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Heavy Duty Fleet and Transportation in Iran the Past, the Present Condition, the future perspectives and its interaction with Economy

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HEAVY DUTY FLEET AND TRANSPORTATION IN IRAN, THE PAST, THE PRESENT CONDITION, FUTURE PERSPECTIVES AND ITS INTERACTION WITH ECONOMY .

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Abstract: Since the ancient times Iran has always played a significant role in the Transportation Industry due to its strategic position in the silk road that connected Asia to Europe and Middle East to .Ancient Iranians are believed to be the pioneers of land transportation in the world and transportation has always been considered as one of the most ancient and historical Industries in Iran .

Nowadays in the third millennium Transportation Industry experts believe that Iran is once more located in a strategic and geopolitical position in the world in which , according to the economic analyses, the Transportation Industry brings over three hundred billion dollars revenue annually.

Iran's share out of this considerable revenue is just 1 percent, statistically 30% of Iran's transportation market is captured by Turkey and Azerbaijan Trucks and Trailers, In addition to this Iran has approximately no share in the freight transportation from Europe to Middle Asia.

In this paper we first picture current condition of transportation fleet in Iran then we elaborate on the reasons contributing to this loss of market all according to statistical analysis of the up to date facts and figures, gathered through the survey we recently conducted in Iran.

As the next step we go through a SWOT (strength weaknesses opportunities and threats) analysis of one of the biggest commercial vehicle manufacturers in the Middle East, ending up with highlighting and analyzing some of the strategies that can be or have been devised with the purpose of capturing a larger proportion of market share in the Transportation and becoming the market leader as a change around in the recent years, and their economic impacts.

Keywords: Heavy Duty Fleet; SWOT Analysis; Iran's Transportation Future Perspectives ; Trucks; Truck Trailers

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Iran Khodro Diesel Co.[3]: The Biggest Commercial Vehicle Manufacturer in the Middle East.

1.0.THE PRESENT CONDITION OF HEAVY DUTY TRANSPORTATION FLEET IN IRAN

According to our statistics there are around 214,000 trucks and truck trailers in the Iranian Transportation Fleet, over 41 percent of which are more than 25 year old and should be removed from the roads. In order to speed up the transportation volume per vehicle rate. The table below shows the current fleet size and the average age of the fleets in Iran.

Category	Current Fleet Size	Approx. Avg. Age (years)
Trucks	300,000	22
City Buses	19,000	9
Intercity Buses	26,000	13
Minibuses	90,000-100,000	22

Table 1:The Working Fleet Of Commercial Vehicles In Iran (By end of March 2005)

This fact accounts for the market capacity of 87000 trucks and truck trailers, commercial vehicle manufacturing companies on the other hand, can not produce more than 30,000 units of trucks and truck tractors.

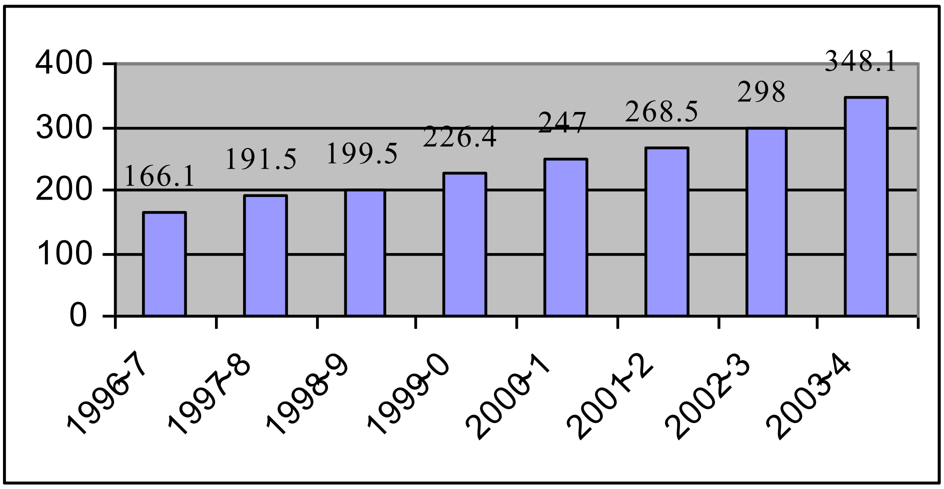


Figure 1:The Trend Of Growth In Iranian Road Transport System
Total Weight Of Cargo Transportation, Million Ton.

Avg. Annual Growth = 11.1 %

This production and renovation is necessary if the Iran wants to take a noticeable share out of the140 billion dollar market of transportation in Asia, according to the estimations Iran has the potentials of capturing 7 to 14 billion dollars of this market, but why this renovation does not occur and why this proportion is not possessed by Iran?

As mentioned earlier there is a considerable demand regarding the Trucks, and no supply exceed is actually noticed, the table below illustrates the Estimated Annual Domestic Demand for Trucks.

Year	Truck Type							Total Demand
	Light Cargo	Light Dump	Medium Cargo	Medium Dump	Heavy Cargo	Heavy Dump	Tractor	
2005~2006	4,044	886	2,067	636	7,138	6,957	9,841	31,569
2006~2007	4,367	957	2,233	687	6,609	6,442	9,112	30,407
2007~2008	4,716	1,033	2,411	742	6,119	5,965	8,437	29,425
2008~2009	5,094	1,116	2,604	801	5,666	5,523	7,812	28,617
2009~2010	5,501	1,205	2,812	865	5,246	5,114	7,234	27,979
2010~2011	5,941	1,302	3,037	935	4,858	4,735	6,698	27,506

Table 2: the Estimated Annual Domestic Demand for Trucks

As we all know when demand exists, the grounds for a flourishing business are prepared and the sales start. The chart below pictures Annual Sales off Trucks

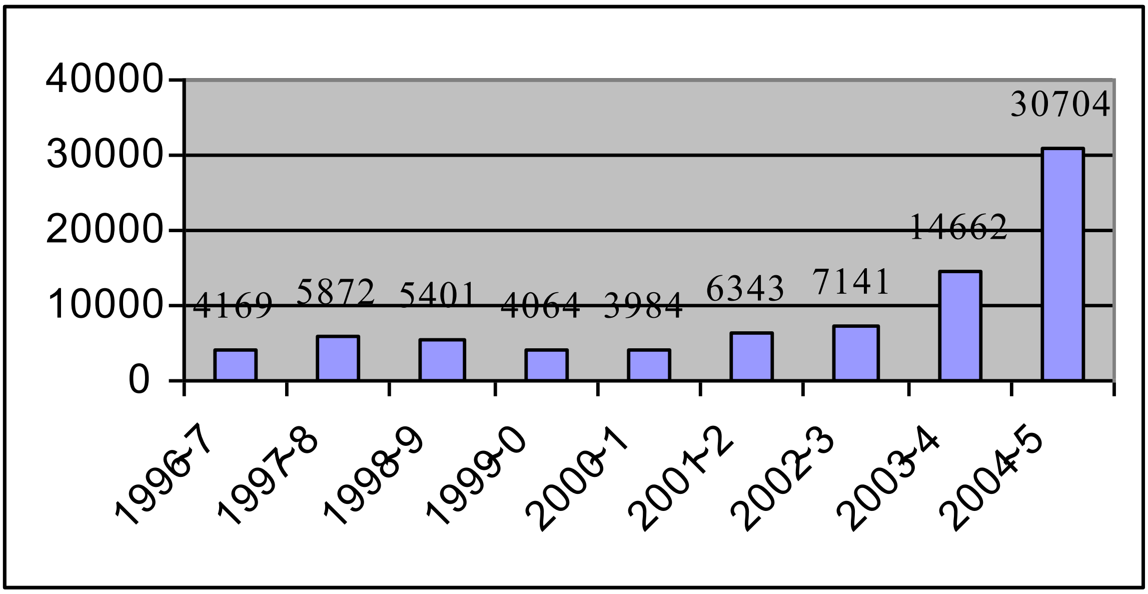


Figure 2: Annual Sales Of Trucks Avg. Annual Growth = 28.3 %

1.2.Challenges for Renovating the Transportation Fleet

There are some other challenges in the way of the renovation of this fleet, the high price of these trucks, high depreciation cost and the high rate of interest that banks implement are not in accordance with the revenues of the Iranian families, as a result the owner of the old trucks will not be financially able to go for new generation trucks and in addition to this those who want to begin their career in this industry show more tendency toward buying used trucks.

As the next but still important barrier on the way of renovation , the technical complexities of the new generation trucks can be taken into account, which results in more difficult maintenance of these trucks and the limited after sales services network compared to the simpler repairs that were sometimes even performed by the drivers themselves on the old trucks.

High customs tariffs , the exclusivity of the market and wrong pricing policies by the manufacturers are considered as other barriers of renovating the transportation fleet in Iran.

Last but not least, most of the manufacturers have focused on the same segments of the markets resulting in the supply exceed in for example the light truck segments of the market , however a strong demand is sensed in the heavy and medium duty truck segments.

2.0.TRANSPORTATION INDUSTRY AND COMMERCIAL VEHICLE MANUFACTURING COMPANIES

Needless to say the growth of the Transportation Industry in one country rests heavily on its transportation fleet, and as a result the heavy duty vehicle manufacturers are considered as the back bone of the transportation industry in one country, world class manufacturing systems in these companies will account for the growth in the industry within a country and as a result capturing a larger proportion of the market share in this industry.

So if we believe Iran is country that despite its potentials such as its strategic geographic position in the Middle East and etc. has not been able to find its real position in this industry we should seek the reasons in its Commercial Vehicle Manufacturing Industry.

There are a number of Commercial Vehicle Manufacturing Companies in Iran, that have the responsibility of linking Iran potentials to success in Transportation Industry, in fact nearly all of these companies suffer from the same problems in different scales, that leads to their inefficiency and in some serious cases bankruptcy, insolvency and …

In order to take a closer look at the operational problems and limits that the Commercial Vehicle Manufacturing Companies are dealing with and the opportunities they can take advantage of , in this part of the paper we go through a SWOT (strength weaknesses opportunities and threats) analysis of Iran Khodro Diesel, which is one of the biggest commercial vehicle manufacturers in Iran and the Middle East, ending up with highlighting and analyzing some of the strategies that can be or have been devised with the purpose of capturing a larger proportion of market share.

We believe doing this analysis will provide us with an overall picture and insight into the problems most of the Commercial Vehicle Manufacturing Companies are dealing with , and as a result may shed light on the reasons why the potentials of Iran can not be used properly.

2.1.An Introduction to Iran Khodro Diesel

The foundation of Iran Khodro Diesel Company and track record of manufacturing transportation in Iran are synonymous. Early in 1966, a company was founded with registered capital of 26 M Rials equal to 371,000 $ in a small work site by the national brand name of Khavar industrial group, at the initial capital of $400,000 to assemble one truck per day.

The company was then enlarged and transferred to the new arena, which is a wide expanse of 600,000 Sqm land located in the south-west vicinity of Tehran, company present location with capital increased to 325 Billion Rials. Equal to 40 Million USD. Early in 1997, the bus manufacturing division of Iran Khodro company with an adopted up to date technology gained through licensing agreement with DaimlerChrysler, the leading manufacturer of the world, merged with Khavar company to encompass both cargo and passenger coaches fabrication in a consolidated complex.

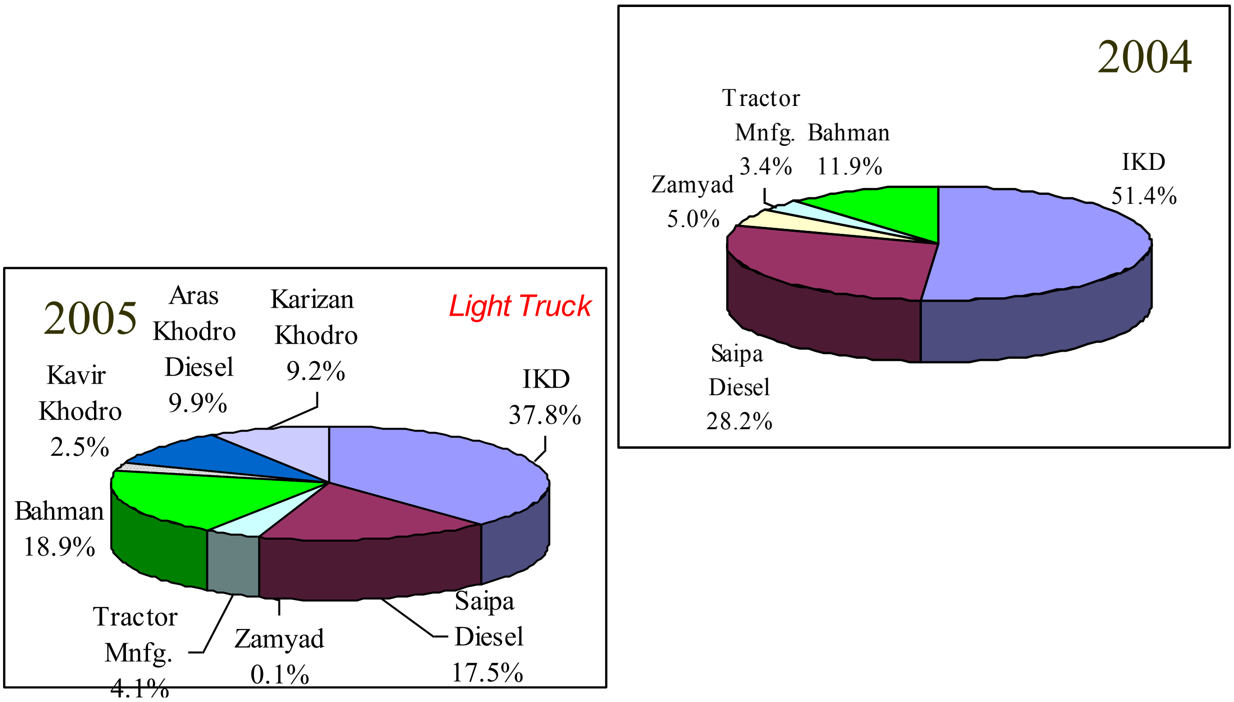
The integration of intellects, equipments and facilities along with structural reorganization and proper human resource utilization, initiated new grounds for commercial vehicles manufacturing under the sovereign support of IDRO (Industry Development Renovation Organization) and Iran Khodro industrial group, nominated as Iran Khodro Diesel public joint stock company to manufacture heavy, semi-heavy and light cargo transporters as well as passenger coaches for domestic use and export to Middle East, CIS and African countries.

So far, IKD Co. has exported bus / truck to United Arab Emirates, Saudi Arabia, Kuwait, lraq, Libya, Armenia, Azerbaijan, Turkmenistan & Kazakhstan. As for internal use, IKD Co. shares almost 80% of the bus and about 70% of the Iranian truck market and at the same time the experts are bench marking and performing proper quality improvement plans, required for the world class manufacturing by the intension of breaking into the world markets.

2.2. Iran Khodro Diesel's Market Share in Different Market Segments

In this section some up to date facts and figures regarding the truck market and manufacturers in Iran and Iran Khodro Diesel's share of this market in different segments are presented, in order to give a better view of Iranian market.

Figure 3: Market Shares in Light Duty Truck Market- 2004 & 2005



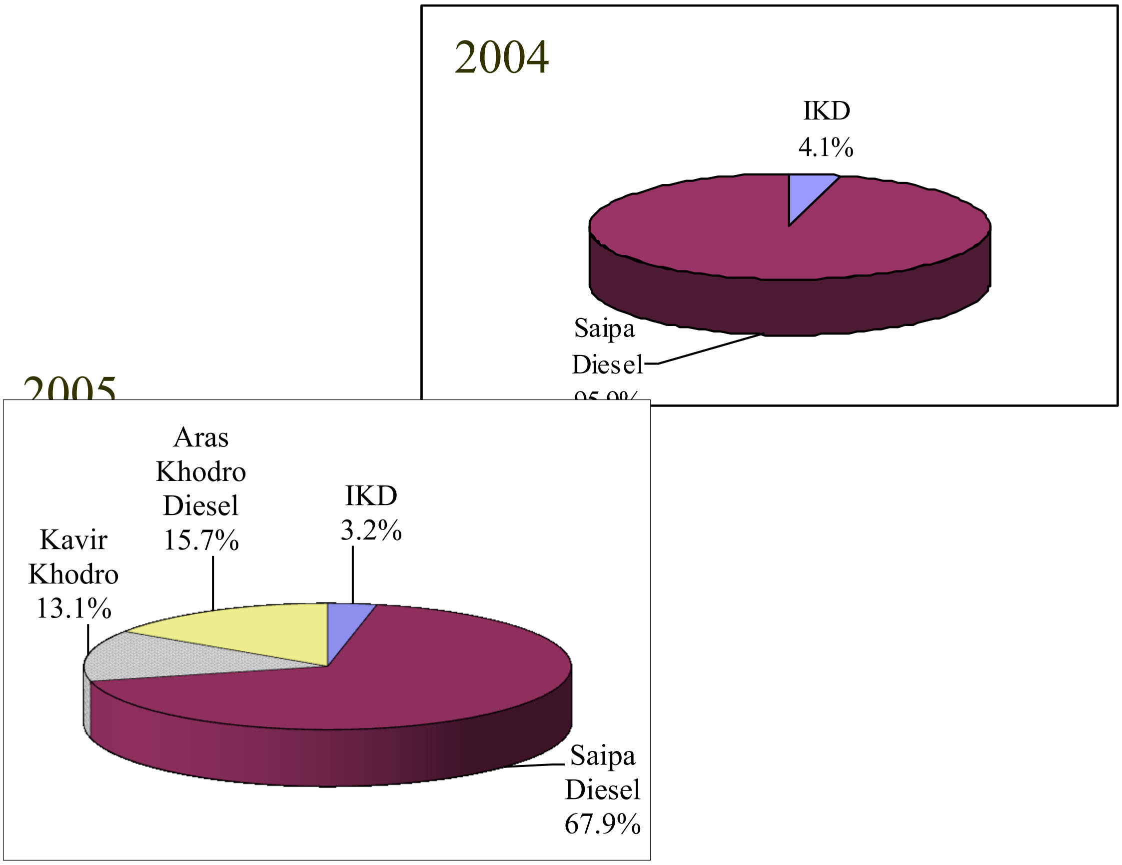


Figure 4: Market Shares in Medium Duty Truck Market- 2004 & 2005

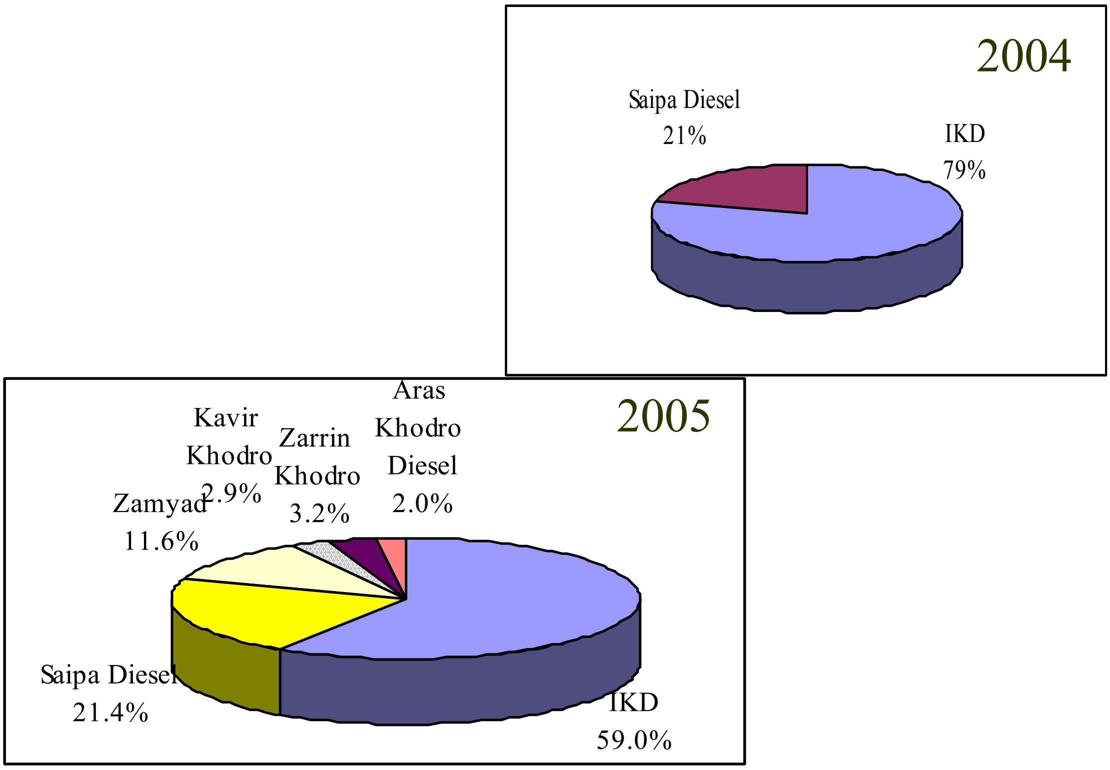


Figure 5:Market Shares in Heavy Duty Truck Market- 2004 & 2005

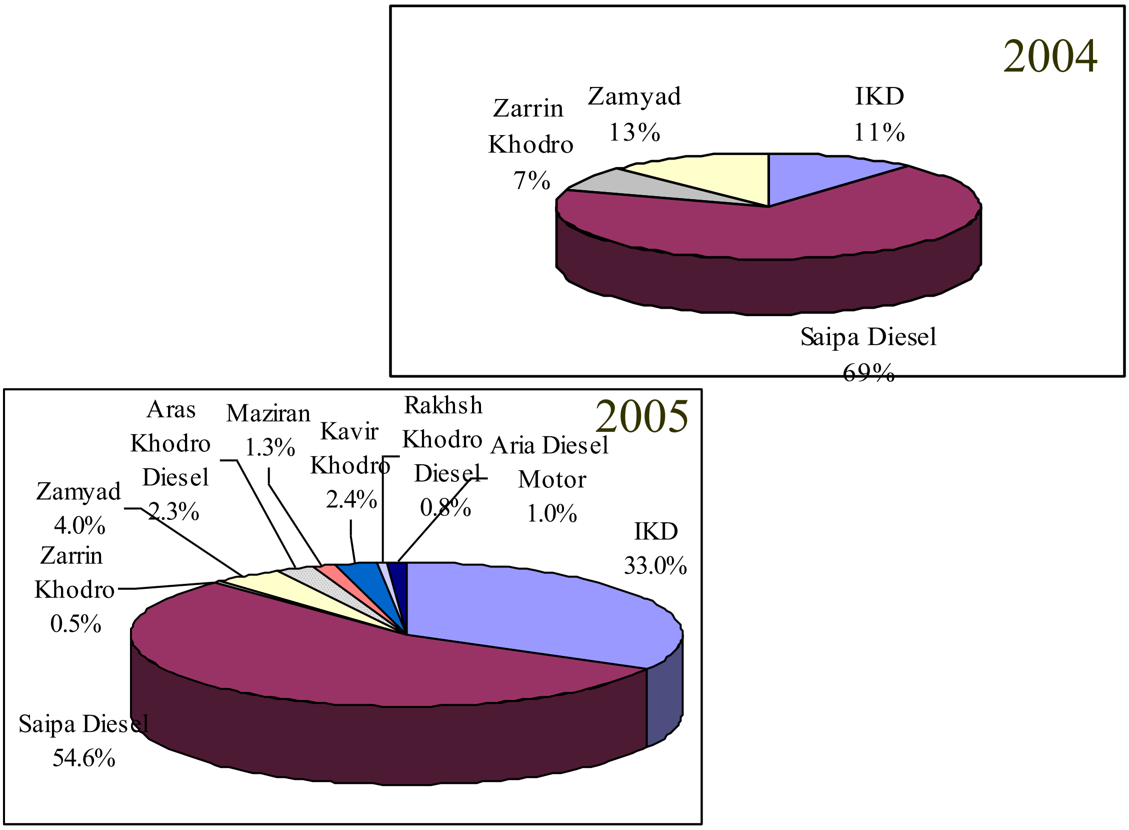


Figure 6: Market Shares in Truck Tractors Market- 2004 & 2005

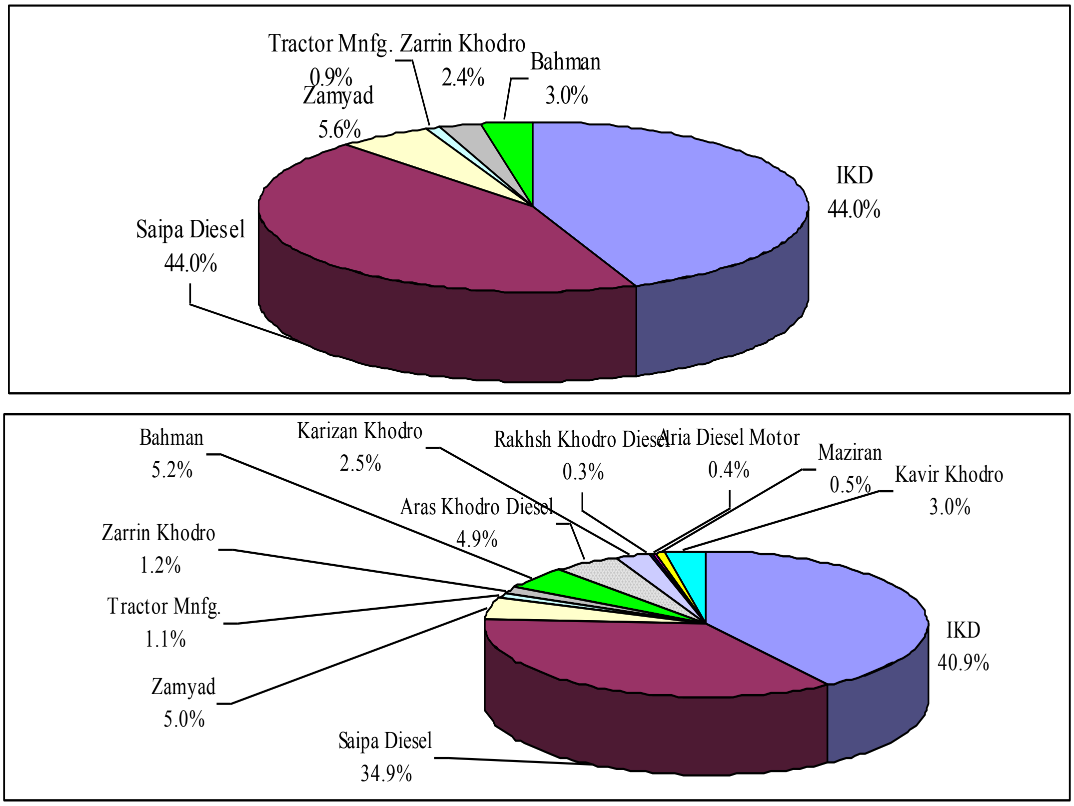


Figure 7:Overall Truck Market in 2004 & 2005

2.3.Market Trend Analysis

As you can see in some segments of the market such as the Light Duty Trucks or Truck Tractors the number of the manufacturers has actually doubled or even tripled in one year period, and an overall increase can be seen in the number of the manufacturers.

This change, however can not be regarded as a positive change, since the entrance of Chinese, Turkish and Russian trucks mean their gaining market share, and their gaining market share means losing the market share by some other companies, in fact good brands such as Mercedes Benz, Volvo and Scania,… and high quality products are being replaced by Unknown brands with low quality but low prices.

In conclusion this trend suggests that more low quality trucks are injected into Iran Transportation Fleet day by day, which will no doubt results in the weakness of Iran's Transportation Industry.

3.0.SWOT ANALYSIS OF IRAN KHODRO DIESEL

By the occurrence of drastic recent changes in the market the need for revising the strategies and organizational goals was felt as a result a team of senior managers of Iran Khodro Diesel with an SWOT analysis expert conducted this SWOT analysis in order to analyze the threats and weaknesses and try to over come them by making best use of opportunities and the strengths.
The results are categorized in five classifications, Strengths of IKD, Weaknesses of IKD, Threats of IKD, Opportunities of IKD and finally some strategies and guidelines for implementing strategic improvement and sustained growth.

Iran Khodro Diesel Strengths		
No.	Strength	Importance 1(Low)-7(High)
1	High production capacity and various production halls	7
2	Producing under Mercedes Benz Brands	7
3	Benefiting from the good image of Iran Khodro Diesel	5
4	Lower interest rate compared to other competitors	7
5	Well equipped production halls	6
6	Expanded after sales services network	5
7	Complete Product range	6
8	Belonging to Iran Khodro Industrial Group	4
9	Financial Investments	6
10	Possessing a considerable market share in most of the segments	5
11	Senior Managers support of Research and Development	7
12	Experienced and Trained Human Resources	4
13	Establishing good connections with governmental customers	7
14	Applying incentive schemes such as merit awards and etc.	4
15	Cooperation with famous Iranian and Foreign Banks	5
16	Producing up to date products that are compatible with the latest standards	7
17	Online connection with Mercedes Benz for technical data exchange	5
18	Export to neighboring countries	4
19	Introducing unique vehicles to the market such as fire fighting trucks, fuel tank trailers, …	5
20	Having the biggest bus production hall in the middle east	5
21	Introducing new types such as van, or passenger cars to the market	5

Iran Khodro Diesel Weaknesses		
No.	Weakness	Importance 1(Low)-7(High)
1	Not on time provision of the locally produced parts	7
2	Focusing on producing Mercedes Benz products	4
3	Weak organizational discipline	6
4	Unclear Departmental Job Descriptions	6
5	Lacking a clear strategy and long term plans	5
6	Implementing unpredictable changes and modifications in the production plan	4
7	Low productivity and high overhead expenses	3
8	Lacking proper order processing systems	6
9	Weak organizational communication between different levels	4
10	Improper attention from managers to training	3
11	Not applying the modern engineering techniques	4
12	High scrap and rework	5
13	Low motivation and spirits among the workers despite the incentive schemes applied	5
14	High working capital	7
15	Not appropriate Customer Relations Management	6

16	Production side track due to missing parts and the blocked assets	5
17	Low volume of export compared to the production volume	6
18	Paperwork and beaurocracy	5
19	Inappropriate usage of the potentials	6
20	Time Taking New Product Development	5
21	Low quality level	4
22	Not learning from past experiences due to the lack of proper knowledge management systems	6

Iran Khodro Diesel Threats		
No.	Threat	Importance 1(Low)-7(High)
1	Decrease in customs tariff of CPU compared to CKD, so CBU import is more profitable than CKD	7
2	The import of Chinese and Russian trucks	7
3	The fame and the image of VOLVO in truck tractors	5
4	Not being supported by government	6
5	The application of higher technology by other competitors	5
6	Losing the market to the new competitors that are currently present in the market and may not have even entered the competition yet	5

Iran Khodro Diesel Opportunities		
No.	Opportunity	Importance 1(Low)-7(High)
1	Old transportation fleet in Iran and the need for renovation	7
2	The time gap until the dominance of Chinese trucks	6
3	Improving the relations with the neighbors such as Iraq, Afghanistan, Azerbaijan for the purpose of increasing Export	6
4	40% of Growth in the Petroleum and mines besides transportation industry	5
5	The existing demand in the market, there is no supply surplus	6

Proposed Strategies Based on SWOT Analysis	
1	Cost reduction , reducing the rework and scrap and being cost effective in order to be able to compete the Chinese and the Russian Trucks
2	Paying more attention to quality in order to gain an edge against the imported trucks and the new born companies
3	Paying serious attention to export and improving the relations with the neighboring countries
4	Creating more opportunities for signing contracts with governmental organizations that have focused on renovating their fleet
5	Completing the defective vehicles it has on the yard in order not to have blocked capital, the released capital can be used in the research and development projects, marketing and sales activities and increasing the production capacity
6	Setting organizational vision and long term aims and objectives and making them public
7	Activating the Customer Relations Management Dept., in order to be able to hear and analyze the voice of customer

8	Setting more effective incentive schemes based on efficiency, quality, reduction in scraps and reworks, increase in customer satisfaction
9	Promoting the current products, so that they are given a competitive edge over Chinese and Russian Trucks
10	Starting the cooperation with other famous brands or brands from East Asia such as Japan and China
11	Going through a Business Process Reengineering in order to revise the organizational processes based on the strategic goals
12	Clarifying the job description of the different departments, in order to assure a flow of work
13	Running Knowledge Management Practices in order to increase organizational learning and learn lessons from the past experiences
14	Having a systemic approach in setting the production plan so that future changes are not needed

4.0.SUMMARY AND RESULTS

As mentioned earlier Iran has not yet been able to activate all its potentials in the Transportation Industry and consequently, despite the considerable growth in this industry, Iran's share of the market which is considerably low has remained the same.

Success in Transportation Industry has its roots in Commercial Vehicle Manufacturing Industry, so investment in this industry provides the infrastructure for growth and success in the Transportation Industry.

In this paper by analyzing the current demand and estimating the future demand of trucks based on the growth in the transportation and considering the number of the trucks that should be renovated in order to be environmentally compatible, we came to the conclusion that there is a good demand in Truck Market in Iran and this demand shows that there haven't been enough manufacturers or enough vehicles domestically produced.

This market has attracted a large number of manufacturers that have mostly focused on cheap trucks due to the fact that the market has been heavily price sensitive. Their entrance to the market has meant lower average quality of the trucks in Iran Transportation Fleet. Other manufacturers that produce higher quality vehicles, out of which Iran Khodro Diesel was taken as a good example, on the other hand suffer from high overheads, scraps, reworks, operational expenses, which results in the increase in their selling prices and consequently losing the market to the new comers who offer low prices and low quality.

The result of the SWOT analysis clarifies that the survival of the manufacturers such as IKD depends on implementing the proposed strategies as listed at the end of the SWOT analysis, their survival should lead to their dominance in the market in the next step, and as mentioned earlier if the market is ruled by the companies that pay attention to quality besides being cost effective, high quality vehicles with reasonable prices will flow to the market and the transportation fleet, and as a result transportation fleet will be reconstructed with high quality vehicles.

The reconstruction and renovation of the transportation fleet will have direct effects on the growth of this industry, by means of which Iran will be able to take its share out of this market, that will undoubtedly have remarkable economic impacts for the country.

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