REVIEW THE PERFORMANCE OF OIL MARKETING

SECTOR OF PAKISTAN AND THEIR PROFIT MARGIN

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<u>CERTIFICATE</u>

This is to certify that this thesis entitled: **"Review the Performance of Oil Marketing Sector of Pakistan and their Profit Margin"** submitted by **Khadija Tul Kubra** is accepted in its present form by the PIDE School of Social Sciences, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfillment of the degree in Master of Philosophy in

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Dedication

To Amee, Baba, and my Siblings who are my support system.

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ABSTRACT

The oil marketing companies in Pakistan are vital for the selling, importing, marketing, storage, and distribution of fuel to the end consumers. 80% of the market share is held by the top five companies. Prices are fixed by a set formula but the profit margins on each liter of the product are fixed by the government. Regulated by the Ministry of Energy Petroleum Division (MoEPD) through Oil and Gas Regulatory Authority (OGRA). Except for covid-19 period, the growth rate is double-digit. In the last 20 years, the number of OMCs abruptly increased, from five to 66. On the other hand, the country witnessed incidents like January 2015 and June 2020 when retail outlets dried up and prices skyrocketed. These incidents later revealed irregularities in OMC's functioning, such as non-abidance to minimum stock maintaining rule, discrepancies in the utilization of import quota, and a higher number of retail outlets than allowed. Therefore, this research is aimed at reviewing the performance of the oil marketing sector of Pakistan according to OGRA and Pakistan Oil (refining, blending, transportation, storage, and marketing) Rules. Secondary data for net sales, earnings per share, return on equity, return on capital employed, inventory turnover, operating cycle, and revenue per employee were collected from the financial updates and annual reports of the OMCs. The targeted population was the OMC sector, and the sample size was 6 listed companies holding about 70% of the market share. descriptive analysis, Pearson correlation, and a linear regression model were applied for the analysis of the data using SPSS. Furthermore, to analyze the rules and regulations related to the oil marketing sector, the documents of OGRA rules 2002 and amendments, Pakistan Oil (refining, blending, transportation, storage, and marketing) rule, 2016, and the report of the inquiry commission on the shortage of petroleum products in Pakistan was extensively used to analyze the current situation of the sector and its compliance to rules and regulations. Results reveal that only large OMCs (PSO, Shell, and Attock) are performing well in terms of increasing shareholder wealth. PSO, Attock, and Byco are working continuously to improve employee productivity and bring technological innovation to their operations. Attock and PSO are planning to increase their storage capacity, as it is a part of petroleum policy 2025. No positive correlation is found between sectoral growth and other variables, similarly, the p-value of the regression model was also insignificant for all the independent variables against the sectoral growth. Therefore, it could be concluded that, though growth statistics suggest that the sector is growing at a high pace yet the internal story is a bit

different, only market giants are progressing, little progress is found in the small companies. Furthermore,Commission report reveals that OMCs are not maintaining minimum stock, adulteration, and smuggling of products, import quota is underutilized, illegal retail outlets are operating, and the environment, and health and safety measures are not regularly monitored by OGRA. The legal regulatory framework of the sector is also ambiguous. Furthermore, it is recommended to revise the pricing and profit margin fixing mechanism. Digitization of the OMCs, retail outlets, import quota, and utilization of Petroleum products to monitor the supply, demand, and utilization of petroleum products.

Keywords: performance measurement, oil marketing companies, OGRA Rules, Pakistan Oil Rules, and regulations.

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CHAPTER 01

INTRODUCTION

1.1 Introduction

Oil marketing companies (OMCs) play a vital role in the selling, importing, marketing, storage, and distribution of fuel to the end consumer in Pakistan. The market structure is oligopolistic (the top five companies hold 80% of the market share)(PACRA, 2022), The profit margins of the oil marketing sector are fixed by the government, the regulatory framework is weak, and the legal framework is ambiguous. These situations result in the problems like inequitable market shareholding, oil shortages, irregularities in the petroleum storage and retailing facilities, an abrupt increase in the market shareholders, discrepancies in the import quota utilization, etc. These problems grabbed my interest in the oil marketing sector of Pakistan. In this very research study, I have tried to measure the performance of the oil marketing sector of the country keeping in view the above-mentioned problems. The following chapter will give a brief overview of the research study.

OMCs fulfill the fuel requirement of the county under the Ministry of Energy Petroleum Division (MoEPD) through Oil and Gas Regulatory Authority (OGRA) license(OGRA, 2019). From buying to storage or selling to profit margins all the activities of the oil marketing sector are being monitored by the OGRA and MoEPD. OGRA and MoEPD have been mandated through the OGRA ordinance 2002 and Pakistan Oil (refining, blending, transportation, storage, and marketing) rule, 2016.

The sector witnessed double-digit sales growth until COVID-19 hit businesses worldwide. After COVID-19, the sector again rises back to its previous double-digit growth, until April 2022 the growth rate was 17% (OCAC, 2022b). Higher growth in the sector is also evident from the rising number of licensee companies in the market. In the early 2000s, only five OMCs were operating in Pakistan. However, this number rises to 66 in just two decades. On the contrary, the regional market growth reveals that there are only 20 OMCs in total in five South Asian countries (India Bangladesh Nepal Bhutan, and Sri Lanka) (Commission, 2020). Statistics (Table 1.3), suggest exponential growth in the OMC sector of Pakistan, which is a comparatively smaller market than many of the South Asian markets. As aforementioned, the licensee companies in Pakistan are 66. 34 oil marketing companies are actively operating in the market while 32 have a provisional license. 98.57% of the market share is held by the ten oil marketing companies (PACRA, 2020), among them, the top five have the 80% of the market share(Malik, 2021). The oil marketing sector is performing well in terms of growth (financial indicators) and entrants, yet market structure reveals that growth is being witnessed by only a handful of companies. The situation of the whole sector is unknown. On the other hand, the market structure makes the role of OGRA and MoEPD questionable as regulators.

Whereas, till 2009, the OMCs' margins were fixed as a percentage of the selling price. From 2009 to 2014, OMCs margins were changed to absolute terms, i.e., the margins were fixed per liter on the recommendation of Justice Bhagwandas Report 2009 (MP&NR, 2013). The change was aimed at mitigating the effect of unprecedented hikes in crude oil prices in the international market. In 2014, on the recommendation of a PIDE study (the study conducted was done by PIDE (Pakistan Institute of Development Economics), commissioned by the Ministry of Petroleum and Natural Resources (MP&NR), Government of Pakistan (GOP), the OMCs' margin was linked to the

Consumer Price Index (CPI). Linking margins with the CPI resulted in an annual increase in the petroleum margin, without prudent rationalization of the cost of doing business. On the other hand, OMCs also complain about the high cost of doing business and low-profit margins in the country.

The literature on oil marketing also does not provide any information regarding its development or advancement in terms of procedural mechanization, human resource development, product innovation, research, and development in the sector, etc. Nor about the compliance of OGRA ordinance 2002 and Pakistan Oil (refining, blending, transportation, storage, and marketing) rule, 2016. The available information about exponential growth in new entrants, sectoral growth statistics, and the discussion above suggest the opposite and provide the rationale to investigate the performance of the oil marketing sector of Pakistan.

Similarly, the country witnessed an incident of oil shortage in June 2020, during the time of Covid-19 when global oil prices went below 0$/barrel (CNBC, 2020). It was the time when demand-pull was nearly non-existing, and supply was high which resulted in low prices. This low price, low demand, and high supply acted inversely in the Pakistan oil market. The oil sector ended up with huge county-wide supply crises. This again raises the question on the performance of the oil marketing sector of Pakistan. Maintaining sales stock of oil is the duty of OMCs. According to OGRA rules 2006, OMCs are required to maintain at least 20 days of storage according to their sales volume. The provisional license for two years is granted to the OMCs with the aim to build up their infrastructure which includes storage, retail outlets, etc. adequate inventory will ensure the uninterrupted supply of products to the end consumer. To date, little research has been done on the performance of oil marketing companies. Most of the literature encompasses the financial performance of the sector only, the procedural, operational, and technological performance is

unavailable. Therefore, this research is aimed at reviewing the performance of the oil marketing sector of Pakistan in light of OGRA regulations and Pakistan Oil Rule 2016.

1.2 Background

OMCs generated aggregate revenue of PKR~2,528bln in FY21 (FY20: PKR~2,225bln) with an annual GDP contribution of ~5.3% (FY20: 5.4%). The sector's revenue during FY21 registered a YOY growth of ~13.6% on account of increased consumption and rising petroleum product prices. The sector witnessed double-digit growth until Covid-19 hit businesses worldwide, the growth rate was expected to be recovered in FY21 to 15% (OCAC, 2021). OGRA and MoEPD monitor the purchase of black and white oil and regulate the maintenance of stock, storage, and profit margins of OMCs. OGRA is particularly responsible to issue working permits (licenses). Regulate compliance with licensing conditions, which include maintenance of minimum stock, ensuring the availability of products to every corner of the country, maintenance of import quota, lawful operations of OMCs and retail outlets, etc.

The oil marketing company which earns the working permit from OGRA is required to comply with the aforementioned conditions. At the heart of these conditions, the aim is to improve sectoral growth from both perspectives (consumer and investor). As the objective of the OGRA is to foster competition, increase private investment and ownership in the midstream and downstream petroleum industry, and protect the public interest while respecting individual rights and providing effective efficient regulations. Similarly, the major aim of oil marketing companies is to maximize the investor's value by satisfying the consumers. For-profit maximization, good market reputation, and smooth operations in the oil marketing sector of Pakistan it is mandatory to comply with regulations.

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The oil marketing sector of Pakistan comprises 66 licensed companies, only 9 have a regular license of 30 years. 25 marketing companies have a provisional license with marketing permission. The remaining 32 have the provisional license without marketing permission to build up their marketing and storage infrastructure shown in Table 1.1. All OMCs altogether own about 9,267 retail outlets (Commission, 2020). In all circumstances, it is the responsibility of OMC to keep its retail outlet wet. However, in Rule 35 of Pakistan Oil Rule 2016, a provisional license for three years is granted to build up storage and marketing infrastructure, afterward, it is permitted to market its product. There is no provision in the rule for issuing a provisional marketing permit. Whereas the statistics in Table 1.1 suggest 25 provisional licenses with marketing permission(Commission, 2020). The non-compliance to the rule incurred losses to the government, damages the OGRA image as a regulator, and bring unjust profits to the investors. These malpractices raise questions the competitiveness of the market environment.

Sectoral Summary		
No Licensed OMCs	66	9 Regular license
		25 provisional licenses with marketing permission
		32 provisional License
Listed	5 (FY19)	5 (FY20)
OMCs Revenue	2,528bln (FY21)	2,225bln (FY20)
Contribution to GDP	5.3%(FY21)	5.4% (FY20)

Table 1. 1 OMCs Sectoral summary, Data Source (Commission, 2020; OGRA, 2021b; PACRA, 2021)

Similarly, the OGRA ordinance 2002, mandated authority to foster competition, increase private investment and ownership in mid and downstream, protect the public interest, and provide effective and efficient regulations. Resultantly, the sector witnessed exponential growth in the

number of licensed companies in the last two decades as shown in Table 1.2. Before 2006 there

were a total of 10 licensed Oil marketing companies in the sector, by now it has increased to 66,

an increase of 56 new entrants.

Period	NO: OMCs
Before 2006	10
2006-2012	01
2013-2016	28
2017-2020	27

Table 1. 2 OMCs licensed in the last two decades, Data Source(Commission, 2020)

However, if we see growth in the oil marketing companies in the neighboring countries as evident

in Table 1.3 that in five of our neighboring countries to date 20 OMCs are operating, and many of

them have a much bigger market size, i.e. India's consumption for FY19 is recorded as 5,147.576

Barrel/Day, Bangladesh 175.719 Barrel/Day Pakistan consumes 445.864 Barrel/Day. On the one

hand, Oil marketing companies continuously ask the government to increase the profit margin on

petroleum products and claim that cost of doing business is high and profits are low. The increased

number of entrants into the market however suggests the opposite.

Country	NO: OMCs (Total)
Bangladesh	05
India	09
Sri Lanka	02
Nepal	01
Bhutan	03

Table 1. 3 OMCs operating in five neighboring countries, Data Source(Commission, 2020)

Whereas, if see the division of market share among the 34 licensed OMCs, actively participating in marketing activities. Out of 34 OMCs, the top ten companies have the 98.67% of the market share(PACRA, 2020). Among those ten companies, 5 have the 80% of the market share(Malik, 2021) as shown in Figure 1.1. PSO has the largest market share at 44%. This inequitable division of the market share alludes to the oligopolistic market structure(PACRA, 2022), which is totally against the competition rules. The market structure plays a vital role in bringing competition, giving equal rights to each member to take their decision independently. In an oligopolistic market structure, there is often a low level of competition between firms, as each firm makes decisions on prices, quantities, and advertising to maximize profits. Since there are a small number of firms in an oligopoly, each firm's profit level depends not only on the firm's own decisions but also on the decisions of the other firms. Resultantly, the performance of the firms is being affected because of this market structure.

Domestic OMCs market share distribution

	FY16	FY17	FY18	FY19	FY20	FY21	FY22
PSO	55	54	50	42	46	46	51
APL	8.5	9	10	11	11	7	8
SHELL	10	11	9	9	10	6	6
GO		1	2	6	6	6	4
HASCOL	6	7	10	12	8	5	1
BYCO	2	0	3	3	3	3	4
HITECH	1		0.3	0.3	0.4	0.3	0.4
OTHERS	20.3	14	17	17	15	25	27
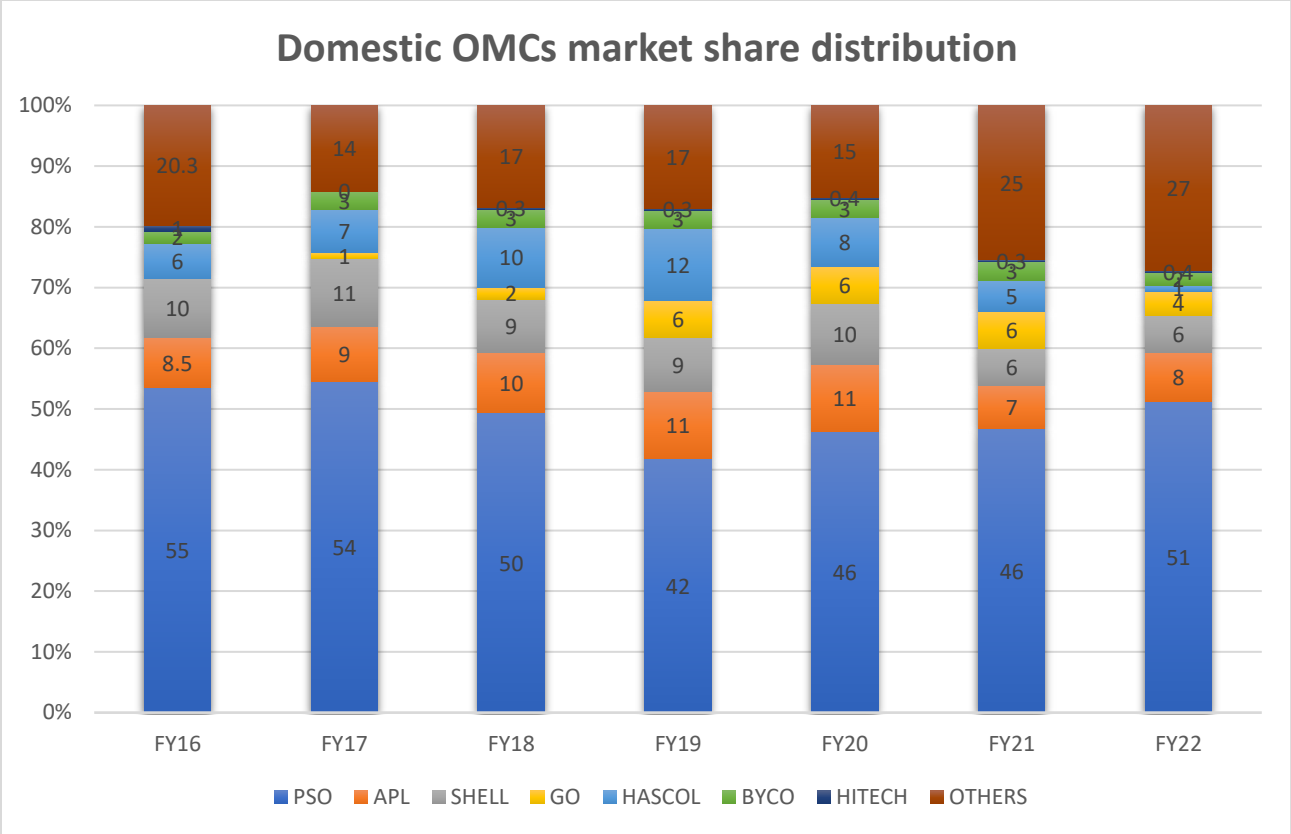
Figure 1. 1 Domestic OMCs market share distribution, Data Source:(PACRA, 2021)

Furthermore, OGRA rules 2016, 35 (1)(e), reads that OMCs must maintain 20 days of storage, according to their sales volume. yet the country has witnessed the incidents of huge oil shortages like June 2020, and January 2015, inquiry commission report on oil shortage reveals that 90% of the OMCs operating in the country don't maintain 20 days of storage. OGRA rules 2016 benchmark the maximum sales volume (40 metric tons MS) according to the backup storage capacity of the retail outlet. Non-compliance to storage law opens the door for malpractices and earning unjust profits by creating an artificial shortage and later on selling products at high rates.

It also bars the number of retail outlets according to storage capacity. A high number of outlets could also cause a shortage of petroleum products, as the OMCs have limited inventories, buying the product from the international market and bring to consumers is a 15 to 20 days long procedure.

Furthermore, OGRA Rule 35(1)(b) bars the companies to be affiliated in any form with existing OMCs operating in Pakistan to curtail deceptive market practices and monopolistic market structure(Commission, 2020).

License compliance improves organizational performance. The objectives and principles guiding the regulation of regulators are aimed at improving the performance and smooth operations of the licensees in the market and avoiding financial penalties, efficiency problems, and reputation damages(Shamsaei et al., 2011). License compliance ensures the smooth supply of products/services to end consumers, availability of products/services to local buyers and sellers, standardization of operations and procedures, etc. Similarly, organizational performance is monitored by evaluating its compliance to license conditions which ensures licensee performance against set standards and measures. This research also aimed to measure the performance of the Oil marketing sector under the OGRA rule 2002 and Pakistan Oil Rule 2016.

According to the American Petroleum Institute, the best way to analyze the performance of the gasoline marketing sector is by the extent of margins in the sector. The lower the margins in the sector, the lower prices are to the consumer(API, 2003). In Pakistan, the OMCs margin is the sum of, the weighted average of the working capital, admin and marketing overhead, handling/temperature losses, turnover tax, and rate of returns on the investment (MP&NR, 2013). According to petroleum policy 1997, the margins should be revised annually according to the government-prescribed formula. Table 1.4 and 1.5 reveals that although the OMCs and dealer margin increased over the last five years, the margins in ratio terms to selling prices decreased annually. The increase in margins on annual basis without calculating the cost of doing business is problematic for OMCs. Moreover, the literature review in chapter two, suggests that the most recent rationalization of OMCs and dealer margins was done in 2013. The study was conducted

by PIDE, commissioned by the Ministry of Petroleum and Natural Resources (MP&NR), Govt of Pakistan. Since then, margins have been upgraded several times, without prudent estimation of OMC's capital and operational cost estimation. That raises the question if OMCs are making reasonable profits.

MoGas			
Period	**Price**	**OMC Margin (Distributors)**	
	Rs	Rs/Liter	**% Of Selling Price**
01/01/2017	66.27	2.41	3.63%
01/06/2017	72.80	2.41	3.31%
01/01/2018	81.53	2.55	3.12%
01/06/2018	87.70	2.55	2.90%
01/01/2019	90.97	2.64	2.90%
01/06/2019	112.68	2.64	2.34%
01/01/2020	116.60	2.81	2.40%
01/06/2020	74.52	2.81	3.77%
01/01/2021	106.00	2.81	2.65%
01/06/2021	108.56	2.97	2.73%

Table 1. 4 OMCs margin for MoGas in last five-year in terms of percentage of the selling price, Data Source(OGRA, 2021b)

HSD			
Period	**Price[1]**	**OMC Margin (Distributors)**	
	Rs	Rs/Liter	**% Of Selling Price**
01/01/2017	75.22	2.41	3.20%
01/06/2017	81.40	2.41	2.96%
01/01/2018	89.91	2.41	2.68%
01/06/2018	98.76	2.41	2.44%
01/01/2019	106.68	2.64	2.47%
01/06/2019	126.82	2.64	2.08%
01/01/2020	127.26	2.81	2.20%
01/06/2020	101.46	2.81	2.76%
01/01/2021	110.24	2.81	2.54%
01/06/2021	110.76	2.97	2.68%

Table 1. 5 OMCs margin for HSD in last five-year in terms of percentage of the selling price, Data Source (PSO, 2021)

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[1] Maximum Ex-Depot Sale Price

1.3 Problem Statement

From the above discussion and literature review (Chapter Two), it was found that to date little research has been done on the performance of the oil marketing companies, mostly the research is focused on the financial aspect of the sector growth or the role of the regulator. Operational and linkages aspects have never been investigated. Nor the performance of the oil marketing sector is viewed from OGRA and Pakistan Oil Rules 2016 compliance point of view. For instance, the sector witnessed significant growth in entrants, and sales growth is also expected to grow further, yet the county witnessed incidents of sudden oil shortages and price hikes. 34 OMCs are actively operating in the country, then why companies are unable to cater to the storage needs of the county, as each company is required to maintain 20 days of storage according to its sales? To further monitor the availability of the product, OGRA rules set a limit to the number of retail outlets, and their sales and bar bulk sales to a single buyer.

Furthermore, 98.6% of the market share is held by the 10 OMCs, which elucidates the weak regulation and monopolistic market structure. the available literature suggests that the sector faces sudden product shortage issues, underutilization of import quota, only a few companies have nationwide reach, and oil marketing companies are pursuing their marketing business on provisional licenses. The aforementioned problems, malpractices, and growth statistics give enough rationale to review the performance of the oil marketing sector of Pakistan in light of OGRA and Pakistan Oil Rule 2016.

Furthermore, the literature review suggests that the most recent rationalization of OMCs and dealer margins was done in 2013. Since then, margins have been upgraded several times, without a prudent estimation of OMCs' and dealers' capital and operational cost estimations.

The rationalization of profit margins is necessary because it would enable the consumer to purchase petroleum products at fair and reasonable prices. Distributors could earn fair returns on investment. A fair and competitive rate of returns will foster the investments in Petroleum industry (Akhter.S, 2020). As discussed above, most of the refineries are operating on hydro skimming technology and producing refining limited products. A reasonable rate of return will foster foreign direct investments in the sector. Moreover, reasonable pricing will impact economic growth, inflation, and energy prices and directly impact the consumer's purchasing power.

1.4 Research Objectives

1. To review the performance of the oil marketing sector of Pakistan in light of OGRA rules.

1.5 Research Methodology

The research study is exploratory in nature. Secondary data is used to analyze the research objective. Descriptive analysis is done to witness the frequency of occurrence of an event. The total targeted population was 35 registered OMCs. Among them, only five listed OMCs (listed on the stock exchange of Pakistan (PSX)) operate in the country. Namely (i) Pakistan State Oil (PSO) (ii) Shell Pakistan (SHELL) (iii) Hascol Petroleum (HASCOL) (iv) HiTech Lubricants (HTL) and (v) Attock Petroleum (APL). These five companies held 70% of the market share (Figure 1.1) apart from the five listed companies, fortunately, the financial reports of BYCO were available on the official website of the company. Therefore, our sample size was 6 OMCs (70% of the market share). This sample was adequate to reflect the sector's true existing condition. For measuring the performance of the OMC sector, the data of the following variables for the past 5 years (2017-2021) was collected from the annual financial reports and financial updates of the 6 OMCs. (1) net sales (2) earnings per share (3) return on equity (4) return on capital employed (5) inventory

turnover (6) operating cycle and (7) revenue per employee. Descriptive analysis, Pearson correlation, and a linear regression model were applied for the analysis of the data using SPSS.

Furthermore, to analyze the rules and regulations related to the oil marketing sector, the documents of OGRA rules 2002 and amendments, Pakistan Oil (refining, blending, transportation, storage, and marketing) rule, 2016, and the report of the inquiry commission on the shortage of petroleum products in Pakistan was extensively used to analyze the current situation of the sector and its compliance to rules and regulations.

1.6 Research limitation

Ideally, for the first objective, primary data has to be collected using questionnaires. the Performance measurement matrix(Stevens, 2008) would have been adopted with some additions in operational and financial indicators. The questionnaire was designed to encompass all the aspects of the performance measurement matrix. It also asks the OMCs about the OGRA rules, and the hindrances faced by OMCs in operations due to regulations. (See Appendix A). The targeted population was five listed companies but due to no response from the 5 companies, the scope of data was expanded to the whole OMC market using the OCAC platforms. After waiting for a couple of months and getting no response the researcher had to change the research methodology.

The research study also aimed (second objective) to rationalize the profit margins of the OMCs[2] as the last rationalization was done seven years ago. This has to be done using audited reports, financial reports, and using primary data. After the literature review, the study has to adopt the

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[2] Limitation: The research objective two, rationalization of the existing profit margin was impossible to achieve without data. Even after requesting OMCs through OCAC, stakeholders failed to provide the required information. Unfortunately, the researcher has to drop this objective due to the unavailability of data, time, money, and health constraints

cost-plus formula to suggest new margins. The available data does not include the required input cost variables (the weighted average of the working capital, admin and marketing overhead, handling/temperature losses, turnover tax, and rate of returns on the investment.) that were important to calculate the profit margins of the petroleum products. Even after requesting OMCs through OCAC, stakeholders failed to provide the required information. Unfortunately, the researcher has to drop this objective due to the unavailability of data, time, and money constraints.

1.7 Research Significance

The Oil and Gas sector of Pakistan is crucial for the economic development of the country. Similarly, the smooth operations of OMCs are essential for running the economic wheel of the county. If at times the operations are curtailed, it results in a huge crisis, as we witnessed in June 2020. Additionally, the underutilization of import quotas, illegal operations of retail outlets, and market structure of the oil marketing sector reveal the discrepancies in the operations of the oil marketing sector.

Smooth operations of oil marketing sectors could be ensured through the timely performance evaluation of the sector. The performance evaluation will provide early warning signs for any upcoming crisis. The performance measurement system can be utilized as a source of data to tackle the crisis. Therefore, this research study would be significant for the concerned authorities and stakeholders in the improvement of sectoral performance.

CHAPTER 02

LITERATURE REVIEW

2.1 Introduction

After the identification of the problem and setting the two objectives for this research study, i.e.,

to review the performance of the oil marketing sector of Pakistan in light of OGRA rules and to

rationalize[3] the profit margins of the oil marketing sector of Pakistan.

The next step was to understand the oil industry in general and the oil marketing sector in

particular. For this purpose, I started my literature review by understanding the global petroleum

industry, its market, and the performance of national and international oil companies.

Understanding the concept of performance measurement, different modes, and methods of

performance measurement used by organizations. The performance measuring indicators in

general, and the oil market were particularly explored. This part of the literature review helped us

in finding the desired performance-measuring indicators. Using those variables questionnaire has

to be designed for primary data collection. The second part of the first objective is to measure the

performance of the oil marketing sector in light of OGRA and Pakistan Oil Rule. The legal

documents of both rules and amendments were rigorously reviewed. Additionally, the commission

report on the June 2020 shortage was also found and reviewed to get a clear picture of the existing

condition of the oil marketing sector and industry.

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[3] Limitation: The research objective two, rationalization of the existing profit margin was impossible to achieve without data. Even after requesting OMCs through OCAC, stakeholders failed to provide the required information. Unfortunately, the researcher has to drop this objective due to the unavailability of data, time, money, and health constraints

For the second objective of the study, understanding the profit-earning mechanisms of national and international oil companies and understanding pricing was necessary. The pricing of petroleum products and their components in both regulated and liberalized markets was explored. The petroleum industry of Pakistan, the role of OGRA, pricing mechanism of Pakistan are discussed. This discussion was aimed to help in designing the comprehensive questionnaire. For primary data collection.

Later during the data collection, it was found that due to the unavailability of the data and limited time and resources the methodology has to be changed from primary data to secondary and the second objective of rationalization of the profit margins should be dropped. Yet as I have gone through all these steps of literature review and exploration, I found it worth mentioning and providing fair justification for discussing all the above-mentioned sections.

Furthermore, during the research, I faced quite a tough time gathering literature related to performance measurement of the oil marketing sector (national and international), margins, and pricing mechanisms, especially in the case of Pakistan. Whereas globally the fuel prices are mostly deregulated so are the profit margins, except in a Tanzania-based report(Innovex, 2020) I could not find any consolidated document on margins and pricing and performance measurement of the oil marketing sector.

2.2 Performance Measurement

Performance measurement has traditionally been identified to encompass a measure that serves as an operational control and is derived from statutory financial reporting (Abubakar et al., 2016) Some Authors (Gomes, 2012) are of the view that the prime objective of performance measurement is to aid planning and ensure that operations are carried out in line with organizational objectives. In the modern-day time, performance measurement goes beyond simply

ascertaining business position for external reporting purposes but involves several measures that translate the prospects of business (both internally and externally) into its ability to continue as a going concern. Thus, the traditional measurement system encounters serious setbacks by its limitations to measure past, present, and future trends as well as the company's performance due to its sided measure (Pastor et al., 2006). However, the best practice requires that companies should perform both financially and non-financially (Bourne et al., 2003) For example, there is thus a difference of opinion, some scholars argue the government should provide a leading edge on issues of performance measurement in the public sector for the private sector to follow (Bourne et al., 2000; Pastor et al., 2006), others argue that the performance measurement systems "measure too many things including the wrong things'' (Report, 2016). Because of pressures on private sector organizations to meet the information needs of a large number of stakeholders (Neely, 1999a; Victor, 2007)

2.3 Performance Indicator

Oil marketing involves high capital infrastructure, from an economic point of view, a large part of the oil industry is a "sunk" or "asset-specific" investment. Sunk investments are considerably risky, as valuables do not have alternative use (Kleit, 2005). Together with complex supply chain processes, performance measures can support the industry to earn equitable profits and ensures consumer welfare. Organizations measure their performance to check their position, communicate their position, confirm priorities, and compel progress. There is a need to define and measure performance and to be able to drill down to different metrics and different levels of detail to understand the causes of significant deviations of actual performance from planned performance. Performance measurement should provide data for monitoring past and planning future performance, and provide a balanced picture of the business, evidencing the relationship between

metrics and decisions taken. (Neely, 1999b) identified performance measurement as the number of metrics employed to specify the efficacy and efficiency of practices. Performance is measured to evaluate performance, i.e., administrative, workers, productivity, and financial and to suggest improvements. (Bjorn Andersen & Tom Fagerhaug, 2002). Performance metrics are benchmarks of performance, metrics provide an essential platform for comparison among organizations. It also suggests improvements.

For 20 years there has been a widely reported revolution in performance measurement. the large investors are often mutual funds (large asset managers or presentative of pension funds), they want their portfolio companies to minimize their risk by taking informed decisions. Similarly, practitioners and academic researchers have shown enormous interest in the measurement of organizational performance (Neely, 1999b). Recent Research Indicates that organization that uses a balance Performance measurement system Perform better than those that do not (Lingle, John H; Schiemann, 1996). Hence, it's necessary for the organization to implement an effective and efficient performance Measurement system, that not only enables the investors and stakeholders to make informed decisions but also improved the productivity of the organization. The major difficulty that organizations usually face is identifying the appropriate set of measures that reflects the true representation of organizational objectives. in this regard numerous frameworks have been proposed by academicians and researchers (Bourne et al., 2003), following is a brief account of such attempts and tries to identify the major characteristics of such frameworks.

Frameworks are the tools that organizations use to assess their performance, In the early 20th century du Pont used a better mid of financial ratios which connects a wide variety of financial ratios to return on investment, it was an explicitly hierarchical structure. the pyramid had many deficiencies in terms of account management information, giving little indication of future

performance. Subsequently, the performance measurement also starts to include non-financial measures in its new form. General Motors was the first to implement the balance of the set of performance measurements in the 1950s and it witnessed enormous growth. consequently, the interest in performance measurement increased enormously in 1989 Keegan and Jones proposed a performance measurement matrix That not only reflected upon financial and non-financial matters but also upon the internal and external needs of the organization These metrics allowed the organization to pull out of its measures and identify where they need to adjust or put some more efforts for the improvement of its market value. the SMART (strategic measurement and reporting techniques) Paragard developed by Wang laboratories Also supported the need of including internally and externally focused measures of performance and they emphasized a work-centric corporate vision. Brown in 1996 Came up with the idea of linking measuring true goals and effect relationship he developed a macro process model of the organization in which he showed links between 5 stages in a business process and may end measured their performance individually these stages were inputs, processing system, outputs, outcomes and goal he argued that each stage brings the performance to the next level however among all these frameworks the most popular is the balanced scorecard proposed by Kaplan and Norton in 1992. The Kaplan and Norton model integrated five different perspectives (financial, customer, internal business, and innovation and learning) of looking at performance into a single framework. the author argues that each perspective drives the performance of the other variable and improves the future performance of the organization.

Corporate scorecards come in a vast variety of configurations that are based on a systematic approach to examining organizational performance. Each perspective has open more key performance measures, for example, customer service satisfaction performance acquisition

empathy report a responsiveness and business knowledge as the key performance measure. Despite its widespread use, several researchers have identified shortcomings in the balanced scorecard they argued that corporate scorecards do not consider several features that the earlier framework does have. It lacks the competitiveness dimension, human resource perspective, employee satisfaction, suppliers' performance product service quality, and environmental perspective. This lacking limits the comprehensiveness of the matrix.

Lastly, the performance measurement metrics provide comprehensiveness by providing an opportunity to map all the possible measures of an organization's performance onto a framework and provide an opportunity to identify the omissions which need greater focus.

According to (Ledoit & Wolf, 2008) researchers had largely neglected national oil companies (NOCs) and their performance. Conventionally, businesses gauge their performance in fiscal terms (e.g., profits, revenues, returns on investments, and returns on assessments.). Such financial indicators could only estimate the financial standards or profits of the organizations. Ho et al. (2012) studied various kinds of operational strategies that could improve the performance of the O&G sector in Canada They also studied how different processes could lead to superior performance(Lavy et al., 2010). (Bourne et al., 2003) argued that performance variables that focus on the fiscal side of a company could not deal with the current changes (operational, technological, competitive environment, etc.) in the business. The performance of any company needs to be assessed in terms of the objective set for it by its owner says (Stevens, 2008). (Escobar & Vredenburg, 2010) argued organizations measure their performance measurement to examine their market position and improve accordingly. However, in the case of the Oil and gas sector, many studies have been conducted to find the financial and operational performance of international oil companies (IOCs) and national oil companies (NOCs). Few of the studies adopted the consolidated

approach of finding the performance of oil companies from the financial, operational, backward, and forward linkages approach. World bank report 2008 developed a performance matrix to estimate the performance of oil companies(Stevens, 2008). The performance matrix measures the performance of oil companies through four variables, i.e., financial, operational, backward, and forward linkages. This study will adopt a similar performance matrix with some additions to the indicators as the OMCs' performance dimensions are a little different from international/ national oil companies.

S. No	Variables	Indicators
01	Operational	Production Growth, sales per employee, quality of product, quantity of product, storage capacity, Accessibility,
02	Financial	Input cost, profits, returns on assets and returns on investments, and capital expenditure.
03	Backward Linkages	Labor force (number of employees), R&D activities. Refining capacity.
04	Forward Linkages	Share in the total consumption (market share), and the number of operational retail outlets.

Table 2. 1 Performance matrix proposed by the World bank for measuring the Performance of NOCs (Stevens, 2008)

2.4 Petroleum industry

The petroleum industry is divided into five major parts according to its operations, i.e., exploration, cracking, refining, transportation, and marketing (Deloitte Conseil, 2015; Inkpen & Moffett, 2011a). These operations are broadly categorized into three major sectors, upstream, midstream, and downstream (Manneh, 2020). As the name defines, upstream deals with the exploration of the crude oil reserves and cracking the oil out. Storage and transportation of the extracted crude oil to

the refining sites are being done at the midstream level. The part of the process that deals with the conversion of crude oil into valuable commodities like petroleum products, petrochemicals, etc. called refining, their marketing and distribution is the downstream sector. Crude oil is often termed a strategic commodity (Inkpen & Moffett, 2011a) due to its role in the economic growth of the country. little fluctuation in crude oil prices directly impacts the macroeconomic indicators of the country(El-Katiri & Fattouh, 2017). One dollar falls in the price of crude oil results in billions of dollars saved (Neerajakshi et al., 2017). Similarly, according to the ODI report 20% increase in international oil prices increases household expenditure by up to 0.85% in Pakistan. (Hou et al., 2015)

2.5 Global Oil Demand and Consumption

The global oil consumption in the year 2021 remains at 91bln barrels. World oil demand was seen rising by 5.5 million b/d in 2021 and by 3.3 million b/d in 2022,(IEA, 2021) surpassing its pre-pandemic levels by 200,000 b/d to 99.7 million b/d. lower demand in the global market could be witnessed due to higher prices and a deteriorating economic environment because of Ukraine- the Russian war and global inflation. Global oil demand growth has been marginally reduced to 1.7 mb/d in 2022, reaching 99.2 mb/d. A further 2.1 mb/d gain is expected in 2023(IEA, 2022). So is the case with prices. However, in the fourth quarter of 2021 Global oil demand is forecasted to increase by 6%, or 5.4 million barrels per day (BPD), to an average of 96.4 million BPD, recovering around 60% of the volume lost to the pandemic in 2020 (IEA, 2021).

Previously, COVID-19 caused a global slowdown in CY20. The world economy shrank by 3.6%; reduced economic activity also caused world energy consumption to shrink by 4.3%.

2.6 Global Oil products and Price Volatility

Global oil prices have witnessed a V-shaped recovery following the pandemic and have gained significant traction since then. Average 3QCY21 crude oil prices stood at USD70.6/barrel, a multi-year high. Gasoline made the biggest recovery as its average global price crossed all POL products by 3QCY20. During 3QCY21, gasoline's price stood at a high of USD~94.9/barrel (3QCY20: USD~51.7/barrel). HSD, during 3QCY21, stood at USD~89.5/barrel (3QCY20: USD~50.3/barrel); as the second most premium POL product. Furnace Oil's price was recorded at USD~82.2/barrel in 3QCY21 (3QCY20: USD~48.1/barrel). The average five-year price spread between MOGAS, and crude oil has been ~22% (3QCY21 spread: ~23%), while between HSD and crude oil, it has been ~26% (3QCY21 spread: ~21%). As per international estimates, crude oil prices are expected to settle around USD ~70/barrel by 2QCY22; from the 4QCY21 prices of USD ~81/barrel

2.7 Petroleum industry of Pakistan

The petroleum industry in Pakistan is controlled by the government, like all other developing countries having low GDP (Gillingham et al., 2006). Retail prices are computed by the formula defined by Government, Dealers and Distributor commissions are fixed and linked with CPI, inland freight equalization margins are fixed by OGRA, etc. are set by the government. Governments tend to administer the sector primarily to preserve consumers' interests. Secondly, the oil sector is the major source of revenue for governments. The oil &gas sector accounts for 9% of the GDP (Finance Division, 2020). The government of Pakistan collected Rs 205 bn tax revenue from the Oil and Gas industry in July-December 2019 (Finance Division, 2020). The oil industry is the powerhouse of a country, and movement in petroleum prices sends shock ways throughout the economy from the micro to macro level (Inkpen & Moffett, 2011b). At the micro-level it affects

the consumers' budget; at the macro level, it increases inflation, slows down growth, and increases transportation costs which negatively impacts the supply and demand of the goods and services.

The total oil consumption of the country is estimated to be 10.49 million metric tons in the fiscal year 2020, (13.55 MMT in 2019), and 60% of the consumption is fulfilled by imported oil (Malik, 2021). 19 million tons of petroleum products were consumed in FY20 and 20mln tons in FY19. The import share has increased by 67% in the last five years. Motor gasoline and high-speed diesel are the most consumed petroleum products. Due to old technology and financial constraints, local refineries majorly produce furnace oil, and 57% of MoGas & HSD requirements of the market are catered through imports.

Period	2016	2017	2018	2019	2020
White Oil	63%	62%	63	63	60
HSD	29	28	29	29	30
MOGAS	26	26	26	26	25
Jet Fuel	7	7	7	7	4
Kerosene	1	1	1	1	1
Black Oil	28	29	28	28	30
Gases	9	9	9	9	9

Table 2. 2 refined petroleum products Consumption summary for last five years, Data Source:(PACRA, 2020, 2021)

2.8 Petroleum Products Pricing in Pakistan

The federal government of Pakistan through a cabinet decision in April 2006 gave Oil and Gas Regulatory Authority (OGRA) a mandate to fix petroleum product prices according to the

government's prescribed formula. In June 2011 federal government deregulated some of the petroleum products (MS, HOBC, LDO, JP1, JP4 & JP8), ex-refinery, and ex-depot prices are fixed by the OMCs and refineries, Oil Companies Advisory Committee (OCAC) (OGRA, 2019). Later in 2012 ex-refinery price of HSD was deregulated.

PSO regularly announces the average landed import price. In case of no PSO imports to the ex-refinery, prices are estimated by import parity price formula based on the Arab gulf monthly average which includes free onboard price, premium, and average freight rate to arrive at Cost and Freight (C&F) price(Senate of Pakistan, 2004). These parameters are approved by the ECC.

The retail price of petroleum products is the sum of Import Parity Price, Taxation and levy, Price differential Claim (PDC), and Margins. import parity price includes the free-on-board, Arab gulf means price, premium (transportation cost and traders commission) as Platt's, marine insurance (0.0108%- 0.09%), bank financing charges, ocean losses in terms of insurance, and wharfage charges(PACRA, 2021).

Consumer Price (Rs/Liter) = Import Parity Price+ Taxation/Levy + Price differential Claim (PDC) + Margins

Taxation includes tariff plus PDC, deemed duty, customs duty, excise duty, petroleum development levy, and sales tax. Price differential claim (PDC) is the difference between the actual cost and government-allowed price, it is applied to both ex-refinery and ex-consumer prices. Inland freight equalization margin (IFEM) is the stabilization fund to equalize the ex-depot prices.

Structure of Petroleum Product Prices				
Import Parity Price (Rs/liter)	**Taxation (Rs/liter)**	**PDC (Rs/liter)**	**Margins (Rs/liter)**	**Consumer Price (Rs/Liter)**
Arab Gulf FOB Means (US$/ton) Premium (US$/ton) Marine Insurance (US$/ton) Financial Charges (US$/ton) Ocean Losses (US$/ton) Wharfage (US$/ton) Total (US$/ton) Conversation Factor (Liter/ton) Average Exchange Rate (Rs/$)	Tariff + PDS (Deemed Duty only on HSD) Excise Duty Petroleum Development Levy Sales Tax	Price Differential Claim (Ex-Refinery) Price Differential Claim (Ex-OMC)	IFEM Distributor Margin Dealer's Margin	Sum of Import Parity Price+ Taxation + PDC + Margins=Consumer Price (Rs/Liter)

Table 2. 3 Structure of Petroleum Product Prices., Data Source: OGRA, Mission Estimates

2.9 Oil Marketing Sector of Pakistan

Pakistan has 34 licensed OMCs actively participating in marketing activities, top five companies have the 80% of the market share(PACRA, 2020). PSO has the largest market share. The financial performance of OMCs was greatly affected during COVID-19, in FY20 OMCs bear losses of 23 billion rupees(GOP, 2020). OMCs bear inventory gains or losses due to fluctuations in international oil prices. On the other hand, due to the pandemic demand for fuel remained very depressed. In FY 20 the net margins went further negative -3.3% from -1.3% (FY19) as shown in Figure 2.1. The profit margins were fixed by the government and remained constant.
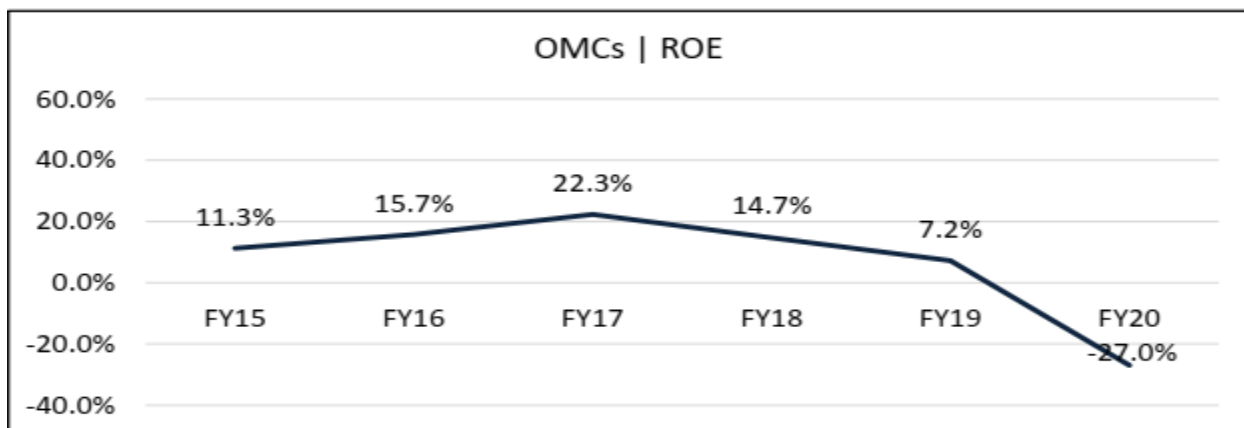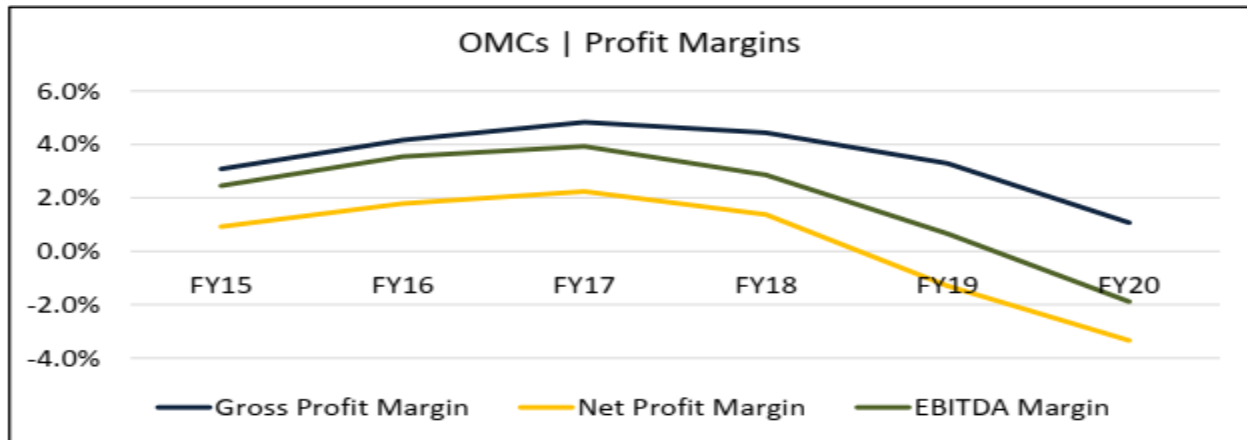
Figure 2. 1 Domestic OMCs profit margins and returns on equity, Data Source:(PACRA, 2020)

OGRA regulates the OMCs sector of Pakistan. According to OGRA rule 2002, authority is established to foster competition, increase private investment and safeguard the interests of stakeholders. To the best of my knowledge, little research on the role of the regulator has been done, the only empirical study results reveal that OGRA's performance is below standard, and authority faces the issues of autonomy in core enforcement issues. The study recommended a single autonomous regulatory body for the petroleum sector of Pakistan(Zeb et al., 2017). Government regulators aimed to optimize social welfare, and market regulation, whereas the incompatibility of regulators contributes to observed price volatility, (Brown et al., 2008). Literature suggests licensing regime is rent-seeking in nature (Cheok & Kuriyama, 2017),

especially in the case of developing countries where regulations are weak. This business model has the innate property of creating rent (Aidt, 2016; Arezki & Brückner, 2009)

2.10   OMCs Margin

The difference between the unit cost of a product and the sale price of the product is called the margin. The OMCs margins are the allowable amount of money for trading, distribution, and retailing designated by govt (the regulator) (Innovex, 2020). OMCs Margin is the returns on investments and cost recovery at the wholesale level. In regulated markets, the designated profit margins are assigned by the government based on investments and service costs. OMCs' margins are the combination of their operational cost, capital expenditure, and reasonable returns. OMCs per-unit margins consist of operational cost per liter, the weighted average cost of capital and regulated asset base per liter, annual depreciation expenses per liter, taxes per liter, and total allowable revenue per liter (Innovex, 2020).

In Pakistan, the OMCs margin is the sum of, the weighted average of the working capital, admin and marketing overhead, handling/temperature losses, turnover tax, and rate of returns on the investment (MP&NR, 2013). According to petroleum policy 1997, the margins should be revised annually according to the government-prescribed formula. Table 1.4 and 1.5 of chapter one reveals that although the OMCs and dealer margin increased over the last five years, the margins in ratio terms to selling prices decreased annually. The increase in margins on annual basis without calculating the cost of doing business is problematic for OMCs. Moreover, the most recent rationalization of OMCs and dealer margins was done in 2013. The study was conducted by PIDE, commissioned by the Ministry of Petroleum and Natural Resources (MP&NR), Govt of Pakistan(MP&NR, 2013). Since then, margins have been upgraded several times, without prudent estimation of OMC's Capital and operational cost estimation. That raises the question if OMCs are

making reasonable profits. The profit margins are annually increased without prudent rationalization of the cost of doing business incurred by the marketing companies. To understand further the profit margins and estimation mechanisms, it is imperative to see the international practices of regulated and deregulated markets.

2.11   International Practices of Petroleum prices and OMCs and Dealer Margin

Following are the cases of different countries to see the international practices in the determination of OMCs and Dealers' Margins. We broadly divided the counties according to the nature of the market, i.e., regulated, and deregulated.

2.12   Regulated Markets

1. India

Before June 2010 Petrol prices in India were regulated by the government of India, and diesel prices were deregulated on Oct 18, 2014. Oil marketing companies were responsible to set and revise petrol and diesel prices fortnightly. To further reduce the retail price volatility, and speculation and avoid sharp fluctuations, at the start of 2017 Dynamic Fuel Price method was adopted to regularly revise the prices of diesel and petrol (Singhal, 2020). Dynamic pricing is being adopted to bring parity between local and international petroleum product prices (Shome et al., 2018). India's annual crude oil production in FY2020 was 32,169.3 thousand Metric Tonnes (TMT), and the import was 2.92 million barrels per day. India's Petroleum industry is divided into 3 segments, Upstream, Midstream, and downstream. Retailing and marketing are the part of downstream, where OMCs purchase crude oil from storage facilities or midstream players and pay freight and transportation charges per barrel price. Crude oil is then refined into valuable commodities in refineries, OMCs pay refinery transfer prices to refineries, and before selling it to petroleum dealers OMCs pay excise duty. Petrol/Diesel or other refined commodities owned by

OMCs are sold on a cost-plus-profit basis. Later state VAT, dealers' margin, development levy, and pollution surcharge are added to the cost price. These all charges account for 57% of the total petrol price per liter (Shinghal, 2020). Petrol price varies from state to state and pumps to pump. OMCs margin is 2.87 Rs/ltr and dealers commission is 2.51 Rs/liter. OMCs and dealer margins are calculated by adding up the return on net fixed assets, Salaries and wages of employees in the operating locations, working capital, and Stock Losses (Personal et al., 2010).

Although the Indian government has officially deregularized the prices of gasoline, jet fuel and diesel yet changes in international prices are not evident in the retail prices of petroleum products. The government of India is indirectly controlling consumer prices through state-controlled IOCs. 90% of India's retail market is controlled by Bharat Petroleum and Hindustan Petroleum (argus media, 2020) (argus media, 2020).

2. South Africa

The petroleum industry of South Africa is regulated by the Department of Energy and the National Energy Regulator of South Africa. Department of Energy regulates the fuel industry by controlling and capping the price and access to the market. The price element is broadly composed of International and domestic pricing elements. The international price element in terms of Basic fuel price (BFP) is calculated based on the import parity price. Domestic price components include transportation, freight, government taxes, levies, Dealers' and distributors' margins, and differentials. Marketing-of-Petroleum- Activities Return is the set of guidelines that determine the wholesale margins in South Africa. The level of OMCs margin is calculated by the industry average and adjusted to a benchmark of 15 percent with a limit of 10-20(DoE, 2021). Retail margins are calculated through Regulatory Accounting System (RAS), the three main sections of RAS are

1. Operational Expenditure or OPEX (the costs to operate a petrol station).

2. Capital Expenditure CAPEX (the costs of establishing a petrol station and some capital costs required to run a service station, for example, inventory costs)

3. EC (Entrepreneurial Compensation).

Retail Pump price= Basic Fuel Prices + Domestically incur cost+ margins+ govt levies and taxes

Taxes and levies include equalization fund levy, fuel tax levy, custom and excise duty, road safety fund, and slate levy (DoE, 2021).

3. Tanzania

Tanzania's downstream petroleum sector consists of 18 bulk oil suppliers, 114 licensed wholesale suppliers, and 1681 retail outlets (Innovex, 2020). Petroleum product consumption is 3.3 billion liters/day. The Downstream Petroleum sub-sector was liberalized in 2000, which made the sector competitive. Liberalized downstream enables OMCs and retailers to act according to market requirements (Hou et al., 2015). The petroleum industry of the united republic of Tanzania is regulated by Energy and Water Utilities Regulatory Authority. EWURA caps the retail and wholesale prices to discourage destabilization and speculation of prices. cost-plus pricing formula is being used to cap the prices. Differentiated price of fuel exists across the country, however, margins are fixed across the country. The pricing formula is as under

Pump Price CAP(DSM) = Cost CIF DAR + Local Cost payable to other authorities+ Taxation/Levy + Wholesale CAP

The OMCs and retailer Margins are fixed using the following components.

Wholesale Margin= Depot direct Operational cost/ltr + Other company overhead +Financing Cost/ltr+ Depreciation+ Return on investment

Retail Margin= Operational cost/ltr+ Financing Cost/ltr+ Depreciation+ Return on investment

4. Kenya

The Kenya Energy and Petroleum Authority regulate the downstream industry of the country. The country has 2762 retail outlets, 94 importers, and 27 storage depots with one refinery which can refine 90,000 barrels per day (Kipkorir & Manasa, 2015) (Kipkorir & Manasa, 2015). The Kenya Energy and Petroleum Authority regulate the maximum retail and wholesale prices of petroleum products (Super Petrol, Regular Petrol, Diesel, and Kerosene) based on a cost-plus formula under the Energy (Petroleum Pricing) Regulations, 2010. wholesale prices are calculated by the following formula

$PW = Cs (1+ Lp + Ld) + K (1+ Ld) +mw$

Where, Pw = the wholesale price

Cs = the weighted average cost in shillings per liter ex the Kenya Petroleum Refineries Limited (KPRL) and ex Kipevu Oil Storage Facility (KOSF).

K = the transportation cost from Mombasa port to the nearest wholesale depot, which is made up of x percent of pipeline tariff (Kpt) and (100 – x) percent of road bridging cost (Krd) as set out in the First Schedule.

Lp = the allowed losses in the pipeline as set out in the Second Schedule

Ld = the allowed losses in the depot as set out in the Second Schedule.

mw = the allowed oil marketing company's gross wholesale margin as set out in the Third Schedule (EPRA, 2020; G.o.K, 2010).

 The retail pricing formula for super petrol, kerosene, and automotive diesel is:

Pr = Pw + mr + z

Where, Pr = the maximum retail pump price of super petrol, regular petrol, kerosene, or Automotive diesel applicable, in shillings per liter.

mr = the allowed maximum retail gross margin as set out in the Third Schedule.

z = the delivery rate from the nearest wholesale depot to a retail dispensing site in Shillings per liter as set out in the First Schedule(EPRA, 2020; G.o.K, 2010). The retail pump prices for Super Petrol, Automotive Diesel, and Kerosene are published monthly on the 15th of every month.

5. Nova Scotia (Canada)

Nova Scotia Utility and Review Board (NSUARB) is regulating petroleum products prices, wholesale prices, maximum and minimum retail prices, and maximum retail mark-ups in the province since Oct 2009 (Board of Commissioners of Public Utilities, 2020). Board first sets the benchmark price, then the established wholesale margin is added up with the federal excise tax, the federal excise tax, the provincial motive fuel tax, a transportation allowance, a forward averaging correction, and a cost of carbon. Later, a retail margin of 5.4¢ per liter, and an HST of 15% on the total, are added to the fixed wholesale price to generate the minimum retail price for each petroleum product in the province(Gardner, 2020). A similar practice is adopted for the maximum retail price except for a retail margin of 7.4¢ per liter is applied.

2.13   De-Regulated Markets

1. Brazil

Brazil has liberalized downstream industry; the gasoline market is being regulated by the National Petroleum Agency (NPA) under Federal Petroleum Act. The Brazilian market went open in 2002 after the acquisition of Petrobras, the state-owned oil company. Thus, the price went on to be

defined by the market itself(Fattouh et al., 2015). The consumer price division is 12%Distribution and retail, 14%Anhydrous alcohol cost, 28%ICMS, 15%CIDE, PIS/PASEP, and COFINS, and 32%Petrobras parcel. State and union levied taxes (ICMS1, CIDE2, PIS/PASEP3, and Cofins4). along with Petrobras, the product price is found in the retail price of the petroleum product. The state tax ICMS is updated fortnightly, calculated by the average weighted price for the final consumer (AWPFC). The knowledge about the marketing and retailing margins is not being disclosed by Petrobras. Two categories of gasoline are available in the country ethanol-free (Grade A) and ethanol-mixed (Grade C) gasoline. End Consumers use "Grade C" gasoline.

2. Australia

The petroleum market of Australia is highly competitive, transparent, and liberalized. Wholesale and retail market Pricing information is updated on daily basis. According to the Australian Competition and Consumer Commission (ACCC) report, the major components of the wholesale market price are government taxes and refined international benchmark prices. However, 91% of the retail price is composed of "Terminal Gate Price" (TGP). Due to business and competition factors, there always exists a difference in the price of the rural-urban retailer, town to town, and location to location(AIP, 2020).

3. Canada

Canada refines about 107 billion liters of fuel which contributes $8 billion to its GDP.189 million liters are used for transportation (*Gasoline Prices - Canadian Fuels Association*, n.d.). The country has 16 refineries, 78 fuel distribution terminals, and 12,000 retails. Canadian refiners produced almost 107 billion liters of fuel and other refined products last year and contributed $8 billion to our GDP(Board of Commissioners of Public Utilities, 2020). Canada has no single energy policy and regulated body, each province has a different oil and gas market structure, policy, and

legislation system(Gardner, 2020). The wholesale price of refined products is a matter of supply and demand in the Canadian market. Retail markups are mostly set by independent business owners, they competitively set their margins, yet the retail price fluctuates with wholesale prices(Coady et al., 2013). Newfoundland and Labrador, Nova Scotia, New Brunswick, Prince Edward Island and Quebec provinces of Canada have regulated markets.

2.14   Conclusion

This chapter helped in understanding the concept of performance measurement, different modes and methods of measuring organizational performance, especially in the oil industry are discussed. The later chapter gave an overview of the petroleum industry and its market. We discussed petroleum product pricing (3.4), its nature, the elements that effects and compute the consumer price of the fuel, and the mechanisms that are globally adopted to determine the final price according to the nature of the petroleum industry, and market (regulated or liberalized). Furthermore, we discussed the petroleum industry of Pakistan, as this study aimed to review the performance of the OMCs performance and margins. The documents of the OGRA ordinance and Pakistan Oil Rules 2016 were thoroughly analyzed as discussed in 3.3. We went through the literature, find out the organizational performance measurement mechanism, and performance measurement for oil companies particularly, marketing companies, and picked up the world bank framework as the most appropriate matrix for performance measurement. Furthermore, we went through the mechanism of pricing and reviewed the history of pricing in Pakistan. The consumer price of petroleum products in Pakistan is computed as the sum of six components, namely: ex-refinery price, petroleum levy, sales taxes, inland freight equalization margin, distributors' (OMCs) margin, and dealers' commission/margin (PACRA, 2020, 2021). Then we presented a comprehensive account of the distributor's commission in Pakistan. As the study also aimed to

present the review and suggest new margins so went through the cases of other countries and presented a brief account of their margin determination mechanism and found that the basic elements of OMCs in regulated markets are working capital, marketing cost, product losses, taxes, and returns on investments (fixed assets). During our research, we found a detailed report on Tanzania, which helped in understanding the OMC's margin in regulated markets. The regulatory Accounting System (RAS) adopted by South Africa was also found to be a comprehensive approach to bringing transparency to the whole supply chain. The reason behind the rigorous literature review relating to margins and the international market was the second research objective which the researcher has to drop due to the unavailability of the data.

CHAPTER 03

DATA COLLECTION

3.1 Introduction

In this chapter, we will talk about the data collection process of the research study. This research is aimed to review the performance of the oil marketing sector of Pakistan considering OGRA and Pakistan Oil Rule. As discussed in the research methodology limitations section (1.6), initially this research study has two objectives. The following chapter will elaborate that how the objectives of the study are modified, and what circumstances have pushed the researcher to change the data collection and analyzing methodology (see Table 3.1). An integral part of research is finding appropriate variables and indicators of variables. From the literature (chapter 2) we found that the adopting performance measurement matrix (Stevens, 2008) would give us a holistic picture of sectoral performance, as it not only covers the financial indicators but operational, backward, and forward linkages side of the company's performance. Which most performance measuring tools like the balanced scorecard system usually ignore.

After diving deep through the designing or development procedure of the research questionnaire and data collection (primary data collection). The researcher reworked on research methodology. Revised the variables, choose the most appropriate indicators from the available data of financial updates, annual reports, and financial reports (secondary data), and limited the scope of performance measurement to financial indicators due to data limitations.
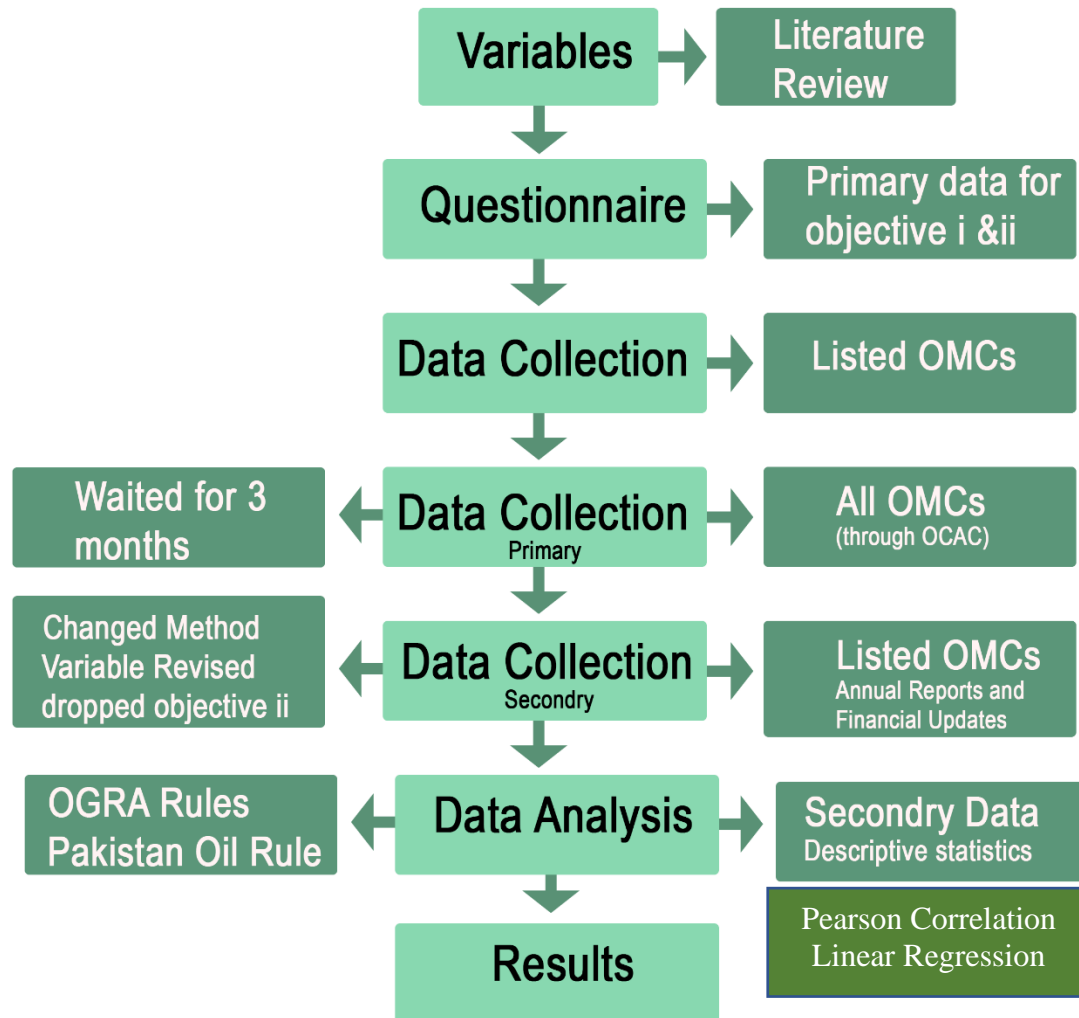
Table 3. 1 Research methodology flow chart (source Author)

3.2 Performance Measurement Indicators

In the previous chapter (literature review), it was widely discussed that most of the performance measuring research focuses only on the financial side of the company or sector, especially in the case of Pakistan. However, this research study is aimed not only to see the financial performance of the oil marketing sector but also to see the operational performance, and the backward and forward linkages of the oil marketing company. which will give a clear picture of the oil marketing sector's performance in the country.

Pakistan's oil marketing sector has 66 licensed companies, 34 licensed companies are actively participating in the market, whereas only 5 companies are listed in PSX (Commission, 2020).

In the previous chapter, we discussed that the variables for the following study have been taken from the three studies (Abdel-Maksoud & Abdel-Kader, 2007; Bourne et al., 2003; Neely, 1999b). The existing literature suggests that most oil marketing companies in Pakistan adopt a certain framework of key performance indicators to measure their performance and maintain their leadership position in the market. Traditionally the performance matrix is assessed through a balanced scorecard system wherein the performance is reviewed at different levels of the corporate system of the company. Like in PSO, the CPI framework assesses the performance through a balanced scorecard system which encompasses five major focus areas that include market leadership and profitable growth, operational efficiency, safe operations, building reforms, and customer convenience. The Board of Management (BoM) regularly reviews and monitors the company's progress according to its set objectives. Similarly, Shell's performance indicators are financial in nature like total shareholder return, cash flow from the operating activity project delivery, available for the sale plant availability, earning per share investment, etc. However, Attock petroleum's key performance indicators include premium quality products, customer satisfaction, increase in retail outlets, enhancement of storage capacity, improvement of operational performance, efficiency in supply management, improvement in the shareholder's wealth, and environmental health and safety. The rest of the listed companies have not provided any information on their performance measuring mechanism.

3.3 OGRA Rule 2002 and Pakistan Oil Rules 2016 related to OMCs

The oil and gas regulatory authority (OGRA) was established by the federal government on March 28, 2002. In pursuance of the Oil and Gas Regulatory Authority Ordinance 2002. The aim of the

OGRA is to foster competition, increase private investment and ownership in the midstream and downstream petroleum industry, and protect the public interest while respecting individual rights and providing effective efficient regulations. leading tasks of OGRA enshrined in OGRA ordinance 2002 include granting of the license to carry out regulated activities and subsequent regulation. whether those regulation-regulated activities are according to the condition of the license. Worthy to note is the fact that safeguarding the interests of stakeholders including the consumer, also features as one of the most important duties of OGRA as mentioned in section 6 of OGRA Ordinance 2002. Without prejudice to the exclusive powers of OGRA certain powers have been vested in the federal government regarding the policy formulation planning for infrastructure development and pricing of petroleum products including petroleum levy.

Under section 41 of ordinance 2002, the authority has to frame rules without undue delay for carrying out the purposes of the ordinance resultantly in 2016 the Pakistan Oil Refining, Blending, Transportation, Storage, and Marketing Rules were framed. Any oil marketing company aspiring to initiate its business must fulfill certain condition maintaining mentioned in a different set of laws and rules

- Section 23 (3) of OGRA Ordinance 2002, stipulates that no person shall construct or operate any pipeline of oil, construct or operate any oil testing facility, oil storage facility other than storage associated with the refinery or a blending facility, or operate any installation relating to the oil construct or update any refinery undertake storage oil and undertake marketing or refined oil products without a valid license.

- An application for the license shall be submitted to the authority OGRA on the prescribed form and by the rule.

- Rule 35 of Pakistan Oil Rule 2016 states that on the receipt of an application for grant of a license to set up a new oil marketing. authority may grant a provisional license for three years. During this, the marketing infrastructure shall be completed in accordance with the laid down technical standards which include investment plan storage and retail outlets

- Rule 35(1)(b) of OGRA rule 2016 Places a bar on oh emphasis on the affiliate in any form with the existing OMC operating in Pakistan

- The same rule 35 (3) elaborates upon satisfactory completion of the work program subject to the certification by a third-party inspector. In conformance, with the technical standard, the authority shall grant a license to an OMC for a maximum period of 30 years subject to renewal from time to time on making a fresh application at least two years prior to the expiry of the existing license.

- According to rule 35(1)(g) of OGRA rules 2016, every OMC shall submit an undertaking to the effect that it shall uplift petroleum products by the local refineries before opting for import of the same.

- Rule 35 (1)(e) deals with the investment plan of the company envisaging major investment in the infrastructure development of depots, installations, etc., and a specific work program covering a period of three years to create minimum storage of 20 days of the proposed sales.

- Moreover, according to rule 37 of Pakistan Oil Rule 2016 every oil marketing company shall maintain such minimum stocks of petroleum products as the federal government may from time to time by order in writing specify.

- Under OGRA decision number 12/2/2017 SBR dated 24/8/2017 lays down the criteria for the establishment of retail outlets by OMC which fixes two metric tons per day (2MT/day)

MS as the average sale benchmark for the construction of the maximum number of retail outlets corresponding to the available backup storage infrastructure of the OMCs prior to this ECC decision No ECC-107/9/2003 Dated 25/10/ 2003 specified the stock maintenance of all OMC for 20 days but in relation to their projected marketing.

- Rule 53(xiv) of Pakistan Oil Rule 2016 maintains minimum stocks of crude oil or petroleum product as directed by the authority having to regard of storage capacity of the licensee

- According to Rule 28 of OGRA 2016, no person shall construct or operate any oil storage facility or undertake storage of oil for the purpose of commercial storage of crude oil or petroleum product without obtaining a license from the authority OGRA

- In addition to the obligatory storage facility of the OMCs, the building and maintenance of the strategic storage are categorically the responsibility of all of the Ministry of Energy petroleum division as defined in section 21(2)(e) of the OGRA ordinance 2002.

- Unless the completion of the storage facility covers the minimum stock of 20 days for our proposed sale (presently 40 tons of MS for each outlet at least), no OMC can be granted a marketing license under rule 35 of OGRA rules,20 16 as mentioned above.

- Rule 53 (x) of Pakistan Oil Rule 2016 no OMC shell abandon any regulated activities as a part or as a whole resulting in their discontinuation of the supply of petroleum products or their sale l in any area without the prior written consent of the authority (OGRA)

- Rule 53 (vii) of Pakistan Oil Rule 2016 states that all OMCs shall enter into all contacts at an arm's length basis and not enter into any contract or other agreement with any of the associated companies except with the prior written approval of the authority.

- Rule 35(1)(e), Rule 37, and rule 53 (xiv) off Pakistan Oil Rules 2016 and OGRA and ECC decision read that the creation inspection and maintenance of a minimum stock of petroleum products for 20 days is the responsibility of OGRA.

- Rule 53 of Pakistan Oil Rule 2016 states that any person including any district coordination officer authorized in writing by authority may at any response reasonable time enter, inspect and examine any premises facility or installation owned or operated by an OMC, refining, blending reclamation point, or grease plant. take samples free of charge two checks the specification of the oil.

- Section 66 of Pakistan Oil Rule 2016 a license may be revoked or canceled by authority for contraventions of the rules and terms and conditions of the license rule 66 is reproduced as underline

- As per rule 66 (1) where the authority contemplates revocation of any license it may proceed with the matter after giving an opportunity to showcase to the licensee to revoke the license in accordance with the law. Where the circumstances of the case weren't urgent action, the authority may without giving the prior opportunity to show the cause of the licensee suspend the license forthwith and thereafter proceed with the matter in accordance with the provision of sub-rule (1)

Section 69 of Pakistan Oil Rules 2016, states death authority may also inflict penalties in the shape of fines as punishment for the contribution of these rules, and the terms and conditions of the licensee rule 69 are reproduced as under

- As per rule 69 of Pakistan, oil rules 2016 subject to sub-rule two a person who contravenes any provision of the ordinance these rules terms under the condition of the license or the decision of the authority shall be punishable with a fine which may be extended to 10

million and in case of continuing contravention with the further fine which may extend to 1,000,000 rupees per day during such contraventions continue.

Losing any fine under these rules the third party shall keep in view the principle of proportionality of this fine to the gravity of contravention prior to imposing define the authority shun in writing required the person liable to be affected to show cause in writing as to why the fine may not be imposed.

3.4 International Oil Prices

Oil prices have always been volatile, mostly due to supply-side shocks. However, during the time of COVID-19 oil prices witnessed both supply and demand shocks. Forecasting has always been an enigma for the trading world. Oil price is determined by the quantity of demand. However, over time benchmarking techniques for pricing and trading have been developed based on the geographical location of the oil reserves, the ratio of Sulphur content (sweet and sour), and its density (light and heavy). The crude benchmarks are West Texas Intermediate (WTI), Brent Blend (North Sea), Dubai (Fateh), OPEC basket, Tapis (Singapore), Bonnie Light (Nigeria), Maya (Mexico), and Isthmus (Mexico). However, WTI and Brent Blend are considered the most prestigious and high-quality oil markers due to their lightness and low Sulphur content. Crude oil transactions occur in spot transactions, futures markets, and contract arrangements. Furthermore, cracked oil is transported to the refineries through pipelines and oil tankers. While the transportation cost of crude oil is globally estimated at the rate of world scale (Inkpen & Moffett, 2011a). FOB (Free on Board) is the price of oil at the loading port. Purchaser has to pay the price as CIF (Cost, Insurance, and Freight), and CIF is the unloading price of the oil or product (finished product). However, import parity price (IPP) is the sum of Free on Board (FOB) price, Ocean Freight (OF), Product Insurance (PI), Custom Duties (CD), Port charges (PC), etc. (ECS, 2007)

$$IPP = FOB + OF + PI + CD + PC$$

Refineries convert crude oil into valuable derivatives i.e., gasoline, HSD, jet fuel, naphtha, asphalt, etc. (Kojima, 2013). The Law of supply and demand drives the price of refined products and refining margins. The ex-refinery price of the products is largely impacted by the crude oil prices (the major input). The ex-Refinery price that is based on the import parity is the sum of the CIF of the product and other related charges (demurrage and inspection). In the case of Asia, the oil import cost or per liter landed cost of the fuel is estimated via the Singapore benchmark cost index, which depends on the Mean of Platts Singapore (MOPS) price (Commerce Commission, 2019) or the Arab gulf market, mean of Platts Arab gulf (MOPAG). This is commonly termed the import parity price. Other components of the ex-refinery price of gasoline and HSD are operating cost, labor cost, energy, regulation cost, environmental regulation cost, refiners' profit margin (gross margin), and value-added taxes (Manneh, 2020).

The retail price of petroleum products (Diesel and Gasoline) is estimated by Ad-hoc, automatic, and liberalized pricing mechanisms. In the regulated markets, the retail prices are determined based on the import parity price, the Cost-plus pricing formula (Coady et al., 2013). The formula includes CIF cost, payables to authorities (wharfage, customs fees, weights & measures fee, demurrage cost, ocean losses, surveyors cost, financing cost, regulatory levy, evaporation losses, and petroleum marking cost), Government taxes (fuel levy, excise duty, petroleum levy), OMC overheads and margins, wholesale margin, dealers margin, transport charges.

3.5 Data collection Procedure

After gathering all this information and we designed a questionnaire for the collection of primary data. For the first objective, the performance measurement matrix (Stevens, 2008) was aimed to be adapted with some additions in operational and financial indicators. The questionnaire was

divided into two sections the first section has five parts namely company profile, source of performance influencing financial performance, operational performance, backward linkages, and forward linkages. The section is divided into five questions which are majorly focused on the OGRA and Pakistan Oil Rules related to the OMC. This section inquiries about the rules which hinder the performance or operations of OMCs in the market, the rate of compliance with the rules, and finally asked for the suggestion for the improvement of OGRA rules. Five-point Likert scale was used. Both open-ended and close-ended questions were asked, according to the nature of the questions. For further details see Appendix A and read the section *Discussion on Questionnaire*.

As mentioned earlier that 80% of the market share is held by the top 5 oil marketing companies. the early stage of the research study aimed to collect data from the top five companies in the market, these top five companies include the total PARCO, which is not a listed company. Therefore, keeping in view the second objective (which later I have to drop), which needs the financial data. Only listed companies as the targeted population were included in the sample. As OMCs normally avoid the provision of financial data.

The questionnaire was sent to all the listed OMCs. After waiting for about one month and getting no response from any of the listed companies. researchers decided to expand the scope of the study and include all 34 companies for data collection purposes of objective one. This time the OCAC platform was used to access all the oil marketing companies in the Pakistan energy market.

Yet again after waiting for about another one and a half months and getting no response from the 34 oil marketing companies. The time and monetary limitations have pushed the researcher to change its research methodology from primary data to secondary data.

Therefore, the researcher once again started from scratch and went through the annual reports of all listed companies for the last five years to get the desired data for the performance evaluation of the oil marketing sector.

As mentioned earlier that only PSO, shell, and Attock petroleum in their annual reports talk about their performance measuring techniques or highlights their key performance indicators areas of focus. these annual reports are also devoid of further information on their performance measuring mechanisms. the provided data also lacks information regarding operational efficiencies, technological improvement, or innovation in the process or transportation of the product to the end consumer. One of the major setbacks that researcher has to face due to the lack of response from the oil marketing companies is their view on the OGRA rules and the deficiencies in these acts, which are created with the aim to foster a competitive environment in the market, To encourage local companies, and to facilitate the end user by providing oil products at the most reasonable price to each part of the country.

Therefore, the researcher has to rely upon the annual reports and one of the energy commission reports. The available data in the annual reports was mostly financial in nature. Companies do mention that they have improved the health and safety environment (HSE), invested in employee training programs, taken steps to improve employee retention rate, excelled in the technology to minimize the processing time, and improve the storage capacity of the company like Attock petroleum mentioned that it is working rigorously on the improvement of storage capacity along with the retail network of the company to provide better product quickly to remote areas of the country.

Among 34 OMCs, only five Listed OMCs (Listed in the stock exchange of Pakistan) operate in the country. Namely (i) Pakistan State Oil (PSO) (ii) Shell Pakistan (SHELL) (iii) Hascol

Petroleum (HASCOL) (iv) HiTech Lubricants (HTL) and (v) Attock Petroleum (APL). These five companies held 70% of the market share (Figure 1.1) apart from the five listed companies, fortunately, the financial reports of BAYCO were available on the official website of the Company. Therefore, our sample size was 6 OMCs (70% of the market share). This sample was adequate to reflect the sector's true existing condition. For measuring the performance of the OMC sector, the data of the following variables for the past 5 years was collected from the annual financial reports and financial updates of the 6 OMCs to measure the performance of the oil marketing sector of Pakistan.

1. Net sales

2. Earnings per share

3. Return on equity

4. Return on capital employed

5. Inventory turnover

6. Operating cycle

7. Revenue per employee

In addition to that, we needed data for a few more variables, namely, production per employee, customer satisfaction index, number of days in inventory, number of retail outlets, the storage capacity of retail outlets, R&D, employee development data, health, safety, and environment data, and sales volumes for getting a clear idea of OMC's performance in accordance with OGRA rules. Some of the listed companies have not shared the data for selected variables. The following table reveals the availability of selected variables in the annual reports of listed companies.

S. No	Variables	PSO	ATTOCK	Shell	HASCOL	BYCO	HI-Tec	BTL
01	Net sales	✓	✓	✓	✓	✓	✓	✓
02	Earnings per share	✓	✓	✓	✓	✓	✓	✓
03	Return on equity	✓	✓	✓	✓	✓	✗	✗
04	Return on capital employed	✓	✓	✗	✗	✗	✓	✗
05	Inventory turnover	✓	✓	✗	✓	✓	✗	✓
06	Operating cycle	✗	✓	✗	✓	✗	✓	✓
07	Revenue per employee	✓	✓	✗	✗	✗	✗	✗

Table 3. 2 lists of available variables from the annual reports of listed companies (source Author)

For the second objective of this study (which we have to drop at this stage of study), we required the data for operation cost per liter, company overhead, financial cost per liter, return on investment, and depreciation cost. The required data variables cannot be acquired for the reasons discussed below.

First, our aim was to collect the data from OMCs based on our designed questionnaire (see annexure 1) but none of them responded to the questionnaire.

Second, the data was not made available in the annual reports of listed OMCs.

Wholesale Margin= Depot direct Operational cost/ltr + Other company overhead +Financing Cost/ltr+ Depreciation+ Return on investment (Innovex, 2020).

Resultantly, the researcher has to drop the second objective of rationalization of OMCs profit margin and focus only on performance measurement according to OGRA rule and Pakistan Oil Rules 2016.

For analysis of the available data descriptive analysis was conducted. descriptive analysis is essential to know how frequently a certain event or response is likely to occur. This is the prime purpose of measures of frequency to make a count or percent. We had the data from the last five years and the aim was to measure if the company has improved in variables. So that the scenario of the whole sector could be concluded, as the parts define the whole. For this analysis, descriptive statistics was the appropriate method. Drafts of the OGRA rule2002 and Pakistan Oil (refining, blending, transportation, storage, and marketing) rule, 2016 along with the inquiry commission report have been thoroughly studied (as mentioned in chapter 2) to analyze the operations and performance of the oil marketing companies.

CHAPTER 04

RESULTS

4.1 Introduction

In this chapter, we will discuss the results of performance measurement variables that we have discussed in the previous chapter. Starting with the market share held by the listed companies, about 77 percent of the market share is being held by listed companies, which is enough to understand and rationalize our sample and the true representative of the targeted population. Additionally, 98% of the market share is held by the top ten companies(OCAC, 2022a)and it shows the market division is not balanced among the major actors. However, when we see the OGRA rules 2002, its first aim is to encourage and maintain market competition as shown in Figure 4.1.
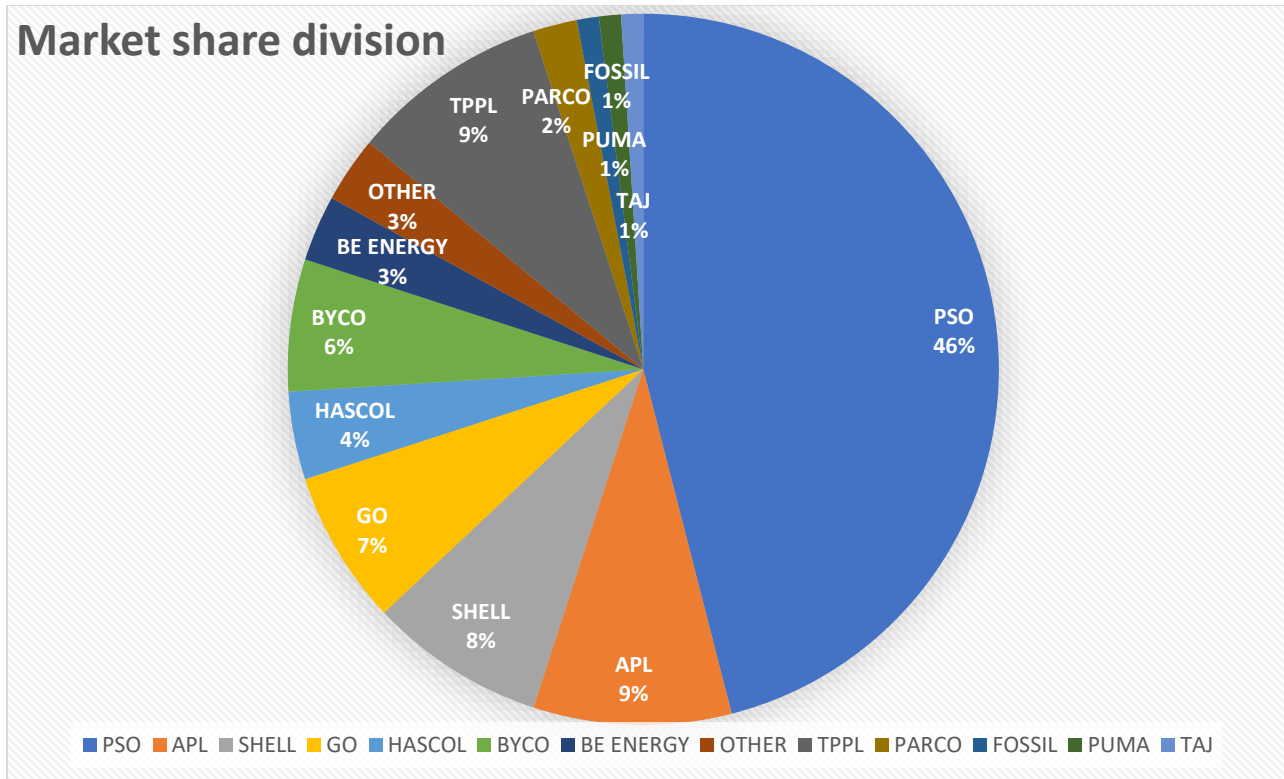
Figure 4. 1: OMC's market share division (OCAC, 2022a)

Next, we discuss the distribution in our sample as shown in Figure 4.2. It can be observed that 60% of the share is held by a single company PSO. The market share of PSO has decreased from 60% to 46% yet it is a big market giant which hinders the operations of other OMCs because all the government purchases of white oil are done via PSO. Total Parco is an important factor in the market, but it is not listed with the stock exchange of Pakistan (PSX)and that's the reason we are unable to find its data. The data shows among 34 operational OMCs only 6 are listed and 29 are operating but not listed stock exchange of Pakistan (PSX)in the last few decades. This is the weakness of OGRA as part of the regularity authority.
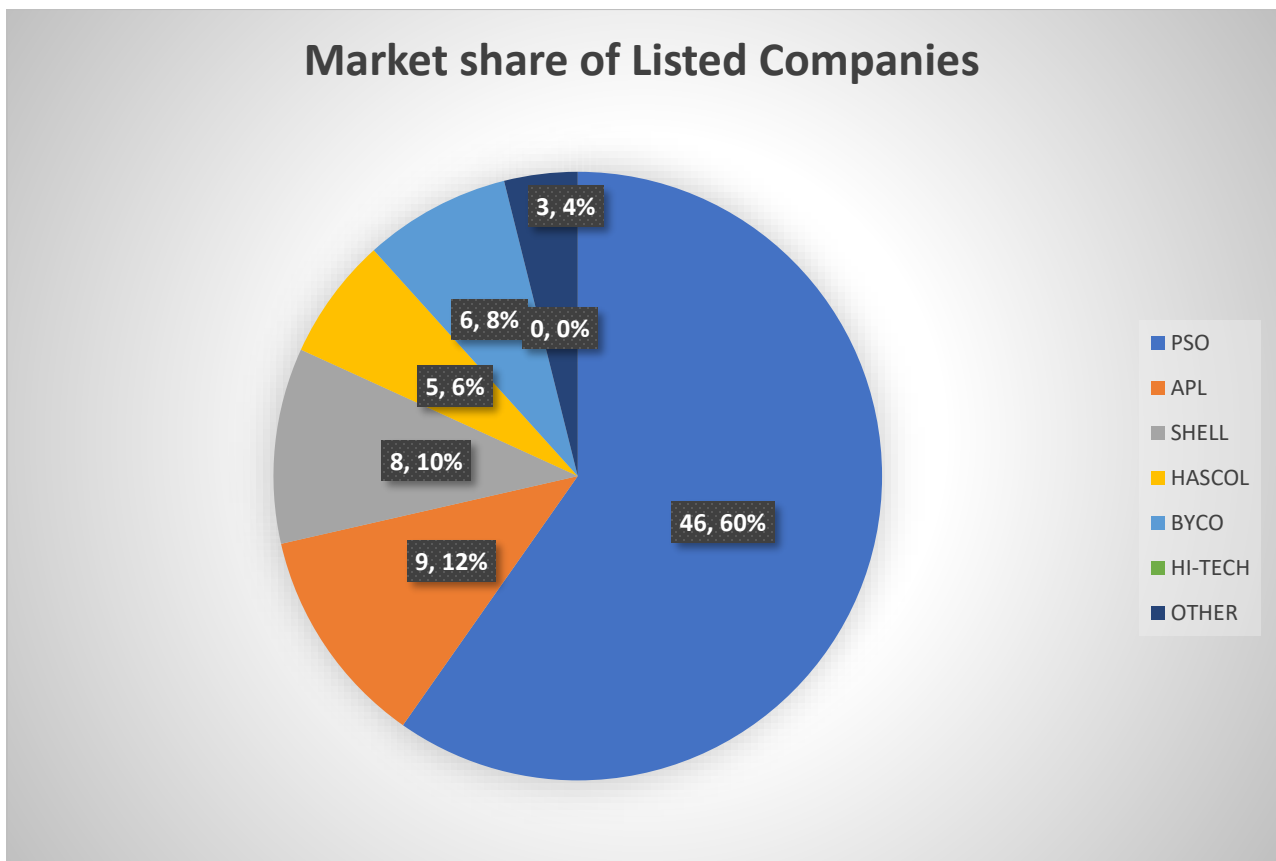
Figure 4. 2 market share of the listed companies (OCAC, 2022a)

Table 4.1 shows the product-wise market division among the companies. As we know motor spirit, high-speed diesel, and kerosene oil are the most consumed petroleum products in Pakistan. PSO,

shell, and Attock petroleum provide the major chunk of the consumed products. 52% of the furnace oil which is mostly consumed by the government is also provided by PSO. It is noted that the provision of furnace oil is held by a few companies, namely, PSO, Attock, and BYCO. These three companies provide about 83% of the consumed product. Moreover, if we talk about the retail outlet network and product reach, PSO stands tall at 34%, and HASCOL stands at 14%. For even distribution, the Pakistan refining and marketing rules 2016 article – also requires oil marketing companies to extend their reach to far-off places to make sure the product is available in remote areas of the country. The storage capacity of the retail outlet is not specified in the Pakistan Oil (Refining, Blending, Transportation, Storage, and Marketing) Rules, 2016 but it makes sure a company holds 20 days of storage capacity in accordance with its sales. The data from other resources suggest that the storage capacity of the retail outlets must be 2.85 million liters, but it also varies according to the location and product demand of the retail station. This researcher believes that government should mention the least capacity in the Pakistan Oil (Refining, Blending, Transportation, Storage, and Marketing) Rules, 2016 to avoid the incidences of oil shortage as we witnessed in March 2022 in some areas of Punjab including Faisalabad. Additionally, OGRA should keep a check on the petroleum products demand and consumption at specific retail stations in accordance with the storage capacity of the retail outlets.

Top Players per POL product as of FY 2021		
Company	MS	HSD
PSO	42%	47%
Total PARCO	12%	10%
Shell	11%	8%
GO	10%	10%

APL	7%	7%
HASCOL	4%	3%
BAYCO	4%	5%
BE	3%	3%
PUMA	2%	2%
ZMOPL	1%	0%
Others	5%	5%

Table 4. 1 **Top player in the oil marketing sector of Pakistan**(OCAC, 2022a; PACRA, 2021)

Top players based on the number of Stations and Storage Capacity				
OMC	No of Station	Share in storage (MS)	Share in storage (HSD)	Share in total Storage Capacity
PSO	3484	40%	31%	34%
GO	892	7%	8%	8%
Total PARCO	763	5%	3%	4%
Shell	757	10%	6%	8%
Attock	746	7%	9%	8%
Hascol	623	6%	19%	14%
Puma	542	0%	1%	1%
Byco	427	3%	1%	2%
Askar	394	3%	1%	1%
BE Energy	381	8%	10%	9%
Others	598	15%	11%	12%
Total	9607	100%	100%	100%

Table 4. 2 **top players in the oil marketing sector of Pakistan based on the retail network and storage capacity** (OCAC, 2022a; PACRA, 2021)

4.2 Net Sales

Net sales are the total revenue, less the cost of sales returns, allowances, and discounts. This is the primary sales Figure reviewed by analysts to examine the financial performance of an organization. Figure 4.3 shows the net sales of our sample. It can be observed that the PSO is progressing in all years from 2021 to 2015. It maintained the same momentum even during the COVID-19 shock. After PSO, BTL has also performed well when compared to other companies in the sample. Attock and Shell have somewhat shown similar kinds of performance. Likewise, HASCOL and BYCO have similar net sales figures from 2017 to 2021. It can be observed that HTL has shown the least performance in comparison to other companies.
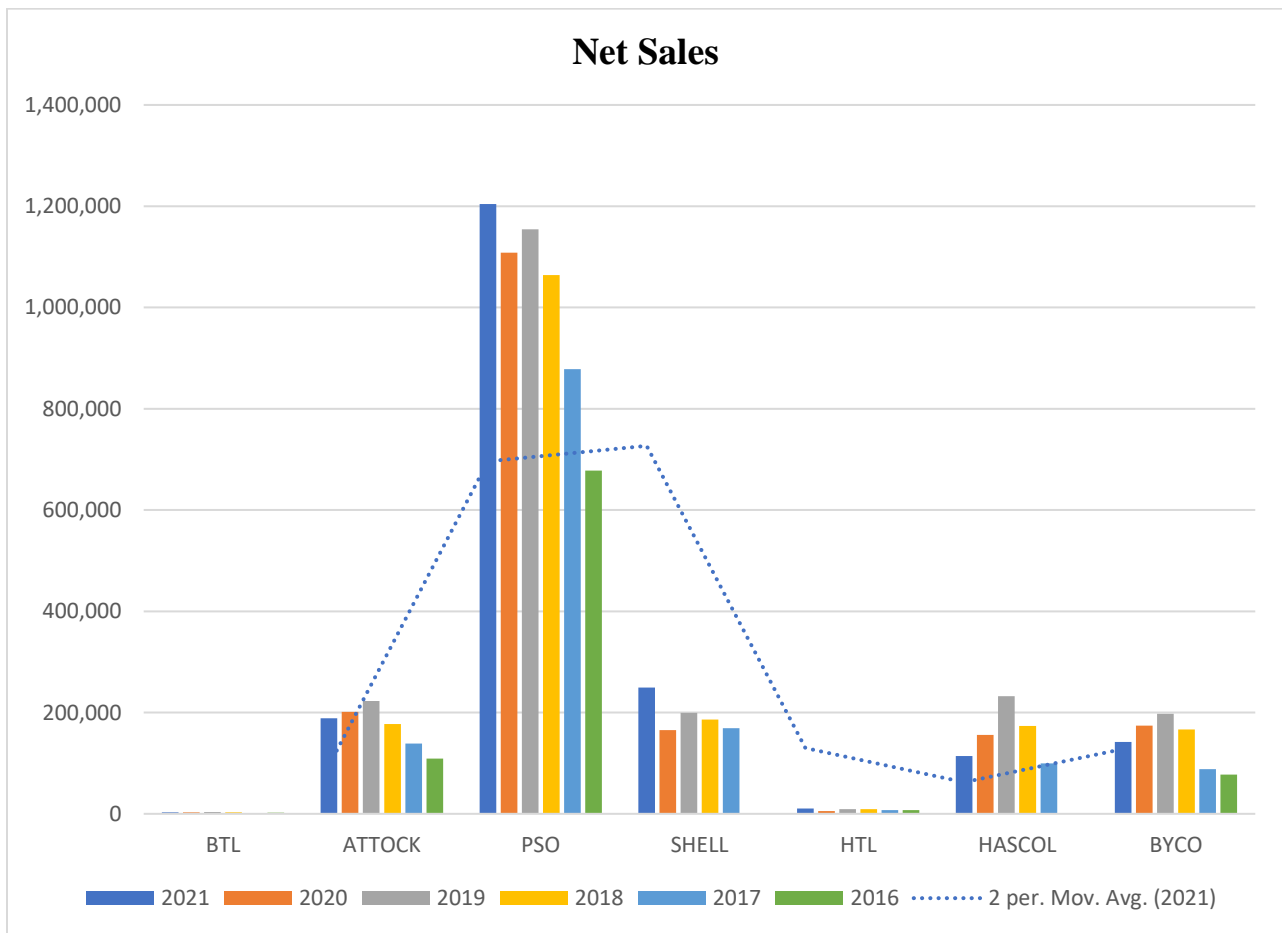
Figure 4. 3 Net sales data of listed OMCs in the last five years (source: Author)

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Net Sales							
	2021 in mln	2020	2019	2018	2017	2016	Change from 2016 to 2021 %
BTL	2,591	2,582	3,249	2,926	1,826	2,012	29%
Attock	188,645	201,078	223,054	177,216	138,660	109,234	73%
PSO	1,204,247	1,108,358	1,154,298	1,063,744	878,147	677,940	78%
Shell	249,210	165,140	199,719	186,204	168,848		48%
HTL	10,597	5,629	9,431	9,254	7,488	7,015	51%
HASCOL	114,021	155,519	232,407	173,739	99,508		15%
BYCO	142,150	173,899	197,831	166,290	88,420	77,702	83%

Table 4. 3 Net sales data of listed OMCs for the last five years with the change in a variable (source: Author)

Table 4.3 reveals the net sales value of the 7 companies, to analyze further its progress we calculated the change in terms of percentage from 2016 to 2021 results show that BYCO is leading the net sales with 83% progress in the last five years, secondly, PSO is leading the race with a 78% improvement in the net sales in the last five years, followed by the Attock, improved 73% in net sales in last five years.

4.3 Return on Equity

The return on Equity is a major indicator that informs us about the companies' performance on the part of the shareholder. As we know it is the main objective of a company is to maximize the shareholder's wealth. It is used to gauge the profitability and efficiency of a company in financial terms. Figure 4.4 shows that Shell has improved its performance in terms of equity exponentially in recent years. Attock has also maintained to absorb the COVID-19 shock whereas PSO has decreased its return on Equity by going negative. During the COVID-19 shock, HASCOL and Attock tried to maintain a positive return on equity, whereas BYCO failed to do so.

Furthermore, to validify these results, we calculated the change in terms of percentage from 2016 to 2021 Table 4.4 reveals the return on equity ratio value of the 7 companies. Results show that PSO has improved a hundred percent, Btl improvement rate is 95% whereas Attock could not

match the pace and remain at the last number in terms of return on equity ratio with a progress rate of 15%.

Return on Equity							
	2021	**2020**	**2019**	**2018**	**2017**	**2016**	**Change 2016-21 %**
BTL	-20.77	-15.88	3.16	2.54	3.73	-0.97	-95%
Attock	23.9	5.4	21.21	32.59	34.62	27.47	15%
PSO	-5.72	8.88	14	17.72	11.2		-100%
Shell	60.9	27.9	13.3	29.9	79.2	15.3	-75%
HTL	10.45	-1.27	-13.48	14.24	19.41	15.9	52%
HASCOL				0.86	0.15	0.2	-77%
BYCO	12.05	-9.28	-5.97	16.61	9.95	20.86	73%

Table 4. 4 Return on Equity ratio data of listed OMCs for the last five years with the change in the variable. (Source: Author)
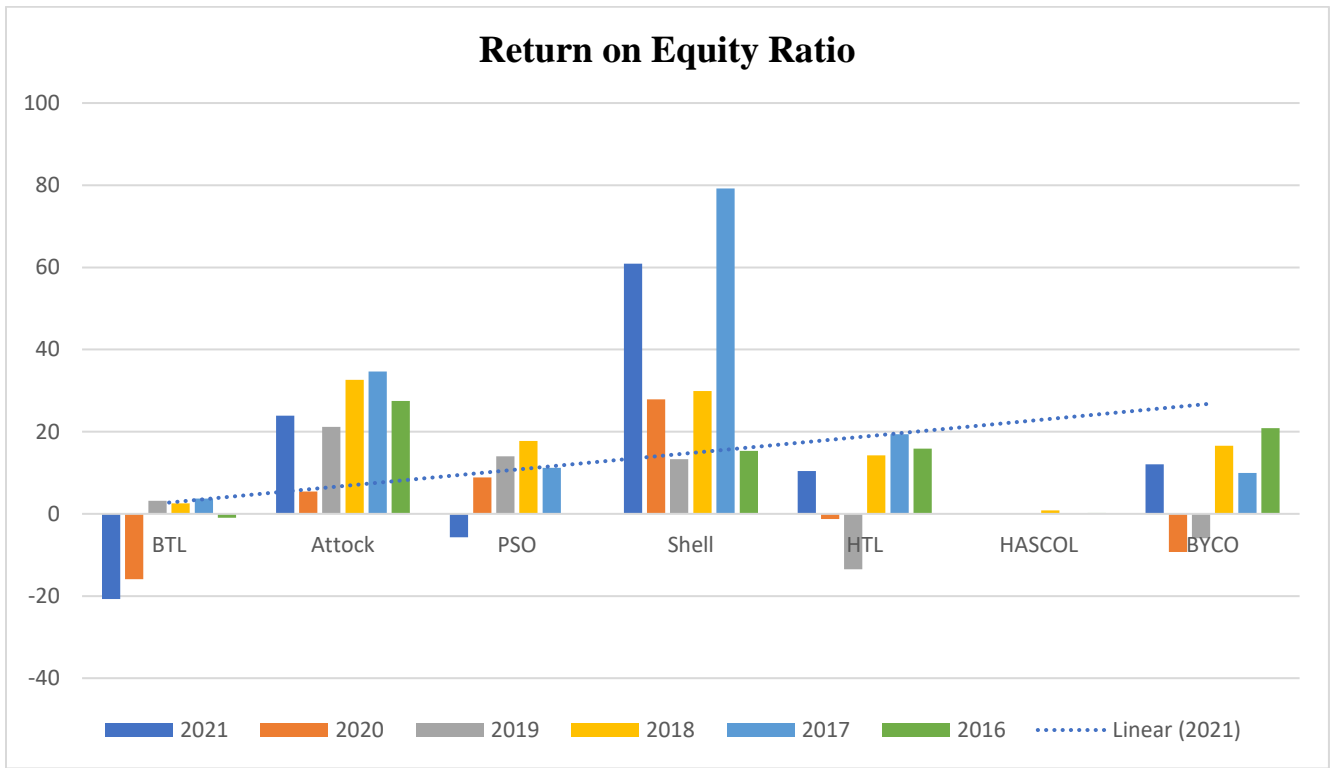
Figure 4. 4 Return on Equity ratio data of listed OMCs in the last five years (source: Author)

4.4 Earnings per share
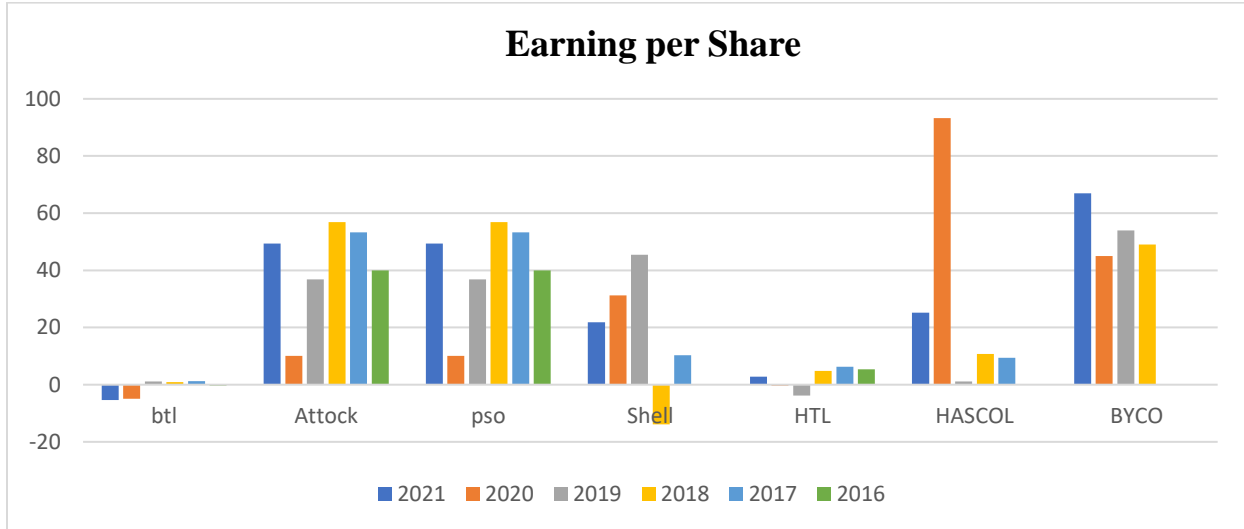
Figure 4. 5 Earning per share data of listed OMCs in the last five years (source: Author)

Earnings per share (EPS) is a key metric used to determine the common shareholder's portion of the company's profit. EPS measures each common share's profit allocation in relation to the company's total profit The EPS figure is important because it is used by investors and analysts to assess company performance, predict future earnings, and estimate the value of the company's shares. The higher the EPS, the more profitable the company is considered to be, and the more profits are available for distribution to its shareholders.

Earning per Share							
	2021	**2020**	**2019**	**2018**	**2017**	**2016**	**%Change 2016 to 2021**
BTL	-5.33	-4.87	1.15	0.87	1.29	-0.34	1468%
Attock	49.43	10.13	36.79	56.83	53.24	40	24%
PSO	49.43	10.13	36.79	56.83	53.24	40	24%
Shell	21.88	31.19	45.5	-13.88	10.3		112%
HTL	2.84	-0.35	-3.75	4.78	6.27	5.43	-48%
HASCOL	25.17	93.3	1.08	10.7	9.41		167%
BYCO	67	45	54	49			37%

Table 4. 5 Earning per share data of listed OMCs for the last five years with the change in the variable. (Source: Author)

The figure above shows that in the last 4 years, BYCO has performed well in bringing home the highest profit to investors. Attock and PSO performed almost equally in increasing shareholders' wealth. However, Shell's performance was negative in 2018 and the reason for it is unknown. Table 4.5 shows that BTL has improved by 1468% in the last five years in earning the profit on each share, secondly HASCOL has 167% progress in earnings per share. Attock and PSO lagged with a 24% improvement in the last five years which includes the covid time as well.

4.5 Inventory Turnover

Inventory turnover is the number of times a company sells and replaces its stock. It reflects how well the stock storage has been managed. It enables businesses to improve their performance in terms of marketing, purchasing of oil stock, and decision-making. It also reflects how well a company generates profit from sales. In the case of OMCs, inventory turnover brings larger profits home as companies do purchases on at least a one-month long-term contract. The lower inventory turnover ratio also hints at possible mismanagement and black marketing of petroleum products. Next, we discuss the inventory turnover results for our data sample. From Figure 4.6, it can be observed that BTL has the highest turnover from 2021 to 2016. After it, the next company that performed well in Attock. The performance of PSO and HASCOL is comparable, whereas BYCO is a little behind them. HTL has shown the least inventory turnover.

Inventory Turnover							
	2021	2020	2019	2018	2017	2016	%Change 2016 to 2021
BTL	4	9	10	10	10	8	-50%
Attock	13.97	17.68	16.97	17.01	21.76	19.88	-30%
PSO	16.88	14.93	13.06	13.84	14.36	11.99	41%
HTL	5.78	3.32	5.95	6.67	7.96	21.69	-73%
BYCO	4.75	6.56	6.68	7.49	8.46	12.04	-61%

Table 4. 6 Inventory Turnover data of listed OMCs for the last five years with the change in the variable. (Source: Author)

Inventory Turnover
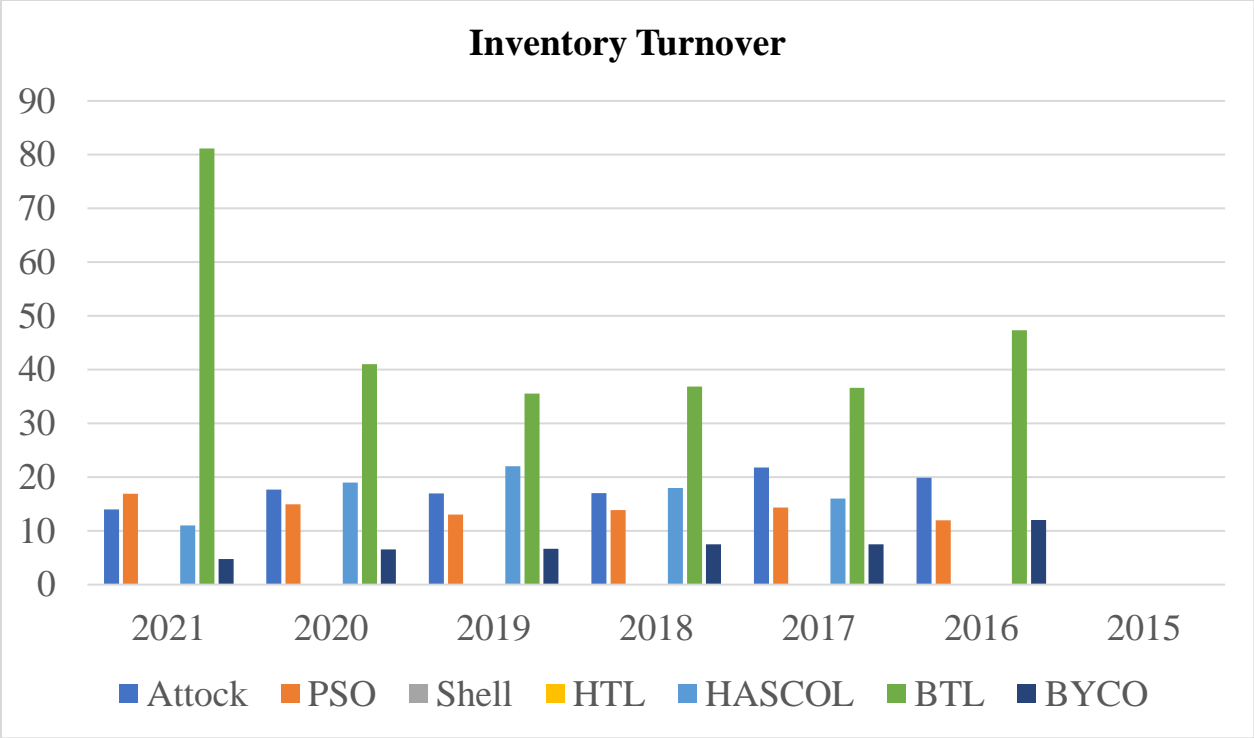
Figure 4. 6 Inventory turnover data of listed OMCs in the last five years (source: Author)

4.6 Operating Cycle

The operating cycle refers to the number of days a company takes to sell its stock from buying to making it available to the end users. Tracking an operating cycle through the years is a great way to determine the financial performance of the said company. It can also help determine its efficiency and how smoothly operations are running. it an idea of whether or not it'll be able to pay off any liabilities. There are some other indicators as well, but we could not manage to include them due to the unavailability of data in the annual reports. Before discussing the results, it is noted that Shell, Hi-Tech lubricants, and HASCOL have not provided the data for operating cycles in their annual reports. HTL has a cycle between 6 to 36 days. It can be observed that Attock and BTL have negative operating cycles. The negative operating cycle shows that company's sell their inventory before purchase. short operating cycle, which means it'll be receiving payment at a

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steady rate. The faster the company generates cash, the more it'll be able to pay off any outstanding

debts or expand its business accordingly.

Operating Cycle							
	2021	**2020**	**2019**	**2018**	**2017**	**2016**	**Change from 2016-21**
BTL	-5	-5	-4	-8	-15	-16	-69%
Attock	-10	-1	4	-2	-12	-13	-23%
PSO	**53**	53	55	56	59	59	-10%
HTL	12.74	33.17	36.8	34.35	33.03	6.57	94%

Table 4. 7 Operating Cycle data of listed OMCs for the last five years with a change in the variable. (Source: Author)

From Figure 4.7 it can be observed that PSO has an operating cycle between 50 to 59 days. It has

progressed by 10% in the last five years The highest cycle of PSO indicates that the government

is the largest buyer of its petroleum products. The annual report 2019 underlines that a large

number of receivables is due to the government for the last 5 years. The details of receivables on

each OMC are unavailable. However, from news reports it has been found that receivables of the

Oil Marketing Companies (OMCs) from the government of Pakistan, on account of price

differential claim (PDC) on Petrol and High-Speed Diesel (HSD), have reached Rs. 29 billion

during March 2022. The major share (95%) of receivables is owed to nine big OMCs. 50% of

PDC is from Pakistan State Oil (PSO), followed by GO, TPPL, SPL, APL,

CYNERGYICO, PUMA, BE, HASCOL, and others. Htl has the highest improvement rate

of 94% in the last 5 years.
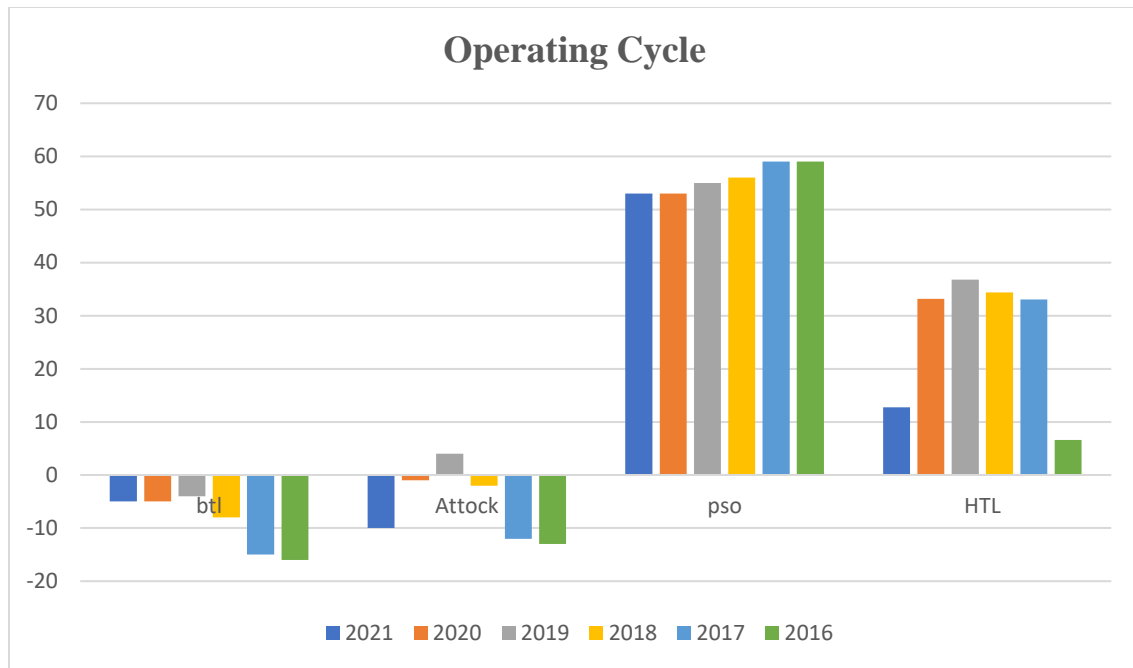
Figure 4. 7 Operating cycle data of listed OMCs in the last five years (source: Author)

4.7 Revenue per Employee

It is the measure of productivity in financial terms. Only Attock and PSO have provided this variable in their annual reports. While the rest of the five companies which are listed in PSX have failed to add this variable. Figure 4.8 shows that Attock petroleum has a revenue per employee of about 344K to 499K from 2016 to 2021. The revenue per employee of PSO is 250K to 500K from 2016 to 2019. With a 109% improvement in the last 5 years(Table 4.8). It can be observed that it has almost doubled its revenue per employee ratio during the last five years. Until 2019, Attock was performing better on this ratio, but PSO starts to improve. The main reason behind this could be the employee development program initiated by PSO. However, the details of this are missing in the available literature, so it is difficult to conclude the exact reason behind the increased revenue per employee.
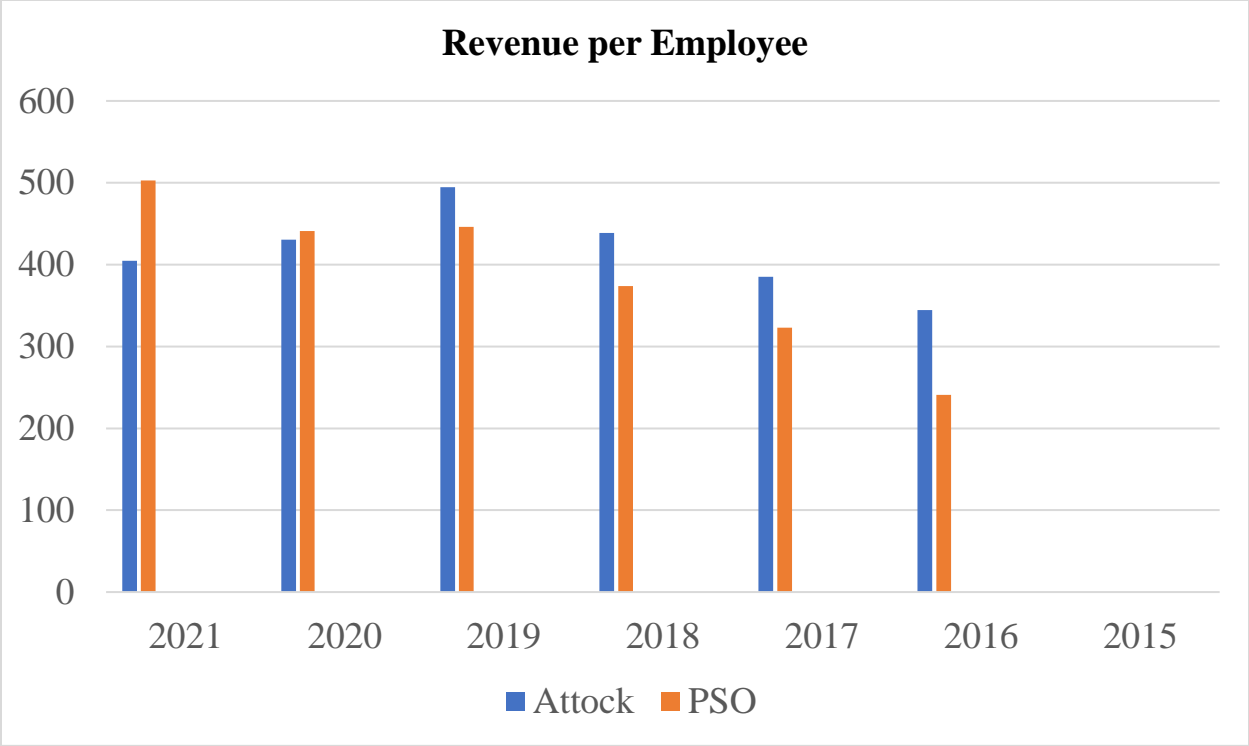
Figure 4. 8 Revenue per employee data of listed OMCs in the last five years (source: Author)

Revenue per Employee							
	2021	**2020**	**2019**	**2018**	**2017**	**2016**	**Change from 2016-21**
BTL							
Attock	404	430	494	438	385	344	17%
PSO	**503**	441	446	374	323	241	109%

Table 4. 8 Revenue per employee data of listed OMCs for the last five years with the change in the variable. (Source: Author)

The reason for providing names of all the listed OMCs rather than focusing on Attock and PSO

is to highlight the problem of data scarcity that the researcher has to face during data collection.

If two big OMCs are providing the data, then why other listed companies are not providing it?

PSX should keep an eye on the provision of data by OMCs in their annual reports.

4.8 Return on Capital Employed

It is a robust indicator that shows how well a company is performing in increasing the shareholder's

wealth. It is noted that in our data sample, this variable is available for Attock, PSO, and BTL.

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Figure 4.9 shows that Attock petroleum performed quite well in the last five years, it absorbed the COVID-19 shock quite well and brings a good return to its shareholders. The PSO's return on capital employed ratio shows a roller coaster ride in the last five years as per available data.
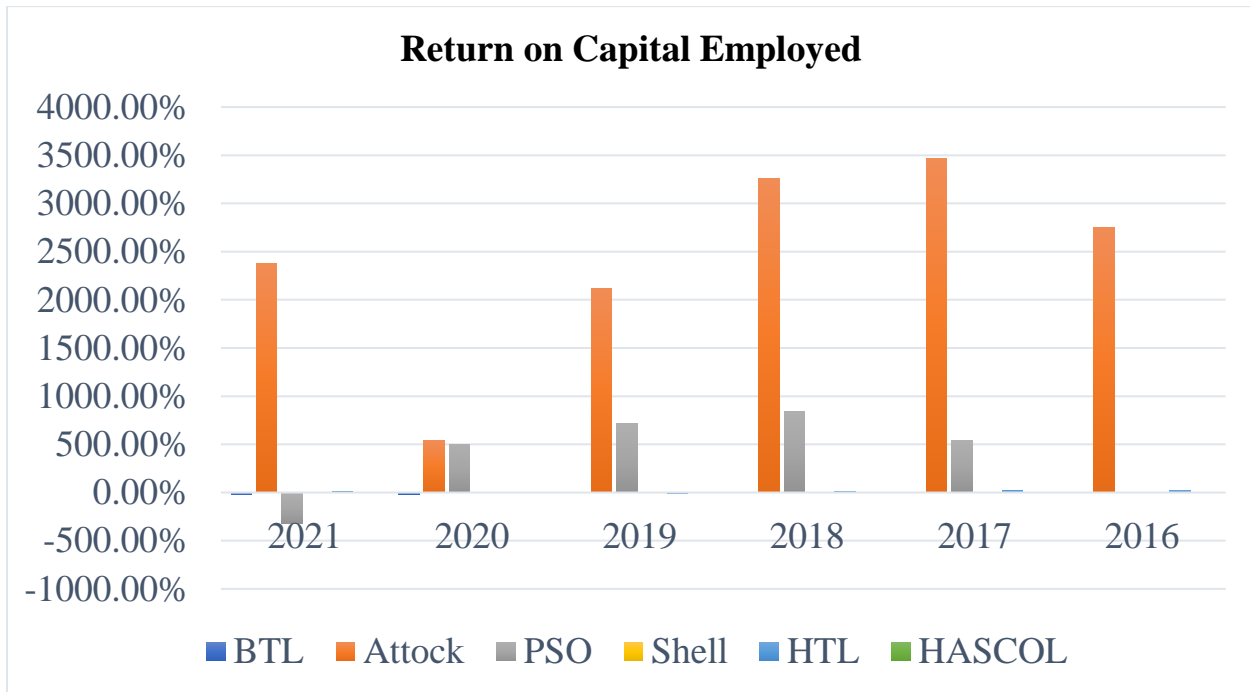
Figure 4. 9 Return on capital employed data of listed OMCs in the last five years (source: Author)

Return on Capital Employed							
	2021	**2020**	**2019**	**2018**	**2017**	**2016**	**Change in % from 2016 to 2021**
BTL	-20.77%	-15.88%	3.16%	2.54%	3.73%	-0.97%	2041%
Attock	23.8	5.38	21.21	32.59	34.62	27.47	-13%
PSO	-3.19	4.97	7.13	8.4	5.39		-159%
HTL	8.06%	-0.86%	-8.65%	11.38%	17.40%	22.74%	-65%

Table 4. 9 Return on Capital Employed data of listed OMCs for the last five years with the change in the variable. (Source: Author)

Btl has efficiently employed its equity and capital table 4.9 shows a 2041% improvement from 2016 to 2021 in the efficient use of capital. Secondly, PSO as the market giant also progressed in the returns on the capital employed ratio.

4.9 Descriptive Statistics

	N	Range	Mini	Maxi	Mean	Std. Error	Std. Deviation	Variance
Net Sales	40	120242 1.0	1826. 00	1204247. 00	244495. 7000	54454.57 082	344400.9 4561	11861201 1338.472
Earning Per Share	38	107.18	- 13.88	93.30	25.0126	4.19283	25.84634	668.033
Return on Capital	23	38	-3	35	12.44	2.259	10.833	117.346
InventoryTurnover	30	18.44	3.32	21.76	11.3560	.96307	5.27494	27.825
Revenue per Employee	13	500.46	2.54	503.00	371.195 4	36.51811	131.6679 1	17336.44 0
Operating Cycle	24	75.00	- 16.00	59.00	16.8608	5.69356	27.89262	777.998
Return on Equity	42	84.92	-5.72	79.20	14.7126	2.50441	16.23045	263.428
Sector Growth	42	8.93	4.67	13.60	8.7117	.41028	2.65895	7.070

Table 4. 10 Descriptive statistics of all variables. (Source: Author)

Little difference between the standard deviation and the mean shows data is homogeneous. The minimum of the net Sales was 1826 and the maximum was 1204247 mln rupees. Similarly. The minimum earning per share is 13.88 and the maximum. 93.33 with a range of 107.18. This sector growth was found to have a little deviation from the mean. Sectoral growth in the last 5 years on average was 8.7 whereas the standard deviation is 2.6. whereas the rest of the cases are Homogeneous.

4.10   Pearson Correlation

The Pearson correlation method is the most common method to use for numerical variables; it assigns a value between − 1 and 1, where 0 is no correlation, 1 is total positive correlation, and − 1 is total negative correlation. This is interpreted as follows: a correlation value of -0.41 between net sales and sectoral indicate that a significant and negative relationship exists between the two. A negative correlation signifies that if net sales goes up, then sectoral growth will also go down.

Correlations

		SG	NS	EPS	ROC	IT	OC	RPE	ROE
Pearson Correlation	SectorGrowth	1.000	-.041	-.483	-.261	-.449	-.101	-.265	-.421
	NetSales	-.041	1.000	.188	-.811	-.067	.970	.380	-.685
	EarningPerShare	-.483	.188	1.000	.172	.525	.145	.489	.234
	ReturnOnCapital	-.261	-.811	.172	1.000	.186	-.821	-.253	.958
	inventoryTurnover	-.449	-.067	.525	.186	1.000	-.180	.721	.126
	operatingCycle	-.101	.970	.145	-.821	-.180	1.000	.252	-.672
	Revenue per Employee	-.265	.380	.489	-.253	.721	.252	1.000	-.275
	ReturnonEquity	-.421	-.685	.234	.958	.126	-.672	-.275	1.000
Sig. (1-tailed)	SectorGrowth	.	.450	.056	.206	.072	.378	.203	.086
	NetSales	.450	.	.279	.001	.418	.000	.112	.007
	EarningPerShare	.056	.279	.	.296	.040	.327	.053	.232
	ReturnOnCapital	.206	.001	.296	.	.282	.001	.213	.000
	inventoryTurnover	.072	.418	.040	.282	.	.287	.004	.348
	operatingCycle	.378	.000	.327	.001	.287	.	.214	.008
	Revenue per Employee	.203	.112	.053	.213	.004	.214	.	.194
	ReturnonEquity	.086	.007	.232	.000	.348	.008	.194	.

Table 4. 11 Correlation coefficient of all variables. (Source: Author)

Results reveal that all variables have a negative relationship with sectoral growth and are

positively correlated to each other except in a few instances like net sales and operating cycle is

negatively correlated with return on capital employed, return on equity, and inventory turnover.

4.11 Linear Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change	Durbin-Watson
1	.918[a]	.843	.569	2.47726	.843	3.071	7	4	.147	2.885

a. Predictors: (Constant), ReturnonEquity, inventoryTurnover, EarningPerShare, NetSales, RevenueperEmployee, operatingCycle, ReturnOnCapital

b. Dependent Variable: SectorGrowth

Table 4. 12 linear regression model summary . (Source: Author)

Regression analysis is a form of inferential statistics. The p values in regression help determine the relationship among the variables. The linear regression p-value for each independent variable tests the null hypothesis that the variable has no correlation with the dependent variable. If there is no correlation, there is no association between the changes in the independent variable and the shifts in the dependent variable. In other words, there is insufficient evidence to conclude that there is an effect at the population level.

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	23.559	4.190		5.623	.005	11.927	35.191		
NetSales	1.367E-5	.000	1.775	1.743	.156	.000	.000	.038	26.419
EarningPerShare	.027	.055	.153	.500	.643	-.125	.180	.417	2.399
ReturnOnCapital	.251	.409	.835	.612	.574	-.886	1.387	.021	47.476
inventoryTurnover	-.547	.310	-.640	-1.762	.153	-1.409	.315	.297	3.363
operatingCycle	-.268	.141	-2.251	-1.899	.130	-.660	.124	.028	35.822
RevenueperEmployee	-.006	.011	-.192	-.488	.651	-.037	.026	.254	3.945
ReturnonEquity	-.491	.331	-1.526	-1.485	.212	-1.409	.427	.037	26.943

a. Dependent Variable: SectorGrowth

Table 4. 13 Linear regression model analysis. (Source: Author)

The tables 4.12 also reveals that sectoral growth has an insignificant relationship with the net sales, earning per share, return on capital employed, inventory turnover, operating cycle, revenue per employee and return on equity. there is no association between the changes in the sectoral growth and company's progress. If the sector is imporving interms of growth rate it doesnot mean that the individual companies are also progressing. Similar results were also revealed by the descriptive analysis. The p-value in regression summery of table 4.12 is greater than the significance level, indicates that there are sufficient evidence to conclude that a zero correlation exists.

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4.12 OGRA rule 2002-2016 and with Pakistan Oil (Refining, Blending, Transportation, Storage, and Marketing) Rules, 2016

The oil and Gas Regulatory Authority (OGRA) was established under the OGRA ordinance 2002. With an objective to foster competition, increase private investment and ownership in the midstream and downstream petroleum industry, and protect the public interest while respecting individual rights and providing effective efficient regulations. leading tasks of OGRA enshrined in OGRA ordinance 2002 include granting of the license to carry out regulated activities and subsequent regulation. whether those regulation-regulated activities are according to the condition of the license. Worthy to note is the fact that safeguarding the interests of stakeholders including the consumer, also features as one of the most important duties of OGRA as mentioned in section 6 of OGRA Ordinance 2002. Without prejudice to the exclusive powers of OGRA certain powers have been vested in the federal government regarding the policy formulation planning for infrastructure development and pricing of petroleum products including petroleum levy.

Under section 41 of ordinance 2002, the authority was to frame rules without undue delay for carrying out the purposes of the ordinance resultantly in 2016 the Pakistan Oil Refining, Blending, Transportation, Storage, and Marketing Rules were framed. Further details are discussed in section 2.9. Following is the comprehended outlook of rules relating to the licensing and operations of OMCs in the oil market

OGRA and Pakistan Oil Rule, related to the licensing and operations of OMCs		
Rule	**Details**	**Source**
Section 23(3)	OMC license Conditions	OGRA, Rule 2002
Section 41	Framing new Pakistan Oil Rules	OGRA, Rule 2002
Rule 35	provision of a three-year license	Pakistan Oil Rules, 2016
Rule35(1)(b)	places about on to be affiliated with existing OMC operating in Pakistan.	OGRA, Rule 2016
Rule 35 (3)	great that upon satisfactory completion of work end third party inspection OGRA shall grant 30 years license.	OGRA, Rule 2016
Rule 35(1)(g)	submission of undertaking to the effect that OMC will uplift local petroleum products.	OGRA, Rule 2016
Rule 35 (1)(e)	submission of investment plan for three years	OGRA, Rule 2016
Rule 37	maintenance of minimum the stock	Pakistan Oil Rules, 2016
Rule 53(xiv)	maintain a minimum stock of crude oil or petroleum product by all OMCs for 20 days	Pakistan Oil Rules, 2016
Rule 28	condition for the construction of petroleum storage.	OGRA, Rule 2016

Section 21(2)(e)	strategic storage is the responsibility of the Ministry of Energy petroleum division	OGRA, Rule 2002
Rule 53(x)	unless the completion of minimum storage of 40 MT of MS for each outlet no OMC can be granted a marketing license.	Pakistan Oil Rules, 2016
Rule 53 (x)	no MC shall abandon any regulated activity as a part or whole.	Pakistan Oil Rules, 2016
Rule 53(vii)	all OMCs shell enter into all contracts at an arm's length basis endnote to enter into any contract or arrangement with any of its associated companies.	Pakistan Oil Rules, 2016
Rule 35(1)(e) Rule 37 and Rule 53(xiv)	the creation, inspection, and maintenance of a minimum stock of petroleum products for 20 days is the responsibility of OGRA	Pakistan Oil Rules, 2016
Section 66	A license may be revoked by the authority for contraventions of the rules and terms and conditions.	Pakistan Oil Rules, 2016
Section 69	authority may also inflict penalties in the shape of a fine as punishment for the contravention of these rules and terms and conditions of the license.	Pakistan Oil Rules, 2016
Section 41&42	provide OGRA with the power	OGRA, Rule 2002

to make rules and regulations	

Table 4. 14 OGRA and Pakistan Oil (Refining, Blending, Transportation, Storage, and Marketing) Rules, 2016 related to the licensing and operations of OMCs (Source: (Commission, 2020; OGRA, 2021a)*)*

4.13   Discussion

It was provided in Section 41 of OGRA Ordinance 2002 that the authority shall make rules under this ordinance, but we saw that it took about 14 years to make Pakistan Oil Rule 2016 which is totally unjustified. Delay opened spillways of legal ambiguities in the intervening period. During this time OGRA remained a silent spectator and petroleum matters were dealt with under Pakistan rule in 1971 which had no legal value in the eye of the law.

Furthermore, Legal obscurity prevails over the annulment of the Pakistan Petroleum Refining, Blending, and Marketing Rule 1971. After the promulgation of Pakistan oil refining blending transportation storage and marketing rules 2016 formulated as subordinate legislation of the OGRA ordinance 2002. Ministry of Energy Petroleum Division continues exercising many powers drawn from the archaic petroleum rules of 1971. Like in setting power from rule 30(b) of repelled petroleum rules in 1971. Once the oil rules 2016 were decreed the erstwhile petroleum rules 1971 stood revoked as a whole. Ministry of law and justice categorically stated in vide U.O-NO.359/2016 law-l, dated 11/08/2016 that the old petroleum rules 1971 stand repelled after the promulgation of new rules 2016. The inquiry commission report suggests that the crisis of shortage during June 2020 was worsened due to the Ministry of Energy petroleum division and OGRA duel on the heretofore illegal overlapping of the powers to inspect the stock of OMCs and refineries.

As per the licensing condition for establishing a new OMC under Rule 35 of Pakistan Oil Rules 2016, a provisional license for setting up a new oil marketing company is granted for a period of three years. The company is obliged to build requisite storage during this time and on completion,

would start marketing. However, a provisional license does not mean permission to start marketing and get out the requisite storage. *there is no provision for the issuance of provisional marketing permission provided in any part of the rules*. It is in a clearing violation 25 but is allowed to start its marketing by OGRA.

The preamble of the ordinance states the objective of OGRA is to foster competition, increase private investment, uplift local products and protect the public interest. Rule 35(1)(b) of OGRA ordinance 2002 bars the affiliation in any form with any existing OMC (operating in Pakistan). However, the commission report witnessed incidents of mutual shareholding among the OMCs. It argues that Vitol Dubai Limited has mutual shares in HASCOL and Go. The shareholding patterns provided in HASCOL 2021 annual report also suggest that 40.21% of shares of the company are held by Vitol Dubai limited. Vitol Dubai Limited is also the main supplier of imported white oil to various local OMCs. The huge shareholding and mutual supplier of imported oil factor indicated the signs of cartelization in the market. Few big suppliers tend to sabotage the fuel supply chain of the country.

Another recurrent issue in the downstream sector is the existence of illegal retail outlets in the country. illegal retail outlets are of two types, one that sells smuggled products and the other that is constructed by OMCs over and above the maximum ceiling allotted to OMCs for the establishment of retail outlets. The report(Commission, 2020) also found a large number of illegal retail outlets across the country. the report found that OMCs routinely set up excess outlets that are beyond their storage capacity and got away with it by paying nominal fines. the report claimed that according to the storage capacity of total Parco it could have 690 retail outlets however company reported 836 locations of retail outlets. Rule 35(1)(e), Rule 37, and Rule 53(xiv) of the Pakistan Oil Rules suggest the third-party inspection on regular bases. The Deputy commissioner

has the authority to issue the NOC for operations and inspect the product quality and other prerequisites of retail outlets.

Evidence of discrepancies has been found in the data provided by OMCs and the department of Explosives. This means a large number of retail outlets do not have FORM K verification from the department of Explosives (Commission, 2020). On the other hand, the OMCs which are allowed to have a small number of outlets have issued a large number of form K from the department of explosives. The inadequacy of checks and balances to ensure that OMCs are abiding by their license terms was also found (Commission, 2020).

HSD Import quota and Imports made by OMCs						
Company	January Import quota (MT)	January Imports (MT)	February Import quota (MT)	Imports of Feb (MT)	March import quota (MT)	Imports of March (MT)
Total PARCO	25,000	0	25105	30000	40000	0
GO	46000	46000	45000	9770	45000	25000
Hascol	10000	9500	10000	0	8000	0
BE Energy	10000	2500	10000	5225	20000	0
Al Noor	3000	0	3000	2650	8000	5000
Hi-Tech	1000	0	1000	0	1000	0
Euro	2000	1000	2000	1000	2400	0
OIPPL	1500	0			1000	1000
Vital	1500	0	1000	0	2000	0
ZMOPL			2100	0	3000	0
My Petrol	7000	6000	4000	950	5000	4000
Accumulative	114500	71500	107100	44700	135400	35000

Table 4. 15 OGRA HSD Import quota and Imports made by OMCs in 2022(Source: The News and Pro-Pakistani.)

Furthermore, the researcher tried to collect import data of all OMCs and see if there are any discrepancies in the import quota provided by PSO and availed by OMCs. Inquiry Commission inquiry report 2021 also found that the incidence of oil shortages is artificially created by OMCs and one of the ways is the underutilization of import quota. The underutilization of the import quota is evident in Table 4.4. The commission report not only identified the underutilization issue but fudged, under-reporting, and misreporting by OMCs. That could result in hoarding and creating an artificial shortage to earn profits. The commission report argued that OMCs hoarded petroleum products which resulted in the June 2020 oil crunch. This argument is based on the data for March, April, and June. On the bases of provided data, this argument is undeniable. Yet on the other hand in these months agricultural use of petroleum products also increases as shown in the OCAC press release (OCAC, 2022b)which shows record sales in June 2022.

The objective of this research was to measure the performance of the oil marketing sector of Pakistan. In light of OGRA and Pakistan Oil Rules,2016. The sector has 34 operational companies and among them, only 5 are listed with PSX. The results presented in this chapter are based on the available data of 5 listed companies, namely, PSO, Shell, and Attock. Hi-Tech lubricants, HASCOL, and BTL. It is unclear if the BYCO is listed with PSX, whereas its financial reports are available on its official website. This is the reason; its results are also included in the performance indicators. It is also important to highlight that 6 out of 7 variables are financial in nature, therefore this researcher could not get a comprehensive view of overall sectoral performance which must include operational performance, productivity, R&D, technological innovation, and health, safety, and environmental performance of companies in particular and sector in general, as parts make the whole.

PSO held the largest share so is the case its performance in the case of **Net Sales**. Attock and PSO have performed well in the **Earnings per Share** variable. Shell has performed well in **Return on Equity.** BTL has done well in **Return on Capital Employed** and **Inventory turnover**. PSO has performed well in **Operating Cycle** and **Revenue per Employee**. Overall, PSO and Attock have done well on all financial variables. Whereas, The tables 4.12 of linear regression model reveals that sectoral growth has an insignificant relationship with the net sales, earning per share, return on capital employed, inventory turnover, operating cycle, revenue per employee and return on equity. there is no association between the changes in the sectoral growth and company's progress. If the sector is imporving interms of growth rate it doesnot mean that the individual companies are also progressing. Similar results were also revealed by the descriptive analysis. The p-value in regression summery of table 4.12 is greater than the significance level, indicates that there are sufficient evidence to conclude that a zero correlation exists. Similar results are revealed in the pearson correlation coefficient table. None of the above variable has a positive relationship with sectoral growth.

The objective of OGRA is to foster competition and increase private investment and ownership in the midstream and downstream petroleum industry. protect the public interest, while respecting individual rights and providing effective and efficient regulation. Towards this end, OGRA has framed Pakistan oil (refining blending transportation storage marketing) rules 2016. It took OGRA about 14 years to frame these rules which created lacuna and ambiguity in legal terms. Weak checks and balances and lower accountability on the part of the regulator are witnessed in the above discussion. Though the sector is progressing in terms of financial indicators yet there is a need to mechanize the system, by computerizing the petroleum product imports, requirements,

quota, and availability of storage facilities and retail outlets. To avoid the oil shortage and shut

off the spillways from earning undue profits by OMCs, retailers, and inspectors.

CHAPTER 05

CONCLUSION

Oil marketing companies play a vital role in the selling, importing, marketing, storage, and distribution of fuel to the end consumer in Pakistan. OMCs fulfill the fuel requirement of the county under the Ministry of Energy (Petroleum Division) through Oil and Gas Regulatory Authority license(OGRA, 2019). From buying to storage or selling to profit margins all the activities of the oil marketing sector are being monitored by the OGRA and MoEPD. OGRA and MoEPD have been mandated through the OGRA ordinance 2002 and Pakistan Oil (refining, blending, transportation, storage, and marketing) rule, 2016.

The sector witnessed double-digit sales growth until Covid-19 hit businesses worldwide until April 2022 the growth rate was 17% (OCAC, 2022b). Higher growth in the sector is also evident from the rising number of licensee companies in the market. In the early 2000s, only five OMCs were operating in Pakistan. However, this number rises to 66 in just two decades. On the contrary, the regional market growth reveals that there are only 20 OMCs in total in five South Asian countries (India Bangladesh Nepal Bhutan, and Sri Lanka) (Commission, 2020). Statistics (Table 1.3) suggest exponential growth in the OMC sector of Pakistan, which is a comparatively smaller market than many of the South Asian markets. As aforementioned, the licensee companies in Pakistan are 66. 34 oil marketing companies are actively operating in the market while 32 have a provisional license. 98.57% of the market share is held by the ten oil marketing companies (PACRA, 2020), among them, the top five have the 80% of the market share(Malik, 2021). This market situation makes the role of OGRA and MoEPD questionable as the regulator.

Ideally, For the first objective, the Performance measurement matrix (Stevens, 2008) would have been adopted with some additions in operational and financial indicators. Primary Data would have been collected using a questionnaire. Unfortunately, due to a lack of response from the OMCs, time, and health constraints researcher was unable to collect primary data. Therefore, the researcher has to narrow down the scope of the sample from randomly selected to listed companies, whose annual reports are publicly available. Resultantly, the whole research methodology has to be changed, variables have to be revised. Moreover, coping with the data constraints researcher revisited the variables according to available data, selected Net sales, Earnings per share, return on equity, return on capital employed, Inventory turnover, Operating cycle, and Revenue per employee

In addition to that, we needed data for a few more variables, namely, production per employee, customer satisfaction index, number of days in inventory, number of retail outlets, the storage capacity of retail outlets, R&D, employee development data, health, safety, and environment data, and sales volumes for getting a clear idea of OMC's performance in accordance with OGRA rules. most of the listed companies have not shared the data for the above-mentioned variables.

Furthermore, if we talk about the results of the large OMCs are performing well in terms of increasing shareholder wealth. from the annual report, it has been found that Companies like PSO, Attock, and Byco are working continuously to improve employee productivity, and bring technological innovation in their operations. Attock and PSO are keen to increase their storage capacity, as it is a part of petroleum policy 2025. The researcher found that Companies need to public their quantified data on technological innovation, employee development, research and development, and health safety environment development taken by companies, especially to abide

by Pakistan Oil (Refining, Blending, Transportation, Storage, And Marketing) Rules, 2016 and OGRA rules 2002.

If we talk about the OMCs' profits in the year 2021-22, due to the Ukraine war when international prices have increased exponentially. during COVID-19 oil prices went down as low as less than $1 per barrel. during the war, the price rises to $150 per barrel. This inevitable surges in prices have resulted in global inflation. on the other side, OMCs purchase petroleum products on long-term spot prices or spot contracts, in which companies lock prices on at least one month old international which brings them larger profits from inventories. Furthermore, OGRA should define a framework to keep a check on the retail outlets' storage capacity in general and OMCs' storage capacity in particular to avoid incidents of oil shortages.

5.1 Recommendations

- Annulment of Pakistan Oil Rules 1971 to avoid any legal ambiguity over the enforcement of Pakistan Oil Rules 2016 and OGRA ordinance 2002.

- The government is planning to announce a new price-fixing mechanism for petroleum products. The prices from the new mechanism should not be easily predictable. To avoid hoarding in case of low prices and lower international prices.

- During the research, it was found that there is a duality of power. for example, an inspection of stock is the responsibility of both Ministry of Energy petroleum division and OGRA which should be avoided by revising the power center.

- Measures should be taken to make the data available for research and analysis.

- The mechanism should be made for the smooth recovery of the receivables (i.e., Price differential Claim PDC) from the government to avoid any default-like situations for OMCs.

- Punitive actions against illegal retail outlets which sell smuggled or adulterated products. Penalties should be increased.

- Digitization of the OMCs, retail outlets, import quota, and utilization of Petroleum products to avoid market de regularities

- Ministry of Petroleum and Natural Resources (MP&NR), OGRA, PSX, and Oil companies' Advisory Council (OCAC) should take measures to encourage listed Oil marketing companies to public complete data(quantified) in accordance with the OGRA rules and Pakistan Oil (Refining, Blending, Transportation, Storage, and Marketing) Rules, 2016.

- Ministry of Petroleum and Natural Resources (MP&NR), OGRA, PSX, and Oil Companies Advisory Council (OCAC) should take measures to enforce oil marketing companies to be registered with PSX.

- OGRA should keep a regular check on the OMCs' retail outlet networks and pumps storage capacity in accordance with the demand for petroleum products at the particular outlet.

5.2 Limitations

- Due to the unavailability of the data, the research study could not get its desired aim in true letter and spirit.

- The second objective has been totally compromised due to lack of data, as it was totally quantitative in nature and its values vary from company to company.

- The time, monetary and health constraints have further aggravated the situation for the researcher.

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APPENDICES

APPENDIX A

Questionnaire

Declaration

This research is aimed to review the performance and Profit margins of the oil marketing sector of Pakistan considering OGRA rules. For performance measurement, the research will not only investigate the financial aspect of the companies but also highlight the operational and linkages aspects of Oil marketing companies under OGRA rules.

The information received from this survey shall be kept confidential and shall be strictly used for academic purposes only. Your participation in the survey shall be highly appreciated as you are the key market stakeholder.

Company Profile
Company Name
Respondent Name
Start of operations in Pakistan ---------------- years
Department
Number of Employees
Type of Ownership ☐Private ☐Public ☐ Public - Private ☐Joint venture ☐National
Type of company license ☐ Regular ☐ Provisional
In how many segments of the supply chain your company participates …………….
Average profitability in last five years ☐ increase ☐ decrease   How much ☐0-5% ☐5-10% ☐11-15% ☐16-20% ☐21-25% please specify…….
Avrg Turnover in last five years ☐ increase ☐ decrease   How much ☐0-5% ☐5-10% ☐11-15% ☐16-20% ☐21-25% please specify…….
Operates ☐downstream only ☐ midstream ☐ upstream
Growth in market share in last five years   ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….

Avg growth in production in the last five years ☐ increase ☐ decrease

How much ☐0-5% ☐5-10% ☐11-15% ☐16-20% ☐21-25%   please specify…….

Performance is influenced by	Very low	Low	Moderate	High	Very high
the company objectives					
Market share of the company					
Presence in more than one segment of the supply chain					
Profitability					
Company reputation					
Product Quality					
Accessibility/Reach					
Storage Capacity					
Corporate Social responsibility					
Risk mitigation					
Global Oil prices					
Employees Safety					
Exchange rates					
Inventory losses					
Covid-19					
Demand for Product					

S. No	Financial Performance					
01	Net Cash Flow in last five years ☐ Increased ☐ Decreased					
	How much ☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high					
02	Returns on capital employed in last five years ☐ Increased ☐ Decreased					
	How much ☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high					
03	Provision of Finances for purchase of assets employed in last five years					
	☐ Increased ☐ Decreased					
	How much ☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high					
04	Revenue per employee ratio in last five years ☐ Increased ☐ Decreased					
	How much ☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high					
05	Market Capitalization in last five years ☐ Increased ☐ Decreased					
	How much ☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high					
06	Availability of Working capital in last five years ☐ Increased ☐ Decreased					
	How much ☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high					
07	Impact of exchange rate on the financial performance of company in last five					
	☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high					
08	Impact of inflation on the financial performance of company in last five					
	☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high					

S. No	Operational Performance
01	Process cycle time decreased in the last five years
	☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high
02	Throughput volume in last five years ☐ Increased ☐ Decreased
	How much ☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high
03	Cost saving in last five years ☐ Increased ☐ Decreased
	How much ☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high

04	Returns on investments in last five years ☐ Increased ☐ Decreased ☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high
05	Product service reliability in last five years ☐ Increased ☐ Decreased ☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high
06	Timeliness in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
07	Percentage of throughput in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
08	Percentage of on-time delivery in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
09	Automation of process in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
10	Operation errors in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
11	Storage capacity in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
12	Reach to customer/ customer market share in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
13	Number of retails out lets in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….

S. No	Backward Linkages Performance Labor force (number of employees), R&D activities. Refining capacity.
01	Employee's retention ratio in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
02	Revenue per employee ratio in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
03	Number of Employee in last five years ☐ Increased ☐ Decreased ☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….

04	Employee skill improvement budget in last five years ☐ Increased ☐ Decreased
	☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
05	Percentage of Employee skill improvement goal met in last five years
	☐ Increased ☐ Decreased
	☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high
06	Market competition in last five years ☐ Increased ☐ Decreased
	☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
07	Number of products in market in last five years ☐ Increased ☐ Decreased
	☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
08	Technological innovation in process. ☐ Increased ☐ Decreased
	☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….
09	Technological innovation in product delivery ☐ Increased ☐ Decreased
	☐0-1% ☐2-5% ☐6-10% ☐11-15% ☐15-20% please specify…….

Section 2

1. What is the major motivation to be in the market?

_____

_____

_____

_____

_____

_____

2. What regulations of OGRA and MoEPD are hindering the efficiency of the company?

_____

_____

3. What regulations of OGRA and MoEPD are impeding the efficiency of the company?

4. Presence in the downstream supply chain has increased the profitability of the company.

5. Does Company abide by the OGRA rule in letter and spirit? i.e., OGRA rules 2016, 35 (1)(e), OGRA Rule 35(1)(b)

6. Changes in market dynamics in the last decade have created a competitive environment in the market.

7. How do you see the Role of PSO in enhancing Completion in the Oil marketing sector?

Discussion on Questionnaire:

The company profile enquires about the company name I respond name and its position, year of operations in the market, number of employees, type of ownership, type of company license, state of average profitability in last five years, average turnover in the life last five years, average growth in the last five years and lastly if company operates in other parts of supply chain or downstream, upstream or midstream.

the next section inquiries about the source of performance influence it has 16 questions Which enquiries on five point below Low to high Likert scale. it asks what influences the company's performance the most or less. The company objectives, market share, presence in more than one part of supply chain, profitability, company reputation, product quality and reach, storage capacity, CSR, the risk mitigation procedure, global oil prices employee's safety, exchange rate, inventory losses or demand for products. The next part financial performance has 8 questions which indirectly asks about the financial progress of company in last five years on five-point Likert Scale. This part of the questionnaire asks each question in two parts, first part as close ended and second part on five-point Likert scale. for example, the questions related to net cash flow in last five years firstly asks if it's increased or decreased, then it asks how much? like very low, low, moderate, high or very high. The next part of Section 1 was related to operational performance this part encompasses 13 questions. The indicators of operational performance where process cycle time in last five years throughput volume cost saving returns on investment product service reliability timeliness on time delivery automation of the process operation errors storage capacity reach to customer or market number of retail outlets in last five years. this section also asks question about

each indicator in two parts like the previous one but here the second part was on five-point Likert scale or five-point percentage from zero to 20, depends on the nature of question.

The reason of asking question in two parts was to find if the performance of company has increased or decreased. The next the next part Section 1 wolf backward and forward linkages. This part has total nine questions or indicator. again, each question was divided into two parts like previous two parts. The first part asks about increase and decrease in indicator and second part ask on five-point Likert scale about the percentage increase it also keep the question open. the indicators related to labor force, it's retention, revenue per employee ratio in last five years, number of employees in last five years, employee skill improvement budget in last five years, percentage of employee skill improvement goal met, market competition in last five years, number of new products launched in market in last five years, technological innovation in process and finally about the technological innovation in product delivery.

The Section 2 of questionnaire has 7 questions which were open ended. The first question asks the company about their motivation of being in the market second question asks about the OGRA and ministry of petroleum and energy regulation which hinders the efficient operations of company, its presence in downstream supply chain has increase the profitability of the company especially being in retailing fiction the 5th question inquires if the Cliff if the company follow the OGRA rule 35 1 E and B this section also inquires if changing market dynamics has impacted the competition In the market Lastly new respondents companies where asked 2 2 highlight their views and the role of PSO in marketing sector of Pakistan.

APPENDIX B

Data files of listed companies

	2021	2020	2019	2018	2017	2016
Net turnover	2,591,297	2,582,454	3,249,870	2,926,076	1,826,825	2,012,770
Gross profit	33,489	133,816	215,355	232,513	209,820	141,328
Operating profit	-137,139	-26,008	69,866	83,557	85,793	17,612
Earnings before interest, taxes, depreciation, and amortization	-43,951	75,146	177,939	173,717	160,532	105,748
Earnings after tax	- 119,754	- 109,469	25,857	19,596	29,033	-7,551
Final dividend	-	22,640	16,980	22,489	22,489	22,929
Earnings / (loss) before tax	-70,559	-70,199	64,974	53,581	50,631	-13,968
Share capital	224,888	224,888	224,888	224,888	224,888	224,888
Total Assets	1,664,543	1,749,450	1,731,847	1,750,238	1,643,693	1,610,335
working capital	-97,270	-208,300	-85,952	-198,491	-181,279	-32,525
Total current assets	524,134	420,223	437,872	402,295	301,658	331,917
Total current liabilities	621,404	628,523	523,824	600,786	482,937	364,442
Gross profit ratio	1.29%	5.18%	6.63%	7.95%	11.49%	7.02%
Profit / (loss) before tax to sales	-2.72%	-2.72%	2.00%	1.83%	2.77%	-0.69%
Profit / (loss) after tax in percent of sales	-4.62%	-4.24%	0.80%	0.67%	1.59%	-0.38%
EBITDA Margin to sales	-1.70%	2.91%	5.48%	5.94%	8.79%	5.25%
Return on equity/ capital employed	-20.77%	-15.88%	3.16%	2.54%	3.73%	-0.97%
Inventory turnover ratio (in times)	81.16	41.04	35.54	36.87	36.63	47.36
Inventory turnover ratio (no. of days)	4	9	10	10	10	8
Operating cycle (no. of days)	-5	-5	-4	-8	-15	-16
Total assets turnover ratio (in times)	1.52	1.48	1.87	1.72	1.12	1.24
Total assets turnover ratio (in days)	240.44	246.02	195.54	211.68	325.08	294.82
Earnings / (loss) per share	-5.33	-4.87	1.15	0.87	1.29	-0.34
Net cash flow from operating activities	-144,436	153,889	99,849	68,580	187,794	-1,526

ATTOCK		2020-21	2019-20	2018-19	2017-18	2016-17	2015-14
Sales volumes	Metric Tons	1,912,823	1,907,342	2,147,038	2,488,821	2,360,529	2,034,818

Shareholders' Equity		22,720,934	18,926,735	18,926,735	18,417,662	16,294,491	14,317,166
Return on equity		12	10	9	7	7	7
Net sales	Rs thousand	188,645,375	201,078,720	223,054,352	#########	#########	#########
Gross profit	Rs thousand	9,981,941	3,637,890	8,221,167	9,743,294	7,335,321	5,749,061
Operating profit	Rs thousand	7,499,729	1,083,793	5,708,378	8,085,325	6,367,177	4,984,849
Profit before tax	Rs thousand	6,939,058	1,503,086	5,722,857	8,289,312	7,699,168	5,633,450
Profit after tax	Rs thousand	4,919,632	1,008,294	3,960,606	5,656,349	5,299,168	3,828,585
Profit before interest, tax, depreciation, and amortization (EBITDA)	Rs thousand	8,567,400	2,677,291	6,314,452	8,711,258	8,046,868	5,951,622
working capital		12,415,525	7,617,410	10,419,961	11,346,440	11,161,066	10,419,860
Current liabilities		31,795,455	27,908,728	26,682,984	26,802,124	21,338,880	15,581,980
Current assets	Rs thousand	44,210,980	35,526,138	37,102,945	38,148,564	32,499,946	26,001,840
Property, plant, and equipment	Rs thousand	16,616,819	13,839,661	8,348,942	6,417,787	4,339,301	3,011,665
Capital expenditure during the year	Rs thousand	1,597,707	2,135,057	2,523,060	2,503,439	1,676,134	886,972
Return on equity	%	23.9	5.4	21.21	32.59	34.62	27.47
Return on capital employed	%	23.8	5.38	21.21	32.59	34.62	27.47
Return on Shareholders' Fund	%	23.9	5.4	21.21	32.59	34.62	27.47
Inventory turnover	times	13.97	17.68	16.97	17.01	21.76	19.88
Total assets turnover		3.33	4.12	4.82	4.19	4.03	3.61
Fixed assets turnover		12.39	18.12	30.21	32.95	37.73	40.04
Operating cycle	Days	-10	-1	4	-2	-12	-13
Number of retail outlets		738	702	662	629	604	563
Revenue per Employee	Rs thousand	404,818	430,575	494,577	438,655	385,169	344,588
Staff Turnover Ratio	%	6.22	7.28	6.43	8.91	9.72	9.46
Spares Inventory as %age of Assets Cost	%	0.21	0.32	0.2	0.16	0.13	0.15
Maintenance Cost as % Of operating expenses	%	6.22	5.57	4.91	6.6	6.08	3.43

Market Share		9.4	10.9	10.8	9.7	9	8.5
Total Assets		61,897,885 100.0	51,238,332 100.0	46,402,712 100.0	46,131,326 100.0	38,366,952 100.0	30,525,305 100.0
Total shares		99,532,800					
Earnings per share	rps	49.43	10.13	36.79	56.83	53.24	40

PSO		2021	2020	2019	2018	2017	2016	2015
Shareholders' equity	In mn rupees	139,978	113,061	119,181	110,452	102,850	91,581	82,310
working capital		100,919	75,911	93,854	91,056	87,056	29,673	25,073
Non-current assets		51,297	48.814	32,854	24,561	23,883	68,142	65,559
Current assets		327,962	292,904	384,225	378,001	368,560	274,174	275,749
Non-current liabilities		12,239	11,664	7,528	5,165	8,090	6,234	8,321
Current liabilities		227,043	216,993	290,371	286,945	281,504	244,501	250,676
Gross sales		1,424,249	1,302,037	1,340,978	######	1,096,543	906,177	#####
Net sales		1,204,247	1,108,358	1,154,298	######	878,147	677,940	#####
Gross profit		54,609	12,227	36,017	39,636	37,136	22,525	#####
Other income (including share of profit of associates)		19,408	10,755	7,559	7,911	11,751	13,411	#####
Marketing & administrative expenses		14,890	14,638	12,414	11,929	11,238	10,511	#####
Other expenses		4,829	51	4,699	3,334	2,378	1,986	3,513
Operating profit		53,717	7,749	26,257	31,870	34,662	22,826	#####
Finance cost		10,242	13,427	8,987	5,123	5,923	7,150	#####
Loss) / profit before tax		44,056	-5,134	17,477	27,160	29,347	16,289	#####

(Loss) / profit after tax		**29,139**	-6,466	10,587	15,461	18,226	10,273	6,936
Earnings before interest, taxes, depreciation & Amortization (EBITDA)		**56,053**	9,907	27,591	33,357	36,322	24,464	#####
Property, plant, and equipment	In 000	########	9,993,564					
Capital expenditure during the year	In 000	**-5,560,682**	-3,060,038					
Return on equity	%	-5.72	8.88	14	17.72	11.22		
Return on capital employed		-3.19	4.97	7.13	8.4	5.39		
Return on Shareholders' Fund								
Market value per share (Year End		**224.3**	158.2	169.6	318.3	387.4	375.5	
Inventory turnover		**16.88**	14.93	13.06	13.84	14.36	11.99	
No. of days in Inventory		**22**	25	28	26	25	30	
Total assets turnover		**3.94**	3.43	3.27	3.3	2.98	2.65	
Fixed assets turnover		**116.81**	142.18	172.07	183.24	160.93	138.97	
Operating cycle		**53**	53	55	56	59	59	
Number of retail outlets								
Production per Employee	Metric Ton	**416**	411	412	467	447	405	
Revenue per Employee	PKR in Mn	**503**	441	446	374	323	241	
Staff Turnover Ratio		**0.06**	0.05	0.04	0.05	0.06	0.04	
% Of Plant Availability	%	**1.16**	1.16	1.14	1.08	1.08	1.06	
*Customer Satisfaction Index	%	**70**	70	71	66			
Spares Inventory as %age of Assets Cost	%	0.2	0.2	0.1	0.1	0.1	0.1	
Maintenance Cost as % Of operating expenses	%	7.3	10.6	6.1	6.3	7.4	7.1	
Market Share								
tOtal Share		#######						
Total Assets		########	342,872,462					

DISTRIBUTION AND MARKETING EXPENSES		####### #	11,489,63 7				
ADMINISTRATI VE EXPENSES		**3,057,37 9**	3,148,037				
earnings per share		**62.63**	23.47	27.06	39.52	47.42	55.9
Shell		2021	2020	2019	2018	2017	2016
Return on equity	%	116.4528	154.3355 1	46.5434 6	29.309 5	16.5569 7	0
net revenue	in 000	249,209	165,139	199,718	186,20 3	168,848	
Sales Volume	tones	2,195,518	1,765,896				
Shareholders' equity	In mn	**2,140**	1,070	4,291	6,353	10,198	1,070
Non-current assets	In 000	**17,841,942**	14,958,627				
working capital		**-8,740,510**	**-18,399,309**	- 14,979,204	- 10,723,53 0	**-5,375,086**	- 4,160,894
Current assets	in 000	**55,161,740**	28,359,297	####### #	####### #	####### #	####### #
Non-current liabilities		**5,709,285**	8,538,360				
Current liabilities		**63,902,250**	46,758,606	4785387 1	4.3E+0 7	2869505 3	3.1E+0 7
Gross sales		######## #	####### ##				
Net sales	in mn	249,210	165,140	199,719	186,20 4	168,848	
Gross profit		23,665,98 5	7,549,63 5				
Other income (including share of profit of associates)							
Marketing & administrative expenses		(7,560,79 8) (6,259,82 0)	- 6,810,61 9 - 5,139,48 4				
Other expenses		- 3,836,369	-557,613				

Operating profit		6,584,879	-4,375,241				
Finance cost		-834,770	-5,889,304				
Loss) / profit before tax		6,608,506	-4,815,261				
(Loss) / profit after tax		4,466,855	-4,821,027				
Earnings before interest, taxes, depreciation & Amortization (EBITDA)							
Property, plant, and equipment		17,841,942	14,958,627				
Capital expenditure during the year	mn	4,244	3,104				
Return on equity							
Return on capital employed							
Return on Shareholders' Fund							
Market value per share (Year End							
Inventory turnover							
No. of days in Inventory							
Total assets turnover							
Fixed assets turnover							
Operating cycle							
Number of retail outlets							
Production per Employee							
Revenue per Employee							
Staff Turnover Ratio							
% Of Plant Availability							
*Customer Satisfaction Index							
Spares Inventory as %age of Assets							

Cost							
Maintenance Cost as % Of operating expenses							
Market Share							
Total shares		214,024,662					
Total Assets		**84,933,013**	54,645,807				
DISTRIBUTION AND MARKETING EXPENSES		- 7,560,798	- 6,810,619				
ADMINISTRATIVE EXPENSES		- 6,259,820	- 5,139,484				
Earnings per share		**21.88**	31.19	45.5	-13.88	10.3	

HTL		2021	2020	2019	2018	2017	2016
Sales Volume							
Shareholders' equity							
Non-current assets		3,642,792	3,389,963	2,957,265	2,728,099	2,281,909	1,455,538
working capital		-92,787	16,971	298,967	1,272,190	1,546,910	1,893,316
Current assets		1,943,360	1,603,255	3,158,702	2,794,167	3,599,193	2,533,458
Non-current liabilities		399,522	249,268	29,447	107,568	84,513	18,205
Current liabilities		2,036,147	1,586,284	2,859,735	1,521,977	2,052,283	640,142
Gross sales							
Net sales	in mn	10,597	5,629	9,431	9,254	7,488	7,015
Gross profit	0	1,795,700	1,124,892	1,294,363	1,928,326	1,774,452	2,045,653
Other income (including share of profit of associates)							
Marketing & administrative expenses		-431,094 -666,407	-328,992 -609,514	-390,823 -795,362	(351,091) (606,107)	(279,254) (445,148)	(263,512) (851,449)
Gross profit	Unit of measure						
Operating profit	%	16.94%	19.99%	13.72%	20.84%	23.69%	29.16%

Finance cost		-81,148	-186,326	-235,072	-82,541	-35,838	-16,240
Loss) / profit before tax		471,762	-51,097	-197,343	876,547	1,031,352	879,017
(Loss) / profit after tax		329,229	-40,117	-434,819	554,430	726,868	529,665
Earnings before interest, taxes, depreciation & Amortization (EBITDA)		698,199	186,386	108,178	971,128	1,050,050	930,692
Property, plant, and equipment							
Capital expenditure during the year							
Return on equity	%	10.45%	-1.27%	-13.48%	14.24%	19.41%	15.90%
Return on capital employed		8.06%	-0.86%	-8.65%	11.38%	17.40%	22.74%
Return on Shareholders' Fund							
Market value per share (Year End	pkr	70.91	30.28	27.66	101.32	109.01	59.17
Inventory turnover							
No. of days in Inventory		27.49	50.63	39.55	61.45	69.26	43.03
Total assets turnover	x	1.9	1.13	1.54	1.68	1.27	1.76
Fixed assets turnover	x	5.78	3.32	5.95	6.67	7.96	21.69
Operating cycle	days	12.74	33.17	36.8	34.35	33.03	6.57
Number of retail outlets							
Total shares		116,004,000					
Earnings / (loss) per share		2.84	-0.35	-3.75	4.78	6.27	5.43
Production per Employee							
Revenue per Employee							
Staff Turnover Ratio							
% Of Plant Availability							
*Customer Satisfaction Index							
Spares Inventory as %age of Assets Cost							
Maintenance Cost as % Of operating expenses							
Market Share							
Total Assets							
DISTRIBUTION AND MARKETING EXPENSES							

HASCOL		2020	2019	2018	2017	2016
net sales	in 000	114,021,116	155,519,634	232,407,681	173,739,173	99,508,194
Return on equity	%	2	7	19	17	
Sales Volume						
Shareholders' equity	in 000	46,525,372	23,610,636	12,481,704	10,263,562	6,566,051
net income		113,917,633	154,220,266	234,444,131	174,239,633	
Non-current assets		40,576,657	50,487,435	24,107,734	15,911,404	10,939,806
working capital		-57,532,713	-49,802,442	-14,031,940	-2,655,281	-910,727
Current assets		20,842,735	47,782,118	50,669,367	42,291,734	33,718,944
Non-current liabilities		29,569,316	24,295,629	4,088,488	3,718,648	
Current liabilities		78,375,448	97,584,560	64,701,307	44,947,015	34,629,671
Gross sales						
Net sales						
Gross profit		-1,378,967	-12,524,247	10,550,370	7,388,976	5,130,112
Other income (including share of profit of associates)						
Marketing & administrative expenses						
Gross profit		-1.22%	-8.13%	4.54%	4.25%	5.16%
Operating profit		-14,476,535	-21,933,039	707,436	4,528,352	3,078,081
Finance cost						
Loss) / profit before tax		-24,172,651	-34,237,060	-4,825,196	2,658,699	1,967,975
(Loss) / profit after tax		-25,023,422	-35,102,562	-5,133,809	1,401,248	1,215,626
Earnings before interest, taxes, depreciation & Amortization (EBITDA)		-13,054,950	-23,412,978	-2,148,086	3,751,047	2,810,802
Property, plant, and equipment		23,272,207	24,680,591	22,179,198	13,680,349	8,688,947
Share Capital		9,991,207	1,991,207	1,810,188	1,448,150	1,206,792

Capital expenditure during the year						
Return on equity				0.86	0.15	0.2
Return on capital employed						
Return on Shareholders' Fund						
Market value per share (Year End						
Inventory turnover		11,435,266	19,012,237	22,279,280	18,557,106	16,477,668
No. of days in Inventory						
Total assets turnover						
Fixed assets turnover						
Operating cycle						
Number of retail outlets						
Production per Employee						
Revenue per Employee						
Staff Turnover Ratio						
% Of Plant Availability						
*Customer Satisfaction Index						
Spares Inventory as %age of Assets Cost						
Maintenance Cost as % Of operating expenses						
Market Share						
Total Assets						
DISTRIBUTION AND MARKETING EXPENSES						
ADMINISTRATIVE EXPENSES						
earnings per share		25.17	93.3	1.08	10.7	9.41