Petroleum Business Review, Vol. 7, No. 1, pp. 105-122, January 2023

Investigating the Impact of the Structure of Iran's Oil Contracts on Technology Transfer

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Highlights

- Since contractual frameworks have played a key role in shaping the legal system of the oil industry in Iran, the approval of the new contractual structure clarifies the need to examine the role of this new framework in key matters such as technology transfer.
- The issue that was examined and clarified in this article is that although the transfer of technology is affected by the new contractual model, it is also subject to other factors such as the legal frameworks prevailing in Iran.

Received: May 09, 2022; *revised:* August 12, 2022; *accepted:* October 08, 2022

Abstract

Disappointment with the framework of previous agreements (concession agreements), along with socio-political contexts such as the nationalization of the oil industry, led to a re-examination of this industry's contract frameworks in the light of past experiences, better future benefits and national independence and sovereignty. But how successful it was, that is another matter. Because the oil companies did not simply want to transfer the maximum benefits to the countries with oil resources, and used the dependence of those countries to their industry as a tactic against this trend as much as possible. The structures of applied oil contracts in Iran's oil industry have their own characteristics due to the conditions governing each one in its time period. Therefore, in this work, using the qualitative research method, the topic of changes governing the rights and obligations governing the transfer Technology in Iran's oil industry was reviewed and the examples included in the contractual frameworks were discussed. It seems that according to the results of the present research, the primary structures governing the oil industry were not the holders of the contractual obligations necessary for the transfer of technology in this industry, but over time and with the change of the contractual structures, conditions for the transfer of technology in These contracts can be found. But this point should not be ignored that, firstly, the purpose of these contractual frameworks is not only technology transfer, and secondly, several factors such as the legal system governing this industry have a great impact on shaping contractual structures and obligations related to technology transfer.

Keywords: IPC contracts, Oil contracts, Oil law, Technology transfer

How to cite this article
Kashanei, J., Matour, M., Ameri, F., Investigating the Impact of the Structure of Iran's Oil Contracts on Technology Transfer, Petroleum Business Review, Vol. 7, No. 1, p.105-122, 2022, .DOI: 10.22050/pbr.2022.341654.1263

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1. Introduction

Technology is no longer considered to be like any other product that can be bought and sold in the market without consideration of the need for capacity-building in recipient countries and the tacit elements that make for effective transactions. The globalization of markets in conjunction with rapid advances in technology, especially biotechnology and information and communications technology has changed the dynamics of comparative advantage, as well as perceptions of the process of technology transfer. (Maskus K. E, and Reichman J. H. 2005 also UNCTAD 1996)Applied contractual frameworks in the Iranian oil industry can be considered the most important factor in the formation of the legal system of this industry and the legal system governing transfer of technology. These structures have been formed under the economic and political conditions of the time and have formed the legal system of the Iranian oil industry. This effect can be well understood by examining separately the applied contract structures in the Iranian oil industry over time. Therefore, in this work, we will start to study the first functional structures in the Iranian oil industry, and we will continue this process until the last applied structure is examined, so that the main issue of this article can benefit from more transparency. Considering that the change in the contractual frameworks in Iran's oil industry itself is caused by the legal foundations governing the legal system of the oil industry in Iran, the impact of these contractual frameworks on important issues such as technology transfer in the oil industry should not be ignored. Therefore, it is necessary to investigate the impact of these contractual structures and their evolution during different periods of time on the transfer of technology in Iran's oil industry. Because the fundamental changes in the contractual framework governing the oil industry include changes in the rights and obligations of the parties to the contract, so it is obvious that the changes that have occurred in the previous and current structures of oil contracts in Iran's oil industry play an important role in relation to the rights and obligations of the contractual parties in the field of technology transfer in this industry in Iran, which we will examine in this work. What were these contracts? How did they form the legal system of the Iranian oil industry? What has been their impact on technology transfer in the oil industry? These are most important questions that will be addressed in this work.

2 .Materials and methods

2.1 Research methods

2.1.1 Type of research: fundamental

Whereas the nature of this approach is a fully theoretical research approach so its aim is to improve or expand knowledge around the basic understanding of the impact of contractual frameworks in technology transfer. The main focus in this approach (fundamental research approach) is acquiring knowledge only for knowledge itself. (Karamkhani, J, Ali Madd, Z 2015) Therefore, the approach of the current research is to investigate the regulation that is carried out on the above-mentioned topic. In this research, an attempt has been made to make our understanding in the field of technology transfer better and more complete by examining the frameworks used in Iran's oil industry.

2.1.2 Type of method: qualitative

Qualitative research includes collecting and analyzing non-numerical data to understand different concepts, views and experiences. This approach is a field of research method whose common feature is the analysis of unstructured data. In this method, the goal is to identify, classify and extract concepts

based on the study of texts or based on the opinion of experts (Karamkhani, J, Ali Madd, Z 2015). Thus, analytical, perceptual and classified descriptions are obtained from the collected information.

2.1.3 Research methods: descriptive-analytical

This approach includes a set of methods whose purpose is to describe the conditions or phenomena under investigation. This research is done in order to objectively and qualitatively describes the content of concepts in a systematic way. In such research, the author seeks to analyze and describe the material. So, the desired elements and materials are collected and classified and analyzed. This research examines the existing situation and deals with the regular and systematic description of its current situation and studies its features and characteristics (Karamkhani, J, Ali Madd, Z 2015).

2.2 Data collection method

Due to the nature and quality of the subject, the library method is considered appropriate.

2.3 Data collection tools

The data collection tool is a documentary checklist. The data analysis method is based on the type of information collected which is qualitative in nature, so the obtained information is classified and summarized and special statistical methods (descriptive and inferential) are not used. The statistical community also has all the documents on the subject.

2.4 Sampling

Due to the fact that the documents (such as acts, scientific articles, books, since the beginning of the oil industry which have been available to the authors) related to the subject are not completely at the disposal of the researcher, so purposeful and available sampling is used, which means that the documents that have the most desired characteristics (purposeful sample) and are available are selected as a sample.

2.5 Literature review

Although the importance of the issue is very clear and it requires the attention of experts, but due to the novelty and interdisciplinary nature of the technology transfer debate in oil contracts, there is no strong background in this field that has directly addressed this debate. Most of the existing works in related fields, which are few in number, have only dealt with case studies and have avoided entering both fields as a combined work (oil laws and technology transfer laws). In this context, one can use the works written in the fields of oil rights, technology transfer rights and intellectual property rights. Therefore, the basic gap that we are trying to solve in this work is the lack of examination of the rules governing the transfer of technology in the contractual frameworks of the oil industry. Among the most important published works that can be a basis and guidance for the subject, we can mention the collection of articles by Dr. Faysal Ameri, who discusses various topics such as technology transfer in oil contracts, energy law, It covers competition rights and... Another noteworthy work is Dr. Ebrahim Rahbari book on Technology Transfer Laws, which is one of the leading written works on the topic of technology transfer. The book "Oil and Gas Laws" written by Dr. Abdul Hossein Shiravi can also be mentioned as another scientific work written regarding the present discussion. However, as previously stated, although the above-mentioned works have a high position from a scientific point of view, none of them have addressed the subject of this article in a consolidated manner. Other valuable written works are also the works mentioned in the reference list.

2.6 The aspect of novelty and innovation of research

This work is innovative in two ways, firstly, unlike other available sources, it is the first work that examines the impact of various contractual structures in the oil industry on obligations related to technology transfer, and secondly, for the first time in this work What is the motivation for accepting technology transfer commitments for oil companies will be addressed and along with a detailed and scrutinizing review of the existing structures and contracts, solutions will be provided to optimize them in the technology transfer process and guarantee the implementation of the legal obligations of the parties in This field is discussed for the first time at the level of a scientific research paper. And while keeping in mind the necessary legal frameworks that include the various fields of oil rights, it deals with how far the legal programs that have been adopted in this field have included the necessary measures for technology transfer and how the ability to provide maximum national benefits by considering all domestic and international conditions. This is the subject for which this work seeks to find a scientific answer for the first time.

3 .Concession agreements in iran

Before dealing with contractual arrangements, it should be noted that some authors consider the role of contractual frameworks to be more important in technology transfer and others prioritize other methods of technology transfer (for example see Bennett D 2002). The oil Act approved in 1957 is generally considered to be the first law in the oil industry. But further examination shows that before this date, the legislature had not been silent in the field of mines and oil reserves, and in some cases entered into this field; For example, principle 24 of The Persian Constitution of 1906, states: Concluding treaties and conventions, granting trade (industrial) and monopoly privileges, etc., whether domestic or foreign, must be approved by the National Assembly, except for treaties whose camouflage is in the interest of the state and the nation.(Derakhshan, M, 2013. Also, Legal Affairs of the National Iranian Oil Company, 2002)

Also, Article 3 of the Mining Act approved in 1938 states that: "The right to extract oil mines and petroleum products and precious stones ... is exclusive to the government and the rights of the owners of these mines will be determined by a special regulation with the agreement between the government and the owners." This material, which introduces an anti-competitive procedure, has also spread the field to the extraction of petroleum products. (Legal Affairs of the National Iranian Oil Company, 2002)

Thus, the legislation of the first acts in this industry cannot be considered solely due to the will of the legislature at the time, but it can be considered as a result of the Iranian government in a special sense with international oil companies. This shows that Iran's national interests in the oil industry, which was nascent at the time, have been neglected and regretted from the very beginning. [For more study about evolution of Iran's international oil contracts see (Rahimi, F, 2016)

4 .Investigating technology transfer in the context of concession contracts in iran

In scientific sources, different components for technology are listed, but one of the most complete is; Hardware, Software, Brain-ware, Human resources, Information and Organization; (Norouzi, M; 1396)

The organization software section consists of three components:

1 .Organizational aspects related to technological activities, at the highest levels of which are institutions and organizations of technological policy and planning.

2 .Laws and regulations governing the activities and the important role they play in the development of the technological structure.

3 .Management systems that consist of a set of principles, methods and attitudes governing technological activities. (Shahniai, A;2003 see also Rahbari, E;2013)

In terms of hardware, one of the important points is to pay attention to the production of oil industry equipment. Unfortunately, in this field, we cannot see a significant achievement in this period. Regarding the use of supply of domestic goods and services, in paragraph "V" of the Oil Law approved in 1957, it is mentioned that Priority is given to supplying the desired goods from domestic production, and in circumstances the oil company can import goods to Iran that cannot be used domestically. (Kazemi Najafabadi, A;2014)

This regulation can be related to the discussion of technology transfer in that the contracting companies could only import produced technology (goods) to Iran that is appropriate to the technical or economic needs of the country. This is a prerequisite for any technology transfer contract. Of course, the important point is to pay attention to the extent to which Iran could have fulfilled this condition in practice in that period of time.

In the field of human-related components, infirmity can be observed. It is important to note that little attention has been paid to this in other contract periods. In the field of training and education of human resources and increasing their technical skills, the first commitment can be seen for the first time in the franchise of the Anglo-Iranian Oil Company in 1933. According to paragraphs 3 and 4 of Article 16 of this concession, "... the company will allocate an annual sum of ten thousand pounds sterling for Iranian citizens in the United Kingdom to learn science and technology related to the oil industry." In addition, the company was obliged to "... reduce the number of non-Iranian employees every year and regularly, and replace them with exponentially Iranian citizens in the shortest possible time." Of course, the effectiveness of such conditions depends on the commissioner (inspector) having the necessary scientific and technical ability. (Derakhshan, M; Taklif, A; 2015)

Of course, the use of indigenous force had already been mentioned in the twelfth chapter of the Darcy contract; which has been mostly focused on providing labor force (action and action). In subsequent contracts, international oil companies were required to use domestic manpower and train the required manpower in the absence of sufficient manpower. (Kazemi Najafabadi, A;2014)

In the areas related to information and organization, although very weak, basic steps were taken. For example, in the field of inspections of the field of operations and all financial statements and access to all reports related to oil operations, according to Chapter 11 of the Darcy Charter, it is stipulated that "the government has the power to appoint a commissioner who "He will be the director of the companies ... and as soon as the rights of the government are protected, he will jointly carry out any audit he deems useful with the franchisee."(Oil Documents, 1951)

In addition, in accordance with paragraphs A and B of Article 4 of the Anglo-Iranian Oil Company License 1933, "the government will have the right at any time to order to inspect the company's technical operations in Iran and to implement this purpose from experts and Appoint technical specialists. "The company will make the documents and instruments for measuring oil extraction available to government and specialized government officials, and in addition, these officials will have the right to study any information in all company offices and in all of Iran." The previous cases are also mentioned in the consortium agreement approved in 1954. According to paragraph 2, part (1) of Article 4, "At the request of the National Iranian Oil Company and within a reasonable time, the operating companies at their own expense any information that the National Iranian Oil Company deems necessary, such as exact copies of plans and drawings and related sections and reports. "They will submit to the National Iranian Oil Company for mapping, geology, geophysics, drilling, production, refining and other related matters in the area of operations, which have been finalized." Also, in accordance with paragraph 4 of

the same component in the same article, "operating companies will provide equipment for technical experts selected by the National Iranian Oil Company to inspect their technical operations at appropriate times and all documents and information related to scientific and technical issues." "They will provide the measurement, measurement and testing equipment to these specialists." (Derakhshan, M; Taklif, A; 2015)

In the field of management issues, which are related to organization, it can be added that the most important area is related to the protection of oil resources, which is stipulated in paragraph A of Article 12 of the Anglo-Iranian Oil Company 1933The oil company will use all the usual and appropriate means to ensure savings and make full use of its operations in connection with the operations carried out in Iran in accordance with this contract. And will use it to maintain its underground oil reservoirs and use its concession in a manner consistent with the latest scientific advances of the time. The same case in the consortium agreement of 1954, under paragraph 1 (f) of Article 4, commits the operating companies to "comply with the good practice of industry and adhere to the correct principles of engineering in the protection of hydrocarbon reserves and in the technical management of oil fields and refineries." "And in the preparation of operations in a way that is common in similar operations (generally in the area of operation)." (Derakhshan, M; Taklif, A; 2015)

In general, in this period, technology transfer can be considered as rudimentary and insignificant, in other words, although some legal requirements can be found in Iran's oil concession contracts, but in practice for various reasons, including Low level of knowledge and experience did not benefit much in practice. For example, the share of Iranians in employment was limited to operational and labor issues. (Vaziri, 2002 Quoted from:Tawakul, M; Mehdizadeh, M R, 2007) Of course, this limitation may be due to lack of necessary skills. In addition, the application of such contractual conditions must be done in such a way as to prevent the entry of foreign skilled labor.

If we want to count a comprehensive list of tangible actions taken during the implementation period of these contracts, this list is not very long and is limited to the following:

1- In terms of technical development:

- Construction and development of Abadan refinery
- Construction of Kermanshah refinery
- Construction of refineries in Tehran, Shiraz
- Construction of Abadan, Khark and Bandar Shapur petrochemicals

Establishment of joint refineries in India and South Africa

2- In terms of scientific development:

- Exploration activity with the establishment of the first Iranian oil company (Oil Joint Stock Company)
- A number of Iranian students study in the UK
- Activities of Abadan Branch Engineers Association
- Formation of Petroleum Association
- Publication of the Iranian Oil Association Quarterly
- Average annual printing
- Preparations for establishing a research center
- Opening of new pilot and oil fuel laboratories

- Establishment of Abadan Petroleum School and School of Accounting and Financial Sciences
- Higher management training courses as well as sending employees abroad

3- In terms of institutional and human development:

Establishment of vocational schools, nursing and Abadan Technical Institute

- The first oil industry workers' strike
- Launching the oil radio
- Establishment of various civil, artistic, cultural, religious and ...(Tawakul, M; Mehdizadeh, M R, 2007,)

The first concession contract in Iran is called Reuter's concession. By examining the text of the contract, it is not possible to reach the rules governing the transfer of technology in the form of a contractual obligation, but some of its articles are significant. including the first article which refers to the registration of commercial companies in the academy and which represents the role of intellectual property rights, and the second and fifteenth articles which refer to matters such as the construction of railways and dams, which in a way are in addition to investment in the oil industry also refers to the role of FDI in technology transfer (for more study on FDI impact on the subject matter see UNCTAD 2004). This point is similar to other contracts in that time period. In 1901 and in the D'Arcy Concession, an initial commitment can be found in the twelfth article of this concession to transfer technology through the employment of domestic personnel. According to this regulation, which states, "Chapter 12 - The staff and workers who work in the above institutions must be subjects of His Majesty the Emperor, with the exception of the scientific components such as the manager, engineer, assistant, and stewards." Therefore, we can perceive the first obligation in the field of technology transfer in this agreement.

5 .Legal contexts governing technology transfer during partnership agreements in iran

Talking about the framework of partnership agreements, with the approval of the oil law approved in 1957, began in the legal system of the Iranian oil industry. However, the law did not explicitly prohibit the use of other contractual frameworks, (perhaps because some of them were in the oil industry, and the legislature did not want to be in conflict with existing practices). The prevailing spirit has been quite encouraging and representative of the use of various partnership agreements.

Perhaps the legislature, as a result of gaining experience from concession agreements, and transferring the monopoly rights to international oil companies, has tried to use this type of contractual framework to promote the position of Iran in the negotiations of concluding oil contracts (and in case of undergoing a contract in Their implementation).

The use of participatory contractual frameworks in theory and with appropriate conditions can be more useful in the interests of the host country than concession agreements. However, the extent to which these structures can be effective in meeting the technological needs of the country is something that needs further study. For example, the legislative effects of this period can be clearly seen in the Iran-Canada contracts and the contract between the National Iranian Oil Company and the Pan American Petroleum Corporation:

" *Pursuant to Article (8) of the Law on Exploration and Exploration and Extraction of Oil, approved in 1336, the foreign party was obliged to pay amounts to the National Iranian Oil Company as a lump sum and within the deadline stipulated in the contract.

*In order to implement Article (9) of the Exploration, Exploration and Extraction Law approved in 1336 from the date of commercial operation and according to the size of the operational area, the foreign party was obliged to pay sums to the National Oil Company as land rights. “(Manzoor, D; Amani, M; Kohan Hooshnejad, R; 2015)

In terms of supply of hardware components, we can refer to the issue of domestic production of oil industry equipment. In this regard, in accordance with the National Oil Company corporate charter approved by 1956 NIOC must comply with the requirements in this regard. In accordance with Note 1 of the above-mentioned corporate charter: The company is obliged to give priority to similar domestic goods and to consume domestic products and products in order to prepare its industrial equipment or consumables according to the quality and value of goods and observing the economic interests of the country.

It is also stated in section "V" paragraph 11 of Article 11 of the Oil Law of 1957 that: .... All importers who import these goods must give priority in the supply of their consumables to the objects that are made and provided in Iran. Noting that the mentioned objects are compared with similar foreign objects with the same favorable conditions in terms of type of material and price and its availability when necessary to the required amount and its usability in the case for which it is intended in Iran .

In terms of software and brain ware issues, we can mention the establishment of Abadan Technical School in 1948. Also in the 1961s, some Iranian engineers for the first time began to study the country's oil reservoirs independently to formulate optimal policies for overdraft. (Derakhshan, M; Taklif, A; 2015)

In the field of human resources especially in the field of manpower training, Article 6 of the A draft law on how to implement the principle of nationalization of the oil industry throughout the country, stipulated in 1951, stated that the joint board is obliged to gradually convert foreign experts to Iranian experts. Regulations on sending students through competitions every year to learn different fields of information and experiences related to the oil industry to foreign countries and after the approval of the Cabinet by the Ministry of Culture to implement in a timely manner. The tuition fees of these students will be paid from oil revenues.

In the field of organization-related issues, specifically in the matter of protection of oil resources and the use of appropriate technical methods in the operation of reservoirs, observing the maximum efficiency rate in production from oil fields for the first time in the exploration and production contract between the National Iranian Oil Company and the company European countries approved in 1969. According to paragraph (b) of Part 1 of Article 21 of this contract, "the developed production capacity of the fields must never exceed the limits of the optimal production schedule of the relevant field reservoir in accordance with the correct method of the oil industry." Also, according to part 4 of Article 21, "each party will have the right to request the development of the field (or fields) to the maximum usability of the field and the other party will not oppose such a request ...". (Derakhshan, M; Taklif, A; 2015)

The same emphasis of the regulation on the protection of reserves and compliance with technical and engineering principles can be seen in paragraph w of Article 9 of the 1957 Oil Law. This clause states: .... The agent must be committed to comply with the usual method of the oil industry and specially to follow the correct technical and engineering principles in the protection of hydrocarbon reserves.

6 .Contexts governing technology transfer during service contracts in iran

After the Islamic Revolution of Iran, despite the legal restrictions, these contracts were associated with obstacles for some time. But reasons such as attracting technical knowledge and technology, providing financial resources and foreign capital, providing the country's budget, imposing operational risks on the contractor, caused changes to be achieved. First, in Clause H, Note 29 of the Act of the First Program of Economic, Social and Cultural Development of the Islamic Republic of Iran, approved on 11/11/1368, for the first time, the National Iranian Oil Company has been given permission and authority to "in order to supply the gas required for domestic and Export and exploitation of Pars and South Pars gas fields (jointly with Qatar), with the guarantee of the Central Bank of the Islamic Republic of Iran, conclude the necessary contracts with competent foreign companies up to three billion two hundred million dollars. Then, according to Part 1, Paragraph B, note 29 of the 2013 Budget Act of the whole country, permission was issued to the National Iranian Oil Company to conclude cross-sale contracts.

The legal aspect of this contractual framework also includes the following: non-commitment and guarantee of the government and the central bank to repay the contractor's investment, considering special conditions for the parties in case of non-fulfillment of obligations by either party, performing all operations related to the contract in the name of or by the National Iranian Oil Company by the contractor. If the new partners join the contract, if approved by the National Iranian Oil Company, the law will be the law of the Islamic Republic of Iran and arbitration will be based on the agreement of the parties, in case of force majeure the contract can be terminated and in case of change of laws, the law The new will prevail. (Pakdaman, R; (2002) Also Shiravi, A; Ebrahimi, S N; Asgharian, M; 2009. Haji Mirzaei, M A et al. 2016)

The other two components of the technology under consideration are the humanities and brainstorming aspects. From this point of view, in the period under review, requirements can be achieved, such as Article 20 of the Oil Law approved in 1974, which States:

6.1. Hiring foreigners

1 -Hiring a foreign employee will be allowed only in jobs that the Iranian employee does not have the necessary expertise and experience to hold. These rules will also apply to contractors working for the general contractor.

2 .The employment of a foreign employee in any case will be done with the consultation and permission of the National Iranian Oil Company and the National Iranian Oil Company will be obliged to establish that foreign employment in each case is for a limited time and it is conditional on providing internships for Iranians who can "Replace the foreign employee on a regular basis".

Also, Article 10 of the Oil Law approved in 1987 states that: "The Ministry of Petroleum is obliged to train and equip the required manpower and provide access to advanced technology and growth and development in various fields of the oil industry in appropriate ways and in coordination with the Ministry's policies." Culture and higher education and by designing educational programs and forming training centers and establishing research and laboratory complexes to continuously strive and by taking effective measures to raise the level of knowledge and scientific and practical information of staff and experts and create a suitable environment to attract and encourage work elements. "Come committed and take professional action".

In the field of hardware issues, which are mostly seen in technological goods, it can be argued that:

" Such a requirement can play an encouraging role in the growth of domestic industry. For example, it not only encourages domestic productions units to increase production, but also encourages them to

increase their technical knowledge and technology in order to improve the quality of products." Undoubtedly, the necessity of this requirement is useful when, first, the host country has the necessary technology to provide services and production. Second, it identifies the quality and cost-effectiveness of the goods and services in comparison with the competing goods and services of the host country. So, the decision in this regard cannot be left to a foreign company, which prefers to use its goods and services. Due to this danger, some countries in this field, while giving priority to domestic goods and services, have designated the competent authority as the domestic authority." (Ameri, F; 2007)

Article 24 of the Oil Law adopted in 1974 states that: "Goods and services required for operations in any contract will be provided and obtained from domestic sources. The use of foreign goods and services will be allowed when the goods and services provided in Iran are provided." And is offered at the discretion of the National Iranian Oil Company in terms of quality to meet the need for operations, or is not available in the required quantities, or the price of goods and services offered in Iran at the discretion of the National Oil Company more than twenty percent of the price of goods and "Foreign services are more expensive".

"The effect that such a requirement can have on the acquisition of knowledge and technology cannot be denied, because by taking possession of these tools, it provides the host country with an opportunity to familiarize its citizens with the transferred equipment and facilities and to teach them how to use them." It is necessary to say, such a transfer would be limited in two ways: first, as studies have shown, in practice most of the transferred tools are obsolete. "These are operation-specific: that is, they are of the technology produced, not the technology of the manufacturer." (Ameri, F; 2007)

A similar interpretation of this regulation can be seen in Article 2 of the Oil Act adopted in 1987, which states: "The country's oil resources are part of public wealth and according to Article 45 of the Constitution is at the disposal of the Islamic government and all facilities The equipment, assets and investments that have been or will be made inside and outside the country by the Ministry of Oil and its subsidiaries will belong to the people of Iran and to the Islamic government. Exercising the right of sovereignty and ownership over oil resources and facilities belongs to the Islamic government, which according to the rules and authorities authorized by this law is the responsibility of the Ministry of Oil to act in accordance with the principles and general plans of the country".

In connection with software and information issues; Matters such as inspection, and maintenance production, and the provision of information, which include managerial and organizational issues, have been addressed in various laws; For example, we can refer to paragraph c of Article 4 of the corporate charter of the National Iranian Oil Company, approved in 1977, which states: "Care and diligence and appropriate action for the development and progress of the oil industry and related industries in terms of science, technology, trade, economics, etc. And in paragraph "d" of the same article in the field of protection, regulations are stated that based on them Preservation of underground oil and gas reservoirs and other hydrocarbons and taking the necessary measures to prevent the loss of these materials and the proper exploitation of oil reserves throughout the country" .

Also, in paragraph 1 of Article 18 of the 1974 Oil Act, there is a regulation that can also have an information aspect: "The National Iranian Oil Company will be obliged to exercise complete and effective supervision and inspection on each contract in the General Contractor's operations." The Contracting Party shall be required to carry out all its activities with the consent and approval of the National Iranian Oil Company and to provide and submit any information in a comprehensive and satisfactory manner in accordance with the opinion and order of the National Iranian Oil Company" .

Another case is Article 7 of the Oil Act approved in 1987, which states in the field of maintenance production and supervision: The Ministry of Petroleum is obliged to act during the oil operations with

proper coordination and full supervision to protect oil reserves, protect natural resources and facilities and prevent environmental pollution (air, water, soil) with the coordination of relevant organizations. How transparent this article is in its interpretation is another matter, but it is better to consider the right of protection and supervision for Iran in its interpretation.

7 .The new model of iranian oil contracts IPC

7.1. Legal structure of IPC

According to the above-mentioned content it seems that there is no clear consensus on the interpretation of the legal frameworks and rules governing this contract. For example, in the field of foreign investment and the title of this article in Article 3 of the Law on Duties and Powers of the Ministry of Oil approved in 2012, it is mentioned to attract and direct foreign investment. This reference was enough to raise differences of opinion on this issue in two perspectives. To support the idea of not having any consensus on the interpretation of the legal frameworks here are mentioned some of this different views;

In the first view, it is stated that the principle of non-abrogation of Article 6 of the Oil Law 66 and monopoly on state investment in mines proposed in the Law on Implementation Policies of Article 44 of the Constitution. Because investment guidance is different from its requirements. While the second view briefly states that because this law speaks of a new model of contracts and the use of the partnership structure is allowed, so they believe in repealing the above provisions.(Hatami, A; Karimian, I; 2014)

Of course, none of the above views is complete and appropriate in the opinion of the author of this work. It does not seem that the Act on Duties and Powers of the Ministry of Petroleum, adopted in 2012, is in the position of stating the details of how to make this type of investment, and merely emphasizing its special importance and granting the law in the context of the existing legal system. This point becomes clearer when it is noted that the acceptance of the abrogation theory stems from the acceptance of the previous assumption that the General Conditions, Structure and Pattern of Upstream Oil and Gas Contracts adopted in 2016 are not in fact prescribing participatory models. From the point of view of legal reasoning, it is faced with the abrogation of legal principles, which it is unlikely that the above-mentioned decree will be able to express itself. A better interpretation is to call these new contract models not completely but quasi-hybrids .

7.2 Legal contexts governing technology transfer during IPC structure in iran

From the point of view of hardware, software, brain ware, human resources, information, some of the requirements that are emphasized in the new framework can be expressed as follows:

Article 3 of the General Conditions, Structure and Pattern of Upstream Oil and Gas Contracts states: "All contractor operations shall be performed in the name and by the employer from the date of commencement of the contract, and all property including buildings, goods and equipment, wells and underground and underground facilities belong to the employer from the same date.

Article 4 in paragraph "b" states: "The second party to the contract is required to use the maximum technical and engineering, production, industrial and executive capacity of the country according to the Act of maximum use of production capacity and services to meet the needs of the country and Etc….

Paragraph "c" of the same article states: "The second party to the contract is committed to the maximum use of domestic manpower in the implementation of the contract and provide a comprehensive training program to improve the quality of these forces and make the necessary investments in the form of direct

capital expenditures for "Training and research programs, such as upgrading and updating existing research centers and establishing joint research centers or implementing joint research projects".....

Article 6 of the corporate charter of the National Iranian Oil Company, approved in 2016, states in paragraph 16 that: Compilation and modification of the structure and organization of the company, its branches and agencies and subsidiary companies in line with the maximum and optimal use of funds, equipment and human resources are at the disposal and among the duties of the National Oil Company.

It is also stated in paragraph 18 that: "Designing and holding specialized training courses related to the activities of the company and its subsidiaries with the priority of using the capacities of scientific and academic centers" is another duty and authority of the National Iranian Oil Company.

In organizational platforms, the following can also be considered by examining the existing rules:

Article 3 of the General Conditions, Structure and Pattern of Upstream Oil and Gas Contracts states in paragraph (c) that: " The commitment of the second party to the contract to take maintenance from the oil and gas reservoirs during the contract period is made by using new and advanced technologies and necessary investments, including the implementation of improvement plans or increasing the recovery rate according to the complexities of the field or reservoir".

In paragraph "H", the following issues are emphasized: "Carrying out environmental assessment studies and observing safety, health, environmental and social regulations and considerations in the implementation of projects".

Article 4 explicitly states that: In order to transfer and promote national technology in the field of upstream oil operations and implement large projects and empower Iranian companies to implement large domestic projects as well as to be present in regional and international markets, the following items are applied in the contracts subject of this approval letter:

A: In each contract, according to the terms and conditions announced by the Ministry of Petroleum and approved by the National Iranian Oil Company, Iranian exploration and production companies are present as company partners or reputable foreign oil companies; And by participating in the process of contract implementation, the possibility of transferring and developing technical knowledge and reservoir engineering and management skills is available to them. The second party of the contract is obliged to provide the technology transfer and development plan as part of the annual operational financial plan. In every contract, executive policies and operational measures to fulfill the provisions of this clause must be included as a technology annex to the contract".

Also, in Article 6 of the corporate charter of the National Iranian Oil Company, the duties and powers of the National Iranian Oil Company are stated:

Clause 1 states: "Study, exploration and extraction, development and production and Protective exploitation of oil resources in accordance with the contract concluded with the Ministry of Oil"

And in paragraph 7 it is stated that: "Management of storage and transfer of oil" are among these duties and authorities.

Article 2 of the same Act states: " In order to continuously monitor the smooth flow of operational, financial, transactional and contractual affairs and subsidiary companies and to improve management indicators, the internal inspection and audit department of this company is formed, which performs its duties according to the regulations approved by the board of directors and is obliged to submit the necessary reports to the Minister of Oil, the Chairman of the Board of Directors and the CEO".

In this regard, the oil act amending the oil act adopted in 1390 states, "Supervision of the exercise of sovereignty and public ownership of oil resources is the responsibility of the High Board of Supervision of Oil Resources, and ..." If the contract is confidential, there is still the possibility of transparency and the exercise of sovereignty and the protection of national interests.

One of the points that needs special attention is the discussion that is stated in the corporate charter of the National Iranian Oil Company and in paragraph 14 of Article 6: The issue of participation in the framework of the comprehensive research system of the Ministry of Oil by using research capacities inside and outside the oil industry is one of the duties and powers of this company. This article refers to a comprehensive research system. It does not seem irrelevant to give an explanation about this matter.

In this code, the comprehensive system of research, technology and innovation of the oil industry is defined as follows: "The comprehensive system of research, technology and innovation of the oil industry is designed using the combined approach of" innovation system "and" technology management system ". This system consists of a set of functions or activities that ultimately provide the conditions for the creation, dissemination and exploitation of knowledge and technology in a way that leads to effectiveness in the organization…. ". This document was reviewed in 2020, but Article 14, which states the definitions, does not provide a definition of technology or technology transfer any more.

Sectorial innovation system means: "Sectorial innovation system is a set of goals, policies, strategies, laws and regulations and interconnected institutions of a sector (oil industry) that have formal and informal interactions with each other, in the field of creation, "The dissemination, promotion and exploitation (innovation) of knowledge and technology, and are formed within a macro-organizational structure or ministry, to implement specific policies to influence the development of technological innovation at the industry level".

Also, the meaning of the technology management system is: "It is a set of organizational processes that are in full harmony with other processes and departments and the goals and strategies of companies. This system automatically determines the level of effective use of technology by companies in order to achieve the desired level of technology. The five tasks of the technology management system include: technology identification, technology selection, technology acquisition, technology exploitation, and technology protection.

Of course, it is important to note that although these cases can be considered as internal goals to meet the needs of technology, but in the process of technology transfer, determining the type of technology and its desired level is one of the matters that can be measured in such documents.

Although all the mentioned legal articles are involved in technology transfer, two points should not be ignored. First, it is the contractual framework and the conditions included in it, which have a direct effect on technology transfer. Second and more importantly, these are contractual frameworks that, in addition to directly influencing technology transfer can influence technology transfer through foreign investment and other direct or indirect methods of technology transfer.

Although now the upstream documents such as the document of general conditions, the structure and pattern of upstream oil and gas contracts, the regulation of the comprehensive system of research, technology and innovation of the oil industry, the research and technology development document of the Ministry of Petroleum, the comprehensive management system of research, technology and innovation of the Ministry of Petroleum , the comprehensive system of research, technology and innovation of the oil industry, the research and technology and commercialization system contains rules in the field of technology transfer in the oil industry, but some of these rules remain as recommendations.

8 .Conclusion

As a result of increasing countries' awareness of the importance of oil resources they became more familiar with the legal framework and gained experience from their unilateral contracts with oil companies, efforts were made to provide maximum benefits to the host country, but oil companies also made every effort to maintain their superior position, they have tried to adapt to new situations and frameworks and continue to benefit from the maximum. It became clear that in the era of partnership agreements, the host country was looking for a solution by understanding the results of the concession agreements so that it could benefit from foreign investment and technology transfer benefits and be safe from exploitation and interference effects of international oil companies. During this period, which was associated with the beginning of the formation of the legal system of the oil industry in Iran in the true sense of the word, related legal organizations were also seen. The Permission to enter into partnership agreements in Iran after the nationalization in Iran was an attempt to achieve the above goals. But we also have to consider some issues so that we can use these contracts to transfer technology. Cultural, ideological, and administrative disputes are one of the issues in the organizations of the parties to the contract. When the parties have not and will not have any rapprochement in the above fields, their success under a single legal entity or their close cooperation can be affected and may not have the desired productivity. The above article shows its effectiveness when this collection pursues different goals. While the host country aims to transfer technology, attract capital, and maintain independence, the oil company is seeking economic benefits, and increasing its superior influence and power Another point is that, in a situation where the bad faith or at least the lack of goodwill of the international oil companies is a proven matter for the host country, how to manage the project or the independent legal entity (if any) and determine its manager, who is supposed to be an independent person. The management debate does not end with the appointment of managers. Even if the host country can take over the overall management of the project, insufficient experience is always detrimental to it and the other party's dishonesty in providing financial documents or other useful information can be problematic. In addition, according to the above explanations, finding the element of trust plays a vital role and can also be a basis for abuse. It is also necessary to pay attention to the fact that the host country will also be an investor in this type of contracts; therefore, the provision of financial resources and related risks must be seen in advance in this type of contract.

Also, the issue of anti-competitive procedures and ownership of intellectual property and the right to develop it, or issues related to the competition of the host country with the international oil company in other projects, should be clarified in advance. In the transfer of technology, the dimensions and details and other issues raised by the international oil company are basically not evaluable by the host country, at least until the host itself develops the knowledge. So how can a host country evaluate something that it basically does not understand? In addition, if the oil company wants to participate in the project by hiring knowledge-based intermediary companies, even the international oil company itself does not know the exact technology. This is while the host country is looking to receive this technology. But these points alone may not meet the goals of the oil industry alone, because of the issues that have been raised about the challenges of research and technology in the oil industry. Therefore, regardless of the timeframe for the implementation of such agreements, challenges should first be considered and resolved in order to provide the ground for their implementation. Among them, the following can be mentioned:" A) Policymaking challenges include: lack of unified policymaking in the research field of the oil industry, lack of a clear and unified methodology for determining research priorities, lack of a unified approach in determining the research portfolio and required technologies, lack of concentration in research budgeting and assigning research projects according to priority of the oil industry, lack of communication and effective integration between the subjects of construction and production

engineering and basic design engineering with research and technology centers, lack of clarity on how to transfer and evaluate technology in the oil industry. Existential vacuum of a comprehensive and integrated center for monitoring technology in order to make effective decisions, lack of effective presence of growth centers and science and technology parks in the process of turning an idea into a product and technology transfer, lack of transparency of research objectives of research implementing units within the industry in interaction with research managements. and the technology of the companies, lack of appropriate methodology in product commercialization (idea to market process), existential vacuum of scientific-expert poles in the upstream activities of the oil industry. b) regulatory challenges include: the duality of decision-making to attract, promote and compensate the services of the employees of executive units within the industry due to the dual compliance with the regulations governing the two ministries of oil and science, the lack of appropriate incentive mechanisms in the existing regulations to attract the private sector in carrying out commercialization activities, the ineffectiveness of regulations for attracting and retaining researchers, the lack of codified laws and regulations to respect intellectual property rights. c) Executive challenges include: the inefficiency of the organizational structure of managements and research and technology units in companies, the lack of a comprehensive information bank containing titles and abstracts of completed and ongoing projects, executives, facilities, requirements and The priorities of the oil industry, the lack of proper use of the potential capacities of research centers in the oil industry, the lack of communication and coordination between research and technology units with the design, engineering and operational units of the oil industry, the lack of an effective role of research in the development and transfer of technology, communication Weak between consulting engineers in basic engineering fields and research centers, lack of interest of consulting engineers in the country to work in basic engineering fields d) Supervisory challenges including: lack of provision of a suitable supervisory structure in the field of research and technology, lack of effective supervision over the elements and Research units, not using appropriate indicators to monitor the implementation of research.(Nouri Kohani, P; 2019"(

Therefore, in the contractual frameworks, technology transfer is based on three strategies: "first, to partner Iranian companies to provide opportunities for these companies to interact with international oil companies, and oil companies are required to transfer technology as part of the financial plan. Turn around. The second is the use of the maximum internal engineering and production capacity and the Third, the transfer of managerial positions during the contract period should be summarized in stages and rotation. (mousavi, H; 2016)"

One new factor has been the upgrading of technological capabilities in countries such as the Republic of Korea, Singapore, and Taiwan (China). This phenomenon taught us that, in building technological dynamism, what matters most is not the transfer of technology as such but rather what happens to the technology once it has been transferred. It requires us to pay greater attention to the processes of technology adaptation and domestic technological mastery than to the nature of commercial transactions as such (Patel S. et al, 2001).

It seems that a very important period in terms of time has begun in Iran's oil industry. Although the new contractual framework is controversial, its flexibility, which allows even qualified domestic companies to conclude contracts with international partners directly, can be considered as an incentive in the field of technology transfer.

According to the material reviewed in this article, it can be stated that just as the oil contracts in Iran's oil industry are the cause of the formation of the legal system in this industry, over time it has been affected by various factors such as the governing laws. However, due to the fact that the governing laws in the oil industry have always followed contractual frameworks, now the role of contractual frameworks in the development of the oil legal system in Iran and accordingly the legal system

governing the transfer of technology is an indicator and is considered the main player in this field. Therefore, drafting and determining the structure of oil contracts in Iran can literally lead to the drafting of the legal system governing the transfer of technology. This is what the author of this article is trying to express in this work.

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