies by 2016. It remains an industry leader in terms of both EBITDA and volumes. Ab InBev has formed through the number of mergers and acquisitions over the last two decades and with the most recent acquisitions of its largest rival SABMiller conglomerate took over 30 per cent of the global market share for beer sales and a half of the global profit in the industry.

Ab InBev global business model focuses on the most profitable beer markets in the world with 70 per cent of total volume and 54 per cent of revenues accounting for developing markets with strong position in Brazil, Mexico, Argentina and China. Apart from previously mentioned countries Ab InBev takes leading market positions in US, Canada, Belgium, UK, and other 11 countries. Western Europe accounts for 7 per cent of Ab Inbev volume and 9 percent of our revenues. Aiming at the growing market share Ab InBev

recently pursuit its interests in Africa due to solid macroeconomic fundamentals and favourable demographics, and fastest growing pace among beer markets.

As for employees responses, AB InBev demonstrate strong centralised approach with distribution of activities to particular business units located in the accordingly most beneficial geographical zones. Transportation planning, export planning and procurement is also centralised on the continent levels. However, the business unit structure imply that procurement and transportation planning departments locate in different countries making it difficult always to assure effective communication. Nevertheless, all processes are subject to standardisation and company is strongly aimed to operate as One company. Company emphasise critical focus on effective and informal internal communication development to assure smooth alignment of all departments.

Overall departments' strategies are developed within the global goals which is viewed by employee as both positive and negative influence for internal processes. AB InBev developed strong culture aimed for continuous improvement that embodied in all its activities. The mission states '*Our Dream is to bring people together for a better world*'. It is reinforced by ten principles that are grouped into Dream, Culture and People. Mainly respondents referred to two of them as most relevant for procurement process.

1. '*We are never completely satisfied with our results, which are fuel of our company. Focus and zero-complacency guarantee lasting competitive advantage*'.⁷²

Ab InBev processes are subject to constant evaluation through the prism of LEAN management, Six Sigma and waste reduction implemented in the form of Excellence programs and benchmarking of SLAs and KPIs on all strategic, tactical and operational levels including performance of each team and individual employed in the company. All processes are subject to incorporation and development under overall annual business objectives. Reflection of new business realities and benchmarking KPIs results with previous year assures continuous growth and processes improvements. This is achieved through the bonus structure and constant evaluation. According, to Gartner Ranking of Top

⁷² Anheuser-Busch InBev (2016). Our 10 principles. Available at: http://www.ab-inbev.com/content/dam/universaltemplate/ab-inbev/Our%20Story/10_Principles_ABI_Posters.pdf [Accessed November 20, 2016].

European Supply Chain Organizations 2015⁷³ AB InBev appeared on the 13th place. In order to respond effectively to changing market requirements and demand AB Inbev undergoes restructuration and optimisation taking outsourcing initiatives in beneficial geographical zones and applying different tactics to achieve better results.

2. *'We manage our costs tightly, to free up resources that will support our sustainable and profitable top line growth.'*

AB InBev is strongly aimed at cost cutting on the activities that are not related to directly serving customer. Financial discipline is based on the Zero-Based-Budgeting process that requires rigours pre-justification of every item spent every single year, meaning no item is included automatically. Regardless high effort consumption, such approach proved its efficiency in terms of narrow cost management and budget transparency. Effective management of working capital is considered as a critical element to competitiveness of the AB InBev business model. Procurement and transportation as a variable cost centres considered critical to the company success from the stand point of EBITDA. Minimisation of variable costs increases companies' earnings, and as a result competitiveness in the long term run due to possibility of better redeployment of accumulated capital. Furthermore, transportation function in particular is viewed as critical due to the FMCG nature of product and as a result ability to meet customer demand on time. As a result, this is viewed by employees as very challenging approach, as it reduces flexibility in decision making and budget scope for transportation but at the same time it is considered to be a critical process that affects other department performance linking supply chain and customer.

4.2. Transportation Operations Profile

Ab InBev splits market into seven geographical zones such as Asia Pacific, Western Europe, Central & Eastern Europe, Latin America South and North America and Mexico. Regardless company international presence, AB Inbev strives for operating as One company with centralised and standardised approach in all its operations with the

⁷³ Gartner Announces Ranking of Top European Supply Chain Organizations for 2015 (September 24, 2015). [Online] Available from: <http://www.gartner.com/newsroom/id/3136419> Accessed: 01.12.2015

necessary adjustments to regional and country realities. In fact, scope consists of complete end-to-end process beginning from control of barley and hops at farms, brewing at plants and to the stocking of store shelves. Furthermore ingredients for beer including rice, barley, malt, corn are shipped from overseas including Russia, China, US and European countries. Relatively small number of breweries supply global demand for the global brands. Thus it is vital to have effective partnership with transportation services providers in order to distribute products effectively worldwide.

With the exception of 8 trucks and permanent drivers in Belgium as a part of historical heritage Ab InBev outsource its transportation function worldwide. Almost 70 per cent of Ab InBev international shipments is carried by contractual logistics and the rest falls on common carriers. Ab InBev is required to use all modes of transportation including maritime and air due to large exports of global beer brands that agreed on production only in particular countries such as Corona that is brewed exclusively in Mexico. The rest of the global and international brands production is localised to geographical zones and their transportation conducted mainly by land. The main mode of transportation for the company is truck. However, Ab InBev due to strong focus on sustainable development is committed to increasing volume of intermodal shipments and strongly encourage its transportation partners to increase its usage every year especially for cross-country moves.

All of Ab InBev processes are divided into two main categories: directly and indirectly related to the production of the beer. As per respondents, transportation belongs to the first group as it assures transportation of ingredients, empties and final delivery to the customer, thus it is identified as a critical process to the company. However, it is not considered a core process. Ab InBev decision to outsource falls under TCE framework and confirming the hypothesis of low assets specificity. Second reason is tremendous costly capital investment required into transportation network and facilities in order for Ab InBev to cover volumes it produces and wide distribution domain; company simply cannot afford such vertical integration. Third most mentioned motivation for outsourcing is improving of capabilities, especially flexibility in terms of volumes, facility capacity and additional capacity especially in peak seasons subject to summer or weather conditions, as well as lack of knowledge and access to new technologies.

From the standpoint of theoretical analysis high frequency of transactions and volumes challenge Ab InBev due to its global presence and necessity to ship products into different geographic areas. Transportation planners note that nature of beer production implies low uncertainty as seasonality of business is easily forecasted. In terms of high volumes of sold beer company is able to alter the supply chain operations accordingly making emphasis on the differentiated approach and allocating fleet that assures full track loads. Company requires flexibility but that cannot be achieved by own efforts as for the rest of time of low periods facilities and transportation means are not required and thus generate only costs. In order to meet local demand company needs to partner with a variety of logistics providers and establish efficient relationships as well as gain international experience and knowledge to expand its operations. Last reason based on the interview with procurement department was cost reduction. This reason heavily prioritized by respondents since cost reduction is automatically incorporated into company mindset and is subject to the zero-based budget framework meaning that only exceptionally it can be increased within the year due to force majors. In general, no increase of the budget can be requested within the year and every year it is challenged to be minimized in comparison with previous results. This in fact is viewed as contradicting as company is constantly expanding in its operations and markets thus requiring new investments.

As for procurement, their strategy has been always concentrated on the country case by case, until recent changes and attempts to consolidate auctioned lanes to geographical zones. Such approach is viewed as possibility to achieve synergies and develop more comprehensive partnerships with logistics providers, as well as opportunity for carriers to effectively and thus cheaper allocate lanes based on their own economies. Furthermore, Ab InBev is actively looking for partnerships with other companies involved in the beverage industry to share usage of facilities and minimize dead truck weight. In fact, such cooperation requires a good match of networks of different manufactures that is not often attainable.

In terms of technological development Ab InBev operates on TMS system with time window control. Ab InBev expects transportation providers to adopt same system assuring trainings and knowledge transfer in place. In order to provide excellent service to the number of customers Ab InBev assures delivery 7 days per week. Transportation operations like all departments in Ab InBev have own targets and KPIs that are highly

aimed at the provision of best customer services possible including on time and in full indicators; thus collaboration with effective carrier is essential.

4.3. Procurement Strategy Profile

Procurement function is considered as one of the ways to achieve corporate goals. Purchasing efficiency includes cost minimisation and quality standards that leads to organic growth through EBITDA. As a cost centre procurement contribute through synergies and as a result sales and operational cost minimisation and finally in increase of working capital that can be reinvested into top line growth.

Overall AB InBev new initiatives are aimed at consolidation of the number of carriers. However, it does not imply longer contract terms or reduction of auction rounds. Contracts concluded for 1,2,3 years with the possibility to prolong it for one extra year. Unlimited contracts were suspended due to its inefficiency. Company recognized decreasing motivation of the carriers to deliver excellent results over longer period of time. However, it is recognized that investments into extra services development and equipment can be requested only if carrier is sure in the long term cooperation. Thus, Ab InBev seeks to balance the time frame of contracts and find an optimal solution to assure competitiveness of the carrier and reliability in place. Furthermore, Ab InBev strategy is aimed at diversification of the carriers' portfolio due to high peak seasons volumes and high risk to become over dependent on one provider.

Procurement is centralized to achieve economies of scope and benefit from the buyer power. Process is split based on the value of the contract; higher value imply more sophisticated negotiations process. Structure of procurement center presented by three units: Strategic Sourcing Team focused on capital expenses strategy and managing most critical and leading contractual arrangements; Sourcing team, conducting supplier studies and market analysis and executing e-auctions; Spot Buyer Team that contracts small and medium size suppliers, allocating new items and resolving ad hoc problems.

In terms of transportation services procurement Ab InBev has two key scenarios: tender for long-term cooperation and spot-buy for new lanes or peak season to cover higher volumes. Carrier selection process is centralised and conducted by one department where they are in

charge of global selection process, procurement planning, administration, contract and management. Such structure allows to achieve maximum of buyer bargaining power and support the transition to the zones combinatorial auctions. Here transportations services providers are reviewed for their service history, equipment requirements, compliance to regulation, safety and ethical standards.

Ab InBev is using standard buying scenario for new business that generally includes two-round auction. RFIs allows to reduce pool of providers to carriers who can first of all meet the rate component. Then filtered carriers up to 15 per cent are invited to the auction where they are eligible to bid on all the lanes. Previously, scenario was concentrated on the allocation of individual lanes that resulted in limitations in terms of economy of scope for carriers. First combinatorial round of tenders was conducted in 2016 providing opportunity to bid on all the lanes and combinations. Furthermore, the key focus now is to distance from allocating lanes on the country basis and increase the scale to regional and zone levels. Such tactic, provides an opportunity to effectively discover synergy effects.

Additionally, one of the key successes was reduction of price valuations on the lanes in comparison to previous contract periods. Due to continuous expansion of the market share Ab InBev required to have a pool of reliable carriers who can implement new routes if required. Due to bidding per lane and not combinations or regions it was challenging to allocate new business as carriers has been chosen per lowest rate per specific lane and not the geographical domain or reliability and capacity factors. Thus when required new lanes were previously offered at a less competitive rates. Second problematic is low volume lanes that are considered inconsistent and thus less attractive for carriers and thus are more costly. The solution was to simplify tendering process and bundle small volume lanes in order to achieve carrier commitment again following the principle of less suppliers - more lanes.

After bids done various scenarios are analyzed and if required second auction run aiming at the target rates followed by negotiations. Negotiations are required as currently used platform of e-auctions cannot cover all the scope of required qualitative SLAs. The transport ordering lead-time are shared together with the SLAs. SLAs are standardized for all the markets with necessary exceptions besides price as the key attribute, company is strongly aimed at the comprehensive array of requirements including payment terms,

flexibility and capacity, adjacent culture, safety and security, quality, technical capability, communication including language skills and technology used, environmental and social responsibility. Among them the leading role is played by flexibility, lead time and reliability as the volume grows, AB InBev expects supplier to increase its capacity to assure allocated lanes to be covered. At the same time AB InBev do not commit to any volume as it can be changed based on business needs.

At the current state of things, e-auctions contain only minimal part of transportation procurement due to its limitation in terms on focus on mainly price factor and difficulty of incorporating qualitative information. It rather serves spot buy for allocation new lanes in case none of contracted carriers can cover it in case of ad hoc issue. E-auction provide possibility to react in real time to the acute issue. One of the goals, is to increasing their usage and standardise and optimise the processes. First attempt on large scale transport event was used for lane specific invitations. One main goal identified by procurement through interviews is developing long-term relationships with their carriers.

4.4. Environmental Focus

As the key respond on how procurement and transportation operations feet in the company strategy, environmental focus is the ultimate answer that has been received. In addition to SLAs AB InBev is strictly compliant with laws and regulations on green agenda and has strong environmental focus when selecting carriers. Green Logistics component aiming to reduce CO2 footprint is defined as a valuable part of sustainable development of the company. Ab InBev takes part in the number of initiatives such as ‘Lean and Green’ organised by EU Commission that is aimed to zero emission on the European roads and increase use of intermodal mode of transportation such as barges and rail-way. Thus selection of carriers is also subject to environmental factor in terms of equipment used and same level of social responsibility.

Ab InBev requires intermodal transportation to be used whenever possible. It allows considerable reduction of greenhouse gas emissions. Carriers required to drive effectively and reduce maximum speeds to decrease fuel consumption, as well as keeping record of their CO2 emissions per track and share their results on the monthly basic. Results are

benchmarked with average results of other suppliers. Furthermore, proactive initiatives and proposals on solutions and equipment improvements strongly encouraged by AB InBev. Increasing usage of alternate fuels such as CNG and LNG instead of diesel, as well as application of intermodal mode of transportation wherever is possible are highlights on the logistics agenda. As a result all carriers have to meet environmental requirements in order to become Ab InBev transportation services provider.

As a result, such environmental focus through transportation operations also positively affects company image in the eyes of customers and partners, as well as allows sustainably to decrease costs. It can be considered as a very strong component of company competitiveness.

4.5. Carrier Relationship

Based on the interviews, it can be concluded that Ab InBev has very tight approach when it comes to supplier relationship. All of the carries officially called partners to emphasise their contribution to the business activity. Ab InBev demonstrates strong interest in collaboration with transportation providers. The key goal is cooperation on sustainability and environmental challenges, cost reductions and process optimisation, as well as experience exchange and knowledge gain that is achieved through synergies, sharing of complementary supply chains and facilities with other companies. Most recent examples of sharing fleets are in bottling production with Coca Cola and Pepsi, as well as reducing empty mileage with Walmart and Unilever and optimising vehicle usage with Heinz. In addition, Ab InBev is involved in projects aimed for combination of cargo with other products unrelated to beverage. These synergies is very often achieved through common carriers.

Second of all, development of networks and warehouses set up is done through the strong cooperation with most preferred carriers to assure long term cooperation in future and any possibility of reducing empty mileage. As a result cooperation between AB InBev and carriers seen as strong contribution to cost reduction and service improvement.

Separate department of Operations Services Transportation is in charge of monitoring and planning of carrier functions. There are number of programs that all carriers that cooperate with Ab InBev are subject to.

Bonus miles - Preferred shipper and Core Carrier Program is an incentive based program that requires carriers to meet expected SLAs and assure lowest miles spent. It is based on the score card methodology. In case of achievement carriers are offered monetary reward and in case of failure they are penalised. SLAs consist of

It is based on the carrier score card methodology that is assessed monthly by Ab InBev and then discussed directly with the transportation provider to assure actions to be taken to improve results if necessary. This program is different from Bonus Miles and is based on KPIs assessment. KPIs might vary based on the zones realities. However, there is a standard bundle of indicators that applied to all the carriers including:

- Deliver on time and in-full
- Day-one orders not accepted and planned excluding JIT movements;
- Day-two outstanding delivery confirmations
- Internal orders not performed
- Invoice lag
- More than 30 minutes arrival and departure delay
- Total tonnage over total number of shipments
- Vehicle utilization
- Cycle time of trucks on sites from arrival to departure

New carriers have an on-boarding period when they are allowed to fill gaps and start slow. However, KPIs are set up at the very high level making it challenging and for most carriers almost impossible to achieve even in the long run. Underperformance is monetary penalised and on the constant basis allows company to terminate the contract at any given moment. Additionally some of the KPIs can be seen as controversial, as maximum vehicle utilisation provides higher chances for a failure and less flexibility for the carrier generating a paradox with best service level and optimisation of processes.

Analysis provides visibility into service and volumes trend lines. Internally it is very time consuming and effort demanding process as it requires narrow look to assure data sanity and that it is matching with internal results of each carrier, as well as monthly follow up to assure. Excellence in achievement provides internal rating of carriers that is shared among them. Largest and best performers are first to receive lane awards and being offered longest contract terms.

As a result of the program implementation over last five years in a number of countries, respondents involved into transportation planning function and analytical activity, as well as customers' feedback notify that carriers improved service levels, responsiveness, loads visibility, reliability and flexibility in comparison to carrier selected in the countries without this program being in place yet. The main advantage confirmed by analytical team is smaller percentage of loads being failed as a result of better developed planning process and streamline the logistics flow as an outcome of reduced uncertainty and visibility.

Carrier Collaboration and Excellence program requires participation of all carriers except niche or small providers to assure long term growth. It is important to highlight that it is not a benchmarking program and it is a performance evaluation program. The program provides key measures for each dimension: service orientation, adequate costs, sustainable way, business capabilities and game-changing innovation. The program should drive the right gaps for both mature and immature zones and should drive standardization where it makes sense.

4.6. Strategy Evolution

All respondents recognise transportation and procurement departments' contribution to its overall profitability and as a result competitiveness. Continuous process improvements seen as a key trigger that help Ab InBev to succeed. As a feasible result Ab InBev appeared straight ahead on 13th position of best supply chains in Europe, 39th in the world, and second in the industry after its beverage rival Diageo. Based on interview responses the main contributor to such results is strong focus on partnership with carriers for strategic sourcing and development of supply chain network and synergies.

On the negative side there was many issues that need to be challenged. Ab InBev takes very pro-active approach in improving its supply chain capabilities that is absolutely reflects its strategic mission and objectives. As was identified through the number of interviews, Ab InBev proactively works on modifications of procurement strategies and take active steps to evolve supplier relationship through the number of improvement initiatives and implementation of transportation providers' assessment program in most of geographical zones.

As an outcome of interviews following key challenges were identified. Company global goal of cost minimisation as well as poor communication between departments due to centralised business units' structure located in different countries result in strong orientation on rate and financial aspect in company activities. It creates conflict between procurement and transportation services performance, as first strongly aimed at cost reduction while second at the best customer service level that as a result generates second problem such as unattainable KPIs and SLAs for carriers that were selected mainly according to the rate and not quality. In order to face that and attain better rates, company is aimed to consolidate number of carriers from per lane approach as well as move from the country level to the zone level, in order to assure better and more sustainable carriers pool and be able to benefit from the economy of scope. On the operational level it is aimed to be achieved through improved buyer scenarios and increasing usage of combinatorial auctions. As an addition to that company remains in line with its global goals and strong environmental focus through green logistics and increasing usage of intermodal modes

Majority of identified problems are mainly spotted on the tactical and operational levels. It was identified that company fails itself to face peak seasons in terms of performance of transportation operations while challenging carriers' KPIs. As a result, it generates inefficiency and valuations of unnecessary overachievement from the side of carriers when company fails to perform during high seasons itself. On the other hand, over the low seasons KPIs set up appears unnecessary challenging and goes in conflict with customer service level as it reduces flexibility squeezing out maximum vehicle usage from the provider. It might seem reasonable to leave a very low margin for mistake as in this case company prevents overdependence on the poor performance of the carrier and can terminate contract at any given moment based on poor KPIs. However, this is not a solution as initially preferred carriers are mainly selected based on the lowest rates and not quality, being expected to improve through the contract period. As a result, only few carriers are able to achieve that, leaving a lot of work for re-negotiations and re-allocation of lanes to new carriers minimising chances for long term partnership development. Thus, it is necessary to allocate as much time it is spent on financial analysis to the development of comprehensive supplier relationship and assessment programs.

Nevertheless, having an assessment program in place is essential. Transportation operations notice the significant difference in carrier performance in countries where the Bonus Miles and Excellence Program have been rolled out. The main factors are better reliability and minimised number of failures, as well as responsiveness and flexibility in terms of extra capacity. Such results can be attributed to the incentive framework of the program.

Ab InBev is aimed to benefit from leveraging its buyer power and increase usage of combinatorial auctions and consolidate tendered countries to geographical zones and as a result carrier pool. Such objective can help to find more strong partners that exceed country levels and thus have better chance to benefit from the economy of scope and own economies. As a result it can lower cost in more effective way, rather being aimed at the lowest rate per lane that harms service level and create ad hoc errors for the company. In addition, it generates more possibilities to increase usage of intermodal modes of transport and help to achieve green logistics initiative. As an ultimate goal it can provide a flexible transportation infrastructure that can be used to increase capacity utilization.

Conclusion

This work provided comprehensive overview on the strategic and tactical decision making process and how transportation decisions impact different areas of business. Practical part concentrating on AB InBev business case fully confirmed application of proposed strategic and operational tactics and demonstrated how critical procurement and transportation contribution viewed in the scope of business competitiveness.

In-depth interviews supported the TCE and Competitive Advantage theory framework statements and their application in the decision making process confirming the cost of transaction in terms of asset specificity and core business function being key triggers for outsourcing transportation services.

In the scope of procurement process planning all of outlined tactics confirmed to be in place providing positive results. However, being driven by solely financial factor can decrease their effect. Conducted interviews with AB InBev procurement and transportation planning professionals confirmed the hypothesis that company should not concentrate only on financial aspect of outsourcing, as it negatively affects service level and quality of transportation service. Concentration solely on the cost reduction generates number of negative consequences for internal work processes as well overall outcome and poor customer service. However, challenging this aspect can be approached directly through the procurement strategy and not budget increase. As was demonstrated on the example of AB InBev optimisation of buyer scenarios and changing the scope of traded lanes can decrease costs due to economy of scope. In addition deployment of comprehensive evaluation system and effective KPIs in combination with procurement strategy can help to select more reliable and strong transportation services providers and define effective contractual relations, carrier qualification and further supplier relationship.

In terms of procurement process development practical part identified a lot of issues that can be subject to the particular business case due to individuality of internal processes. Unfortunately, it cannot provide an ultimate answer of such process application effectiveness in other business cases as it requires further review on internal process and their comparison.

Last but not least, AB InBev case confirmed that development of sustainable development and environmental focus as well as strategic supplier relationship and carrier involvement in strategic projects results in strong long lasting partnerships, process improvements and synergy creation that can subsequently increase supply chain effectiveness, company image and as a result company competitiveness.

Procurement of transportation services does not lay only among the negotiation process. It spreads to the performance assessment and supplier relationship development in order to gain maximum results out of cooperation. Procurement and transportation can be identified by the company as not core processes but critical in achievement of company goals and competitive advantage as it wide array of factors such as impacts costs, service levels, sustainability and as a result profitability while profitability is an ultimate goal of any business.

Appendix: Interview: Procurement of Transportation Services Ab Inbev

1/ Is transportation function considered critical for the company? How?

2/ What are the key motives to outsource transportation function?

Please rate each group below according to the preference (1 – is the most important)

Increase Revenue:	Improve Capabilities:	Cost Reduction:
Increase flexibility & responsiveness	Focus on core business	Reduce operating costs
Increase speed to market	Gain access to new technology	Meet downsizing requirements
Improve quality	Gain access to advanced skills	Reduce capital investments
Decrease customer response time	Provide flexible facility capacity	Transform fixed to variable costs
Gain access to new markets	Create additional capacity	Reduce development costs
New value-added services	Provide backup capability	Reduce healthcare exposure

Other:

3/ What is the standard scenario of transportation services procurement? Are you striving for some automation in place (pay elements, electronic tender / auction (e-sourcing) and supplier contract management)?

4/ What strategy do you have in place for qualification of carriers? How do you diversify carriers? How many carriers do you choose? Do you choose upon prices per lane or total price per tender?

5/ What are the other key factors apart from price for selection?

Please mark with color criterias that are important, or provide additional in the section

Others

Service Issues 1. Transit time: 1) Speed of movement 2) Terminal and delay times	Loss or damage 1) Do goods arrive in same condition they were in at the start of the trip? 2) Damage costs
Transportation cost of shipper 1) Rates 2) Special services cost	Communication (Language, Technology) Problem resolution
Flexibility Customer Service In-transit visibility	Reliability 1) Delivery time variability 2) Subject to weather or other uncontrollable delays
Other:	

6/ How procurement strategy for transportation services integrated with the overall business strategy objectives and goals?

7/ Do you have any system in place to evaluate and measure carrier performance? Do you use score carding or have a certified carrier program in place?

If yes, have you achieved as a result after its implementation any tangible benefits such as e.g. improved performance of the carriers or customer feedback?

8/ What challenges or opportunities in the carrier performance measurement do you face?

11/ Do you see carriers as your strategic partners? If yes, what strategic and tactical activities, such as network design, transportation optimisation etc. you involve them in?

12/ Do you believe that well established relationship with the transportation service provider can minimize procurement and operation costs ? How?

13/ Do you see procurement of transportation services activities as a contribution to overall competitiveness of the company? How?

14/ Have you implemented any significant changes in the transportation procurement strategy or tactics within past 5 years? Have you achieved any significant outcomes (savings, better quality/reliability etc)? What was the biggest success?

15/ Do you see any space for improvement in your strategy or any future targets you would like to achieve?

References

- Albany ed., 2016. Global Logistics Market to Reach US\$15.5 Trillion by 2023. PRNewswire. Available at: <http://www.prnewswire.com/news-releases/global-logistics-market-to-reach-us155-trillion-by-2023-research-report-published-by-transparency-market-research-597595561.html> [Accessed November 4, 2016].
- Anderson E., Schmittlein D., Integration of the Sales Force: An Empirical Examination Available at https://www.jstor.org/stable/2555446?seq=1#page_scan_tab_contents [Accessed August 17, 2016].
- Anon, 2007. Winning Strategies for Transportation Procurement & Payment: Available at: <http://doc.mbalib.com/view/56936e09618c237a1d4e0fd686085e43.html>
- European Environment Agency, 2015. CO2 emissions from new vehicles in Europe continued to decrease in 2014. Available at: <http://www.eea.europa.eu/highlights/co2-emissions-from-new-vehicles> [Accessed September 7, 2016].
- Baron J. N., Kreps, D. M, (1999). Strategic Human Resources, New York S. 461. New York: John Wiley.
- Bekiaris E., Nakanishi Y.,(2004). Economic Impacts of Intelligent Transportation Systems: Innovations and Case Studies. Elsevier, 24. 7.
- Bhatnagar, Ashish. Textbook of Supply Chain Management. Series 9380257104. Word-Press, 2010.
- Bienstock, C. C., & Mentzer, J. T. (1999). An Experimental Investigation of the Outsourcing Decision for Motor Carrier Transportation - Transport Research. Available at <https://trid.trb.org/view.aspx?id=514638> [Accessed August 26, 2016].
- Brian Everett (2011) An Introduction to MindShare Strategies . Available at: Anon, 2011. An Introduction to MindShare Strategies , Keller International Publishing Corp . Available at:
- Brousseau, E., (1993). EDI and Inter-Firm Relationships: Toward a Standardization of Coordination. Processes? Information, Economics and Policy, vol. 6, N°3-4, 1994, pp. 319-347 Available at <http://brousseau.info/pdf/EBIEPStandEDI.pdf> [Accessed June 27, 2016].
- Byrne ,P. Markham ,W., 1991. Improving Quality and Productivity in the Logistics Process: Achieving Customer Satisfaction Breakthroughs
- Cachon, G. (2004). The allocation of inventory risk in a supply chain: push, pull and advance-purchase discount contracts. Management Science. Available at http://opim.wharton.upenn.edu/~cachon/pdf/air_ms.pdf [Accessed August 17, 2016].
- Caplice C., Sheffi Y. (2003). Optimization-Based Procurement For Transportation Services. Available at <http://web.mit.edu/sheffi/www/documents/genMedia.optimization-BasedProcurementForTransportationServices.pdf> [Accessed October 13, 2016]
- Carroll, D. & Guzman, I., 2015. The New Omni-Channel Approach to Serve Customer. Omni-channel Communications Service Strategy - Accenture. Available at: https://www.accenture.com/us-en/~media/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Industries_2/accenture-new-omni-channel-approach-serving-customers.pdf#zoom=50 [Accessed June 19, 2016].
- Chapman, D., 2016. Global Transportation and Logistics M&A Deals Insights. PwC. Available at: <http://www.pwc.com/us/en/industrial-products/publications/intersections.html> [Accessed July 29, 2016].

- Coase, R.H., 1937. The Nature of the Firm. *Economica*. Available at: [http://www.colorado.edu/ibs/es/alston/econ4504/readings/The Nature of the Firm by Coase.pdf](http://www.colorado.edu/ibs/es/alston/econ4504/readings/The%20Nature%20of%20the%20Firm%20by%20Coase.pdf) [Accessed May 13, 2016]. New Series, Vol. 4, No. 16 (Nov., 1937), pp. 386-405
- Damme, D., (1996). Outsourcing Logistics Management Activities. Available at <http://www.emeraldinsight.com/doi/abs/10.1108/09574099610805548> [Accessed May 1, 2016]
- David, R.J. & Han, S.K. 2004. A systematic assessment of the empirical support for transaction cost economics. *Strategic Management Journal*, 25: 39-58.
- Dornier, P. P., & Fender, M. (2007, July). La Logistique Globale et le Supply Chain Management. Retrieved from http://www.eyrolles.com/Chapitres/9782708133846/TDM_Dornier.pdf [Accessed August 15, 2016].
- Elmaghraby W. (2007). Auctions within E-Sourcing Events. Available at https://www.researchgate.net/publication/227618323_Auctions_within_E-Sourcing_Events [Accessed October 13, 2016]
- Emptoris. 2005. Motorola Reinvents its Supplier Negotiation Process Using Emptoris and Saves \$ 600 Million: An Emptoris Case Study. Available at http://www.icesi.edu.co/blogs/logabastecimiento2010/files/2010/04/Emptoris_Mototora_Case-Study.pdf [Accessed October 13, 2016]
- European Commission, 2015. Analysis of the EU logistics sector. Available at: <http://ec.europa.eu/transport/themes/strategies/studies/doc/2015-01-freight-logistics-lot1-logistics-sector.pdf>
- European Commission, 2016. Freight transport statistics. Eurostat Statistics. Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Freight_transport_statistics [Accessed June 4, 2016].
- Frazee T. (1991). Carrier Qualification and Evaluation, Tennant
- Gallagher J. (1988), Quality in Transportation: Measurement Makes Some Headway. *Purchasing* 1988
- Gartner Announces Ranking of Top European Supply Chain Organizations for 2015 (September 24, 2015). [Online] Available from: <http://www.gartner.com/newsroom/id/3136419> Accessed: 01.12.2015
- Ghertmann, M. (1989). L'approche fondée sur les coûts de transaction. *Les Nouvelles Approches de la Gestion des Organisations*, Arrègle J.L., Cauvin E., *Economica*. Retrieved from http://www.persee.fr/doc/rfec0_0769-0479_1989_num_4_4_1236 [Accessed August 19, 2016].
- Gibson, B. (1995). Supplier Certification: Utilization and Value in the Purchase of Industrial Transportation Services. Available at <http://www.worldcat.org/title/supplier-certification-utilization-and-value-in-the-purchase-of-industrial-transportation-services/oclc/34433555> [Accessed October 26, 2016]
- Grover, V., & Malhotra, M. (2001). Transaction cost framework in operations and supply chain management research: theory and measurement. Retrieved August 2, 2016, from <http://isiarticles.com/bundles/Article/pre/pdf/10737.pdf>
- Heaney, B., (2010). Transportation Procurement & Payment: Gain Control Over Spend. Aberdeen Group. Available at <http://8c12cf0ca0d6cec91f49-> [Accessed September 3, 2016]
- Holcomb, T., Hitt M., (2006). Toward a model of strategic outsourcing. Available at: https://www.researchgate.net/publication/228233296_Toward_a_Model_of_Strategic_Outsourcing [Accessed August 11, 2016].
- Aberdeen Group (2006). How Leaders Are Taking Advantage of Market Conditions to Lower Freight Costs. Available at:

<http://chiletransporte.cl/portal/images/Documentos/StrategiesForTransportationProcurement.pdf>
[Accessed July 14, 2016].

Isaksson K., Björklund M., Evangelista P., (2011). The Challenge and Adoption of Green Initiatives for Transport and Logistics Service Providers. Available at: <http://liu.diva-portal.org/smash/get/diva2:476094/FULLTEXT01.pdf> [Accessed August 11, 2016].

Ivanaj, V., & Masson Franzil, Y. (2006, June). Outsourcing logistics activities: a transaction cost economics perspective. XVème Conférence Internationale de Management Stratégique, Annecy / Genève 13-16 Juin 2006. Retrieved, from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.119.7659&rep=rep1&type=pdf> [Accessed August 15, 2016].

Jean-Paul Rodrigue, J., P., Logistics and Freight Distribution. Available at <https://people.hofstra.edu/geotrans/eng/ch5en/conc5en/ch5c4en.html> [Accessed September 3, 2016]

Kakabadse N., Kakabadse A. (2000). Critical review – Outsourcing: a paradigm shift. Available at: <http://www.emeraldinsight.com/doi/abs/10.1108/02621710010377508> [Accessed September 12, 2016].

Keebler, J., Mandrodt, K., Durtsche, D., Ledyard, M., (1999). Keeping Score: Measuring the Business Value of Logistics in the Supply Chain. Oak Brook, IL: Council of logistics Management.

Kersten, W., & Koch, J. & Hohrath, P. (2007, July). Motivation for the outsourcing of complex logistics services. Retrieved from <http://www.poms.org/conferences/cso2007/talks/09.pdf> [Accessed August 15, 2016].

Laarhoven, P. V., Berglund, M. and Peters, M. (2000) Third-Party Logistics in Europe - Five Years Later. International Journal of Physical Distribution & Logistics Management. Available at <http://www.emeraldinsight.com/doi/abs/10.1108/09600030010336216> [Accessed September 3, 2016]

Langley J. (2015) THIRD-PARTY LOGISTICS STUDY Available at https://www.fr.capgemini-consulting.com/resource-file-access/resource/pdf/2015_3pl_study.pdf [Accessed September 3, 2016]

Ledyard J., Olson M., Swanson J., Porter D., Torma D. (2001). The First Use of a Combined-Value Auction for Transportation Services. Available at <http://molsonecon.org/papers/SearsAuctionArticle.pdf> [Accessed October 13, 2016]

Ma, Z., (2008). Combinatorial Auctions for Truckload Transportation Procurement. Available at https://tspace.library.utoronto.ca/bitstream/1807/11230/1/Ma_Zhong_200806_PhD_thesis.pdf [Accessed September 3, 2016].

Maas R., Brown, J., Bossert, J. (1990) Supplier Certification : A Continuous Improvement Strategy.. Amer Society for Quality. ISBN0873890833

McIvor R., Humphreys P., McKittrick A., Wall T., Performance management and the outsourcing process: Lessons from a financial services organisation Available at: <http://www.emeraldinsight.com/doi/abs/10.1108/01443570910993474> [Accessed August 11, 2016].

Mock, P., 2015. EUROPEAN VEHICLE MARKET STATISTICS 2015/16. International Council on Clean Transportation Europe. Available at: http://www.theicct.org/sites/default/files/publications/ICCT_EU-pocketbook_2015.pdf [Accessed August 11, 2016].

N. An, W. Elmaghraby, and P. Keskinocak (2005), "Bidding Strategies and their Impact on Revenues in Combinatorial Auctions," Journal of Revenue and Pricing Management, Vol.3, No.4, 337-357. Available at <http://www2.isye.gatech.edu/~pinar/comb-auction.pdf> [Accessed October 13, 2016]

Nagarajan A., Canessa E., Mitchell W., (2001). E-commerce and the Terms of Competition in Industries. Available at: https://faculty.fuqua.duke.edu/~willm/bio/cv/papers/BRIE2001_Trucks.pdf

- Nicita, A., 2015. Statistics and Trends in International Trends 2015. Division of International Trade in Goods and Services and Commodities. Available at: http://unctad.org/en/PublicationsLibrary/ditctab2015d1_en.pdf [Accessed September 4, 2016].
- Pache, G. 2002. A problematic of the new logistical order: the piloting of competence networks. In N. Fabbe-Costes & P. Lievre (Eds.) *Orders and Disorders in Logistics*, Paris: Hermès, Lavoisier.
- Patry, M. Tremblay, M. Lanoie, P. & Lacombe, M. (1999). Why Firms Outsource their Human Resources Activities: An Empirical Analysis. Centre Universitaire de Recherche et Analyse des Organisations Working Paper, Montréal, Août. Available at <http://econpapers.repec.org/paper/circirwor/99s-27.htm> [Accessed August 17, 2016].
- Pernica, P., (2004). *Logistics for the 21st Century, (Supply Chain Management)* ISBN: 80-86031-59-4
- Persson, G., Virum, H. (2001). Growth Strategies for Logistics Service Providers: A Case Study. Available at <http://www.emeraldinsight.com/doi/abs/10.1108/09574090110806226> [Accessed September 2, 2016]
- Poppo, L., & Zenger, T. (1998). Testing Alternative Theories of the Firm: Transaction Cost, Knowledge-Based, and Measurement Explanation for Make-Or-buy Decision in Information Services. Retrieved June 2016, from https://www.business.illinois.edu/josephm/BA545_Fall_2015/ [Accessed August 17, 2016].
- Proxima (2013) Corporate Virtualization A global study of cost externalization and its implications on profitability 2011. [Online] Available from: http://cdn2.hubspot.net/hub/28326/file-294650841-pdf/docs/Proxima_Whitepaper_Corporate_Virtualization.pdf?submissionGuid=79d0c12d-070a-45c6-b7ff-3e7e42b23479. Accessed: 28.11.2015
- Rindfleisch A. and Heide J. (1997). Available at <https://faculty.fuqua.duke.edu/~moorman/Marketing-Strategy-Seminar-2015/Channels/Rindfleisch,%20Heide%201997.PDF> [Accessed August 17, 2016].
- Ruzzier C. (2009). Asset Specificity and Vertical Integration: Williamson's Hypothesis Reconsidered. Available at <http://www.hbs.edu/faculty/Publication%20Files/09-119.pdf> [Accessed September 2, 2016]
- Selig G., LeFave R., Bullen C. (2010). *Implementing Strategic Sourcing*. Van Haren, 7. 7. 2010
- Services, Inc. Third-Party Logistics Results and Findings of the 2004 Ninth Annual Study IBM 2005 Adapted from "Third-Party Logistics Results and Findings of the 2004 Ninth Annual Study". Authors are C. J. Langley, Georgia Institute of Technology, G. R. Allen, Capgemini, and T. A. Dale, FedEx Supply Chain
- Sheffi Y. (2004). Combinatorial Auctions in the Procurement of Transportation Services Available at <http://sheffi.mit.edu/sites/default/files/CombinatorialAuctionsInTheProcurementOfTransportationServices.pdf> [Accessed October 13, 2016]
- Simon H., 1947. Available at: <http://www.scielo.br/pdf/rep/v30n3/a06v30n3.pdf> [Accessed May 13, 2016].
- Sink, H. L. and Langley, C. J., (1997) A Managerial Framework for the Acquisition of Third-Party Logistics Services. *Journal of Business Logistics* Available at <https://trid.trb.org/view.aspx?id=570802> [Accessed September 3, 2016]
- Skjøtt-Larsen, T. (2000). Third party logistics: From an interorganizational point of view. *International Journal of Physical Distribution & Logistics Management*, Available at: [http://research.cbs.dk/en/publications/third-party-logistics\(441aa620-8eba-11db-a124-000ea68e967b\).html](http://research.cbs.dk/en/publications/third-party-logistics(441aa620-8eba-11db-a124-000ea68e967b).html) [Accessed October 13, 2016]
- Sohail, M.S., Sohal, A.S (2003). The Use of Third Party Logistics Services: A Malaysian Perspective. *Technovation: An International Journal*, Vol. 23 No. 5, pp. 401-408. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2650360 [Accessed September 3, 2016]

Stank, T.P. & Maltz, A.B. (1996). Some propositions on Third Party Choice: domestic vs international logistics providers. *Journal of Marketing*, Spring, 45- 54 Retrieved from https://www.jstor.org/stable/40469796?seq=1#page_scan_tab_contents [Accessed August 26, 2016].

Wang, e., (2002). Transaction attributes and software outsourcing success: an empirical investigation of transaction cost theory. , National Central University, Chung-Li, Taiwan. Available at <http://folk.uio.no/patrickr/refdoc/transactionCost.pdf> [Accessed August 17, 2016].

Williamson , O.E., 1996. *The Mechanisms of Governance*. . Oxford University Press Business & Economics, 70(04), pp.594–596. Available at: https://books.google.de/books?id=meERBVysP6YC&redir_esc=y [Accessed August 15, 2016].

Wolf C. , Seuring S. (2010). Environmental impacts as buying criteria for third party logistical services. Available at: <http://www.emeraldinsight.com/doi/abs/10.1108/09600031011020377> [Accessed September 7, 2016].

Yasuda, H. (2005, July). Formation of strategic alliances in high-technology industries: comparative study of the resource-based theory and the transaction-cost theory. Retrieved August 2016, from <http://www.sciencedirect.com/science/article/pii/S0166497204000069>; [Accessed September 7, 2016].