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ANALYSIS OF TRANSACTION COSTS OF LIQUID PETROLEUM GAS (LPG) 3 KG SUPPLY CHAIN IN YOGYAKARTA CITY

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ABSTRACT

Liquified Petroleum Gas (LPG) 3 kg is subsidized fuel circulated by Pertamina Corporation. The objective of this research was to analyze the supply chain, the selling margin among distribution agencies, and the transaction cost in the market supply chain of LPG 3 kg in Yogyakarta. The research used primary data such as interview and observation. The data was analyzed with qualitative descrptive analysis. The result of this research show two LPG 3 kg supply chain in Yogyakarta which are Pertamina – Agent – Base Seller – Retailer – Shop Seller – Cosumer and Pertamina – Agent – Base Seller – Retailer – Small and Medium Enterprises. The highest marketing margin obtained by retailers are Rp. 2942/ gas tube in the first supply chain and second supply chain. The hihgest transaction cost is managerial transaction cost is first supply chain and second supply chain which equals to 62,56 percent and 61,97 percent. Followed by 31,26 percent of market transaction cost in the first supply chain and 31,75 percent in the second supply chain. The lowest transaction costs are 6,13 percent of political transaction cost in the first supply chain and 6,26 percent of political transaction cost in the second supply chain. Therefore, the solution to this problem is a review of the highest retail price for LPG 3 kg in Yogyakarta so it could be relevant for agents who experienced the highest transaction cost.

Keywords: *LPG, Supply Chain, Transaction Cost, Yogyakarta City*

ABSTRAK

Liquified Petroleum Gas (LPG) 3 kg adalah bahan bakar bersubsidi yang diedarkan oleh PT Pertamina (Persero). Penelitian ini bertujuan untuk mengetahui rantai pasok pemasaran LPG 3 kg Kota Yogyakarta, menganalisis marjin penjualan antar lembaga pemasaran LPG 3 kg Kota Yogyakarta, dan mengetahui biaya transaksi pada rantai pasok pemasaran LPG 3 kg Kota Yogyakarta. Sumber data yang digunakan dalam penelitian ini adalah data primer seperti wawancara dan observasi langsung. Data tersebut dianalisis dengan metode deskriptif kualitatif sesuai dengan tujuan penelitian. Hasil penelitian menunjukkan ada dua rantai pasok LPG 3 kg di Kota Yogyakarta yaitu Pertamina - Agen – Pangkalan – Pengecer – Pedagang Warung – Konsumen dan Pertamina – Agen – Pangkalan – Pengecer - UMKM. Marjin pemasaran tertinggi didapatkan oleh pengecer yaitu Rp. 2.942/tabung pada rantai pasok pertama dan rantai pasok kedua. Serta biaya transaksi tertinggi adalah biaya transaksi manajerial pada rantai pasok pertama dan rantai pasok kedua yakni sebesar 62,56 persen dan 61,97 persen. Disusul oleh biaya transaksi pasar 31,26 persen pada rantai pasok pertama dan 31,75 persen pada rantai pasok kedua. Selanjutnya biaya transaksi terendah ialah biaya transaksi politik yakni 6,13 persen pada rantai pasok pertama dan 6,26 persen pada rantai pasok kedua. Maka, saran penelitian ini adalah peninjauan ulang HET LPG 3 kg Kota Yogyakarta agar Harga Eceran Tertinggi (HET) lebih relevan bagi pelaku pemasaran LPG 3 kg yang mengalami biaya transaksi tertinggi yaitu agen.

Kata kunci : LPG, Rantai Pasok, Biaya Transaksi, Kota Yogyakarta

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INTRODUCTION

Liquid Petroleum Gas (LPG) is a flammable hydrocarbon gas from natural gas processing and oil refining with the main components of propane (C_3H_8) and butane (C_4H_{10}). In 2008, the kerosene was converted to LPG as household fuel by the government. It is sold by the government to the community in form of subsidized LPG such as LPG 3 kg or *melon* gas and non-subsidized LPG such as Bright Gas 5,5 kg; Bright Gas 12 kg; and LPGs 50 kg.

LPG 3 kg is the only subsidized LPG which the sales are regulated by the government, from its price and its distributor. The term of LPG in this article is defined by LPG 3 kg. The price of subsidized LPG is cheaper than the non-subsidized LPG. The prices difference per-kilogram is 50% or half of the price of non-subsidized LPG. In Yogyakarta, the price of LPG is regulated in the Governor Regulation of Special Region of Yogyakarta number 28 years 2015 about the highest retail price of LPG) is Rp 15.500 (fifteen thousand five hundred rupiah). The price was determined based on the local condition, public purchasing power, and reasonable margin followed by the facilities and its distribution (Pergub DI Yogyakarta Nomor 28, 2015).

Its regulation by the Governor of Special Region of Yogyakarta made the province has the lowest retail price in Indonesia compared to other provinces like Central Java and East Java with the price of Rp16.000 (Budya & Yasir Arofat, 2011). The LPG retail price of Rp15.500 became irrelevant for the agencies because of its lower profit. It can only be sold through authorized distributors that have been appointed and managed by Pertamina Corporation.

Pertamina Corporation is an Indonesian state-owned oil and natural gas corporation. The company regulates the selling price for its agencies as direct distributors and its bases as sub-distributors. The company also regulates their LPG distributors. Pertamina Corporation has a desire to distribute LPG within the last supply chain which the bases can directly sell to the community and micro, small and medium scale business. But the reality is different, the company needs other parties like retailer to distribute their LPG because the distribution in the bases are uneven. At the retail level, price fluctuation occurs because it is not regulated by Pertamina Corporation and they made the selling price more expensive.

According to the institutional economics, the price fluctuations that happened at retail level is caused by retailer as the middleman that has greater information about the prices. Meanwhile, in the consumer level the price information is asymmetric. Then, the information asymmetry in the supply chain opens opportunities for middleman to abuse its market power (Meyer & von Cramon-Taubadel, 2004). One of the forms of abuse of market power is that intermediary traders have the ability to set a large marketing margin. This is because the intermediary trader will try to maintain their profit level and will not raise/lower the price according to the actual price signal. Therefore, the intermediary trader will react more quickly towards the increases price compare to price reduction.

Limited information on the LPG supply chain has caused consumers to be in a weak position as the last stage of supply chain. The analysis of transaction cost of LPG supply in Yogyakarta is needed to find out how much information every supplier owned in the supply chain.

Based on brief explanation above, the objectives of this research are :

a. To know about LPG supply chain in Yogyakarta
b. To analyze the sales margin among LPG marketing agencies in Yogyakarta
c. To know the transaction costs of LPG supply chain in Yogyakarta

METHODS

1. Research Approach

This research is classified as a descriptive qualitative research. The descriptive qualitative research is a research process that produces descriptive data in form of written or oral words and behavior observation (Moleong, 2017). According to Sugiyono, it is a research method based on post positivism philosophy which is usually used to examine a natural objective conditions in which the researcher serves as a key instrument (Sugiyono, 2012).

Qualitative descriptive research interprets and relates data pertinent to the current situation, attitudes and perspectives that occur in society, relationships between variables, and differences between facts. The purpose of qualitative descriptive research is to reveal facts, phenomenon, variables and circumstances that occur during the study and also presents what it is.

Qualitative descriptive research starts from the area that based on the natural environment, not on the theory. The data and information obtained from the field are drawn into the meaning and concept, through the analytical descriptive approach that prioritizes the process. In this research the steps are done clearly and specifically (Rukajat, 2018).

2.1 Data Collection

The data collection in this research was done by in-depth interview. It is a process of obtaining information for the purpose of the study by direct interview with the informant or the interviewer, with or without using the interview guide (Bungin, 2011).

The informants in this study are producers and supply chin institutions. Informants were determined by the snowball sampling method, where the first informant was a 3kg LPH agent, and the next informant was obtained through information from the previous informant. In general, in qualitative descriptive research, the required informants are not in large quantities, but in accordance with the needs of the study.

2. Research Location

This research was conducted in Yogyakarta. The research location was determined by purposive sampling, where the chosen location was a city with a special regulation in high retail price of LPG. The research on the agent was done at PT. Wina Putra Jaya as on of the biggest LPG supplier in Yogyakarta.

a. Technique of Data Analys

Supply Chain Analysis Method

LPG supply chain analyzed by observe of distribution actor which is taking the roles as a middleman in delivery process of product from produsen to consumer and formation of supply chain map.

Margin Analysis Method

Margin is calculated based on reduction of selling price and purchasing price in every distributor or difference of taken price by Pertamina Corporation and payment price by consumers (Daly & Moloney, 2004).

Transaction Cost Analysis Method

Furubotn and Richter in stated that transactions costs are consists of market transaction costs, managerial transaction costs, and political transaction costs (Furubotn & Richter, 2010). Therefore, the transaction costs can be formulated as follows (Yustika, 2008).

TC = MTC + MgTC + PTC…… (3.1)

Description:

TC : transaction cost;

MTC : market transaction cost;

MgTC : managerial transaction cost;

PTC : political transaction cost.

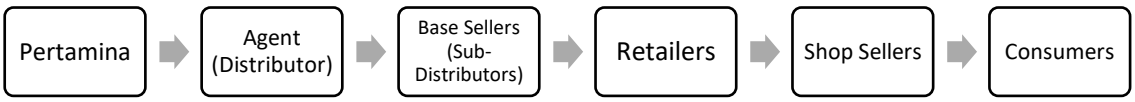
RESULTS AND DISCUSSION

The Supply Chain Analysis of LPG in Yogyakarta City

Chain is a series organizations thata connector between Pertamina Corporation as producer with consumers as the recipient of final products which consists of various intermediary agencies.Delivery of LPG can not be directly because of the location Pertamina Corporation as producer of LPG where is far away from consumers.

a. The First Supply Chain

The first supply chain have five chain so the chain of distribution is quite long, meaning more involving marketing agencies.



Sources: Prosessed primary data, 2017

Figure 1 The First Supply Chain of LPG in Yogyakarta City

b. The Second Supply Chain

In the second supply chain, the distribution of LPG to the final consumers is conducted by four distribution agents

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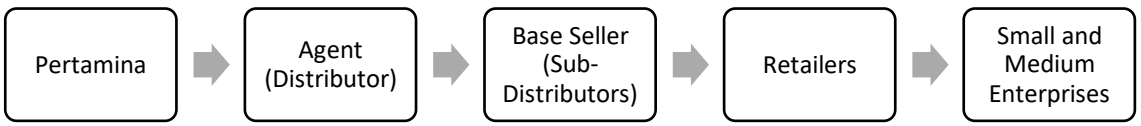


Sources: Prosessed primary data, 2017

Figure 2 The Second Supply Chain of LPG in Yogyakarta City

c. Sales System of LPG di Yogyakarta City

The sales system of LPG is conducted by perfect competition transparently in accordance with applicable regulations and supply chain which I mapped. Pertamina as a gas producer distributethe gas tube to distributor that has been established by Pertamina Corporation who is agent. Selling price and gas tube allotment by agent is regulated by Pertamina Corporation. There are consequences if gas tube allotment from Pertamina Corporation not sold is the gas tube allotment will be reduced in the next month. So are with base sellers, selling price and gas tube allotment is regulated by Pertamina Corporation which aim no cheating in consumers level because LPG is subsidized LPG. This aim to base sellers become the last supply chain which distribute directly to final consumer and small and medium enterprises. This chart is LPG supply chain which expected by government.

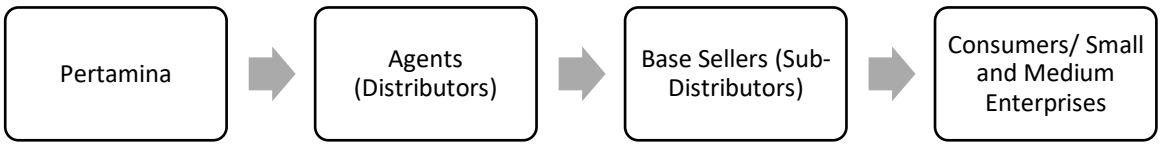


Figure 3 The Sales Supply Chain of LPG by Pertamina Corporation

But reality in Yogyakarta city, the spread of base sellers is uneven and can not reach consumers where far away in corner places. Therefore, it is needed other distributor namely retailer to efficient sale of LPG in Yogyakarta City because retailers will be going around to reach consumers in corner places. The many number of retailers caused selling price in retailer level cannot be controlled by Pertamina Corporation because the actor of retailer always change. After that, LPG is sell to the nearest shop sellers to final consumer or sold directly to small and medium enterprises which is needed.

d. Margin Analysis

Margin is sum all of distribution cost which expend and profit of distribution agencies during distribution one comodity process from one distributor to other distributor.

Table 1. The Spread of Purchasing Price, Selling Price, Costs, Profit, and Margin of LPG Supply Chain in Yogyakarta City, 2017

UnsurMarjin	**The First Supply Chain**		**The Second Supply Chain**	
	Rp/gas tube	**% *)**	**Rp/gas tube**	**% *)**
PERTAMINACORPORATION				
Selling Price	11584	55,16	11584	62,61
Production Costs	-	-	-	-
Distribution Costs	-	-	-	-
Profit	-	-	-	-
Margin	-	-	-	-
AGENT				
Purchasing Price	11584	55,16	11584	62,61
Costs	1699	8,09	1699	8,09
Profit	2416	11,50	2416	11,50
Margin	717	3,41	717	3,87
Selling Price	14000	66,67	14000	75,67
BASE SELLERS				
Purchasing Price	14000	66,67	14000	75,67
Costs	252	1,20	252	1,36
Profit	1500	7,14	1500	8,10
Margin	1248	5,94	1248	5,94
Selling Price	15500	73,80	15500	83,78
PENGECER				
Purchasing Price	15500	73,80	15500	83,78
Costs	58	0,27	58	0,31
Profit	3000	14,28	3000	18,98
Margin	2942	14,00	2942	15,90
Selling Price	18500	88,09	18500	100,00
SHOP SELLERS			-	-
Purchasing Price	18500	88,09	-	-
Costs	32	0,15	-	-
Profit	2500	11,09	-	-
Margin	2468	11,75	-	-
Selling Price	21000	100,00	-	-

TOTAL MARGIN	7375	35,11	4907	26,52
TOTAL COSTS	2041	9,71	2009	10,85
TOTAL PROFIT	9416	44,01	6919	37,40
PROFIT/COSTS	4,61	4,53	3,44	3,44

Sources: Prosessed primary data, 2017

*Percentage is come from selling price of final distributor whose shop seller and retailer.

The largest margin distribution in first and second supply chain is expended by retailers is Rp. 2.942/gas tube (39,89 percent from total margin which equals to Rp. 7.375/gas tube) in the first supply chain and Rp. 2.942/gas tube (59,95 percent from total margin which equals to Rp. 4.907/gas tube) in the second supply chain. The amount of margin caused by the amount of profit which taken by retailers because of efficiency LPG distribution so consumers can be reached widely.

e. Transaction Costs Analysis

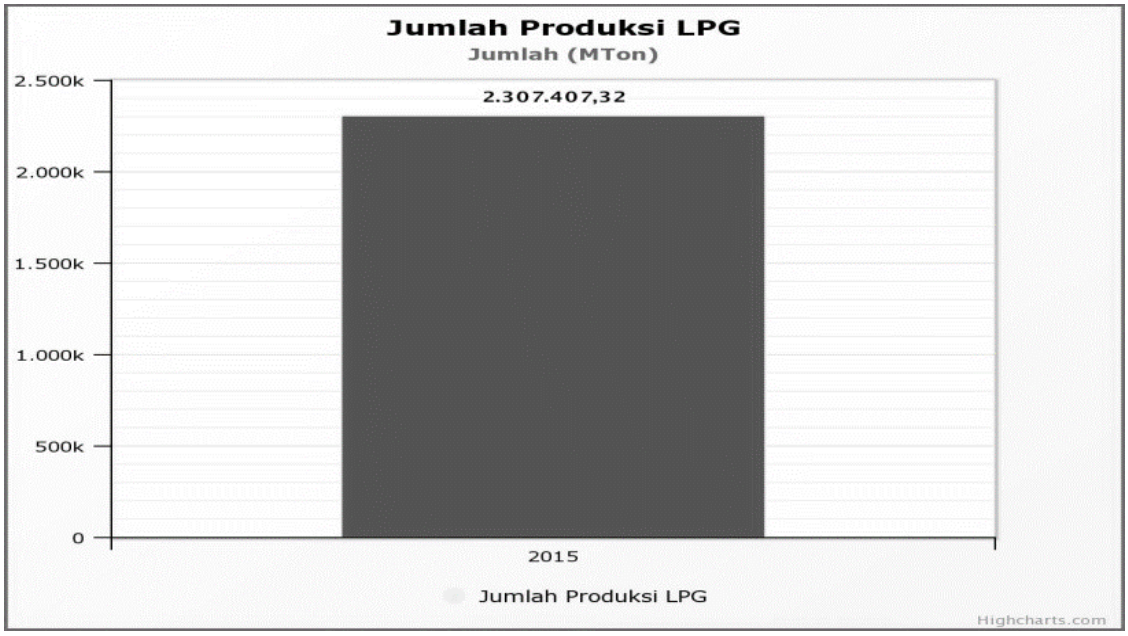
Transaction costs of LPG is calculation all of costs which expend in distribution process from the first distributor until the last ditributor. Before LPG in first distributor, LPG is in Pertamina Corporation as a producer. Therefore, before knowing about transaction costs of LPG should discussed about LPG production which is conducted by Pertamina Corporation.

f. The production of LPG

There are two sources of gas production coming from Pertamina's refineries and imports. Pertamina Corporation has refinery where produces gas to be LPG and gas product such as gas fuel, Musi Cool, Hydrocarbon Aerosol Propellant (HAP) and Vi-Gas. While, non fuel oil product which is produced by Pertamina Corporation are Paraxylene, Benzene, Propylene, Solvent and another non fuel oil. This are Pertamina refinery where produces LPG in Indonesia.

- Refinery Unit II in Dumai and Pakning River, Riau
- Refinery Unit III in Plaju – Sei Gerong, Palembang, Sumatera Selatan
- Refinery Unit IV in Cilacap, Central Java
- Refinery Unit V in Balikpapan, East Borneo
- Refinery Unit V in Balongan, Indramayu, West Java

Total production of LPG in 2015 has reached 2.307.407,32 ton. So, this is chart about production of LPG in 2015.



Sources: Ditjen Migas, 2015

Figure 4. Chart of LPG Total Productionin Indonesia, 2015

After LPG is produced, LPG distribute to each Pertamina Corporation branch throughout Indonesia. In Yogyakarta city, Pertamina branch is located in Region IV (Central Java and and Special Areas of Yogyakarta). Then, LPG which still not in the form of tube put into a tube in SPPBE (charging gas to tube) become 3 kg form of green and submitted to agent. This is the distribution plot of LPG which starting from Pertamina Corporation to consumers.

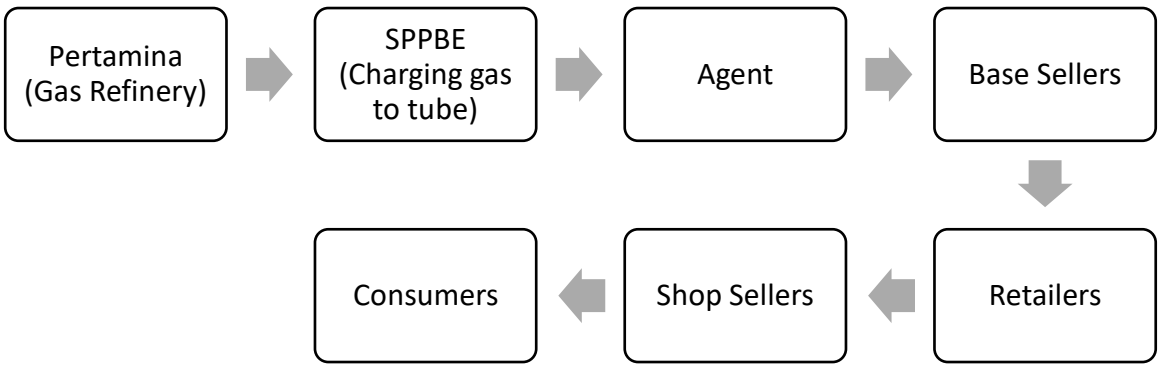


Figure 5. The Stuff Supply Chain of LPG in Yogyakarta City

g. Transaction Cost of LPG by Agent in Yogyakarta City

The distribution chain begins from production of LPG by Pertamina Corporation then solf to agent. Therefore, it is needed to descibe any costs which expended during LPG ditribution processed by agent.

Table 2. Transaction Cost of LPG by Agent in Yogyakarta Cit

No.	Types of Transaction Cost	Costs (Rp/month)
1	**Market Transaction Cost**	
	Pocket Money for Driver Cost	Rp. 2.142.600/month
	Installation of the Seal Cost	Rp. 1.071.300/month
	Loading Cost	Rp. 803.400/month
	Fuel and Maintance of Truck Cost	Rp. 15.000.000/month
	Sub Total	**Rp. 19.017.300/**month
2	**Managerial Transaction Cost**	
	Storage Rental Cost	Rp. 8.250.000/month
	Administration Cost	Rp. 2.100.000/month
	Telephone, Electricity, danWater Cost	Rp. 1.050.000/month
	Employee Salary Cost	Rp. 12.000.000/month
	Fire Extinguishers Cost	Rp. 4.800.000/month
	Sub Total	**Rp. 28.200.000/**month
3	**Political Transaction Cost**	
	Value Added Tax Cost	Rp. 2.730.000/month
	Income Tax Cost	Rp. 1.050.000/month
	Sub Total	**Rp. 3.780.000/**month
	Total	**Rp. 50.997.300/**month

Sources: Processed primary data, 2017

h. Transaction Cost of LPG by Base Sellers in Yogyakarta City

This is the description of LPG transaction cost by base sellers in Yogyakarta City which explained on Table 4.4.

Table 3. Transaction Cost of LPG by Base Sellers in Yogyakarta City

No.	Types of Transaction Cost	Costs (Rp/month)
1.	**Managerial Transaction Costs**	
	Inventory of Empty Tube Costs	Rp. 5.000.000/month
	Depreciation of Scales Costs	Rp. 15.000/month
	Fire Extinguishers Cost	Rp. 300.000/month
	Note of Payment Cost	Rp. 2.100.000/month
	Depreciation of Base Sellers Board Costs	Rp. 3.000/month
	Logbook Costs	Rp.

		120.000/month
	Stationary Costs	Rp. 25.000/month
	Total	**Rp. 7.563.000/**month

Sources: Prosessed primary data, 2017

i. Transaction Costs of LPG by Retailers in Yogyakarta City

This table below is about LPG transaction costs by retailer in Yogyakarta City.

Table 4. Transaction Costs of LPG by Retailers in Yogyakarta City

No.	Types of Transaction Cost	Costs (Rp/month)
1	**Market Transaction Cost**	
	Transportation Costs	Rp. 135.000/month
	Sub Total	**Rp. 135.000/month**
2	**Managerial Transaction Cost**	
	Depreciation of Basket Behind of Motorcycle Costs	Rp. 12.000/month
	Depreciation of Motorcycle Costs	Rp. 100.000/month
	Inventory of Empty Tube Costs	Rp. 1.500.000/month
	Sub Total	**Rp. 1.612.000/month**
	Total	**Rp. 1.747.000/month**

Sources: Prosessed primary data, 2017

j. Transaction Costs of LPG by Shop Sellers in Yogyakarta City

This is Table 6 about transaction cost of shop sellers in Yogyakarta City.

Table 5. Transaction Costs of LPG by Shop Sellers in Yogyakarta City

No.	Types of Transaction Cost	Costs (Rp/month)
1	**Managerial Transaction Cost**	
	Inventory of Empty Tube Costs	Rp. 800.000/month
	Biaya Kerugian Tabung Bocor	Rp. 155.000/month
	Sub Total	**Rp. 955.000/month**
	Total	**Rp. 955.000/month**

Sources: Prosessed primary data, 2017

k. Transaction Cost of LPG on The First Supply Chain in Yogyakarta City

The first supply chain will be explain again about three types of transaction cost based on distribution actors of LPG which are four distributors.

Table 6 Transaction Cost of LPG on The First Supply Chain in Yogyakarta City

No.	Types of Transaction Cost	Costs (Rp/month)
1	**Market Transaction Cost**	
	Agent	Rp. 19.017.300/month
	Base Seller	Rp. 0/month
	Retailer	Rp. 135.000month
	Shop Seller	Rp. 0/month
	Total Market Transaction Cost	**Rp. 19.152.300/**month
2	**Managerial Transaction Cost**	
	Agent	Rp. 28.200.000/month
	Base Seller	Rp. 7.563.000/month
	Retailer	Rp. 1.612.000/month
	Shop Seller	Rp. 955.000/month
	Total Managerial Transaction Cost	**Rp. 38.330.000/**month
3	**Political Transaction Cost**	
	Agent	Rp. 3.780.000/month
	Base Seller	Rp. 0/month
	Retailer	Rp. 0/month
	Shop Seller	Rp. 0/month
	Total Political Transaction Cost	**Rp. 3.780.000/**month
	Total Transaction Cost on The First Supply Chain	**61.262.300/**month

Sources: Prosessed primary data, 2017

The largest transaction cost on the first supply chain is managerial transaction cost which is 62,56 percent. This is caused by agent whose have the largest managerial transaction cost equals to Rp 10.997.300/month. Next is base sellers equals to Rp 7.563.000/month and retailers Rp 1.747.000/month. Then shop sellers has the lowest transaction costs on the second supply chain equals to Rp 955.000/month. This is cause margin of LPG has the greatest value because retailers who the most beneficiaries of the price set by them.

Table 7. Total Transaction Cost of LPG on The First Supply Chain inYogyakartaCity

No.	Types of Transaction Cost	Costs (Rp/month)
1	Agent Transaction Costs	Rp. 50.997.300/month
2	Base Seller Transaction Costs	Rp. 7.563.000/month
3	Retailer Transaction Costs	Rp. 1.747.000/month
4	Shop Seller Transaction Costs	Rp. 955.000/month
	Total	**Rp. 61.262.300/**month

Sources: Prosessed primary data, 2017

The largest proportion of transaction cost on the first supply chain is agent equals to 83,24 percent which caused by many expenditure of operational cost for running LPG distribution because of regulation about selling price by Pertamina Corporation.

l. Transaction Cost of LPG on The Second Supply Chain in Yogyakarta City

Table 8. Transaction Cost of LPG on The Second Supply Chain in Yogyakarta City

No.	Types of Transaction Cost	Costs (Rp/month)
1	**Market Transaction Cost**	
	Agent	Rp. 19.017.300/month
	Base Seller	Rp. 0/month
	Retailer	Rp. 135.000/month
	Total Market Transaction Cost	**Rp. 19.152.300/**month
2	**Managerial Transaction Cost**	
	Agent	Rp. 28.200.000/month
	Base Seller	Rp. 7.563.000/month
	Retailer	Rp. 1.612.000/month
	Total Managerial Transaction Cost	**Rp. 37.375.000/**month
3	**Political Transaction Cost**	
	Agent	Rp. 3.780.000/month
	Base Seller	Rp. 0/month
	Retailer	Rp. 0/month
	Total Political Transaction Cost	**Rp. 3.780.000/**month
	Total Transaction Cost onThe First Supply Chain	**Rp. 60.307.300/**month

Sources: Prosessed primary data, 2017

Transaction cost of LPG on the second supply chain consist of three distributors are agent, base seller, and retailer with total transaction cost equals to Rp 60.307.300/month. The expenditure of LPG transaction cost on the second supply chain is dominated by managerial transaction cost equals to 61,97 percent.

Table 9 Total Transaction Costs of LPG on The Second Supply Chain in Yogyakarta City

No.	Types of Transaction Cost	Costs (Rp/month)
1	Agent Transaction Costs	Rp. 50.997.300/month
2	Base Seller	Rp.

	Transaction Costs	7.563.000/month
3	Retailer Transaction Costs	Rp. 1.747.000/month
	Total	**Rp. 60.307.300/**month

Sources: Prosessed primary data, 2017

The largest transaction cost on the second supply chain experienced by agents is Rp 50.997.300/month, then transaction cost by base seller is smaller by agent is Rp 7.563.000/month. The last is transaction cost by retailer which is the smallest on the second supply chain equals to Rp 1.747.000/month so the total transaction cost of LPG on the second supply chain is Rp 60.307.300/month.

Agent has larger proportions of transaction cost than base seller and retailer is 84,56 percent from the total of transaction cost on the second supply chain. Then small of distributor who involved on the second supply chain causes the total transaction cost on the second supply chain fewer than total transaction cost on the first supply chain. This corresponds to what was stated by Kotler and Keller that the cost of transaction in market will be greater if the supply chain has more longer and complex (Kotler, 2012).

CONCLUSION

Based on the results of analysis, it can be conclude as follows.

a. There are two supply chain of LPG in Yogyakarta City. The first supply chain is from Pertamina distributed to agent as first distributor, then base sellers as sub distributors, retailers, and shop sellers to consumer. The second supply chain is shorter than the first suppy chain that are Pertamina distributed to agent as first distributor, then base sellers as sub distributors, and retailers to small and medium enterprises.
b. The results of margin analysis show that on the first supply chain, retailer has the highest margin than other distributors which are Rp 2.942/gas tube (39,89 percent of total margin equals to Rp 7.375/gas tube). On the second supply chain, the highest margin is experienced by retailer which are Rp 2.942/gas tube (59,95 percent of total margin equals to Rp 4.907/gas tube). The highest margin in retailer level caused by amount of profit which taken by retailers because of their ability to reach wide market.

c. The largest transaction cost is experienced by agent on the first and second supply chain which are 83,24 percent and 84,56 percent. The lowest transaction cost on the first supply chain is experienced by shop seller which are 1,55 percent and on the second supply chain is experienced by retailer which are 2,89 percent. The largest transaction cost on the first suppy chain is expenditured for managerial transaction cost equals to 62,56 percent, followed by market transaction cost equals to 31,26 percent, and political transaction cost equals to 6,13 percent. On the second supply chain, the largest transaction cost expenditured for managerial transaction cost equals to 61,97 percent, followed by market transaction cost equals to 31,75 percent, and political transaction cost equals to 6,26 percent.

To anticipate the high price of LPG at the retailer level, it is necessary to review the highest retail price in Yogyakarta City area so it could be more relevant for agent who experienced the highest transaction cost.

Researcher have limited research that researcher can not describe of LPG production cost by Pertamina Corporation so researcher also can not get profit and margin of sales because of limited time and information.

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