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## **The relationship between leadership styles and creativity individuals: the mediating role of the individual's confidence in his creative strategic capabilities**

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**Abstract:** The study aimed to identify the extent to which leadership styles are practised in Iraqi oil and gas companies and to discover the mediating role of the individual's confidence in his creative strategic abilities in the strength of the relationship between the two styles of leadership and the level of creativity. The study included seven foreign companies working in the fields of oil and gas and seven national companies, and the adoption of a questionnaire distributed to a sample of 78 department managers and 234 individuals working in the fields of research and development, training, and planning departments. The results showed that there is a direct and strong relationship between the independent variables represented in entrepreneurial leadership and transformational leadership in the creativity variable. A path analysis test was conducted that showed a direct effect between the variables, and average variable represented by the individual's confidence in his creative strategic abilities.

**Keywords:** leadership styles; transformational leadership; entrepreneurial leadership; creativity of individuals; creative strategic capabilities.

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## **1 Introduction**

Organisational creativity and innovation are dynamic processes that give rise to a great deal of ambiguity and conflict (Nonaka and Takeuchi, 2019). As individuals require expertise in a wide range of sectors, sometimes it is impossible for a single organisation to provide the necessary context and timing (Lawson et al., 2015). As a result, they will contribute to building a temporary container for creative engagement in order to enhance the organisation's value and competitive advantage (Alavi and Tiwana, 2002; Nonaka and Toyama, 2005).

The oil sector is one of Iraq's most important essential industries, and it has a significant influence on the country's financial status. The development and long-term viability of organisations in this sector are largely dependent on the quality of their human resources (Jabbour, 2013). This industry faces numerous workforce challenges, the most significant of which is the growing demand for skilled workers both locally and internationally. This sector can influence wisdom culture and build a more robust industry in innovation and creativity by forming teams and leading them in a way that ensures they overcome these challenges and achieve best practices for human resources (El-Kassar and Singh, 2019; Gardas et al., 2019; Ameen and Willis, 2019). As a result, the Iraqi oil companies are trying to grow and sustain their business locally and globally by focusing on improving the quality of their human resources and using leadership methods to develop the creative strategic capabilities of individuals to dynamically develop solutions to problems in the work environment of the Iraqi oil companies and activate their advantages that affect their ability to develop innovative and creative solutions to problems work to fill the shortage of global energy needs.

Changes in global energy demand have created new economic and strategic challenges for energy-consuming countries with a lack of supply in the global market. High prices and inadequate infrastructure in producing countries (Abdullah, 2021). As a result, gas and energy prices in general in Europe soared to new highs, putting severe pressure on governments as European natural gas stocks reached their lowest levels. with rising LNG prices in the European market. As a result, the world's continuous pressure on natural gas supplies may pave the way for its prices to rise again during the coming winter. Powered by rising demand for natural gas, the cascading effect of supply pressures in Europe caused by the triple threat to domestic production, lower imports from Russia, and the rare increase in LNG (The Information and Decision Support Center of the Egyptian Council of Ministers, 2021). Here, energy security has become present in the strategies of the major industrialised countries, to the point that they have begun to formulate national strategies for the energy issue and allocate funds to conduct research and projects related to the issue of energy security and put them into practice (Abdullah, 2021).

Natural gas prices have skyrocketed all over the world, but they do not end there. There are expectations of a greater rise and new records, and that the natural gas crisis and high electricity prices are evident in Europe, but the interdependence of growth between the regional gas markets in the USA, Asia, and Europe in recent years means that the rise in natural gas prices in one region cannot be ignored by markets in the other. And Europe will not be the only country suffering from a sharp rise in energy prices (The Information and Decision Support Center of the Egyptian Council of Ministers, 2021). The global energy deficit in 2021–2022 is a series of cyclical energy deficit events over the past 50 years. It affects countries more severely, such as the UK, China, and others.

Despite the original fluctuations caused by the oil price war between Russia and Saudi Arabia in 2020, OPEC responded slowly to the recovery of demand in light of the new situation after the Corona virus crisis, which caused an imbalance between supply and demand, and the global supply chain crisis, which led to further pressure on oil delivery (Hancock, 2022). The Ukraine-Russia crisis in 2021–2022 also threatened energy supplies from Russia to Europe, prompting European countries to diversify their energy supply sources (Horton et al., 2022).

The European Union faced sharp increases in oil prices in 2021 due to a combination of unfavourable conditions, which included increased demand for natural gas and shrinking supplies from the USA, Norway, and Russia, which led to the depletion of European gas tanks. The Economist Intelligence Unit reported that Russia was prevented from exporting gas due to high domestic demand (Hancock, 2022). In addition, the aggravation of the energy crisis in Europe, which affected the fertiliser and food industries at high levels. Also, natural gas prices in Europe rose after the German energy authority temporarily suspended approval of the Nord Stream 2 natural gas pipeline from Russia to Germany (Horton et al., 2022). The rise in US exports of liquefied natural gas to China and other Asian countries in 2021, with Asian buyers willing to pay higher prices than European importers, also contributed to the continued rise in energy prices in Europe, which greatly affected the indicators of economic growth (Hancock, 2022).

From the reality of the exploratory study of a number of Iraqi national companies, including Basra Oil Company, Gas Company Basra, and South Refineries Company, and conducting personal interviews with a group of individuals (employees and engineers) in research and development, training, and planning departments, to identify the problems and obstacles they face in the process of creativity, as well as recognise the leadership styles used in the company, it was concluded that the administrative leaders follow general behavioural patterns that are not motivating and encouraging to individuals. It is characterised by its dependence on official authority, which is characterised by a kind of severity and arbitrariness due to the prevalence of misconceptions in the leadership of subordinates and the failure to provide an appropriate level of freedom in the work environment to generate new ideas that contribute to solving problems.

The problem with the study revolved around an attempt to provoke controversy among researchers about the extent of the impact of the two types of entrepreneurial leadership and transformational creativity on creativity. By exploring which of the entrepreneurial and transformational leadership styles are most influential in detonating the creative potential of individuals (Alén et al., 2017; Cai et al., 2018). Studying the similarity and difference between the characteristics of each of the two styles of leadership on creativity, especially since there is some overlap between each of them (Renko et al., 2015; Cardon et al., 2009), as well as clarifying the mediating role of an individual's confidence in his creative potential on the strength of the relationship between their leadership styles and their creativity level. Therefore, the study attempts to answer some of the following questions:

- 1 Which of the two types of entrepreneurial leadership or transformational leadership has the greatest impact on the level of creativity of individuals in companies operating in the oil and gas sector?

- 2 How does the individual's confidence in his creative strategic abilities affect the strength of the relationship between leadership styles and the level of creativity in companies operating in the Iraqi oil and gas sector?
- 3 Does the influence of entrepreneurial leadership patterns and transformational leadership on the level of creativity of individuals in foreign companies differ from that of national companies operating in the oil and gas sector?

In order to attain the maximum degree of creative strategic performance, Iraqi oil companies may not diverge from their regional and worldwide peers in their efforts to increase individual performance. However, these companies may overlook the most essential potential for creative work, which is the practice of pioneering leadership and transformational leadership, as well as its crucial role in overcoming creative performance problems and activating benefits. Many leaders of teams in the Iraqi oil business agree, believing that creativity exists at the most basic level, despite the experience, knowledge, and skills that employees working in Iraqi oil corporations possess. This, however, validates people in these businesses' inadequate reaction to complicated challenges and duties in the growth of the Iraqi oil industry, as well as the executive departments of Iraqi oil companies' recourse to bringing in more foreign talent to assist in expanding this sector. Furthermore, this suggests that corporate executives lack insight and a weak understanding of how to improve the quality of people's knowledge resources and use practical wisdom to improve performance and meet escalating difficulties. The main objective of the study is to explore the relationship between entrepreneurial and transformational leadership at the creativity level of individuals. Hence, the following sub-objectives are: recognising the extent of pioneering and transformational leadership practices in national and foreign oil and gas companies; studying the relationship between the entrepreneurial and transformational leadership styles and the creativity level of individuals; exploring the mediating role of the individual's confidence in his creative strategic capabilities on the strength of the relationship between the two styles of leadership and the level of creativity of individuals; identifying the extent of the difference between national and foreign oil companies with regard to the relationships between the variables; and presenting proposals that will develop leadership skills and the most effective style in supporting the creativity level of individuals.

Most of the studies in the field of leadership have focused on studying only one type of leadership, whether transformational (Tse et al., 2018; Alén et al., 2017; Carmeli et al., 2014) or entrepreneurial (Bagheri and Akbari, 2018; Cai et al., 2018; Fontana and Musa, 2017). However, the current study attempts to include these two patterns together and compares their impacts on the creativity levels of individuals. The current study focuses on both the external factors (the two types of leadership) as well as the internal factors represented by the extent of the individual's confidence in his creative strategic capabilities, which increases the ability to identify the various potential factors that affect creativity. To ascertain the extent of similarity and difference in the characteristics of each of the two leadership styles.

According to the Iraqi Ministry of Finance, the study's practical significance stems from its applicability to Iraqi oil corporations, which are the primary source of revenue for the Iraqi state budget, accounting for more than 90% of the total. Recognising the patterns of leadership most important to the degree of creativity is critical to improving creativity among individuals in the firms under investigation for the practices of these

patterns. Improving human resource practices by selecting leaders who possess the characteristics of transformational leadership or the most effective leadership in influencing creativity levels and developing programs to train leaders by providing them with skills in the scope of designing the reward and incentive system is based on rewarding the leader who demonstrates better leadership behaviour that encourages employees to be creative. Develop managers' knowledge of the significance of fostering an environment that encourages creativity and independence with no fear or restriction, in order to boost individuals' confidence in their talents and strategic capacities. Individuals are being trained to improve their creative abilities and to encourage them to try without fear of failure.

In the context of the above, our study consists of six main sections: introduction; intellectual and theoretical background; the formulation of hypotheses by analysing the theoretical relationship between its variables; the design of the study results of the structural model and hypothesis tests; and Section 6 by discussing the results of testing measurement and structural, setting the recommendations, and presenting the future work.

## **2 Theoretical background**

### *2.1 Entrepreneurial leadership*

Entrepreneurial leadership is leadership that is able to support creativity and adaptation in fast-paced, uncertain environments (Surie and Ashley, 2008). It represents the leader's ability to take risks and deal with ambiguity, as well as the ability to be creative and take advantage of opportunities (Renko et al., 2015).

Gupta et al. (2004) have defined entrepreneurial leadership as a type of leadership that creates vision scenarios that are used to assemble and mobilise a group of supportive 'participants who are committed to the vision to discover and exploit strategic value creation'. Entrepreneurial leadership is, as Renko et al. (2015) point out (Huang et al., 2014). A distinctive leadership style that can be found in any organisation of any size, type, or maturity level (Ireland et al., 2003), points out the ability to influence others to manage resources strategically in order to emphasise the behaviours of each from the search for opportunity and the search for advantage and value (Kakabadse et al., 2017). Organisation managers should focus on developing their business behaviours, which are usually built on innovation, the desire to excel, the development of new services, and the early search for opportunities. The researcher considers entrepreneurial leadership to be the ability to implement new ones (Shirokova et al., 2019). leadership among managers to influence others' behaviour and culture by developing their ideas by opening up the horizons of participation, empowerment, and creativity in front of them and benefiting from their energies in a way that promotes optimal use of the organisation's resources in light of the dynamic work environment and its unexpected risks.

### *2.2 Transformational leadership*

It is a process by which the leader and followers seek to elevate each other to reach the highest levels of motivation (Burns, 1978), which means the degree to which the manager has the characteristics represented by the four dimensions of transformational leadership,

which are ideal influence, inspirational motivation, intellectual arousal, and intellectual considerations (Bass and Avolio, 1990). The concept of leadership in general is one of the behavioural concepts that has been discussed and disputed as the definitions vary in managerial thought according to each researcher's point of view. Leadership has been defined as the process of influencing the behaviour of groups and directing them towards achieving desirable goals (Robbins, 2003). Others define it as a process of communication, direction, and motivation to convey perceptions. The future of followers with the aim of bringing about change processes in the organisation (Bratton et al., 2005) and the leader's use of the element of attraction and personal attributes related to raising aspirations and transforming individuals and systems into patterns of high-level performance, leadership as that which goes beyond providing incentives in exchange for desired performance to develop, encourage, and transform their self-interests to be an essential part of the organisation's mission (Rafferty and Griffin, 2004).

Situational theories paved the way for the emergence of reciprocal theories in 1978. If these theories refer to the relationship between the leader and the workers, and the nature of the reciprocal relationship formed the basis of the leader's ability to direct workers, and theories that adopt the principle of reciprocity are two styles of leadership mutualism and transformation, hence the researchers' interest in transformational leadership, which has been defined as the leader's ability to deliver the organisation's mission and future vision clearly visible to the followers and motivate them by showing high ethical behaviours and building trust and respect between the two parties to achieve the goals of the organisation (Murphy, 2005). Or it is a source of inspiration for subordinates to achieve their own interests, on the one hand, and improve and develop the productivity of the organisation, on the other hand (Riaz and Haider, 2010). Transformational leadership always looks to the future, focuses on developing the organisation's vision, takes employee satisfaction into account, and works to motivate them and increase their performance to ensure everyone's cooperation in achieving this vision and achieving the desired goals, which are the basis for the mission, strategies, and policies of the organisation. Transformational leadership is based on the assumption that leaders need the respect and trust of their followers in order to earn their loyalty and that everyone has a contribution to make, especially to achieve transformational leadership (Yukl, 2013). Within the same context, it is known as a type of leadership in which followers feel confident with admiration, loyalty, and respect for the leader, and that the leader tries to make changes that increase performance and organisational effectiveness (Durbin, 2012).

### *2.3 Individual confidence in its strategic capabilities is creative*

Individual confidence is defined as the individual's belief and confidence to the extent that he can successfully perform creative behaviour in a changing environment (Bandura, 1997). Thus, it is the individual's ability to generate new ideas and the individual's ability to come up with innovative solutions to solve problems (Tierney and Farmer, 2002). One of the conditions that an individual with creative strategic capabilities must have is that he has extensive knowledge and thought, and this dimension is represented in the behaviour of individuals by raising some intellectual questions that require creativity and innovation and encourage their opinions and suggestions to solve the problems they face in the organisation by looking at the problem from different angles, i.e., looking for different perspectives to solve complex problems, and that the primary goal is to make

them innovative and creative by creating learning environments in which individuals can think creatively (Alwan, 2017).

This dimension refers to the ability of individuals to create a future vision that motivates performance, including going beyond expectations by adopting old cases in new ways. It stimulates the creativity of the team, expressing criticism of the mistakes of individuals, as well as stimulating the energy that supports their commitment and confidence in what is possible to increase awareness and understanding of the desired goals (Hinkin and Tracey, 1999). Through credibility that generates feelings from subordinates, motivation and inspiration arise from linking the goals of the organisation to the needs, values, and interests of the working people (Barnett and McCormick, 2003). To make the prevailing climate in the organisation a good one for subordinates, the leader communicates well with them to know their individual needs, provides advice and guidance, and works on helping them to achieve themselves in general (Hinkin and Tracey, 1999), which means looking at subordinates in terms of treating each of them as an individual rather than as an individual member of the organisation and the removal of barriers between individuals that would impede successful communication with them (Alwan, 2017), by participating with them, developing capabilities and skills, and giving them sufficient attention. This would deepen the confidence of the workers themselves in the importance of their role in building the organisation and instil the morale that increases the effectiveness of work groups, unity, cohesion, and solidarity in order to achieve organisational goals (Al-Omari, 2008).

#### *2.4 Creativity of individuals*

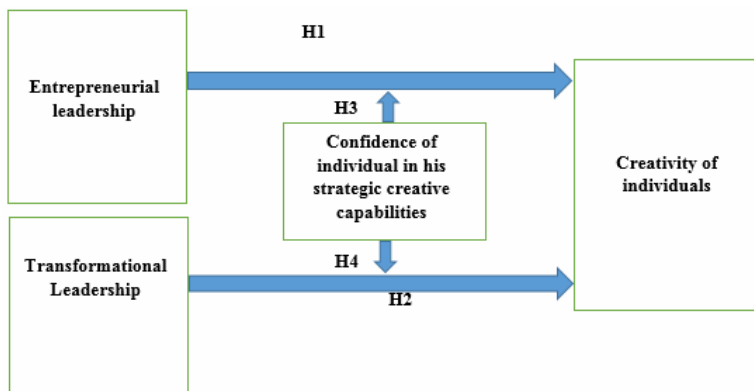
Adopting a new idea or behaviour in relation to the organisation's industry, market, and general environment (Daft, 1992). Creativity includes the following indicators: generating new ideas while doing work; finding new uses for existing methods and equipment; solving problems that cause work difficulties; trying new ideas and dealing with problems (Tierney and Farmer, 2002). Creativity in individuals is defined as the production or adoption of new and unfamiliar ideas and their application. As it is a multifaceted process, the activity of the individual in it varies from one to another, and it may require more than one-stage activity, which is a new idea that is implemented in order to develop production, process, or service (Robbins, 1993) and introduce new products and processes that may contribute to achieving competitive advantage and reducing costs by achieving excellence through the adoption of a new idea or behaviour in the reality, work sector, or market of the organisation or its general environment (Daft, 2001).

### **3 Study model and development of hypotheses**

#### *3.1 The conceptual study model*

Based on the presentation of previous studies and their findings, it was possible to propose a conceptual framework that reflects the relationships between the variables as follows:



**Figure 1** Study model (see online version for colours)

### 3.2 Development of hypotheses

The study (Bagheri and Akbari, 2018) examined the impact of entrepreneurial leadership and its dimensions on the behaviour of creative nurses. The study concluded that entrepreneurial leaders had a significant positive impact on the creative behaviour of nurses as they significantly improved the process of exploring ideas, followed by idea generation, and idea implementation. Therefore, the focus should be greater on developing entrepreneurial leadership competencies. The study (Cai et al., 2018) aimed to understand how entrepreneurial leadership relates to creativity in the workplace in organisations based on social cognition theory. The study concluded that entrepreneurial leadership is linked to individual and team creativity and the importance of the role of creative competency beliefs in entrepreneurial leadership and individual and collective creativity. The study (Wibowo and Saptono, 2018) also showed the impact of entrepreneurial leadership on creativity and innovation among individuals. She explained that there are many personal characteristics that a leader must have in order to influence people's creativity, such as high work experience, courage, negotiation skills, and an entrepreneurial background. The study (Fontana and Musa, 2017) sought to verify the measurement of entrepreneurship in the context of creativity management and strategic entrepreneurship and to study the relationship between entrepreneurial leadership and the innovation process and determine whether intellectual property has a direct impact on creativity. The results of the study showed that there is an effect of entrepreneurial leadership in enhancing all elements of creativity, such as idea generation, idea selection, idea development or transformation, and idea dissemination. The study (Anyanwu and Oad, 2016) also indicated the effect of emotional intelligence on the relationship between entrepreneurial leadership and creativity in the direct path or in the presence of emotional intelligence as an interactive mediating variable. The study indicated that the entrepreneurial leader has the ability to achieve cooperation among team members to obtain good results in terms of creativity. It also found that there is a direct relationship between entrepreneurial leadership and people's creativity, as business leaders find effective ways to understand and improve their interactions with people, influencing their creativity by paying attention to their feelings. In the same context, a study (Wu, 2016) examined the entrepreneurial leadership style and its impact on creativity in small and

medium-sized companies in China. The entrepreneurial leader is central to the company and creates a clear vision that facilitates individuals' performance of tasks that enhance their creativity.

The study found a direct and positive relationship between the entrepreneurial leadership style and creativity as the entrepreneurial behaviour of the manager has a great and positive relationship with creativity. This is important as the modern business environment in the 21st century needs a new form of leadership that works to enhance many aspects of companies, including enhancing creativity in individuals. Based on the results of previous studies, the first hypothesis of the study can be formulated, which is:

H1 Entrepreneurial leadership positively affects the level of creativity of individuals in the oil and gas companies operating in Iraq.

Some researchers (Tse et al., 2018) have studied to develop and test a model of the underlying mechanisms linking transformational leadership and individual creativity. The results of the study indicated that transformational leadership was positively associated with the controlling personality, which also had a positive effect on the individual's creativity. The results of this study demonstrate the importance of leadership development and work design, which can help managers design effective strategies and increase the creativity of individuals. In the same context, a study (Ma and Jiang, 2018) examined the effects of transformational and transactional leadership styles on creativity, suggesting that transformational and transactional leadership will enhance individuals' creativity when accompanied by high levels of creativity and various forms of self-regulation. The study found a positive relationship between mutual leadership and individual creativity, with no positive relationship between transformational leadership and individual creativity, which the study attributed to the lack of cultural and societal factors that can significantly affect the effectiveness of leadership styles. A study (Alén et al., 2017) explained the impact of transformational leadership on salespeople in India by focusing on how transformational leadership affects their creative performance and their trust in their supervisors. The results indicated that transformational leadership is positively correlated with the creative performance of salespeople and their intrinsic motivation. The results also found a relationship between transformational leadership and trust in a supervisor.

A study (Carmeli et al., 2014) proposed and tested a model for the effect of psychological safety on the relationship between transformational leadership and creative problem-solving ability. The results of the survey data collected at three specific time points indicated that transformational leadership facilitates the development of individuals' creative abilities to solve problems through an atmosphere that provides psychological safety. And that psychological well-being is directly and indirectly related to the creative abilities of individuals to solve problems. This study sheds more light on the ways in which transformational leaders help develop and increase people's ability to solve creative problems. A study (Al-Arifi and Al-Thunayan, 2013) also showed a relationship between transformational leadership and individual creativity. The study relied on four dimensions of transformational leadership: idealistic influence, inspiring motivation, and arousing intellectual and individual considerations. The study showed that a transformational leader affects the behaviour of his followers positively. And that transformational leadership behaviour symbolises the existence of an effective environment to engage employees and motivate them to perform their duties, activate the

skills of individuals, and support their knowledge to develop their behaviour through learning to enhance the creativity of individuals. The study (Gong et al., 2009) aimed to clarify the relationship between employee creativity and performance in their career and transformational leadership. The study found that employee creativity was positively associated with sales performance. It also found an indirect positive relationship between leadership and employee creativity through employee creative self-efficacy. It also proposed (Gumusluoglu and Ilsev, 2009) a model for the impact of transformational leadership on the creativity of individuals at the individual level and innovation at the organisational level. The results indicated that there is a direct positive relationship between transformational leadership and individual creativity and an indirect positive relationship through empowerment. And there is a positive correlation between transformational leadership and organisational innovation at the organisational level. Based on the results of previous studies, the second hypothesis of the study can be formulated, which is:

H2 Transformational leadership positively affects the level of creativity of individuals in the oil and gas companies operating in Iraq.

The study (Newman et al., 2018) clarified the relationship between creative behaviour and the individual's confidence in his creative capabilities. And the entrepreneurial leadership style is in line with social cognitive theory, which shows that there is an effect of leadership styles (transformational and entrepreneurial) on the creative behaviour of individuals. The study found that there is a positive relationship between entrepreneurial leadership and creative behaviour in the direct path, as it was indicated that the individual's confidence in his creative capabilities leads to an increase in the strength of the relationship between entrepreneurial leadership and creativity among individuals. The study (Mokhber et al., 2016) included the effect of an individual's confidence in his creativity in the relationship between leadership and creativity. The study also dealt with the characteristics of the followers and the level of their confidence in their creative competence, in order to identify the impact of these characteristics on the behaviour of creative work. The results of the study indicated that if the entrepreneurial leadership style affects individuals, it enhances individuals' ability to carry out tasks and motivates them to do more than expected. The individual's confidence in his creative abilities plays a positive role in increasing the level of creativity.

The study (Jaiswal and Dhar, 2015) sought to show the relationship between transformational leadership and the expected creativity of individuals, through the mediating role of the climate of creativity and the individual's confidence in his creative abilities as an interactive mediating variable. The study highlighted the fundamental effects of transformational leadership, whereby transformational leaders inspire optimism and enthusiasm, make themselves ready to support their followers and encourage them to work differently to do different tasks. The study also indicated the practical importance of an individual's confidence in his creative potential, affecting the relationship between transformational leadership and creativity. The study (Stixrud, 2014) also examined how leadership styles and behaviours affect individuals' individual creativity by examining the relationship between transformational leadership and creative behaviour with an individual's confidence in his or her creative potential as an interactive mediating variable. The study found a positive relationship between transformational leadership and the creativity of individuals with direct influence. There is no relationship between an individual's confidence in his or her creative potential and transformational leadership.

The study also indicated that with regard to increasing creativity in individuals, an environment that encourages creativity must be created by providing factors that contribute to it. Where the transformational leader seeks to satisfy the needs of the individuals and the relationship with them becomes stimulating, then individuals can be transformed into leaders. Based on the results of previous studies, the third and fourth hypotheses can be formulated, which are:

- H3 The confidence of the individual in his creative capabilities positively affects the strength of the relationship between the entrepreneurial leadership style and the creativity of individuals.
- H4 The confidence of the individual in his creative capabilities positively affects the strength of the relationship between the transformational leadership style and the creativity of individuals.

And given the presence of many foreign oil companies working side by side with Iraqi companies in the work environment and given the cultural differences between the two types, which may affect management practices and leadership styles practiced by their managers, it is from the point of view of the current research that it is useful for the study to compare the leadership styles of foreign oil and national companies and their impact on the creativity of individuals. A study indicated that differences in cultures in multinational companies lead to differences in organisational, structural, and administrative matters.

- H5 There are statistically significant differences between the average creativity of individuals in foreign companies and those in national companies.

## 4 Design of the study

### 4.1 Measuring study variables

**Table 1** The scale used in measuring variables

<i>No.</i>	<i>Variables</i>	<i>Scale sources</i>
1	Entrepreneurial leadership	The scale (Renko et al., 2015) was adopted to measure the dimensions of entrepreneurial leadership through eight items within the survey list, including: innovation, creativity, work motivation, perseverance, vision of the future, and risk-taking, which will be adopted as a five-point Likert scale to measure the respondents' responses, as it gives five agree completely and one absolutely disagrees.
2	Transformational leadership	The Bass and Avolio (1990) scale was adopted to measure the four dimensions of transformational leadership through 20 items within the survey list, which included: ideal influence, inspirational motivation, intellectual arousal, and individual attention. which will be adopted as a five-point Likert scale to measure the respondents' responses, as it gives five agree completely and one absolutely disagrees.

**Table 1** The scale used in measuring variables (continued)

<i>No.</i>	<i>Variables</i>	<i>Scale sources</i>
3	Individual confidence its strategic capabilities creative	The scale (Tierney and Farmer, 2002) was adopted to measure the individual's confidence in his creative capabilities through three items in the survey list, including: I feel good at producing new ideas; I have confidence in my ability to solve problems carefully; and I have a talent for developing others' ideas. which will be adopted as a five-point Likert scale to measure the respondents' responses, as it gives five agree completely and one absolutely disagrees.
4	Creativity of individuals	The scale (Tierney and Farmer, 2002) was used to measure creativity among individuals through nine items within the survey list. which will be adopted as a five-point Likert scale to measure the respondents' responses, as it gives five agree completely and one absolutely disagrees.

#### 4.2 *Study population and sample*

Despite a century of social, political, and economic upheaval, turmoil, and conflicts, Iraq is currently considered a developing country (Hussein, 2022). However, the study population consists of individuals working for national and foreign oil companies operating in Iraq. The focus has been on choosing this society because of its economic importance. The oil and gas sector in Iraq has an important role in the country's future and prosperity as it constitutes the main source of financing the state's general budget at a rate of 90%, and this sector can contribute significantly to supporting the social and economic development process in the country, which drew the attention of state officials towards restructuring it, building it, and providing it with human cadres to raise the level of creativity for individuals.

**Table 2** Oil and gas companies operating in Iraq

<i>No.</i>	<i>Foreign companies</i>	<i>National companies</i>
1	lukoil	Oil Products Distribution Company
2	ENI	Middle Oil Company
3	BP	Basra Oil Company
4	Petro china	Maysan Oil Company
5	Weatherford	Middle Refineries Company
6	Petro get	South Refineries Company
7	Halliburton	Basra Gas Company

*Source:* Iraqi Ministry of Oil

First, a sample of managers is relied upon from the study population. As there is no sampling frame, it includes the names of the managers in those companies. Second, reliance on the judgmental sample method to choose the sample items from individuals ensures that individuals under the direct authority of the manager are selected so that they are better able to assess their own behaviour as it is followed in many leadership studies (Chen et al., 2012). The sample size was determined according to a study (Wong, 2013), as the current study includes three pathways representing relationships between the variables, so a section represents a sufficient number as a field for applying the structural

equation model. Will data be collected from individuals and managers in domestic and international oil companies? As the individual-to-manager ratio is 1:3, or three individuals for each manager (Chen et al., 2012). Thus, the data collection for each organisation (shown in Table 2) is from individuals from each department within the company, with a total number of managers (78) and employees (234).

### 4.3 Data collection methods

Reliance is made on previous survey lists after translating them and conducting the necessary validity and reliability tests on them. To overcome the problem of getting all of the data from one source (one source bias), two survey lists will be used: The first list will be directed at three individuals who are directly under the manager's authority, and through it, the extent to which individuals are aware of the characteristics of transformational leadership and leadership in the behaviour of their managers will be identified (Chen et al., 2012; Aragon-Correa et al., 2007).

**Table 3** Distribution of the questionnaire to the study sample individuals

No.	The study sample	Number of questionnaires distributed to managers	Number of questionnaires distributed to employees	Number of retrieved questionnaire	Percentage of recovered questionnaires
1	lukoil	5	15	20	100%
2	ENI	5	15	20	100%
3	BP	5	15	20	100%
4	Petro china	5	15	20	100%
5	Weatherford	5	15	20	100%
6	Petro get	5	15	20	100%
7	Halliburton	5	15	20	100%
8	Oil Products Distribution Company	6	18	24	100%
9	Middle Oil Company	7	21	28	100%
10	Basra Oil Company	7	21	28	100%
11	Maysan Oil Company	7	21	28	100%
12	Middle Refineries Company	5	15	20	100%
13	South Refineries Company	5	15	20	100%
14	Basra Gas Company	6	18	24	100%
Total		78	234	312	100%

The first survey for individuals will consist of three parts: The first part is to measure the entrepreneurial leadership variable among managers; the second part to measure the transformational leadership variable; and the third part to measure the individual's confidence variable and creative potential; and the last part is devoted to asking about some demographic information. The second checklist wave for managers will consist of two parts: the first part is to measure the creativity of individuals; and the second part is

to measure the creativity of individuals. It is devoted to asking for some personal and demographic information about the manager, which is useful in interpreting the results. Table 3 shows the mechanism for distributing the questionnaire and the number of the questionnaires distributed to managers and individuals in foreign and local oil and gas companies.

#### 4.4 *Limitations of the study*

The limitations of the study are spatial limitations, human limitations, temporal limitations, and cognitive limitations. The study will be limited to a sample of national and foreign oil companies operating in Iraq, which will be limited to a total of 14 companies out of a total of 26. The human limitations of the study have been the total number of managers (78) and employees (234). The temporal limits of the study were the time period required for the study, which extended from 1/10/2021 to 1/4/2022, and the data collection process through questionnaire distribution and retrieval took two months. The cognitive limitation of the study was represented in three variables (leadership styles, individual confidence in their strategic capabilities, and creativity of individuals).

#### 4.5 *Validity and reliability of the study scales*

##### 4.5.1 *Reliability*

The study relied on a number of tests to measure the extent of honesty and reliability in the answers of a sample of students. (Cronbach alpha) was used to measure the internal stability, which means that the answers do not change when the resolution is done at different times. Hair et al. (2017) use composite reliability, which is a form of internal consistency, to judge the consistency of results across items on the same scale, to determine whether the measurement of items is similar in the results or not (Hair et al., 2017). Despite the similarity of scales, Cronbach alpha and the composite reliability scale are tests of internal consistency, except that the composite stability scale is distinguished from the Cronbach alpha scale, in that it takes into account the external load factor. For indicators, in contrast to the Cronbach alpha scale, which is based on the assumption that the loading coefficients of the indicators are equal, Table 4 displays Cronbach's alpha values and the composite stability values. Hair et al. (2017) indicated that each of the two tests must have a value of more than 0.70 in order for the scale to be acceptable, which is what was achieved in every test metric used.

**Table 4** Cronbach's alpha test and composite reliability

<i>Variables</i>	<i>Cronbach alpha</i>	<i>Composite reliability</i>
Entrepreneurial leadership	0.845	0.885
Transformational leadership	0.954	0.959
Individual confidence its strategic capabilities creative	0.832	0.885
Creativity of individuals	0.913	0.928

The results of the internal stability and consistency tests for entrepreneurial leadership showed that the value of the internal stability was 0.845. The composite stability was 0.885, and this value indicates the stability of the study sample's answers to the

entrepreneurial leadership variable. We find that the Cronbach's alpha scale for the transformational leadership variable was 0.954, and the composite stability of the leadership variable was 0.959, and these values indicate the stability of the study sample's answers to the transformational leadership variable and the coefficient of Cronbach's alpha for the individual's confidence variable in creativity (0.885). As for the composite stability, it reached 0.885, and Cournach's alpha coefficient for the variable creativity of individuals reached 0.913, while the stability coefficient reached 0.928. We conclude from the above that there is stability in the answers of the study sample, which means that the answers will be stable if the questionnaire is repeated.

#### 4.5.2 Convergent validity

Convergent validity was measured using the average explained variance. This measure reflects the degree of variance that is explained by the latent variable due to the expression of this variable. The average variance explained (AVE) should be higher than 0.5 to be acceptable (Hair et al., 2017). Table 5 shows the average explained variance of the latent variables that represent the study variables.

**Table 5** Shows the average explained variance of the study variables (the latent variable)

<i>Variables</i>	<i>Average variance explained</i>
Leadership entrepreneurship	0.591
Leadership transformationalism	0.543
Individual confidence its strategic capabilities creative	0.506
Creativity of individuals	0.749

According to the Hair et al. (2017) criterion, the AVE for the entrepreneurial leadership variable was 0.59, which is an acceptable value. The contrast ratio, the explanation for the transformational leadership variable, reached 0.54. The latent variable, which represents an individual's confidence in creativity, reached a value of 0.506. As for the variance that explains the variable, the latent variable of creativity of individuals has reached (0.749), which is an acceptable value.

Exploratory factor analysis: exploratory factor analysis is used, depending on the answers of the study sample, to determine the main factors consisting of secondary variables or factors. Factor analysis can be used exploratory to rearrange the paragraphs of the questionnaire into which variables can be categorised. Analysis will be done on the factor as follows:

First, the correlation between the answers of the study sample: the determinant of the correlation matrix for the study variables reached (0.000), and this value means that the variables are free from the problem of multiple correlation. That is, the variables are independent, which means that the variables are studied among themselves.

Second, sample size adequacy: to test the adequacy of the sample size to perform the factor analysis, the KMO test was used as a criterion for measuring an adequate sample size. From Table 5, we find that the value of the KMO criterion for the study data was 0.958, and this value is statistically acceptable, meaning that the sample size is suitable for factor analysis.

Third, system independence: as the Bartlett's test (Dyer and Keating, 1980) indicates, the correlation matrix is a non-unilateral matrix, i.e., there are correlations between the



answers of the study sample and these correlations must be non-existent, as the P-value is 0.000 at the level of statistical significance, 0.05, meaning that we accept the hypothesis; that is, the correlation matrix is not matrix neutral. Hence, the study data is suitable for factor analysis.

**Table 6** KMO test and Bartlett's sphericity test

Kaiser-Meyer-Olkin measure of sampling adequacy		0.958
Bartlett's test of sphericity	Approx. Chi-square	3,930.737
	Df	780
	P-value	0.000

Fourth, the number of factors and the percentage of the variance explained: which represents the distinct roots with a value greater than one, as well as the proportion of variances explained by these factors? As we note, the number of factors is four, which is equal to the number of dimensions of the study variables.

We find that the number of factors in the study is four, as the factors whose characteristic roots are less than that are neglected. The first factor (42.880) explained the variance, while the second factor explained (17.598). From the explained variance, the cumulative percentage of the first and second factors amounted to (60.478), as the third factor explained its percentage (12,021), and the cumulative ratio of the first three factors amounted to (72.499), and the percentage of the variance explained by the factor was fourth (9.761), and the cumulative explained variance ratio reached (82.259), meaning that the first four factors explained (82%) of the quantitative variance. This indicates the importance of the four factors. The remainder of the explained variance, which is 18%, is due to the rest of the factors, and these factors will be neglected due to their lack of importance.

The extent of participation or loading of the study phrases (resolution questions) and the main factors (variables) was also tested. The results of the analysis of the four main factors are shown in the questionnaire statements, which represent the relationship between the factors (variables), obtained from the answers of the study sample and the statements of the questionnaire. The important correlations whose values are greater than 5% were neglected, and the other correlations were ignored. The results were as expected for the relationship of the questionnaire expressions with the main factors that represent the study variables.

## 5 Results of the structural model and hypothesis tests

We conducted a test (structural model) or an inner model) for relationships direct and indirect among the study variables, and this test shows the degree of influence of these variables on each other, as well as a Path analysis test to test the hypothesis of the first, second, third, and fourth studies. Statistical effects and correlations between variables using regression analysis and the path analysis method will measure the direct and indirect effects, as well as the level of significance.

### 5.1 Testing the first and second hypotheses of the impact of entrepreneurial leadership and transformational leadership on the creativity of individuals in the oil and gas companies operating in Iraq

We first tested the correlation between the entrepreneurial leadership variable and creativity to ensure that this relationship is significant statistically, as well as the correlation between the transformational leadership variable and creativity to ensure that this relationship is also statistically significant. It is assumed that there is a significant correlation between the entrepreneurial leadership variable and creativity, just as it is assumed that there is a significant relationship between the transformational leadership variable and creativity, as person correlation was used to measure the relationship of correlation between variables. Table 7 shows the results of the correlation between variables.

**Table 7** Shows the results of a correlation test between entrepreneurial leadership and transformational leadership in creativity

<i>Variables</i>	<i>Correlation</i>	<i>P-value</i>
Entrepreneurial leadership	0.769	0.00545
Transformational leadership	0.620	0.01201

The results showed that there is a direct, strong, and statistically significant relationship between the entrepreneurial leadership variable and creativity, as the correlation coefficient (0.769) and the P-value (0.00545) at the level of statistical significance (0.05). The results showed a strong and direct correlation between the transformational leadership variable and creativity, as the value of the coefficient of the correlation (0.620) was P-value (0.01201) at a statistical significance level of 0.05, which indicates that the association is a real moral relationship and not due to chance.

A regression analysis was performed using the multiple regression analysis method and the stepwise method to measure the effect of the two variables. The research (in the variable of individual creativity, entrepreneurial and transformational leadership) suggests that regression analysis is one of the statistical methods used to measure the effect of one or more independent variables on a dependent variable. Table 8 presents the results of the regression analysis of the impact relationship between the independent variables represented in entrepreneurial leadership and transformational leadership in the creativity variable.

**Table 8** Regression analysis results for transformational leadership and entrepreneurial leadership in creativity

<i>Variables</i>	<i>Estimate</i>	<i>C.R</i>	<i>P-value</i>	<i>Adj. R square</i>	<i>F statistics</i>	<i>P-value</i>
Entrepreneurial leadership ⇒ Creativity of individuals	0.032	8.413	0.000	0.748	118.288	0.000
Transformational leadership ⇒ Creativity of individuals	0.949	15.956	0.000			

The results of the regression analysis showed a positive and statistically significant effect of entrepreneurial leadership on creativity at the level of statistical significance (0.05), as the statistical significance was P-value (0000.0), and the value of the estimate was

(0.032). In the sense that the greater the reliance on entrepreneurial leadership, the greater the creativity of individuals, and a positive and significant effect was also found in the statistic for transformational leadership in creativity at the level of statistical significance (0.05), as the statistical significance was P-value (0.000), and the value of the estimate was (0.949). In other words, the greater the reliance on transformational leadership and transformational leadership on creativity at the level of P-value (0.000) at a significance level of 0.05, which indicates the significant impact of entrepreneurial leadership and transformational leadership on creativity, and through the coefficient R2, which indicates that the regression model is significant, and the coefficient R2 indicates that the independent variables represented by entrepreneurial and leadership transformationalism was able to explain (75%) of the changes that occurred in the dependent variable represented in creativity. And it shows the importance and impact of entrepreneurial and transformational leadership on creativity.

As a result, we accept the first hypothesis, which states that entrepreneurial leadership positively affects the level of creativity of individuals in companies operating in the oil and gas sector in Iraq, as well as the second hypothesis, which states that transformational leadership positively affects the level of creativity of individuals in companies operating in the oil and gas sector in Iraq.

### 5.2 *Testing the third and fourth hypotheses of the indirect impact of an individual's confidence in his creative abilities on the strength of the relationship between the two leadership styles: entrepreneurial and transformational leadership in the creativity of individuals*

The path analysis test was conducted to test the third and fourth hypotheses by finding the path analysis between variables. Entrepreneurial and transformational leadership and the creativity variable through an interactive and intermediate variable represented by the individual's confidence in the ability of the creative strategy longer analysis path analysis is one of the statistical methods used in structural models and causal relationships. It is statistically complementary to regression loading, through which relationships are found between a set of variables across variable argument. Statistical software was used. Table 9 shows the path loading results.

**Table 9** Significance of path coefficients

<i>Variables</i>	<i>Total effects</i>	<i>Indirect effect</i>	<i>Direct effect</i>	<i>T statistics</i>	<i>P values</i>
Entrepreneurial leadership ⇒ Creativity of individuals	0.028	0.017	0.011	2.991	0.003
Transformational leadership ⇒ Creativity of individuals	0.909	0.772	0.147	3.858	0.000
Entrepreneurial leadership ⇒ Individual confidence	0.132	0.132	0.22	2.339	0.020
Transformational leadership ⇒ Creativity of individuals	1.037	1.037	0.000	5.180	0.000
Individual confidence ⇒ Creativity of individuals	1.2	0.000	1.2	15.847	0.000

The results of the path analysis of the direct path analysis showed the impact of entrepreneurial leadership on the creativity of individuals at the level of statistical significance, 0.05, as the statistical significance was P-value (0.003), and the value of the direct path coefficient was (0.011), as well as the effect of transformational leadership on individuals' creativity appeared at the level of statistical significance, 0.05, as the significance reached the statistic was P-value (0.020), and the value of the direct path coefficient was (0.147), which confirms the results that were reached through regression analysis, which was expected as the relationship between entrepreneurial leadership and individual creativity of individuals appeared moral, and therefore the first and second hypotheses were accepted.

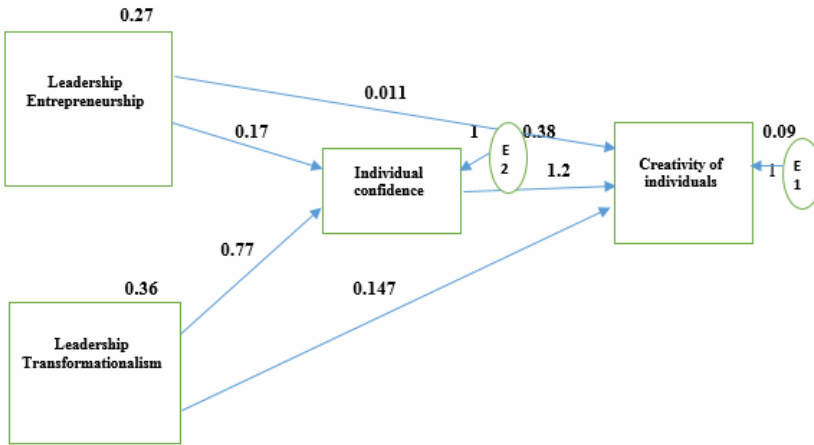
The indirect path analysis also showed that there is an impact of entrepreneurial leadership on the creativity of individuals in the presence of the individual's confidence in their creative capabilities as an interactive mediator variable at the level of statistical significance, 0.05. As the statistical significance reached P-value (0.003) and the value of the indirect path coefficient was 0.017, then the quantitative effect of the entrepreneurial leadership variable in the creativity of individuals, it reached (0.028), which leads us to accept the third hypothesis, which says that the confidence of the individual affects his creative capabilities. This reflects positively on the strength of the relationship between the entrepreneurial leadership style and the creativity of individuals.

The results also showed the impact of transformational leadership on the creativity of individuals in the presence of the individual's confidence in his creative potential as an interactive mediator variable at the level of statistical significance (0.05). As the statistical significance reached P-value (0.020), as the value of the indirect path coefficient was (0.77), then the quantitative effect of the transformational leadership variable on the creativity of individuals amounted to (0.909), which leads us to accept the fourth hypothesis, which says that the confidence of the individual in his creative capabilities affects the strength of the relationship between transformational leadership style and individual creativity. The effect of the individual's confidence in his creative capabilities appeared on the creativity of individuals at the level of statistical significance (0.05), as statistical significance was P-value (0.000), and the value of the direct path coefficient was (1.2). The path analysis showed that the overall effect (direct and indirect path) of the transformational leadership variable on creativity in individuals amounted to 0.909, while the total effect of the variable on creativity in individuals was only 0.028. These results agreed with regression analysis. The value of the estimate for the effect of transformational leadership on creativity was 0.949, while the value of the estimate for the impact of entrepreneurial leadership on creativity was only 0.032. This indicates that transformational leadership has an impact greater than entrepreneurial leadership on the creativity of individuals. This means that transformational leadership is better than entrepreneurial leadership in the study sample composed of companies operating in the oil and gas sector in Iraq.

The figure shows the direct and indirect paths of entrepreneurial leadership and transformational leadership in the variable of creativity for individuals, in the presence of the individual's confidence in his creative strategic capabilities as an interactive mediator variable.

Figure 2 depicts the direct and indirect effects of entrepreneurial leadership and transformational leadership on the creativity variable among individuals, as measured by individual confidence in their creative strategic capabilities.

**Figure 2** Study model results (the direct and indirect path) (see online version for colours)



*5.3 The fifth hypothesis test: the extent to which there are differences in creativity between individuals working in foreign companies and those working in Iraq’s oil and gas sector*

A comparison was made between the local and foreign companies that made up the study sample to test the extent of differences between these companies operating in the oil and gas sector in Iraq with regard to the study’s dependent variable, which is creativity among individuals. It was completed by conducting a t-test to verify the extent to which there are statistically significant differences between the creativity averages of individuals in foreign companies and those in national companies operating in the oil and gas sector in Iraq.

**Table 10** T-test for the differences between creativity averages among individuals

Type of company	Mean	Std. deviation	Leven’ test	p-value	t-test	p-value	Mean difference
National companies	3.12	0.566	1.034	0.312	5.975	0.000	0.47375
Foreign companies	3.83	0.456					

The t-test showed that there are statistically significant differences between creativity among individuals in foreign companies and in local companies at the level of statistical significance, 0.05, as the calculated t value was 0.000 sig. and the tabular value of t has reached 5,975, and we also find that the arithmetic mean of the creativity variable for foreign companies is greater than the mean arithmetic for the creativity variable for local companies, meaning that the answers in foreign companies were more in agreement with the scale of the answers in the local businesses. We also conclude from the standard deviation that there is homogeneity in the companies’ answers. As we note from the Leven test, which is used to test for homogeneity between the two samples, there is homogeneity in the variance for local and foreign companies, which makes us accept hypothesis five, which says that there are statistically significant differences between the

average creativity of individuals in foreign companies and those in national companies operating in the oil and gas sector in Iraq.

## **6 Discussion and conclusions**

The analysis showed that the arithmetic means of the expressions of entrepreneurial leadership, transformational leadership, and the individual's confidence in his strategic capabilities and creativity of individuals were higher than the average of the scale (3), as well as the coefficient of variation in harmony and consistency of study sample answers. This indicates the clarity of the questions in the questionnaire and their understanding by the study sample regarding the study variables. The results of the stability and internal consistency tests also showed the Cronbach alpha scale and the composite stability test the answers of the study sample to the study variables, the results of the (VIF) values of the study variables also showed that there is no correlation between study variables. Therefore, the independent study variables (transformational leadership and entrepreneurial leadership) are free from the problem of multilinearity.

### *6.1 The entrepreneurial leadership-individual creativity relationship (direct path)*

The results showed that there is a significant relationship between entrepreneurial leadership and the creativity of individuals, which is the direct path tested by the study, and thus the result is as expected by the researcher, which is consistent with previous studies (Cai et al., 2018; Bagheri and Akbari, 2018; Wibowo and Saptono, 2018; Fontana and Musa, 2017), as entrepreneurial leadership plays an important role in increasing the creative behaviour of individuals, which is reflected positively on the improvement of the individuals' creative index, as pioneering leadership contributes to developing individuals, supporting them, and empowering them, which leads to increased creativity. Entrepreneurial leaders make an impact – a significant positive in the creative behaviour of individuals. They greatly improve the exploration of ideas. Followed by the generation of ideas and the implementation of those ideas. Thus, entrepreneurial leadership is effective in promoting individuals' creative work behaviours (Bagheri and Akbari, 2018).

### *6.2 The relationship between transformational leadership and individual creativity (direct path)*

Regarding the relationship between transformational leadership and individual creativity in companies operating in the Iraqi oil and gas sector, the results showed a positive, significant relationship between transformational leadership and individual creativity. The reason for this is attributed to the climate. The right fit that transformational leadership provides for individuals to unleash their creative energies, motivate them to accomplish tasks, and support individuals financially through their interest in incentive systems and moral reward by increasing individuals' confidence in themselves and their abilities. It is also attributed to the training process that contributes to developing and raising the efficiency of individuals' creative abilities on the gradual change of operations without prejudice to the work system in order to keep pace with the environment and thus

increase skills and modernise the method of completion of the tasks assigned to individuals, which leads to an increase in the creativity of individuals, and this is what the current study agreed with many previous studies (Tse et al., 2018; Ma and Jiang, 2018; Alén et al., 2017).

### *6.3 The relationship between entrepreneurial leadership and individual creativity (individual confidence in his creative strategic capabilities as an interactive mediator variable)*

The results showed that there is a significant relationship between the entrepreneurial leadership and the creativity of individuals, with the effect of the individual's confidence in his creative abilities as an interactive mediating variable. The results showed that the individual's confidence in his creative strategic abilities leads to an increase in the strength of the relationship between entrepreneurial leadership and individual creativity. This is what the researcher expected and many previous studies indicated the effect of an individual's confidence in his creative strategic abilities in increasing the strength of the relationship (Newman et al., 2018; Mokhber et al., 2016). The reason for this is due to the role that the individual's confidence in his creative strategic abilities plays in individuals' understanding and assimilation of the entrepreneurial leadership role in the relationship (Newman et al., 2018; Mokhber et al., 2016). Also, increasing the confidence of individuals in their creative strategic capabilities is consistent with the vision and goal that the leader seeks. The individual's confidence in his creative strategic capabilities plays a positive role in increasing the level of creativity, regardless of supervisory behaviour as a main driving force, as an individual's confidence in his creative strategic potential affects his ability to work and potential opportunities to perform the tasks (Mokhber et al., 2016).

### *6.4 The relationship between transformational leadership and individual creativity (individual confidence in their creative potential as an interactive mediating variable)*

The results of the study supported the existence of an indirect relationship between transformational leadership and the creativity of individuals through the presence of individual confidence in their creative potential as an interactive mediating variable, which is consistent with the findings of previous studies (Stixrud, 2014; Jaiswal and Dhar, 2015) that the individual's confidence in their creative strategic capabilities plays a fundamental role in the assimilation of the process of change, renewal, and development carried out by the leader. In addition, organisational strategies may not last to encourage one's creativity if the individual has a weak belief in his creative designs. Thus, by increasing people's confidence in their creative capabilities, it is easy for the transformational leader to support the creativity process of individuals and increase their abilities and skills to carry out and perform the tasks assigned to them. The individual's confidence in his creative capabilities increases in the individual if he achieves an achievement. Personal conviction, which is encouraged by transformational leadership, as the conviction of the individual that he is able to address difficult situations through the directions of a transformational leader helps them act appropriately while finding innovative solutions to problems.

### 6.5 *Comparison of national and foreign companies operating in Iraq's oil and gas sector*

The t-test showed that there are statistically significant differences between creativity among individuals in foreign companies and in national companies at the level of statistical significance, 0.05, as the calculated t value was 5,975, and we also find that the arithmetic mean of the creativity variable for foreign companies is greater than the mean arithmetic for the creativity variable for national companies, meaning that the answers in foreign companies were more in agreement with the scale of the answers in the national companies, We also conclude from the standard deviation that there is more homogeneity in the answers of national companies to this variable than in foreign companies. As we note from the Leven test, which is used to test for homogeneity between the two samples, there is homogeneity in the variance for national and foreign companies. As we already note, there is a difference between foreign and national companies that may be due to many factors that are important to different cultures and some administrative and organisational matters, and this is consistent with the findings of a study (Bakri, 2012).

### 6.6 *Recommendations*

Based on the applied results of the current study, a number of practical recommendations can be presented, which the researcher hopes to use in practice:

- 1 Emphasising the value of creativity for managers in creating a competitive advantage, improving the production process, and striving to provide an environment that encourages innovation.
- 2 The importance of changing the orientations, interests, and priorities of those in charge of managing the departments, of which creativity is an important part. Because of the importance of creativity in achieving leadership in the markets and increasing production capabilities, and the success of these companies by managing them with a concept business man.
- 3 Work on training leaders to adopt a balance by adopting the entrepreneurial and transformational leadership styles and learning their skills to take advantage of creative ideas. These two styles can be learned.
- 4 Strengthening the role of the Human Resources Department in searching for best practices in the field of its activities, including the selection of individuals who meet the specifications of the creative personality and the search for ways to train them and make them aware of how they work. Equip them with creative skills.
- 5 Supporting trends to provide appropriate financial capabilities in a way that helps these companies use sufficiently advanced methods and techniques to improve and develop production processes within the framework of creative work.
- 6 Attention to creating an effective organisational climate that stimulates creativity and nurtures innovation and increases the state of organisational commitment for employees.



- 7 Increase in commitment to achieve psychological and functional stability for employees and commitment to the organisational identity to make more effort and creative thinking to achieve goals.

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