

Studying the Role of Porter's Competitive Force in the Formation of Car Industry's Value Chain (Case Study: Iran Khodro Company)

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Abstract: Porter's 5-force competitive model which is based on 5 determiners of the industry is among the competitiveness analyzing models in industry. Also value chain is based on setting values for the customers and inside the entities it is used to increase profitability. The main purpose of this study is to study the role of competitive forces in industrial level on the value chain activities on an entity level; according to the aforementioned purposes Iran Khodro –the biggest car making Company- was chosen for case study. In this direction first the general idea of the study is stated and then theoretical basis related to competitive forces and value chain is studied. Then with the conceptual model, questionnaires are designed and their creditability and reliability are measured. After that the data is gathered from the population which is the employees of the company. The population consists of employees with educations higher than Master's degree. Statistical methods for this study are descriptive-correlation methods. The quantity of the population consists of 3622 people in basic activities group and 660 people in support group which were chosen on a random basis. Samples of 320 and 180 were categorized for each group respectively. To analyze the data Colomogoroff-Smirinoff, Pierson correlation test and multiple regression were used. After the analyses some suggestions are made on the basis of the results obtained. The results imply that competitive forces affect value chains in this industry.

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1-1 Introduction

Nowadays the economic environment is so sophisticated and turbulent. So that, studying every detail is a key to effective competition. Using this tool, company can be able to find challenges and opportunities on their way and so they can react properly. If we see the industry with different companies, production of which are highly replaceable with each other, studying competitive environment is a necessity for those companies. Porter has introduced 5 forces for studying competitive environments namely: the thread from new competitors, the thread from the substitute products or services, bargaining power of the customers, bargaining power of the suppliers, and the competition among the companies (porter 1998). The value chain model was first developed by Michal Porter. This model is a good foundation to understand cost structure of the companies and also studies show that adding the concepts of supply chain and developing new products to the traditional value chain model, can give a realistic view of activities by the company and the review of their cost structure.

1-2 stating the problem

Competition has become a matter of high importance in the recent century and has been embodied in organizational strategies since. Competition should result in an increase of customer value through decreasing the prices and increasing the quality of the products. In a healthy competition, consistent improvement in processes and methods reduces the costs, increases the quality and innovative moves results in a higher pace in improvements. Non-competitive organizations are forced to either change their structures or withdraw from the industry. Therefore, competitive analysis not only helps in strategy setting but also in financing, marketing, safety analysis and many other fields of work in industry. This kind of analysis develops a comprehensive framework of analytical techniques which enable the company to analyze the industry and its details. To forecast the growth in the future and know its competitors. Car making industry is not an exception and the foundation of this paper is to find the compatibility in inter-organizational activities which increase the value with the competitive environment.

The basic problem in this study is to evaluate the state in which competitive forces affect the activities of the entities to form value chains.

In fact the unknown part is the relationship between competitive forces and their interactions and how they affect value chains in an industry. (Hamidi Zadeh 1389)

Then variable in question is the value under the effects of competitive forces and then result we are looking for is the degree to which the forces affect these values and the priority ruling this relationship.

1-3 the importance and necessity of this research

Regarding the importance of achieving competitive advantages through competitive strategies for getting more and more share in the market, this research may help gaining more customers through analyzing car making industry with Porter's 5 competitive forces paradigm. The basic vision of this mechanism is based on car making industry. Studying industry through the lenses of competitive forces on one hand and studying the success of organization in gaining more customers through setting value strategies is an important matter and car making industry should not be excluded from these studies. So regarding the activities of a car making company, defining competitive advantage as more share in the demand market through setting more value to the customers is a matter of importance. To remove this gap in Research and Development Centers, Iran Khodro as the biggest car making company in Iran has been studying. We hope that regarding the fact that our research is new to car making company some good suggestions could be made in the end.

1-4 main objectives

The main objective is to find some new approaches to create more value for the customers and find a way for an entity to survive through gaining more share of the demand market and at the end increasing profitability.

The general purpose of this study is to define the role of competitive forces in forming value chains among car making entities. To this end Iran Khodro company was studied.

Competitive strategy

If industry is considered as a set of companies, products of which could be easily replaced by each other (Michael Porter, 1998), then studying the competitive environment of today is of a high importance. To study the competitive environment, Porter introduces 5 forces:

1. The threat from new competitors
2. The threat from the substitute products or services
3. Bargaining power of the customers
4. Bargaining power of the suppliers
5. The competition among the companies (David F.R, 1997)

On the other hand, competitive forces have made companies to change their point of view from a traditional business to electronic business. Because using these methods can increase the flexibility in companies to accept changes more easily. (Shafii Nikabadi et al 1382).

Hise et al has introduced economic control as an important measure in choosing electronic business. All beneficial and non-beneficial organizations are trying to increase profitability and setting more value for the activities which results in an increase in the value of the final product. In 1960s beneficial organizations started to tend toward improvement of inter-organization changes and in 70s they started to develop details of market and customer satisfactory strategies. In 80s, variety increased in consumption patterns and organizations started to produce new products to keep the customers satisfied. Michael Porter's model emerged in this era.

After 1990s organizations realized that other organizations' and suppliers' activity and the coordination between reducing costs and increasing the value is the key to survive. Since then supply chain was introduced (Saidi KIA et al 1381).

Regarding the emergence of Porter's value chain in the same era of increasing variety in the products we could understand that this chain consists of a mere materialistic-productive dimension and the main purpose is to standardize the value-adding activities during an activity chain.

Michael Porter's article in Harvard business started a revolution in the field of strategy. During the next few decades Porter extended his field of study to competitive strategies in companies, regions, governments, and recently to health care and altruism. 5-force model of Porter's has fostered a generation of academic researches and business experiences. In that paper Porter is motivated by a professor of commercial school in Harvard, Jan Rivkin, and also his old colleague Joan Magerta to update and renew his old classic about the 5 competitive forces. He also answered all the FAQs and developed a logical instruction for interested parties. He also deepened his vision towards the modern concepts and messages of this model.

A strategist must understand and introduce solutions for competitiveness. But the definition of competition by managers is always narrow. It's like competition is only among current direct competitors. Although competition on profitability is beyond the current competition among current competitors. 4 other powers should be taken into account: customers, suppliers, potential new comers and substitute products. This extended competition which is the result of all five powers now define the structure of the industry and form the nature of competition in it.

However there is chance that industries seem different in the surface, the main profitability motive is all the same in them. For instance there seems to be no similarity between the car making industry and the industry of arts or even the highly regulated industry of health care in Europe but to understand the profitability motive one must study the structure of these industries all through the five competitive forces.

If the forces are aggregated like airlines and hotels industry there will be no worth a try ROI. But these forces are safe like software, non-alcoholic beverages and cosmetics industry, lots if organizations will be profitable. The structure of the industry is the main stimulator of competition and profitability and it being productive or service industry and not its emergence duration, being modern or classic or freedom and limitations of the technology.

Although lots of factors, like the climate and business cycle, are important in short-term profitability at last this is the structure that determines the long-term profitability through competitive forces.

Understanding the competitive forces and its main reasons are the basis for profitability in an industry and form a frame work for forecasting and affecting the competition in the long-term. Understanding the structure of the industry also is necessary for an effective locating strategy. As we mention in the next few lines of this paper, one necessary point in competitiveness is to set a good guard against competitive forces and form them as we wish.

2-The 5 force model of Porter's

One of the models through which external environment in an industry is analyzed to set appropriate competitive strategies is Porter's 5 force model. This strategy is based on competition. To merely gain more share in the market doesn't reflect in competitors reaction, competition in an industry though, is implanted in economy and competitive forces beyond the competitors.

The main purpose of the Porter's competitive advantage is to connect strategies to actually bringing them to action (Porter 1985).

Porter introduces 5 competitive forces which are key factors in profitability. These forces consist of: Fig1

1. The new comers' danger

These new comers could be new companies, foreign ones or even organizations form related industries. One should always be aware of the new ways, new comers invent to overcome the problems of getting into the new industry.

Expected compensative reactions by the current governors of industry and their point of view affects the idea of new comers about quitting or staying in the

new industry. If the governors of the industry come up too strong, profitability in the new industry may fall to an amount even below the investing costs. Industry governors usually use a very strong and obvious guard to show their opinion to other potential new comers. Like announcements and aboveboard reactions which shows their commitment to their current share of the market.

2. The bargaining power of the suppliers

Strong suppliers often gain more value through pricing, limiting their services and their quality, or burdening the cost on other interested parties. Big suppliers can suck all the profit out of an industry so that it can change the costs or prices. Microsoft Company for example, made it hard for the producers of PCs to gain profit by increasing the prices of its operating systems. PC producers don't have a wide choice for their prices because customers of this industry can easily substitute their suppliers.

3. The bargaining power of the customers

Strong customers can put producers under the pressure to reduce the prices or increase the quality (which increases the cost) and gain more of the value produced in the industry. This a loss for the industry. If some customers can use their bargaining lever against other associated parties in the industry, especially if they are sensitive toward prices and can use their penetration to reduce them, they can be considered as strong customers. Customers like suppliers have different degrees of penetration.

4. Substitute products

A substitute has the same functions through different methods. For example, video conference is a substitute for traveling, plastic for aluminum and Email for post. Sometimes substitutes are indirect threads or they happen in the lower levels of the chain, so that a substitute emerges in the industry. For example lawn mowing machines industry was jeopardized when living in apartments took the place of big houses with gardens in the suburbs. Travel agencies were threatened when online tickets started to be sold for trains and airplanes. Substitute are always there but they could be easily ignored due to their differences to the existing products.

5. The competition among the existing companies

The competition among the existing companies has various faces. Like discounts, introducing new products, propaganda, and improving the quality. Heavy competition limits the profitability. The degree to which profitability is affected by competition depends first on the intensity of the competition and second their competition basis. The intensity is high if: the number of competitors is high or their powers are fairly even. In this kind of situation competitors are forced to try to grab each other's share of the market. A slow rate of growth in the industry results

in hasty actions to gain other's share in the market. Porter's competitive advantage is an obvious and deep explanation about how competitive points of view can use general strategies to create and keep competitive advantages (Allan De Smith and William T. Rap 2002). (fig 1: end of article).

2-1-Value chain

The first model in value chain was developed by the great teacher of management sciences, Michael Porter. Porter believes that all the actions a company takes to produce a product must be considered independently. Value chain is the tool he uses to show each activities share in competitive advantage (Porter 1985, 1991).

Each and every company has a set of activities through which it produces its goods or offer his services. Porter calls them value activities, like designing new products, maintenance, selling the products and keeping accounts.

General activities in the value chain can be put in two categories. Porter names the first category as fundamental activities consisting physical production of the goods or offering the services, supplying it, marketing, supporting and services after the goods are sold. The second category is called back up activities which provide inputs and structures through which fundamental activities are smoothly conducted. Like buying, extending technology and human resources management.

Fundamental activities are activities which are called value-adding activities. It means that conducting those activities results in increasing the value of the products and attracting customers. For example raw materials are entered, received and deposited and... then productive part starts and develops the final product. After this stage marketing phase increases the value and then the final products is sold. After sale services are among other value-adding activities which are the last stage of the process. All these activities, are considered as the main profitability sources. Back up activities are activities conducted to fine the grounds on which fundamental activities are conducted. Fig 2: (end of article)

A value chain point of view in inter-organization evaluation is an effective tool through which weak and strong points can be located and decision making can be based in them. This chain is connected from the two ends to suppliers form one and customers form another. The relationship between an organization's value chain and its suppliers' and customers' value chain forms what Porter wishes to call value chain system. It's been given other names like value net or extended value chain though. Business model is the method used by organization to increase profitability and surviving the market. This model says how to add to the value of your products

or services. It reforms the business plans to economic values. Business model shows the way in which an organization can benefit from locating the value chain. It consists of different subjects such as entrepreneurship, strategy, economy, investments, performances, and marketing. A more simple explanation is that business model explains the way through which a business can find its place in the value chain and how it stabilizes its situation to increase profitability. A comprehensive and feasible business model results in a more value added to the products or services, more than any other factor could influence them.

2-2- Background review

Every research is based on some older ones, but also it can define some bases for the future researches. The more a study is connected to the past studies and theories the more it can help extending the knowledge (Haq Bin et al 1385). Regarding the aforementioned facts, some other researches are conducted on this field none of which are focused on this subject. So we wish to review some of these works which are related to our variables:

1. Harold Hopkins (2008), "Applying Michael Porter's extended rivalry model to the robotic industry". *Industrial Robot, an International Journal*, Vol. 35 No. 5, pp. 397-399

The main purpose of this study is to analyze robotic industry using porter's competitive model. Using this model the power of customers, suppliers, new comers' potential, substitute products and other company's competitive force is determined.

It determines how attractive is the industry and whether or not there is chance of successful competition. The results show that robotic industry has a middle attraction and the strategy which fits the industry is to focus on the non-automated buyers.

2. Porter, M. E. (2007), *The Five Competitive forces that Shape Strategy*, Harvard Business Review.

Porter's article in 2007 which was published in Harvard business review has been a practical article in which powers forming the competition are introduced.

3. Shafiee Nik Abadi 1388, conducted a study titled: "the roles of the porter's competitive forces in choosing the business model in electronic business in the car making industry". He concluded that all the important competitive norms are effective in choosing business model in the car making industry. In this study the priority of competitive forces in which order they influence choosing the business model more was determined to be: customers bargaining power, suppliers bargaining power, competition in the industry, and substitute goods or services.

4. Shaqayeqi, Mahdi 1387, expresses his results concluding by a study titled "generalizing porter's

value chain model to technical library activities and the effects of IT on it" as: using information technology in value chain supply results in a focused and proper flow through the components of supply chain. In the value chain in which library activities are embodied, the effects of information technology can be seen obviously. Managers can easily empower value-adding activities and remove excess activities through having a flexible view on them.

5. Ardestani, Masood and Sadeqi, M.Mehdi 1385, realized that factors like suppliers, existing competitors, customers and substitute products are the anticipators of competition intensity in dairy industry. Their paper was titled "analyzing dairy industry using Porter's competitive model.

6. In a study titled "the effects of information technology on organizational value" Mohtarami, Amir and Sarabadani Tafreshi 1383, concluded that in Iran industries are faced with a lot of limitations and problems. These industries need immediate and quick changes if they want to compete in global markets. Information technology is a changing device which can be used in many different ways and in different stages of value chains. These functions are able to answer all the questions of the industry only if they are properly planned and used. Moving toward these changes should be planned and based on well-understood strategies in the information technology field. Moving toward these changes is a necessity which better be taken by organization's own will.

7. Hamidzadeh 1380 studied the effects of competitive forces in car parts making industry in Iran using porter's model and emphasized the necessity and importance of moving toward forming appropriate beds for those forces on which a competitive framework could be based to achieve competitive advantages.

Methodology

This study was of a practical kind. Form data gathering tool aspect of view it is considered as descriptive statistics of a correlation kind. In this study descriptive statistics was used to study the effects of porter's competitive forces on value chain formation in car making industry.

3- scope of research

The scope of this research is divided into three parts:

a) The subject scope:

The scope of this research was limited to the Iran Khodro Company which regarding to the pattern it can be generalized to other local car making companies.

b) The location scope:

The location scope is Iran Khodro industrial group in Tehran, Iran.

c) The time scope:

The time period through which data, facts, statistics, and figures are in, is between the winter of 89 to the spring of 91.

3-1- population

The population consists of all the experts, managers, chiefs and experts associated with the value chain activities inside Iran Khodro Company who were categorized into two groups regarding their activities being related to the fundamental activities or back up activities.

3-2-sampling method

To measure the size of the sample in this study categorized random sampling was used. Categorized sampling is generally used to ensure that all the categories are represented adequately in the sample. Moreover, assuming other factors to be even, categorized sampling reduces the costs of sampling (Hafeznia 1386 P 140).

3-3- the sample

The sample is found according to the properties of the population and also sampling methods. The sample is set so that in spite of the population being only managers and experts in Iran Khodro Company, the results are quite applicable to all the industry. (Sarmad et al 1383).

Sample size refers to the quantity of all the members of the sample while population size refers to the quantity of the members of the population which is the basis for sampling. Conducting a research of any kind demands cost and time consumption hence studying all the population is not a possibility. So the sample is chosen and the results of studying them is generalized on the whole population. To find the size of the sample Cochran's formula is used. (Saraee 1382. P 131-132)

$$n = \frac{Nt^2 pq}{Nd^2 + t^2 pq}$$

$$r = \frac{n}{N}$$

Where p is the ratio of people who have the characteristic in question, q is the ratio of people who don't have the characteristic in question, t is safety coefficient, d is the ignorable error, N is the size of the population, n is the sample size, and r is the ratio of the sample size to population size.

If r is bigger than 0.50 then sample size should be adjusted.

$$n' = \frac{n}{1 + \frac{n}{N}}$$

Reviewing the sample size in the back up group:

$$n = \frac{Nt^2 pq}{Nd^2 + t^2 pq}$$

$$n = \frac{660 \times 1.96^2 \times 0.5 \times 0.5}{660 \times 0.05^2 + 1.96^2 \times (0.5 \times 0.5)}$$

$$n = \frac{660 \times 3.84 \times 0.25}{1.65 + 0.96} = \frac{633.6}{2.61} = 243$$

$$r = \frac{n}{N} = 0.36$$

Because r is bigger than 0.50 then sample size should be adjusted:

$$n' = \frac{n}{1 + \frac{n}{N}} = \frac{243}{1 + \frac{243}{660}} = \frac{243}{1.36} = 179$$

Then the size of the sample in the back up group is 179 people. Because there was a chance for the questionnaires not be returned, 200 questionnaires were distributed, 180 of which were finally gathered and analyzed.

Reviewing the sample size in the fundamental group:

$$n = \frac{Nt^2 pq}{Nd^2 + t^2 pq}$$

$$n = \frac{3622 \times 1.96^2 \times 0.5 \times 0.5}{3622 \times 0.05^2 + 1.96^2 \times (0.5 \times 0.5)}$$

$$n = \frac{3622 \times 3.84 \times 0.25}{9.055 + 0.96} = \frac{3477.12}{10.015} = 347$$

$$r = \frac{n}{N} = 0.095$$

Because r is bigger than 0.50 the size of the sample should be adjusted:

$$n' = \frac{n}{1 + \frac{n}{N}} = \frac{347}{1 + \frac{347}{3622}} = \frac{347}{1.095} = 316.89 \cong 317$$

Then the size of the sample in the fundamental group is 317 people. Regarding the fact that some questionnaires may be not returned, 350 questionnaires were distributed 320 of which were gathered and analyzed.

3-4- data gathering method

Data gathering tool in this study was field study and library methods.

3-5- data gathering tool

In this study questionnaires were the main data gathering tool and for designing them Likert's scale was used.

3-6- data analysis methods

In analysis, descriptive and inferential statistics were used. In the descriptive part of it frequency distribution tables, central and dispersal indexes were used, especially the most important one

of them namely mean. To properly generalize the results inferential statistics, Colomogoroff-Smirinoff, Pierson correlation coefficient and other related tests were taken.

3-7- Questions of the study

This study is trying to answer the following questions:

The main question:

Are the five competitive forces of Porter, affecting fundamental activities of value chain in the car making industry?

To answer this question we have to answer some secondary questions:

Secondary questions are as the followings

1. Is the thread of the new comers, affecting fundamental activities of value chain in the car making industry?
2. Are the substitute products, affecting fundamental activities of value chain in the car making industry?
3. Is the bargaining power of the customers, affecting fundamental activities of value chain in the car making industry?
4. Is the bargaining power of the suppliers, affecting fundamental activities of value chain in the car making industry?
5. Is the competition among the existing companies, affecting fundamental activities of value chain in the car making industry?

3-8- the hypotheses of the study

Hypotheses are designed to answer the questions of the study. Basically hypothesis is what the researcher is looking for or his scientific guess about the result of the study. It's a suggestion which can be evaluated scientifically. Hypothesis is a scientific guess about the nature of the relationships between phenomena, objects, and variables which help the researcher to find the closest and most probable way to find the unknown part. (Hafez nia 1377, 91)

This study consists of one main hypothesis and 5 secondary ones.

Main hypothesis

The five competitive forces of Porter affect fundamental activities of value chain in the car making industry.

Secondary hypotheses

1. The thread of the new comers affects fundamental activities of value chain in the car making industry
2. The substitute products affect fundamental activities of value chain in the car making industry
3. The bargaining power of the customers affects fundamental activities of value chain in the car making industry
4. The bargaining power of the suppliers affects fundamental activities of value chain in the car making industry

5. The competition among the existing companies affects fundamental activities of value chain in the car making industry

4-1- The reliability of the questionnaire

Reliability shows how equal are the results of the measurement tool in the same situation. The range is 0-1 (Homan 1370, 116). There different ways through which reliability can be measured namely: re-repeating, Parallel method, dividing, Chowder method, Richardson method, and cronbach's alpha.(end of article)

According to the table conducting the study with 30 and then 320 people results in a range of reliability between 0.71 and 0.90 which shows a good reliability for the study.

4-2- Analyzing secondary hypotheses

First hypothesis

The thread of the new comers affects fundamental activities of value chain in the car making industry

To analyze this hypothesis, Pierson correlation coefficient was used result of which are shown in the table 2.(end of article).

Table 2 shows that the Pierson correlation coefficient ($r=0.736$) with the meaningfulness level of $P<0.001$ is meaningful. Then the hypothesis is approved and we could say that the thread of the new comers affects fundamental activities of value chain in the car making industry.

Second hypothesis

The substitute products affect fundamental activities of value chain in the car making industry

To analyze this hypothesis, Pierson correlation coefficient was used result of which are shown in the table 3. (end of article).

Table 3 shows that the Pierson correlation coefficient ($r=0.776$) with the meaningfulness level of $P<0.001$ is meaningful. Then the hypothesis is approved and we could say that the substitute products affect fundamental activities of value chain in the car making industry.

Third hypothesis

The bargaining power of the customers affects fundamental activities of value chain in the car making industry

To analyze this hypothesis, Pierson correlation coefficient was used result of which are shown in the table 4.(end of article).

Table 4 shows that the Pierson correlation coefficient ($r=0.623$) with the meaningfulness level of $P<0.001$ is meaningful. Then the hypothesis is approved and we could say the bargaining power of the customers affects fundamental activities of value chain in the car making industry.

Fourth hypothesis

The bargaining power of the suppliers affects fundamental activities of value chain in the car making industry

To analyze this hypothesis, Pierson correlation coefficient was used result of which are shown in the table 5.(end of article).

Table 5 shows that the Pierson correlation coefficient ($r=0.572$) with the meaningfulness level of $P<0.001$ is meaningful. Then the hypothesis is approved and we could say the bargaining power of the suppliers affects fundamental activities of value chain in the car making industry.

Fifth hypothesis

The competition among the existing companies affects fundamental activities of value chain in the car making industry

To analyze this hypothesis, Pierson correlation coefficient was used result of which are shown in the table 6.(end of article).

Table 6 shows that the Pierson correlation coefficient ($r=0.751$) with the meaningfulness level of $P<0.001$ is meaningful. Then the hypothesis is approved and we could say the competition among the existing companies affects fundamental activities of value chain in the car making industry.

In table 7 (end of article)you can see the results of multiple regression test to study the effects of the five competitive forces of porter on fundamental activities of the value chain in car making industry.

The findings in the table 7 show that the multiple correlation coefficient for the simultaneous effect of the five competitive forces of porter's on fundamental activities of the value chain in car making industry are $MR= 0.9$ and $RS= 0.827$. F is meaningful in the meaningfulness level of $P<0.001$. Therefore, it can be concluded that 82.7 percent of the Porter's variance on the fundamental activities of the value chain in the car making industry could be measured by anticipating variables. Also according to the β in the table and the meaningfulness level, only the bargaining power of the customers didn't have a meaningful anticipator. All other factors have meaningful anticipators. The order of importance for them is as the following: the thread of the new comers, the bargaining power of the suppliers, the competition among the existing companies, and substitute products.

5- Results and discussion

5-1- the results of analysis of the effects of porter's five competitive forces on the fundamental activities of value chain

The analysis of the secondary hypothesis is necessary in order to analyze the main hypothesis. So according to the activities which represents the dependent variable and analysis of five independent variables the findings are as the followings:

Having the meaningfulness level of 0.001, the first five hypotheses which represented the effects of the threat of the new comers, substitute products, the bargaining power of the customers, the bargaining power of the suppliers, and the competition among the existing companies on the fundamental activities of the value chain respectively, were creditable according to the correlation coefficients found for them. So each one of these five forces are affect the activities of the value chain in Iran Khodro car making company. The strongest correlation was that of the second hypothesis, substitute products and services with the correlation coefficient of 0.776 and the weakest one belonged to the fourth hypothesis, the bargaining power of the customers with the correlation coefficient of 0.572. Also, according to the table 1, simultaneous effects of these five forces on the fundamental activities of the value chain in car making industry is meaningful in the meaningfulness level of $P < 0.001$, $MR = 0.9$, $RS = 0.827$ and $F = 300.064$ and 99 percent of confidence. Thus the conclusion is that 82.7 % of the independent variables' (Porter's five competitive forces) variance can be anticipated. Also regarding the results of β in the table, and the meaningfulness level, among the five forces, the only force with no meaningful anticipator is the bargaining power of the customers. All the remaining have their meaningful anticipator which in the order of importance are: the thread of the new comers, the bargaining power of the suppliers, the competition among the existing companies, and substitute products and services.

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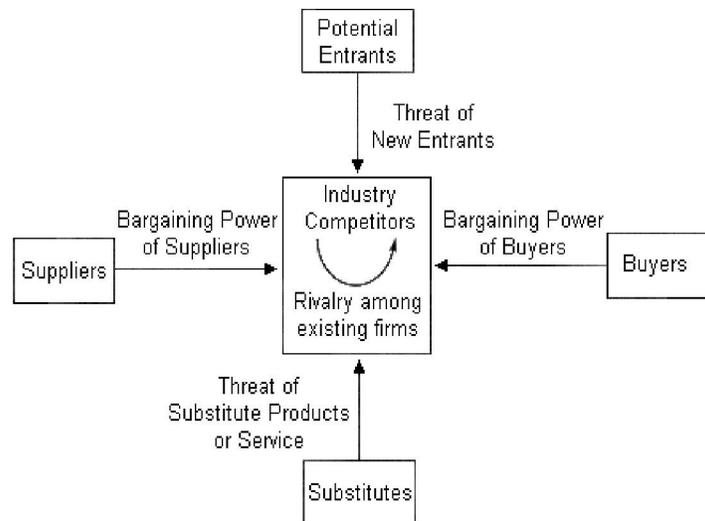


Fig 1: Porter's 5 competitive force model(Michael Porter 1387. Competitive strategy: techniques for analyzing industry and competitors. Translated by Majidi Jahangir and MehrPoya Abbas. Rasa Publications, third edition, P.42).

5-2-Suggestions for companies

According to the findings of this study which imply existence of a direct meaningful relationship between porter's five competitive forces and fundamental activities of value chain in Iran Khodro Company, and toward building a proper value chain in accordance with competitive conditions, the following suggestions are made:

4-1 regarding the direct meaningful relationship between five competitive forces of porter's and fundamental activities through which value chains are formed, it's important for the organizations to take measuring each force for value adding activities seriously, especially after profitability, to improve effectiveness and efficiency of them in forming value chains.

4-2 regarding the results and the relationship between competitive forces of the industry and value chain activities, organizations can use porter's five competitive forces model to analyze competitive conditions and determine the threads and opportunities of the industry on one hand and determine the value conditions of the activities using Porter's value chain model one the other to coordinate strategies with the value-adding activities in the organization.

According to the results of the study on adjusting variables, organizations should keep in mind that the relationship between different job levels and value chain activities is meaningful, thus high level jobs must be given a more share in value chain activities in comparison with low level jobs.

Porter Value Chain Template

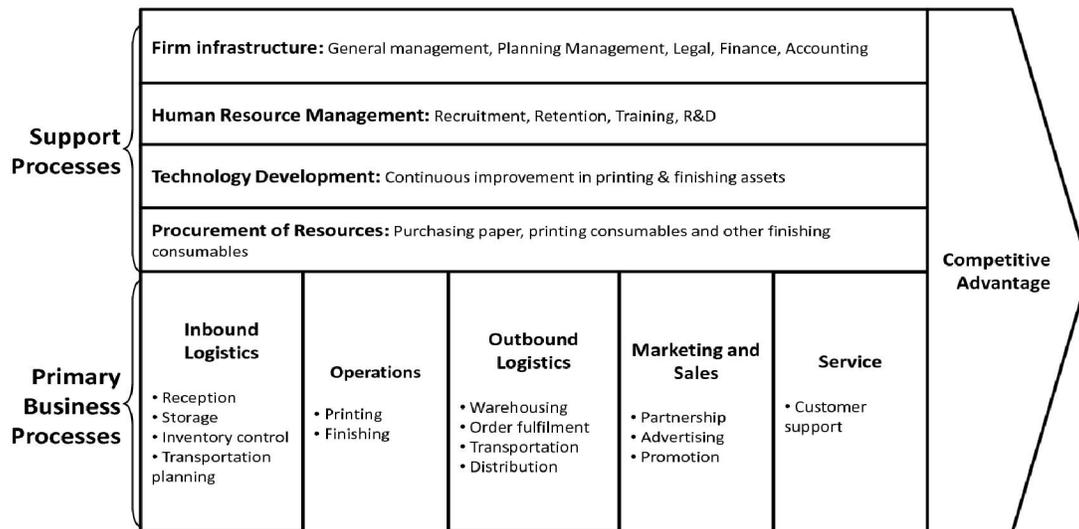


Figure 2: porters value chain model(Gordon Walker (2009), "Modern Competitive Strategy", Third Edition, Mc Graw Hill International. P. 167)

Table 1: The results of cronbach’s alpha for the fundamental activity group

Variables	Number of questions	Cronbach’s alpha	sample	Cronbach’s alpha	sample
The thread of new comers	8	0/841	320	0/81	30
The competition among the existing companies	9	0/828	320	0/778	30
Substitute products	4	0/714	320	0/788	30
The bargaining power of the customers	4	0/738	320	0/71	30
The bargaining power of the suppliers	7	0/786	320	0/715	30
Fundamental activities of the value chain	17	0/904	320	0/86	30

Table 2: the results of the Pierson correlation coefficient for the first hypothesis

Variables		Indexes	N	Sig	Pierson correlation (r)
Independent variable	The thread of new comers		320	0/001	0/736
Dependent variable	Fundamental activities of the value chain				

Table 3: the results of the Pierson correlation coefficient for the second hypothesis

variables		Indexes	N	Sig	Pierson correlation (r)
Independent variable	The substitute products		320	0/001	0/776
Dependent variable	Fundamental activities of the value chain				

Table 4: the results of the Pierson correlation coefficient for the third hypothesis

Variables		Indexes	N	Sig	Pierson correlation (r)
Independent variable	The bargaining power of the customers		320	0/001	0/623
Dependent variable	Fundamental activities of the value chain				

Table 5: the results of the Pierson correlation coefficient for the fourth hypothesis

Variables		Indexes	N	Sig	Pierson correlation (r)
Independent variable	The bargaining power of the suppliers		320	0/001	0/572
Dependent variable	Fundamental activities of the value chain				

Table 6: the results of the Pierson correlation coefficient for the fifth hypothesis

variables		Indexes	N	Sig	Pierson correlation (r)
Independent variable	The competition among the existing companies		320	0/001	0/751
dependent variable	Fundamental activities of the value chain				

Table 7: multiple correlation coefficient for the simultaneous effect of the five competitive forces of porter's on fundamental activities of the value chain in car making industry

Anticipating variables					F P	Nomination coefficient RS	Multiple correlatio n MR	The criterion variable
The bargaining power of the suppliers	The bargaining power of the customers	Substitute products	The competition among the existing companies	The thread of new comers				
B= 0/381 β= 0/357 t= 8.919 P= 0/001	B= -0/039 β= -0/034 t= -0/894 P= /372	B=0/147 β= 0/157 t=4.334 P= 0/001	B= 0/153 β=0/157 t=2.875 P=0/004	B=0/532 β= 0/488 t=17.416 P=0/001	300.064 0/001	0/827	0/9	Fundamental activities of the value chain in car making industry

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