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## Designing a Strategic Restructuring Model in Iran's Oil Industry with an Emphasis on Eco-Industrial Development

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### Highlights

- Strategic restructuring such as environmental protection will increase the responsibility of the oil industry toward the environment;
- Organizational transformation is the most important factor identified in the strategic restructuring model in the oil industry;
- Business systemization and business process management should be considered by the senior managers of Iran's oil industry;
- Strategic restructuring in Iran's oil industry is customer relationship management;

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### Abstract

Based on its main goal, strategic restructuring seeks to achieve the best possible long-term values for customers and the organization. In the first feedback, this issue will bring two important components of customer satisfaction and improving organizational competitiveness. On the other hand, one of the important principles of strategic restructuring in organizations, aside from the economic and social dimensions, is emphasizing the restructuring of environmental values, including preservation and prevention of damage. The purpose of this work is to design a strategic restructuring model for strategic restructuring in the oil industry with attention to and emphasis on eco-industrial development. This study is developmental in terms of its purpose, and it is done qualitatively based on meta-composition in terms of approach. The statistical population includes a collection of articles on the topic of strategic restructuring and eco-industrial development published from 2020 to 2023. We selected 57 papers out of 336 works by searching prominent domestic and foreign scientific databases. After analyzing their content, categories and concepts were extracted, and their prioritization was done using the Shannon entropy method. Based on the findings of the research, 40 concepts were identified in the form of 10 categories and were separated into 3 main categories: intra-organizational, extra-organizational, and environmental factors. The categories with the highest coefficient of importance include organizational transformation, establishment of new management styles, organizational knowledge, customer relationship management, organization of brokers, integration of oil industry and environment, adaptability and predictability, predictability, job training needs assessment, quick and smart thinking, and human resources evaluation, respectively. Therefore, strategic restructuring, due to its entrepreneurial nature, will affect the realization of environmental protection as much as possible and will increase the responsibility of the oil industry toward the environment.

**Keywords:** Strategic reconstruction, Ecology, Oil industry, Synthesis

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## 1. Introduction

Organization development (OD) is the study and implementation of practices, systems, and techniques that affect organizational change. Its goal is to modify a group's/organization's performance and culture. The organizational changes are typically initiated by the group's stakeholders. OD emerged from human relations studies in the 1930s when psychologists realized that organizational structures and processes influenced worker behavior and motivation. Organization development allows businesses to construct and maintain a brand-new preferred state for the whole agency. The key concepts of the OD theory include the organizational climate (the mood or unique "personality" of an organization, which includes attitudes and beliefs influencing members' collective behavior), the organizational culture (the deeply-seated norms, values, and behaviors members share), and the organizational strategies (how an organization identifies problems, plans actions, negotiates changes, and evaluates progress) (De Keyser et al., 2023). On the one hand, the basis of every organization's activity is to gain benefits, improve performance, and obtain competitive advantages in domestic and even international arenas. This issue, in the first step, requires the design and implementation of strategic management. In fact, strategic management is a permanent process that examines all the conditions, strategies, and necessities for realizing the development and progress of the organization using continuous evaluation and control and shows the solutions to achieving long-term, medium-term, and short-term goals (Hosen et al., 2023). On the other hand, in today's era, only their own organizational interests are sometimes taken into consideration in the strategic competition of organizations, which creates a platform for causing much damage in sectors such as the environment: the intensification of pollution, the destruction of natural resources, and the change of ecosystems (Zheng et al., 2023). In order to prevent this important challenge, organizations should take measures to strategically rebuild their goals. This concept evokes several important issues. In the first step, strategic restructuring pays attention to both positive and negative aspects, indicating that, in addition to paying attention to the organizational development plan, special attention should be paid to the factors of excellence, including attention to ethics, spirituality, and culture (Aljabhan, 2023). In this sense, strategic restructuring not only changes the procedures or strategies of an organization in order to obtain maximum economic benefits, but also considers the commitment and adherence to other social and cultural principles (Heracleous et al., 2023). Second, the concept of strategic restructuring is closely related to organizational commitment. When the senior managers of an organization are forced to undergo a strategic restructuring to advance or change its goals, it raises the issue of the organizational commitment in the sense that the strategic restructuring has deepened on the sense of the responsibility of managers and employees toward the realization of the organization's goals and vision. It will encourage and motivate them to implement the reconstructed goals as accurately as possible (Turek et al., 2023). Finally, the strategic reconstruction will provide the power of prediction as well as the ability to adapt to new conditions and mobilize resources against external threats in a systematic way, which will have another important consequence in itself and prevent the occurrence of deeper organizational challenges such as more waste of resources (Newaz et al., 2023).

The oil industry has been one of the most important and influential structures in Iran's economy and development. An industry that has an undeniable role in the structure and provision of funds and the advancement of Iran's major development goals. This issue has increased the importance of the oil industry, especially in the context of sanctions. In fact, under the conditions of applying international

sanctions, structural restructuring and special attention to innovation in the American oil market are inevitable. This issue becomes more concrete when the main international oil and gas interactions of the country with other countries of the world are very limited (if not completely cut off). Therefore, the country's oil industry must undertake strategic restructuring in some of its macro policies, first for survival and life and then for performance improvement. This issue can lead to important consequences, such as the reduction of organizational costs, the realization of better innovations, and the use of expert forces (Noroozi et al., 2023). With this approach and the need for the attention and commitment of the oil industry to strategic reconstruction, of course the concept of commitment and protection of the environment against the possible threats of today's era, apart from preventing the wastage of resources, will provide the realization of an important innovation called improving the performance of human resources. An issue that, if fully realized, can have very effective consequences in the oil industry. Therefore, protecting the environment, which is one of the important goals of the strategic restructuring of organizations, will bring other effective results such as the development of human resources, thereby improving the quality-of-service delivery and increasing performance improvement (Noor et al., 2023).

Hence, the aim of this study is to design a strategic restructuring model in the oil industry with an emphasis on the concept of eco-industrial development. Based on this, the main question is "What are the most important categories of the strategic restructuring model in Iran's oil industry with an emphasis on eco-industrial development?"

This study explains the two concepts of strategic restructuring and eco-industrial development in the theoretical framework and then reviews some of the most important previous work related to the topic of this study. In the third stage, the research methodology and its implementation steps will be explained, and after the data analysis, the final research model will be developed. Finally, our findings will be compared with the those of previous studies, and practical suggestions will be presented to the officials of Iran's Ministry of Petroleum.

## **2. Literature review**

### **2.1. Organizational restructuring**

Basically, like other living organisms, organizations come into existence under special conditions; then, passing through the infancy stage, they reach a degree of quantitative and qualitative development, enter the maturity period, and gradually or suddenly decline. However, the life cycle of living beings cannot be changed and repeated according to the special laws of nature, but organizations can bring about successive life cycles in an evolutionary process in the light of adopting new strategies. This means that when they reach the stage of maturity, they will re-enter a more advanced life circle by revising the strategies, goals, decision-making systems, culture and organizational structure of the training system, and how to work. This process, i.e., revising strategies and goals, is included in a comprehensive concept called organizational restructuring (Iniesta et al., 2023). This concept is considered one of the most important, effective, and discussed topics in today's organizations in such a way that one of the important management concerns in important public and private organizations is strategic restructuring. In fact, in the current era and due to the depth of technological, economic, competitive, environmental and political changes, many of the conventional organizational theories and methods are no longer responsive to this volume of changes; thus, managers and organizations must necessarily use new approaches and new methods to solve problems, challenges, changes, and crises. In fact, the rise and fall of many organizations have prompted scientists and management thinkers to emphasize and pay attention to the issue of organizational restructuring, which mainly focuses on the revival of the organization, with an attitude beyond the traditional views, by designing a set of strategies and devising

new hypotheses and by trying to find the secret of the organization's survival and its continued movement in emerging conditions (Annosi et al., 2023). In general, two main reasons can be listed for explaining the reasons for organizational restructuring:

**1) Intra-organizational causes:** Intra-organizational causes are mainly due to the need to increase the efficiency and productivity of the organization so that better services and more products with higher quality can be provided in a shorter period of time and at a lower cost. Assuming the stability of environmental conditions, the most attention and focus of managers is on variables and factors within the organization. In this regard, the possible driver of changes is around a combination of the following axes: creating new standards for doing work and controlling the organization's performance, inventing new ways of doing work, producing and supplying new goods and services, attracting quality forces to the organization, improving organizational adjustment management, renovating equipment, reforming the training system and other systems related to improving the skills of personnel, inventing new motivational mechanisms, and predicting development plans to take advantage of future opportunities, and other policies and procedures.

**2) External organizational causes:** In many cases, the main driver of organizational changes is the pressures caused by the organization's environmental conditions and extra-organizational transformations. Here, the life chain of the organization is strongly intertwined with the realities outside the organization because the organization can only continue its existence and survival in opposition and dependence on the outside. According to the interpretation of some works, any external factor that conflicts with the organization's ability to attract the required human and material resources in the field of production and supply of its goods and services is considered a force for making changes. Some of the most important factors related to the external causes of organizational restructuring are the following: the emergence of major changes in the nature and possible direction of potential threats, technological changes, budget pressures, the occurrence of unexpected crises outside of conventional calculations, assigning new missions to the organization, the occurrence of fundamental changes in social values and society's expectations and transformation in the status and performance of comparable or competing organizations (Rass et al., 2023).

## **2.2. Eco-industrial development**

Eco-industrial development is an approach which industry can use to develop while minimizing its impact on the environment. This approach uses a closed-loop production cycle to tackle a wide range of environmental challenges, such as soil and water pollution, desertification, species conservation, energy management, and air quality, through cooperation in resource efficiency. Mutually beneficial relationships between industry, natural systems, energy, materials, and local communities become the key factors in the design of industrial production processes. The nature of this approach is largely voluntary and market-based, but it usually moves forward with favorable government behavior or development cooperation efforts (Son et al., 2023).

The first goal of environmentally friendly industrial development is a significant and continuous improvement in economic and environmental efficiency. Here, the concept of industry is not only related to the private sector production but also includes public enterprises, the service sector, and transportation. The eco-industrial development directive is specifically reflected in the "eco" of environmentally friendly industrial development as it simultaneously resembles ecology (reducing pollution and waste) and economics (increasing business success) (Troger et al., 2023). Optimization of resources use, waste minimization, clean-up, and pollution-limiting technologies are employed to create a framework for defining the sustainable performance of a company at the micro level in achieving a wide range of goals in environmental–industrial development:

- Resources efficiency minimizes the consumption of energy, materials, water, and transportation, in turn, reducing production costs due to savings in almost all economic fields;
- Cleaner production is a mainly environmental action aimed at reducing or even replacing toxins, controlling greenhouse gas emissions, or reusing residual materials;
- Renewable sources must eliminate all pollution caused by fossil fuels both in energy and in material consumption;
- Greening buildings or production sites, relying on innovation in architecture, or green engineering meets high energy and environmental standards. In addition, new facilities and infrastructure design may also significantly increase the quality of life in neighboring communities;
- Environmental management systems such as ISO 14000 (ISO 14000) guarantee continuous improvement through regular audits and the development of environmental goals;
- Environmental site planning can combine each of these aspects by creating a clear understanding of the capacities of air, water, and land in the surrounding environment (Wu et al., 2022).

Mohammadi Nia et al. (2023) in a study titled “Effects of Globalization, Economic Growth, Financial Development on Ecological Footprint in Iran (Quantile Regression Analysis)” showed that in the first and second (lower) quadrants, economic globalization, economic growth, energy consumption, financial development, and population density had a positive effect on Iran’s ecological footprint; from the third and fourth quarters onward, the intensity of its influence on Iran’s ecological footprint increased. In other words, the indicators of globalization, economic growth, and financial development in the first quarter (Q25) and second quarter (Q50) had a positive temporal correlation with Iran’s ecological footprint. Then, as the lag components moved away and moved toward the third (Q75) and fourth (Q95) quartiles, the correlation between the study indicators and Iran’s ecological footprint increased. In a work entitled “Environmentally Sustainable Supply Chain Risk Assessment Using Fuzzy Analytical Hierarchy Process in Iranian Electricity Industry”, Fooladvand et al. (2023) dedicated that the modification of the price of energy carriers would have the greatest impact on the risk of the sustainable environmental supply chain in Iran’s power plant industry and the use of towers and masts with a greater height will had the least impact.

Kashani Saffar et al. (2023) in an article titled “Investigating the Amount of Air Pollutants Produced by Ahvaz Oil and Gas Exploitation Complex No. 3” showed that NO<sub>2</sub>, O<sub>3</sub>, SO<sub>2</sub>, and CO gases were higher than the standard in the distances near the flare, and PM<sub>2.5</sub> and PM<sub>10</sub> suspended particles were more than the standard at a distance of 3000 meters from the roads. Regarding PM<sub>2.5</sub> and PM<sub>10</sub> particles, the results showed that 79.16% of the points were in unhealthy condition for the sensitive and unhealthy groups, and 75% of the points were in healthy condition, respectively; more than 83.33% of the measured points in the case of SO<sub>2</sub> gas, 75% of the points in the case of CO gas, and 66.66% of the points in NO<sub>2</sub> gas were in very unhealthy condition. Ayazi et al. (2023) in a work entitled “The Effect of Renewable and Nonrenewable Energy Consumption on Economic Growth and Environment (a Comparison of Oil and Non-Oil Countries)” argued that, in the studied countries, efforts to strengthen economic growth led to increased carbon emissions and environmental degradation.

In a paper entitled “Eco-industrial Development Strategies and Characteristics According to the Performance Evaluation of Eco-industrial Park Projects in Korea”, Son et al. (2023) demonstrated the importance of applying eco-industrial development (EID) strategies to EIP\* projects to achieve

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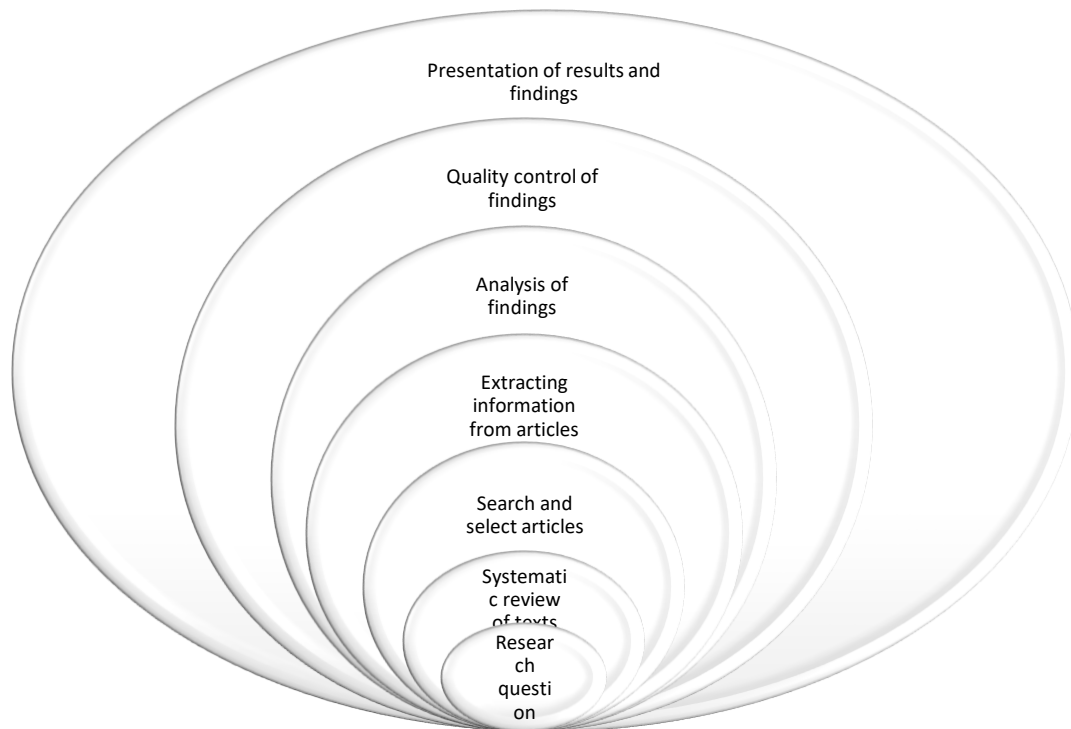
\* Projects from across Europe that boost innovation and knowledge exchange.

sustainable development, and suggested a revised systematic approach to developing EID strategies through analyzing the performance of EIP projects. Troger et al. (2023) in an article titled “Exploring Eco-industrial Development in the Global South: Recognizing Informal Waste-Picking as Urban-Industrial Symbiosis?” stated that the eco-industrial development framework can be employed to empower the people involved rather than further displace them. In this way, urban EID could become a useful strategy to channel different scientific disciplines, knowledge, and actors toward sustainable development. Fan and Fang (2020) in an article entitled “Assessing Environmental Performance of Eco-industrial Development in Industrial Parks” argued that the energy-ecological footprint deficit and energy-ecological footprint intensity of the study park decreased by 16.75% and 16.74% respectively due to the implementation of eco-industrial development. In detail, minerals made the largest reduction,  $2.00 \times 10^2$  ha/capita, followed by fossil fuels with a reduction of  $1.01 \times 10^2$  ha/capita; the resources from cropland and pasture did not make a contribution to reducing energy ecological footprint. Policy implications such as further replenishing and improving the ecological industry chains are proposed based on this survey.

Examining the theoretical framework and research background should acknowledge that studies focusing on strategic organizational restructuring have been conducted based on topics such as organizational change, organizational transformations, and organizational modernization in the past. Therefore, examining the empirical literature shows that research on strategic restructuring in the oil industry, especially with an emphasis on environmental–industrial development, has not probably been conducted based on the meta-composite approach so far.

### **3. Methodology**

Since the purpose of this study is designing a strategic restructuring model in Iran’s oil industry with an emphasis on eco-industrial development, it is developmental in terms of purpose, and the data collection method is descriptive. This study is based on the synthesis method and employs the Shannon’s entropy method to determine the coefficients of the identified factors. Meta-synthesis is a method used to review and combine past studies with the aim of evaluating them; after evaluating their results, new findings are obtained (Johnson and Abdi Tabari, 2023). The statistical population of the research includes a collection of articles published on the topic of strategic restructuring and organizational modernization from 2020 to 2023, and we select 57 articles out of 336 by searching among prominent domestic and foreign scientific databases. Then, to check the validity of the studies, the vital tool of CASP is used, helping the researcher to increase the accuracy, validity, and importance of the studies. Regarding meta-synthesis, Killion et al. (2023) presented a seven-step method used in the present study.



**Figure 1**

Research implementation steps

### 3.1. The first stage: specifying the research questions

According to the goal, the research indicators including what society, what, who, when, and how to answer the questions should be answered based on this.

### 3.2. The second stage: systematic review of the subject literature

As it was explained, the current research community consists of scientific documents related to the two concepts of strategic reconstruction and environmental–industrial development published from 2020 to 2023. The main keywords of the research, i.e., strategic reconstruction and environmental–industrial development, were searched in prominent domestic and foreign scientific databases such as Noormags, Magiran, Irandoc, Science Direct, Tylor and Francis, and ProQuest. The search results were a list of various documents including 418 articles, books, and reports; it should be mentioned that the total number of documents in the field of strategic reconstruction was 867, but according to the purpose of the research, 336 cases corresponded to the investigated field and entered the evaluation process. The selected articles were evaluated in several stages, and some were excluded due to their incompatibility with the purpose of the research. In fact, the criteria for selecting or rejecting the mentioned works was the language of the research, the time frame, the conditions, and the type of the study, based on which 54 articles were finally selected for an in-depth study.

**Table 3**

Research questions

Questions	
<b>What</b>	Identifying the concepts and definition of strategic restructuring in the oil industry
<b>Who</b>	The research community is the studies conducted in the field of strategic reconstruction and oil industry and development published in domestic and foreign prestigious scientific

journals.

**When**

Studies in the field of strategic restructuring and oil industry from 2020 to 2023 have been reviewed.

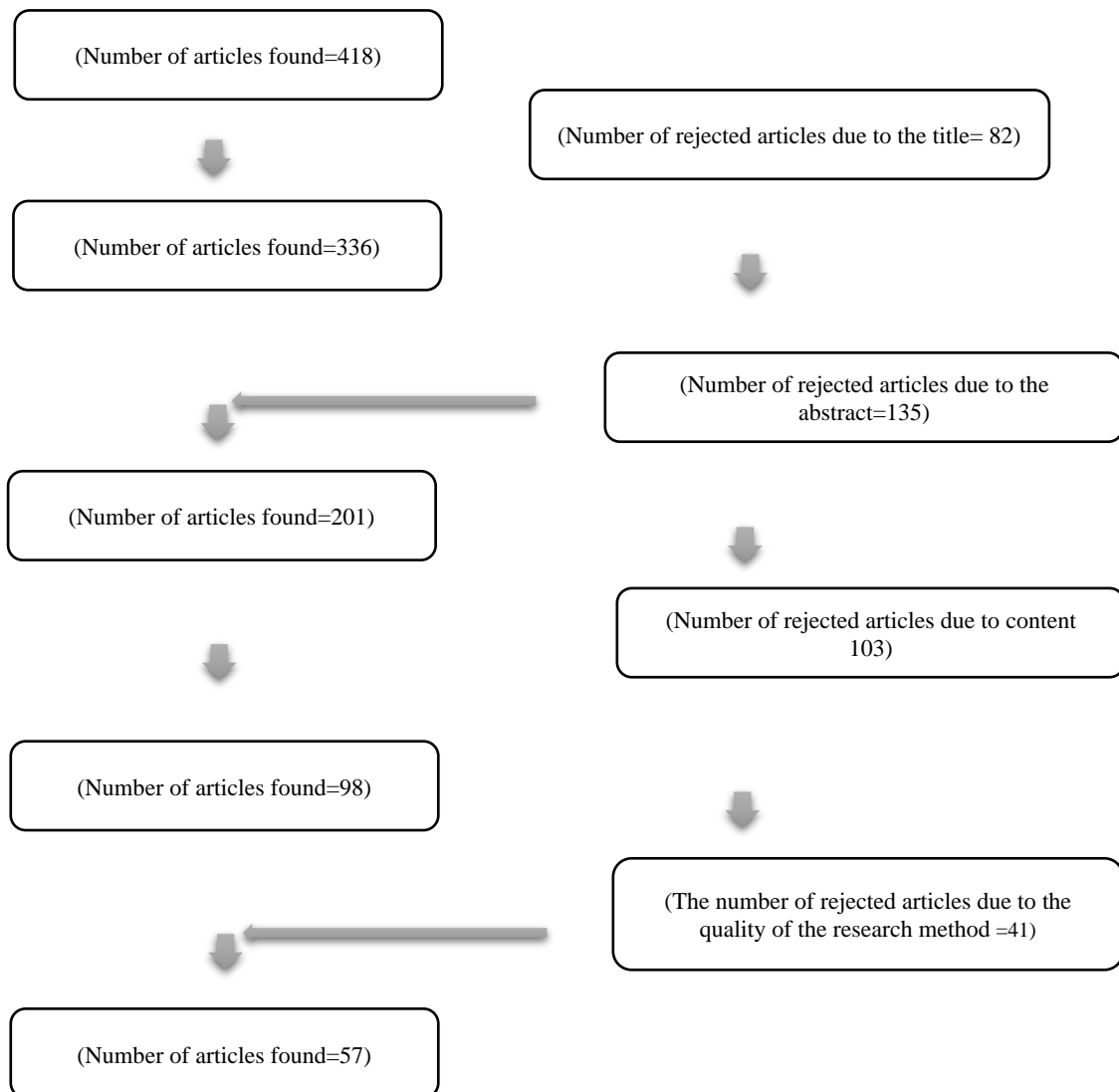
**How**

In this research, literature review and document analysis were used, and the critical tool of CASP was used to select the studies.

## 4. Findings

### 4.1. The third stage: review and selection of suitable articles

Various components such as title, abstract, content, accessibility, and quality of the research method were emphasized, and the articles were selected accordingly to select suitable articles based on the pattern seen in Figure 2. In the search process, indicators such as the title, abstract, content, and details of the article (the authority of the journals and the publication year of the works) were emphasized. Based on this, the articles not related to the main question and purpose of the research were excluded. In fact, the purpose of this stage was to refine the articles that did not fit the purpose of the research based on the title, abstract, and content. Table 4 lists the number of selected articles from scientific databases.



**Figure 2**

The algorithm for selecting the final articles

**Table 4**

The number of articles selected from scientific databases

Name of scientific database	Noormags	Magiran	IranDoc	Science Direct	Taylor and Francis	ProQuest	Total
The number of articles	8	10	8	12	10	6	54

**4.2. The fourth stage: extracting the information of the articles**

In the fourth stage, the articles selected from previous studies were reviewed continuously and intermittently to obtain findings. Information related to each of the 57 articles, including the components of strategic reconstruction and environmental–industrial development, author/authors, and the year of publication were extracted, and the results were recorded in a table.

**4.3. The fifth stage: analysis and synthesis of qualitative findings**

In the fifth stage, based on previous studies, codes were considered, and concepts and categories were categorized. The purpose of this stage was to provide a new and integrated interpretation of the findings that emerged from the review and analysis of all previous studies. Based on this, all the factors extracted from the previous studies were first considered codes; then, considering the concept of codes, similar items were classified in one concept. The final components obtained are given in Table 5.

**Table 5**

Components of the strategic restructuring model in Iran's oil industry with an emphasis on eco-industrial development

Axial code	Category	Concept	Source
		Responsibility	
	Organizational transformation	Change in performance	Ofori-Sasu et al. (2023), Mican et al. (2023), Li et al. (2023), Zheng et al. (2023), Asdanjad Tarabkhah et al. (2023)
		Achieving a competitive advantage	
		Improving efficiency	
Internal organizational factors		Strengthening organizational culture	
		Organizing forces	Ahmad et al. (2023), Belte et al. (2023), Kashani Saffar et al. (2023), Iniesta et al. (2023), Mirsalimi and Afkaneh (2023), Sohrabi et al. (2023)
	Human resources evaluation	Estimating the organization's future costs	
		Labor law compliance	

Axial code	Category	Concept	Source
External organizational factors	Establishment of new management styles	Establishment of consultative management	Heracleous et al. (2023), Rahnavard et al. (2023), Kazem Almasi et al. (2023), Shirooyehpour et al. (2022), Yousefi Amiri et al. (2022)
		Business systematization	
		Business process management	
	Job-training needs assessment	Optimizing the performance of the organization	Capper et al. (2023), Rass et al. (2023), Yousefpour Soleymani et al. (2022), Malmir and Akbari (2021), Najari et al. (2021)
		Career development planning	
		A sense of ownership of the work	
	Integration of oil industry and environment	Joint oil and environment planning	Li and Alharthi (2023), Nodoushan et al. (2023), Xue et al. (2023), Guan et al. (2023), Koppel et al. (2023), Torre et al. (2021)
		Promotion of bilateral interactions	
		Allocation of environmental protection budgets	
		Reducing pollutants	
	Organization of brokers	Using modern technologies	De Keyser et al. (2023), Mijs (2023), Hakaki et al. (2023), Dela Rosa and Lazaro (2022)
		Meritocracy	
Developing a development plan			
Customer relation management	Supervision and inspection	Fang and Chang (2023), Asha et al. (2023), Tayyebi Rahani (2023), Hoseini Ravesh and Moghaddam (2023), Ying et al. (2021), Wang et al. (2021)	
	Providing better services		
	Encouraging customers		
	Attracting customers		
Quick and smart thinking	Customer satisfaction	Verma et al. (2023), Schwarz et al. (2023), Annosi et al. (2023), Dafri (2023), Moslehi	
	Organizational insight		
		High participation and consultation	

Axial code	Category	Concept	Source
		Rational decision-making	Fard et al. (2023), Safaei and Heidarian Bayi (2022), Mehdizadeh Rostam et al. (2021)
		Creativity	
		Awareness of environmental development	
		Identifying environmental challenges	
	Adaptability and predictability	Crisis management	Kusa et al. (2023), Yagmur and Myrvang (2023), Chatterjee et al. (2022), Arsawanet al. (2022), Yeniaras et al. (2021)
		High organizational mobilization	
		Futurology	
		Flexibility	
Environmental factors		Sharing information and knowledge	
	Organizational knowledge	Knowledge block chains	Li et al. (2023), Sabherwal et al. (2023), Durst et al. (2023), Shafahi et al. (2023), Rahimi et al. (2023), Razmiand Ahmadi (2023), Keats and Evans (2020)
		Quality management system	
		Development of knowledge absorption capacity	
		Organizational knowledge governance	
		Learning marketing	

#### 4.4. The sixth stage: quality control of the findings

In the sixth stage, the Kappa index, a number between zero and one, is used to maintain the quality of the findings. This index is used when two raters are prioritized, and the answers intend to evaluate the degree of agreement between these two raters. Since in the stages of factor extraction, past studies and concepts extracted from them were considered codes, and new categories were identified by considering conceptual similarities, a comparison of the opinion of the researcher and the expert was used to evaluate the obtained concepts. The closer the Kappa index is to one, the higher the agreement between the raters becomes. The value of the index at a confidence level of 0.000 was 0.836, so the assumption of independence of the obtained categories is rejected due to the fact that the significant number is less than 0.05; finally, it shows that the extraction of the codes has adequate reliability.

#### 4.5. The seventh stage: presenting the results

Based on Shannon's entropy method, it is possible to quantitatively present a strategic reconstruction model in Iran's oil industry with an emphasis on environmental–industrial development. First, the codes

are calculated based on the categories obtained as frequency, and the importance is calculated using the information load of each one. Based on Shannon's entropy method, data processing in meta-composition analysis is discussed with a new perspective, and meta-composition analysis works much stronger and valid (Saraiva, 2023). First, the frequency of each of the identified categories should be determined based on meta-composite analysis, and the importance coefficient of each component is then calculated based on Shannon's entropy method (Christie, 2024). The following relationships calculate the information load, uncertainty, and importance coefficient of the concepts:

$$k = \frac{1}{\ln m} \quad i = 1, 2, \dots, m \quad E_j = -K \sum p_{ij} \times \ln p_{ij} \quad (1)$$

$$W = \frac{d_j}{\sum d_j} \quad d_j = 1 - E_j \quad (2)$$

Apart from explaining the weight of the concepts, the total rank is calculated. Table 6 presets the ranking and importance coefficient of the identified factors.

**Table 6**

The ranking and importance coefficient of the identified components

Category	Concept	Abundance	$\sum p_{ij} * i_n$ $p_{ij}$	Uncertainty	Coefficient of importance	Rank of concept	Total rank
Organizational transformation	Responsibility	8	-0.268	0.146	0.148	3	<b>1</b>
	Change in performance	7	-0.274	0.142	0.156	1	
	Achieving a competitive advantage	9	-0.280	0.154	0.142	4	
	Improving efficiency	6	-0.266	0.148	0.140	5	
	Strengthening organizational culture	7	-0.274	0.142	0.152	2	
Organization of brokers	Meritocracy	8	-0.224	0.158	0.144	2	<b>5</b>
	Developing a development plan	7	-0.228	0.144	0.140	3	
Adaptability and predictability	Supervision and inspection	9	-0.222	0.152	0.152	1	<b>7</b>
	Identifying environmental challenges	6	-0.218	0.125	0.150	2	

Category	Concept	Abundance	$\sum p_{ij} * i_n$ $p_{ij}$	Uncertainty	Coefficient of importance	Rank of concept	Total rank
Establishment of new management styles	Crisis management	8	-0.220	0.137	0.156	1	<b>2</b>
	High organizational mobilization	5	-0.216	0.128	0.142	4	
	Futurology	7	-0.208	0.133	0.148	3	
	Flexibility	4	-0.214	0.130	0.134	5	
	Establishment of consultative management	6	-0.225	0.175	0.159	2	
	Business systematization	8	-0.240	0.154	0.147	2	
	Business process management	5	-0.248	0.163	0.142	3	
	Organizational insight	2	-0.222	0.139	0.143	4	
Quick and smart thinking	High participation and consultation	6	-0.234	0.158	0.159	1	<b>9</b>
	Rational decision- making	8	-0.245	0.125	0.155	2	
	Creativity	3	-0.241	0.128	0.140	5	
	Awareness of environmental development	5	-0.233	0.133	0.151	3	
Human resources evaluation	Organization of forces	9	-0.238	0.186	0.138	2	<b>10</b>
	Estimating organization's future costs	6	-0.235	0.143	0.146	1	
	Labor law	8	-0.244	0.159	0.124	3	

Category	Concept	Abundance	$\sum p_{ij} * i_n$ $p_{ij}$	Uncertainty	Coefficient of importance	Rank of concept	Total rank
	compliance						
	Sharing information and knowledge	8	-0.222	0.150	0.161	2	
	Knowledge block chains	7	-0.240	0.144	0.148	6	
	Quality management system	5	-0.256	0.132	0.156	3	
Organizational knowledge	Development of knowledge absorption capacity	6	-0.261	0.134	0.167	1	<b>3</b>
	Organizational knowledge governance	4	-0.264	0.130	0.150	5	
	Learning marketing	2	-0.263	0.121	0.153	4	
	Joint oil and environment planning	9	-0.255	0.132	0.145	1	
	Promotion of bilateral interactions	5	-0.249	0.127	0.128	4	
Integration of oil industry and environment	Allocation of environmental protection budgets	6	-0.246	0.129	0.122	5	<b>6</b>
	Reducing pollutants	8	-0.230	0.117	0.136	3	
	Using modern technologies	7	-0.235	0.121	0.120	2	
Job-training needs assessment	Providing better services	9	-0.251	0.125	0.134	1	<b>8</b>
	Encouraging customers	6	-0.247	0.128	0.126	3	

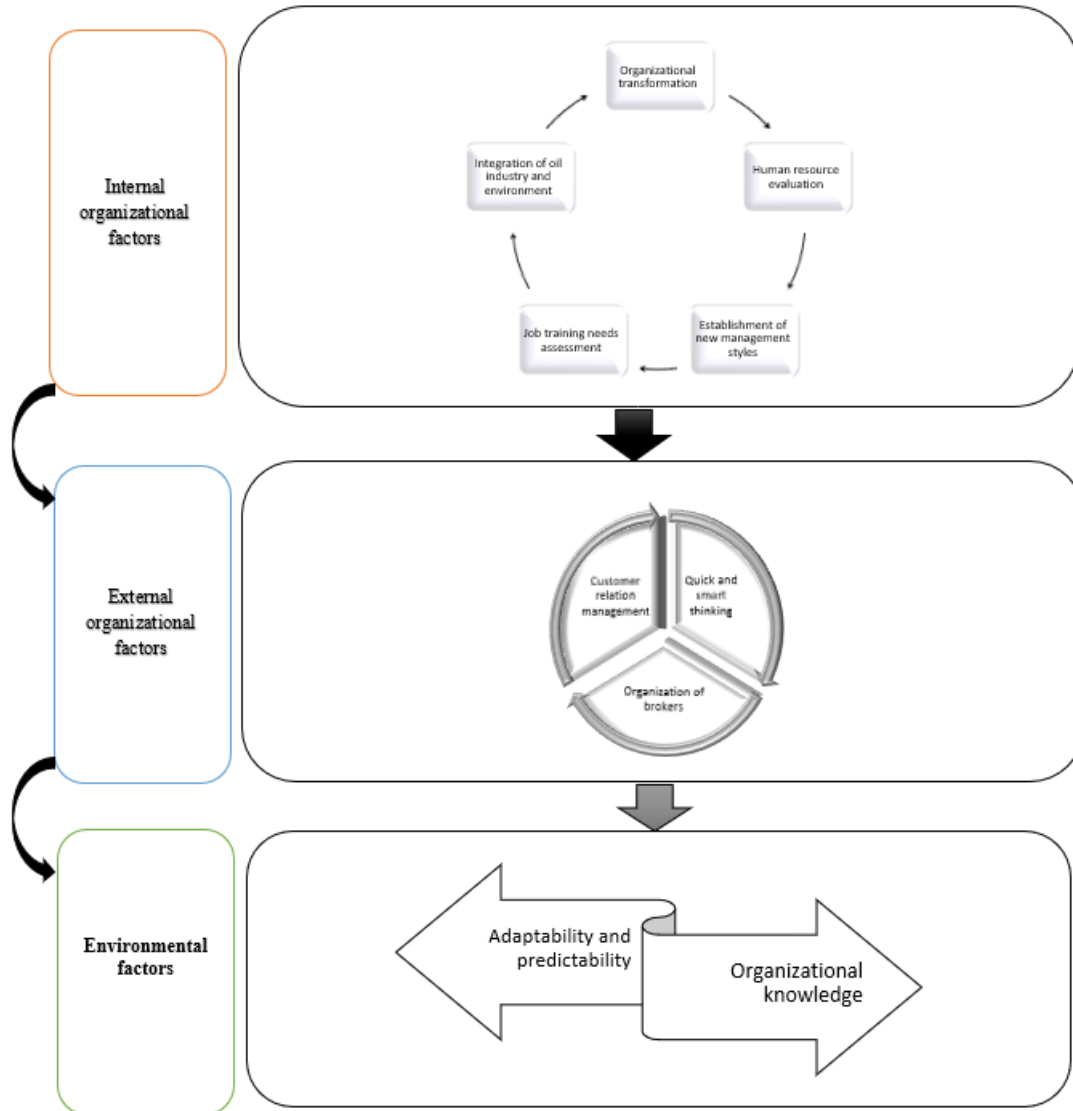
Category	Concept	Abundance	$\sum p_{ij} * i_n$ $p_{ij}$	Uncertainty	Coefficient of importance	Rank of concept	Total rank
Customer relation management	Attracting customers	8	-0.254	0.134	0.130	2	<b>4</b>
	Providing better services	8	-0.227	0.128	0.134	2	
	Encouraging customers	6	-0.215	0.132	0.120	4	
	Attracting customers	7	-0.220	0.130	0.141	1	
	Customer Satisfaction	9	-0.232	0.137	0.128	3	

According to the coefficients in Table 6, the concept of organizational transformation has the highest coefficient of importance; therefore, the strategic restructuring model in Iran's oil industry with an emphasis on environmental-industrial development receives the highest rank. The concepts of establishment of new management styles and organizational knowledge obtain the second and third ranks respectively, based on the importance coefficient. Since the coefficients of the components are numbers close to each other, it is necessary to pay attention to the fact that all these factors must be considered together in the strategic reconstruction in order to realize the environmental-industrial development. In fact, in the process of strategic reconstruction, each factor plays a unique role and function, interacting with other factors in the dynamic and complex oil system to reach a high level of efficiency. On the other hand, the acceleration of changes in the economic system, including the activities of the commercial oil and gas sectors, is more tangible today than in the past, and the process of strategic reconstruction can be a suitable response to such changes. Indeed, with such an approach, several factors are presented in a coherent manner, which are ultimately considered a solution to dealing with the rapid changes of the economic environment. Figure 3 shows the process of the strategic restructuring of Iran's oil industry in order to achieve environmental-industrial development.

## 5. Discussion and conclusions

Basically, strategic restructuring in an organization seeks to develop and improve the performance of organizations. This issue is much more tangible, especially in situations where organizations face a crisis or challenge. On the other hand, the principled and correct implementation of strategic restructuring in organizations can play an important and effective role in establishing a balance between social, economic, and environmental goals. Further, by improving the competitive position using opportunities and risk management, many organizations, especially important economic organizations, are trying to achieve strategic restructuring in order to improve performance as much as possible. Based on this, the current research has tried to design a strategic reconstruction model in Iran's oil industry with an emphasis on the concept of environmental-industrial development. According to the results obtained from the meta-combination method and the research findings in this field, 42 concepts were identified in the form of 10 categories, which were separated into 3 categories of internal organizational, external organizational, and environmental factors. The main components of the strategic restructuring model in the oil industry according to the importance factor are the following: organizational

transformation, establishment of new management styles, organizational knowledge, customer relationship management, organization of brokers, integration of oil industry and environment, adaptability and predictability, predictability, job-training needs assessment, quick and smart thinking, and human resources evaluation.



**Figure 3**

The strategic restructuring model in Iran's oil industry with an emphasis on eco-industrial development

Organizational transformation is the most important factor identified in the strategic restructuring model in the oil industry. Organizational transformation, in fact, evokes the important issue that the leaders of the organization should achieve advantages such as competitive advantage, solutions to facing challenges, and guaranteeing the future of the organization in order to change the way it works and achieve its goals. In this context, our research findings showed that responsibility, changing the operation, achieving a competitive advantage, improving efficiency, and strengthening the organizational culture are the most important factors that can be used to achieve organizational transformation in Iran's oil industry. These findings are in line with those of Fan and Fang (2021).

The second factor based on the importance factor is the establishment of new management styles. Basically, the management style is the executive method, according to the defined goals of management consulting and the long-term perspective of organizational management, based on which managers manage and control employees. The findings of the present research showed that the three indicators of the establishment of consultative management, business systemization, and business process management should be considered by the senior managers of Iran's oil industry to establish new organizational management. The findings of this part agree with those of Fooladvand et al. (2023).

The third factor based on the importance factor is organizational knowledge. Basically, organizational knowledge refers to the specific knowledge of an organization obtained from the collective experience or individual experience of each of the employees of that organization. This knowledge is used explicitly or implicitly to achieve the goals of the organization. Our findings showed that it is necessary to consider information and knowledge sharing, knowledge block chains, quality management system, development of knowledge absorption capacity, and knowledge governance to achieve the best possible organizational knowledge as one of the important components of the strategic reconstruction model of Iran's oil industry. Special attention was paid to organizational and marketing learning. The findings of this part of the study are in line with the results of Mohammadinia et al. (2023).

The fourth important factor in the realization of organizational strategic restructuring in Iran's oil industry is customer relationship management. This concept basically refers to approaches and strategies organizations use to expand, encourage, identify, and provide better services to customers. Our findings showed that the attention of the senior managers of Iran's oil industry is on four important indicators of better service provision, customer persuasion, customer attraction, and customer satisfaction to achieve the best possible customer relationship management in Iran's oil industry. The findings of this part agree with those of Ayazi et al. (2023) and Mican et al. (2023).

The fifth important factor is brokers' organization. This concept implies the optimal implementation of the process of dividing and designing jobs, setting up appropriate job relationships, grouping jobs to create units and departments, assigning tasks to employees, allocating resources, and coordinating efforts among organization members. Our findings showed that special attention should be paid to the triple cases of meritocracy, developing a development plan, and monitoring and inspection to better organize agents in the oil industry with the aim of strategic restructuring. The findings of this part are in line with the results of Troger et al. (2023).

The sixth factor based on the importance factor is the integration of the oil industry and the environment. This concept basically refers to the harmonization of processes, systems, structure, and organizational culture with the aim of improving the efficiency and effectiveness of the organization and increasing its competitive ability in the market. Based on our findings, the senior managers of Iran's oil industry should pay special attention to the indicators of increasing competitive ability, connecting systems and interactions between oil and the environment, reducing costs, and increasing the safety factor to integrate this industry with the environment. The findings of this part of the work are in line with those of Son et al. (2023).

The seventh important factor is compatibility and predictability. This concept implies the ability of organizations to respond to internal and external changes of the organization. Adaptable organizations have the ability to adapt to environmental changes, can predict crises and changes better and more accurately, and can ultimately overcome them successfully. Based on the research findings, the senior managers of Iran's oil industry should pay attention to indicators such as the necessary knowledge of environmental challenges, crisis management, high capability in mobilizing organizational resources, high strength in the future of research, and efforts to improve flexibility in the oil industry so as to

enhance the adaptability and predictability in Iran's oil industry. These findings agree with those of Chatterjee et al. (2022).

Based on the importance coefficient, the eighth factor is job-training needs assessment. This factor is considered an essential element in the development and progress of organizations. In fact, this factor refers to a set of activities and procedures carried out to improve employees' skills, knowledge, capabilities, and performance in an organization. The main goal of educational needs assessment is to facilitate the needs, to know the necessities needed for individual and group learning of employees, and to strengthen the performance of organizational units. Based on the research findings, the senior managers of Iran's oil industry should pay attention to the three indicators of organizational performance optimization, career development planning, and a sense of ownership toward the job to better understand the job-training needs in Iran's oil industry. These findings are in line with the results of Schwarz et al. (2023) and Li et al. (2023).

The ninth factor is fast and intelligent thinking. Smart and quick thinking helps managers examine and not just observe the structure, patterns, and events in connection with each other. This type of organizational thinking makes senior organizational managers consider all the components of the organization with their unique and related characteristics a coherent whole and dominate the entire organizational structure. Our findings showed that components such as organizational insight, high participation and consultation, rational decision-making, central creativity, and the awareness of environmental development are the most important indicators providing the realization of fast and intelligent thinking, especially in critical situations in the oil industry. The findings of this part of the study agree with those of Annosi et al. (2023) and Capper et al. (2023).

The last factor is the evaluation of human resources. This concept is very important for realizing strategic organizational restructuring. In fact, the information obtained from the performance evaluation helps the organization provide an estimate of the future costs of the organization and determine the cost-effectiveness of large and important organizational projects. Based on our findings, the components of organizing the forces, estimating the future costs of the organization, and complying with the labor law should be considered by the senior policymakers of the oil industry to measure performance as best as possible in Iran's oil industry. The findings of this part are in line with the results of Foong and Denny (2021).

## **Suggestions**

According to the obtained results, the following suggestions are presented in line with the implementation of strategic restructuring in Iran's oil industry and with an emphasis on environmental–industrial development:

- Since organizational transformation is the main source of organizational strategic restructuring and is considered an important factor in improving organizational performance, it is recommended that the senior managers of Iran's oil industry develop their responsibility skills, evaluation of organizational performance, and organizational culture in order to develop organizational performance and provide better and more services to customers.
- It is recommended that the senior managers of Iran's oil industry create a single and common vision by taking advantage of collaborative leadership to support and protect the environment before making any changes in the organizational processes.
- It is recommended that the senior managers of Iran's oil industry pursue the concept of environmental–industrial development with an emphasis on the high coefficient of

responsibility toward the environment in order to reduce current costs in performing large-scale oil and gas projects while reducing the damage to the environment.

## Nomenclature

EID	Eco Industrial Development
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