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## EXOGENOUS AND ENDOGENOUS ECONOMIC DEVELOPMENT PATTERNS IN "TRACTORSAZI" COMPANY (TRACTOR MANUFACTURING) IN IRAN

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**ЭХОГЕННЫЕ И ЭНДОГЕННЫЕ ОБРАЗЦЫ ЭКОНОМИЧЕСКОГО РАЗВИТИЯ КОМПАНИИ "TRACTORSAZI" (ПРОИЗВОДСТВО ТРАКТОРОВ) В ИРАНЕ**

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*In article also the exogenous development factors is told about endogenous. The author pays special attention to such aspects as modeling of strategy for development of branch of tractor construction in Iran, politicians of sales in the specified branch, human resource management, etc. Scientifically based conclusions and recommendations on article subject are provided in the conclusion.*

*В статье говорится об экзогенных и эндогенных факторах развития. Автор уделяет особое внимание таким аспектам как моделирование стратегии по развитию отрасли тракторостроения в Иране, политики продаж в указанной отрасли, управления персоналом и т.д. В заключении приводятся научно обоснованные выводы и рекомендации по теме статьи.*

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*Key words: endogenous development, exogenous development, strategy, export, import, program of sales.  
Ключевые слова: эндогенная разработка, экзогенная разработка, стратегия, экспорт, импорт, программа продаж.*

### INTRODUCTION

The mission of tractor manufacturing industries in Iran is to manufacture different types of tractors and agricultural machinery utilizing modern technologies and innovation and creativity of human forces, developing agricultural automation, and achieving capable profitability for local and foreign markets appropriately.

The political changes after the II World War and change of world, awareness and national informs for the people in colonies and their achievement of political independence, useless nature of economic contributions and the waste of resources by corrupt governments were among factors that led to considerable changes in theoretical viewpoints of the scholars. In mid 60s most researchers asserted that we should consider more facts and realities and that growth and economic development has always been a social-political issue. Torup believed that the idea of economic development should be altered with a vaster concept such as social-economic development.

This new tendency to enter social factors into the identification of the phenomenon of being under-developed and development concept is considered as a positive symbol and it means to evade sheer economics specifically in countries not developed and it can foster to notice social, cultural, and political development.

#### Exogenous development

Exogenous development is a type of development pattern adopted after the II World War in most of countries not developed to put an end on not being developed in theoretical and practical sense. This pattern has external origin and direction and is a mimic pattern enforced on underdeveloped countries to some extent. This pattern is also known as western development pattern due to its mimic and external directionality.

In this pattern there is not much concern about internal conditions and status of a society.

Also in economics the classic patterns of economic development are considered which emphasize on market

**Table 1. The prediction of firm's sales program during the years between 2012 and 2016 (units)**

Description	2012	2013	2014	2015	2016	Total
MF 285/2WD tractor	9000	9500	9000	8500	8000	44000
MF 285/4WD tractor	1100	1700	2000	2300	2500	9600
MF 399/2WD tractor	2000	2300	2500	2800	3000	12600
MF 399/4WD tractor	2000	2300	2500	2700	3000	12500
MF 299/2WD tractor	5000	6000	6500	7000	7500	32000
MF 299/4WD tractor	500	1200	1500	1700	2000	6900
ITM 240 tractor	2000	2000	2000	2000	2000	10000
MF 6480 tractor	100	100	100	100	100	500
Total	21700	25100	21700	27100	28100	128100

Source: Statistics center in "TRACTORSAZI" Company of Tabriz (2017).

**Table 2. The export program of the company for the years between 2012 and 2016 (units)**

Description	2012	2013	2014	2015	2016	Total
MF 285/2WD tractor	3826	4724	5210	5750	6370	25880
MF 285/4WD tractor	2700	2900	3200	3600	4100	16500
MF 399/2WD tractor	1000	1050	1050	1050	1050	5200
MF 399/4WD tractor	2150	2100	2100	2100	2100	10550
ITM 240 tractor	500	500	500	500	500	2500
Total	10176	11274	12060	13000	14120	60630

Source: Statistics center in "TRACTORSAZI" Company of Tabriz (2017).

**Table 3. The export program of "TRACTORSAZI" Company of Iran. (US Doll.)**

No.	Year	Exports in dollar	Percentage
1	2014	23,695,208	25.38%
2	2015	23,800,835	25.9%
3	2016	44,479,760	48.3%
4	*****	91,975,803	100%

Source: Statistics center in "TRACTORSAZI".

economy and its performance to accumulate capital as a stimulus for economic development using capitalism system patterns. Regarding this development pattern, to reach economic development the western pattern is utilized and it is repeated in underdeveloped countries enforcing reform programs in top-down status and relying on foreign capitals to prepare for the changes and finally it leads to a disharmonized economic growth and development. Some countries such as Brazil, Argentine, South Korea, Kenya, and Iran before Islamic revolution have experienced such a pattern.

**Endogenous development**

Unlike exogenous development patterns, Endogenous development patterns have internal source and directionality. In this pattern, local resources and historical, social, economic, political, and cultural conditions of the local community are noticed and it emphasizes on the fact that how we should change economic, social, and political conditions in our society to let market factors to supply whatever they need through their activities within the local

society. Also it emphasizes on the promotion of qualitative levels of lives of all human beings. Therefore, this endogenous development pattern in local and internal which is not different from historical, social, economic, political, and cultural conditions of the society and avoids mimic and sheer pattern adoption and dependence on external resources. It tries to utilize the opportunities to realize a convergent development within the society.

**The strategy based on primary needs**

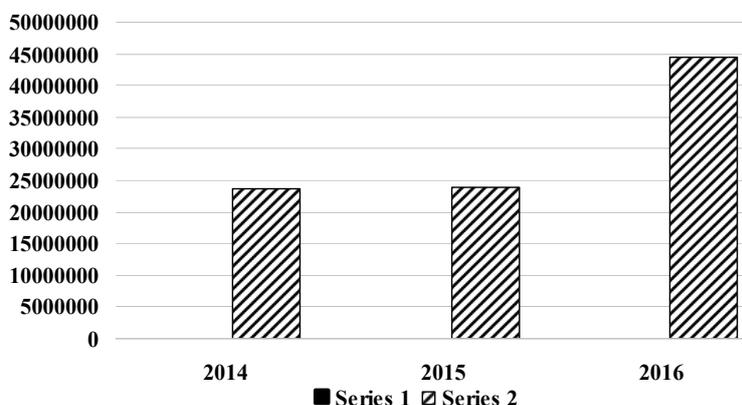
As it was pointed out, this model enhances the gross domestic production greatly but we should consider the reasons and different social causes throughout the growth and development. The strategy based on primary needs follows two goals as follows:

1) Direct, extraordinary, and rapid help to stop absolute poverty which has dominated a great deal of citizens in our country in a disappointing mode.

2) Meeting principal needs such as food, clothes, shelter, and fuel and also responding some social needs such as education, human rights, and supplying the possibility of participation in social survival through jobs and playing the social and political roles, establishing social justice and welfare are among the elements in such a strategy. This means that the material resources of a society should be distributed among all individuals in a society evenly.

**Bottom-up development strategy**

Previously we talked briefly on the concept of poverty. It is clear that poverty means to lose or to encounter the lack of something and most theorists try to revive what has been lost. We will deal with this issue more precisely in



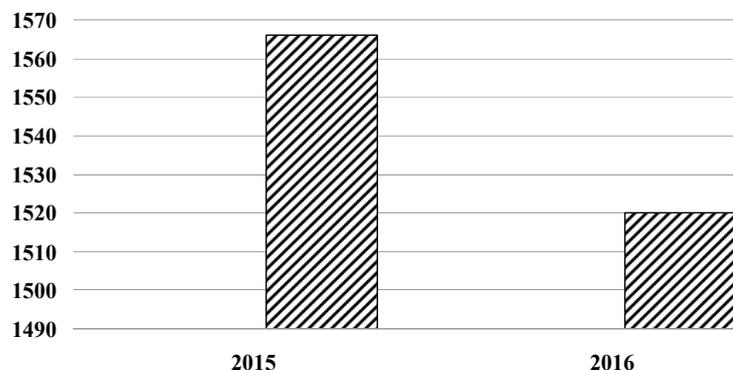
**Figure 1. "TRACTORSAZI" Iran Company's export program (mln US doll.)**

Source: Statistics center in "TRACTORSAZI" Company of Tabriz (2017).

**Table 4. The data related to human workforces of "TRACTORSAZI" Iran Company (mln US doll.)**

Year	Description	2015	2016	Increase/Decrease
1	Direct manufacturing personnel	1566	1520	-46
2	Indirect manufacturing personnel	360	350	-10
3	Service and maintenance	717	765	+48
Total		2643	2635	-8

Source: Statistics center in "TRACTORSAZI" Company of Tabriz (2017).



**Figure 2. The composition of Human workforce in "TRACTORSAZI" Iran Company**

Source: Statistics center in "TRACTORSAZI" Company of Tabriz (2017).

forthcoming parts. It should be stated that theorists do not have a consensus about how to define the concept of development. It is highly important to consider the fact that what priorities should be noticed in the form of this strategy. As Wallman has stated, people differentiate between growth and development in Third World and in industrialized countries regarding two reasons below.

1) The more efforts to develop locally will not be useful and there would be economic gap between industrialized developed countries and not developed countries. Promotion usually does not mean to get to a clear point within the development trend, but it refers to underdevelopment of a country through development and pioneering of the country. Even poor countries have found out that they can not reach the level equal with developed countries and in many cases they have forgotten to continue.

2) The expansion of gross domestic production and the amount of industrial development precisely means to make development in lower developed areas because during the increase of these increases have posed some difficulties and mistakes.

### Development status (tractor production in Iran)

The history of tractor manufacturing in Iran dates back to the establishment of Iran-Tabriz Tractor Manufacturers in year 1966 and exploiting the great complex in 1968 when it started a new stage of automation and automated agriculture and it has reached a great deal of success in manufacturing tractor during some recent years in a way that having a domination of 94% of the local market sales and a share of equal to 1% in foreign markets it is known as the most important and the major manufacturing firm and is one of the biggest rivals in international market. Of course, it should be noted that according to the formal statistics

seen in FAO the average share of international markets by Iran has been about 0.033% during the years between 1992 and 2001. Regarding the increase of exports of products manufactured in this firm it has started to establish assembly lines in several different countries and this has been one of the strategies and long-term goals of this firm to expand the share in external markets.

According to the formal statistics the total number of tractors manufactured in "TRACTORSAZI" Company from the very first moment till the end of March 2007 was equal to 950429 tractors. This amount includes 285 single differential tractors appropriating a share equal to 64.47% since it has got the highest amount of products during the active years. Also Universal Tractor manufactured in Romania has got 84.45% of the production share after MF 285 tractor as the second rank. Of course due to the stop of the production of tractors in Romania and replacement with MF tractors, it should be noted that this rank will be lower in future years.

### Sales program

The prediction of firm's sales program has been carried out regarding agricultural automation and analyses of the status of opponents, demand price, and e.t.c. which will be explained later (see table 1).

### Export program

"TRACTORSAZI" Iran Company has specifically noticed exports and has carried out some effective activities regarding the company's ideals and strategies and it continues the exceeding export activities to different countries during some recent years. The permanence of such activities should be considered very important regarding the fact that the only way to flourish and develop, is to have a permanent presence in global markets (see tables 2 and 3).

**Table 5. The data related to the plans of "TRACTORSAZI" Iran Company**

No.	Year	Real expenses of the plans (US doll.)	Percentage (%)
1	2013	0	0
2	2014	51,702,000	9.5
3	2015	174,702,000	32.1
4	2016	317,668,000	58.4
Total		544,072,000	100

Source: Statistics center in "TRACTORSAZI" Company of Tabriz (2017).

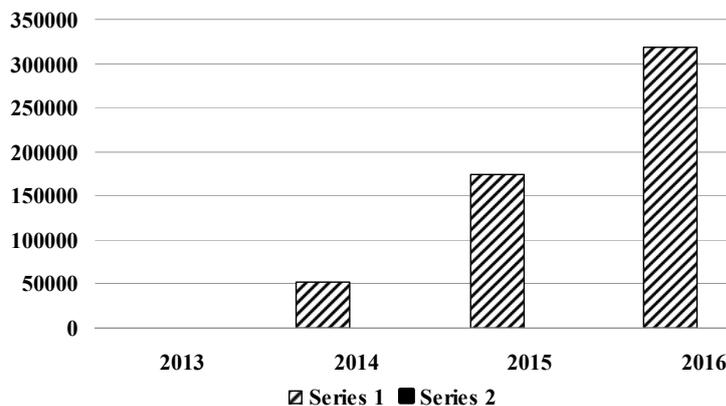


Figure 3. The data related to plans on participation, purchase and creation of "TRACTORSAZI"

Source: Statistics center in "TRACTORSAZI" Company of Tabriz (2017).

Table 6. "TRACTORSAZI" Iran Company's sales program

Percentage (%)	Sales prediction number (unit)	Product type	Year	No.
16.9	21700	Tractor	2012	1
19.6	25100	Tractor	2013	2
20.4	26100	Tractor	2014	3
21.1	27100	Tractor	2015	4
22	28100	Tractor	2016	5
100	128100	*****	Total	6

Source: Statistics center in TRACTORSAZI Company of Tabriz (2017).

The data in table 3 are related to "TRACTORSAZI" Iran Company's export program and they show that:

— The exports to countries like: Afghanistan, Zambia, Yemen, Kenya, Uganda, Sudan, Emirates, Venezuela, Romania, Turkey, Tunes, Zimbabwe, Philippine, and Tajikistan has amounted to 23,695,208 dollars in the year 2014 and it included 25.8% of total exports from the year 2014 to 2016.

— The exports to countries like: Sudan, Sierraleon, Turkey, Iraq, Tanzania, England, Kenya, Venezuela, and Afghanistan has amounted to 23,800,835 dollars in the year 2015 and it included 25.9% of total exports from the year 2014 to 2016.

— The exports to countries like: Sudan, Venezuela, Tajikistan, Azerbaijan, Turkey, Iraq, and Afghanistan has amounted to 44,479,760 dollars in the year 2016 and it included 48.3% of total exports from the year 2014 to 2016.

Figure 1 shows "TRACTORSAZI" Iran Company's export program and the greatest amount of exports has happened in 2016 amounting to 44,479,760 dollars and has represented 48.3% of exports' growth during last three years. In 2015 the company's exports amounted to 23,800,835 dollars and it included about 25.9% of total exports' growth during last three years. In 2014 the company's exports amounted to 23,695,208 dollars and it included about 25.8% of total exports' growth during last three years.

The data in table 4 show the human workforce of "TRACTORSAZI" Iran Company and it indicates that:

1- During the year 2016 there were 1520 people working in direct manufacturing part as the personnel and there were

350 people working in indirect manufacturing part, and there were 756 people working in services and maintenance part. Totally there were 2635 people working as laborers and staff in this company.

2- During the year 2015 there were 1566 people working in direct manufacturing part as the personnel and there were 360 people working in indirect manufacturing part, and there were 717 people working in services and maintenance part. Totally there were 2643 people working as laborers and staff in this company.

The results above showed that in 2016 the number of total personnel in "TRACTORSAZI" Iran Company has had 8 personnel reduced.

Figure 2 has represented the composition of human workforce in "TRACTORSAZI" Iran Company where:

— In direct manufacturing part 1566 people were working in 2015 and 1520 people were working in the company in 2016 as labors and staff. The figure above shows that at the end of the year 2016 the number of human workforce in the company has had a reduction of 46 people in direct manufacturing part.

— In indirect manufacturing part 360 people were working in 2015 and 350 people were working in the company in 2016 as labors and staff. The figure above shows that at the end of the year 2016 the number of human workforce in the company has had a reduction of 10 people in indirect manufacturing part.

— In service and maintenance part 717 people were working in 2015 and 765 people were working in the company in 2016 as labors and staff. The figure above shows

Table 7. The prediction of "TRACTORSAZI" Iran Company's export program

Percentage (%)	Predicted number for export (unit)	Product type	Year	No.
16.8	10176	Tractor	2012	1
18.6	11724	Tractor	2013	2
19.9	12060	Tractor	2014	3
21.4	13000	Tractor	2015	4
23.3	14120	Tractor	2016	5
100	60630	*****	Total	6

Source: Statistics center in "TRACTORSAZI" Company of Tabriz (2017).

that at the end of the year 2016 the number of human workforce in the company has had an expansion of 48 people in service and maintenance part.

The data in table 5 related to plans of "TRACTORSAZI" Iran Company show that:

The cost of plans in "TRACTORSAZI" Iran Company related to participation in creating assembly lines in countries like Argentine, Afghanistan, and Zimbabwe, the purchase and alteration of machinery required for manufacturing, office and industrial vehicles, instruments and technical equipments, furniture and office and workshop devices, the establishment and development of manufacturing halls were zero for the year 2013, they amounted to 51,702 million rials in 2014 comprising 9.5%, and they amounted to 317,668 million rials in 2016 comprising 58.4%.

Result: the least cost was related to 2013 with 0 million rials and 0%, and the greatest cost was related to 2016 with 317,668 million rials and 58.4%.

Figure 3 shows that the cost of plans of "TRACTORSAZI" Iran Company related to participation (in creating assembly line in Argentine, Afghanistan, Zimbabwe), purchase and alteration of machinery required for manufacturing, office and industry vehicles, instruments and technical equipments, office and workshop furniture, the creation and development of manufacturing buildings in the year 2016 have amounted to 317,668 dollars and they were 174,702 dollars in 2015, and they were 51,702 in 2014, and there was not any costs incurred in 2013. This shows that the highest costs were related to the year 2016 and the least costs were related to the year 2013.

The data in table 3-6 related to "TRACTORSAZI" Iran Company's sales program show that:

— In 2012, it was predicted to have 21700 tractors for sale and it included 16.9% of the total sales program for the 5 years plan through 2012 to 2016.

— In 2013, it was predicted to have 25100 tractors for sale and it included 19.6% of the total sales program for the 5 years plan through 2012 to 2016.

— In 2014, it was predicted to have 26100 tractors for sale and it included 20.4% of the total sales program for the 5 years plan through 2012 to 2016.

— In 2015, it was predicted to have 27100 tractors for sale and it included 21.1% of the total sales program for the 5 years plan through 2012 to 2016.

— In 2016, it was predicted to have 28100 tractors for sale and it included 22% of the total sales program for the 5 years plan through 2012 to 2016.

The data in table 7 related to "TRACTORSAZI" Iran Company's export program show that:

— It was predicted that in 2012, 10,176 tractors comprised of 5 models will be exported and 100% of them were realized and it was equal to 16.8% of total export plan during 5 years through 2012 to 2016.

— It was predicted that in 2013, 11,274 tractors comprised of 5 models will be exported and 100% of them were realized and it was equal to 18.6% of total export plan during 5 years through 2012 to 2016.

— It was predicted that in 2014, 12,060 tractors comprised of 5 models will be exported and 100% of them were realized and it was equal to 19.9% of total export plan during 5 years through 2012 to 2016.

— It was predicted that in 2015, 13,000 tractors comprised of 5 models will be exported and it was equal to 21.4% of total export plan during 5 years through 2012 to 2016.

— It was predicted that in 2016, 14,120 tractors comprised of 5 models will be exported and it was equal to 23.3% of total export plan during 5 years through 2012 to 2016.

## CONCLUSION AND RESEARCH SUGGESTIONS

Regarding the fact that the requirements of development in any society are national development, re-

building, and training, the industrial institutions in Iran should utilize all their structures and mechanisms appropriately regarding the unlimited needs of the society to rebuild and to update everything in order to develop themselves and the society all-encompassing economically. And since any change in the structure will lead to resistance on the part of the workers, they should try to train their workers to recognize the new structures and mechanisms to eliminate such resistance.

The requirement of economic development is to have a considerable presence in global markets and to gain global markets and it is related to satisfy the customers. The movement towards customer oriented activities can be realized and practiced through total quality management (TQM).

The goal of total quality management is to improve permanently and it emphasizes on the deletion of wastes and redoing and this can lead the companies to accept the concept of "zero faults" that remarks the proper carry out of the works at first time.

This cannot be achieved unless we use the experiences of those who are the best in their fields and it refers to bench marking. For example, we can refer to the experience of "Xerox" Company that was about to encounter bankruptcy in late 1970s and then it compared its status with Japanese companies and found out that its wastes have been 7 times more than Japanese Companies and the production time was 2 times more than the production time in Japanese companies and the ratio of workers to the production was 2 times more than the production time in Japanese companies. Then, it could revive its key role through bench marking and in 1994 it could even override Japanese companies.

Using re-engineering, the surplus and unwanted processes without value added are recognized and through it the locked costs are eliminated and this results in economic development of industrial institutions.

Through utilizing up to date techniques to manufacture products and training the staffs we can reach increasing economic value added.

The utilization of accounting based on management (ABM) as leadership philosophy in an organization should be based on a unitary concise set of processes to gain development using a number of key principles. We should also use tools such as ERP, BSC, TQM, and EFQM to develop the firms in order to create a new regulation system in an organization.

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