ABSTRACT

The current research aims through its chapters to test the effect of inclusive leadership as an independent variable in open innovation strategies as a responsive variable in the office of the Ministry of Higher Education and Scientific Research, as well as to identify the levels of its availability and employ them to be more appropriate to the reality of the current conditions of the ministry in the field of research and what is required of it in light of the turbulent regulatory environment in Iraq, and based on the importance of the research topic and the great importance in which these variables were given, especially for public organizations and the interpretation of the relationships and ties between them, and the analytical approach was adopted in the completion of this research, and data were collected from (150) respondents represented by an intentional sample of (general director, assistant general manager, department director and division official) working in the ministry, and data was collected using the questionnaire and with the help of field visits and personal interviews with a number of the sample researched, and the data was analyzed through a set of statistical programs (Amos, Spss, Excel), and the results showed the validity of the assumptions of correlation relationships. And the impact on the level of the main variables (inclusive leadership, open innovation strategies) and sub-dimensions were significant, and the inclusive leadership has an active and essential role in adopting open innovation strategies.

Keywords: inclusive leadership, open innovation strategies
INTRODUCTION

For many years, leadership has been an important phenomenon in organizational research. This prominent interest is due to the fact that leaders shape the behaviors of their followers, and that leaders are the people who most influence, exert power, and connect their employees on a journey to develop career goals and aspirations. Due to societal developments, public organizations are becoming increasingly more public. Cultural and demographic diversity, and as a result, top management is increasingly being charged with the responsibility of managing workforce diversity and promoting inclusiveness in the organization, and this task is not that easy to accomplish and includes some of the difficulties that leaders may face in managing team diversity in terms of preventing prejudice between groups and excluding different group members. Classification processes result when differences between team members are exaggerated, and also how to ensure that everyone has the opportunity to contribute to the team, and here there appears the need for inclusive leadership capable of dealing with these difficulties and employing it in a way that enhances the effectiveness of the organization. Amidst these developments and complexities, no organization can rely solely on internal resources to understand all the technologies and resources needed for creativity, and over the past ten years, open innovation has attracted great interest from the industrial, service and academic communities as a means to secure the competitive advantage of organizations in a rapidly changing environment, and open innovation is a way for the organization to achieve creativity and distinction based on cooperation with a variety of external and internal sources of knowledge and to create and market innovative products and services. That allows the organization to overcome its internal limitations and respond quickly to external changes. Hence, the idea of the current research crystallized in the study of (the role of inclusive leadership in open innovation strategies), and the fact that the Ministry of Higher Education and Scientific Research is one of the important ministries concerned with the knowledge and scientific development of members of society and the growth and prosperity of countries in general and individuals in particular and is considered a measure of the civilization and advancement of peoples, and the support of institutions Public and private and the labor market with human resources with specialized skills and high efficiency that improve the current reality of the country and raise the level of performance of public institutions, and on this basis the researcher chose the Ministry of Higher Education and Scientific Research as a field to apply the current research.
LITERATURE REVIEW

Inclusive Leadership

It is not new for both leadership practitioners and academics to discuss the set of definitions commonly used in the literature to describe leadership. Differences in how leadership is defined have led to differing approaches to conceiving, measuring, investigating, and criticizing leadership, for example some authors focus only on the leader to explain leadership While others have examined leadership from a relational, group, or subordinate perspective, other authors have focused on examining traits of a leader versus behaviors, while others still draw on perception and influence etiquette to explain leadership and its effects (Hernandez et.al, 2011: 1165). The concept of "leadership" is considered a central concept for understanding the human mind, because it shows the nature of social interactions in addition to the features of the self and identity that the individual forms through interactions and social life. At the present time the challenge in leadership studies is to calculate the positions and approach of the leader in terms of taking into account multiple factors in making Decision, team building and inclusiveness are essential (Bodhananda et.al., 2020: 1). Leadership is defined as “a process by which an individual influences a group of individuals to achieve a common goal” (Nothouse, 2016: 6).

In recent times, the nature of work, the workplace, as well as the people have changed radically, in addition to the increasing diversity of the workforce and the accelerating pace of social and technological change, which required a fundamental rethinking of leadership research (Morgan, 2017: 5). As individuals and organizations are influenced by leadership, and leaders influence both the positive and negative outcomes of individuals and organizations, as historically research on the relationship between leadership and employee outcomes has focused on the personality approach to leadership and situational leadership theory, yet organizations are rapidly globalizing and have diverse cultures due to a workforce with cultural backgrounds, today, leaders must manage a much more diverse workforce than they were a decade ago, and this diversification trend is expected to move forward into the future, as global organizations recognize the value of attracting and retaining diverse talent and their role in business growth (Malik et al., 2017: 1). Inclusive leadership refers to connecting with others in a way that makes them feel valued because of their unique talents and backgrounds as well as an awareness that they belong to and care about the team (Sugiyama et al., 2016: 257). Inclusive leadership also defines a relational leadership style that is characterized by leaders’ explicit concern for and provision of
the needs of their followers (Choi et al., 2016: 1880). And (Hassan, Jiang, 2019: 5) pointed out that inclusive leadership expresses leadership practices that recognize the value of diversity in the views and backgrounds of working group members who may be excluded from decision-making processes or do not feel completely comfortable sharing their ideas and opinions due to differences in status or power in a group. The inclusive leader tries to benefit from his employees in order to contribute to the success of organizations in this turbulent global and national environment, and through their skills in adaptability, association building and talent development, the inclusive leader raises the level of innovation and performance in the organization, and to achieve these benefits organizations do not just need to employ People from diverse backgrounds, but must incorporate support into their policies and procedures to retain them and maximize their potential through the practice of inclusive leadership, as it has already been shown that inclusive leadership is a key success factor for employee diversity and engagement strategies (Malik et al., 2017: 2). And that inclusion in leadership has five important characteristics as follows: - (ECHOLS, 2009: 86: 89-91).

1- Inclusive leadership brings the largest number of people to participate, as it works on motivation based on each individual's ability.

2- inclusive leadership enables individuals to reach their full potential while striving to achieve the common good, that is, to achieve a balance between achieving the same individuals and the goals of the organization.

3- Inclusive leadership develops a valuable ethical culture for the individual that acts as protective resistance against the perpetual possibility of tyranny.

4- Inclusive leaders do not try to institutionalize in a way that leads to fossilization, but rather work to keep the organizational structure flexible and dynamic to some extent.

5- inclusive leadership is reflected in the development of appropriate boundaries that preserve the integrity of the nature of the group without marginalization.

The overall leadership dimensions are as follows: (Ashikali, 2018: 110-111).

- Cognitive diversity processes: leaders in this regard play an important role in motivating and facilitating their followers to engage in exchange as well as in learning behavior, and this includes leaders creating an environment in which opportunities are developed for individuals to establish diverse perspectives when it comes to solving problems, and leaders in turn need to be encouraged. Exchanging diverse perspectives among employees and motivating followers to discuss these differences, as well as
managing the cognitive processes necessary to create value from diversity and ensure that individuals have the opportunity to express their individuality.

- Affactive diversity processes: Inclusive leaders try to prevent subordinates from feeling strangers. Leaders need awareness of these processes so that they can prevent negative stereotypes of others that may stimulate social categorization processes. Therefore, overall leadership should aim to prevent such stereotypes. Being passive and making sure everyone can be themselves and ensuring everyone is treated as part of the team.

**Open Innovation Strategies**

Because of the advent of the knowledge-based economy, everyone lives with a deluge of knowledge, as finding the necessary knowledge and ideas within the organization has become ineffective, even at the individual level, the question of how quickly an individual can find appropriate knowledge for certain questions has become a measure to determine his competitiveness. Openness to new ideas and ways of doing things to let go of unhelpful ways of thinking and create more meaningful and more meaningful ways of thinking (Hasson, 2013: 7). Changes in both external and internal environments have led organizations to consider opening up innovation processes as a way to increase their investment in research and development (Cheng, Huizingh, 2014: 1237). More recently, innovation strategies have been changed to look in an open manner, as organizations' operations have been expanded to produce products and services across borders and industries due to the increased need for external knowledge to complement internal knowledge bases through strategic alliance or internal licensing, whereby organizations can obtain permission to use external knowledge to develop Innovative products and services (Wu, Hu, 2018: 1737). The concept of open innovation was first described by (Henry Chesbrough) in his writing (Open Innovation: The New Imperative for Creating and Profit from Technology), published in (2003), as the idea he proposed was that in the latter part of the twentieth century Organizations are beginning to change from a closed, self-reliant innovation model to a more open model that involves collaborating on a large scale with external agents and marketing ideas in various ways (Padilla-Meléndez, Garrido-Moreno, 2012: 417) (Moslein, Bansemir, 2011: 11) (Wang, Xu, 2018: 378: 379). Over the past decade, open innovation has become one of the most important topics in innovation management research (Martinez-Cones, et al., 2017: 54).

Organizations have begun to adopt open innovation processes to complement their internal competencies and resources, and the adoption of these processes helps to keep
pace with the pace of technology and protect their competitive advantage in the market (Yasemin et al., 2017: 1). And that open innovation is also one of the strategies that organizations adopt to ensure the continued survival and determine the competitiveness of the organization through the ability to use resources in response to the rapidly changing environment as well as the volume of resources they possess (Lee, Yoo, 2019: 1: 2). The concept of open innovation refers to systematically encouraging and exploring a wide range of internal and external sources of creativity opportunities, integrating this exploration consciously with the capabilities and resources of the organization and exploiting those opportunities on a large scale through multiple channels (West, Gallagher, 2006: 320). Open innovation is also defined as using targeted inflows and outflows of knowledge to accelerate internal innovation and expand markets for external use of creativity respectively (Chesbrough, 2003: 43). Bogers (2012, 2) believes that open innovation is a new paradigm centered around opening organizational boundaries in order to use and reintegrate internal and external knowledge to develop and market valuable innovations. Open innovation strategies include two types:

- Inward-oriented open innovation (from outside to inside)

Resources and capabilities are the main forces that drive organizations to cultivate sustainable innovative benefits, and by following this logic to reap economic benefits effectively, the organization can use inward-oriented open innovation to explore external knowledge and thus gain additional value through the synergy of knowledge resources. Through the flow of knowledge, it facilitates new product innovation and technological advancement, as well as the timely recognition of market development trends in technology and knowledge, thus reducing unnecessary product costs (Zhou et al., 2019: 2226). Inward-oriented open innovation emphasizes the integration of ideas, knowledge and technology of external value into the internal application and the marketing process, and open innovation directed at the inside is a process from outside to inside for organizations to acquire and assimilate resources, and that this concept based on a knowledge perspective leads to that innovation directed at home and helps organizations On achieving high performance (Sun et al., 2019: 17).

- outward-oriented open innovation (from inside to outside)

The inside-out process refers to a major approach to the organization that focuses on externalizing the organization’s internal
knowledge and creativity to bring new ideas to the market (Wu, Hu, 2018: 1737: 1738). Outward-oriented open innovation refers to allowing unused and untapped ideas to exit from the organization for others to use in their work (Bogers et al., 2018: 6). (Ahn et al., 2016: 1011) asserts that open outward-oriented innovation aims to exploit internal knowledge in a number of ways in both existing and innovative new markets. In this process, organizations with strong "absorptive capacity" voluntarily disclose important parts of Knowledge of economic agents is less enlightened through scientific publications, conferences, patents, and the Internet, and there are many reasons for doing this as follows:

1. Obtaining feedback from suppliers and users.

2. Expanding networks, reputation and job opportunities and increasing high-level knowledge.

3. Through the technical and scientific capabilities of the organization and its comparative advantages, it is possible to attract potential partners and create new opportunities for cooperation, provided that a minimum level of knowledge protection is guaranteed.

The Relationship Between Inclusive Leadership and Open Innovation Strategies

It is emphasized that the human factor, culture and leadership are very important in open innovation, as people are the ones who drive the creativity process, and this aspect is suitable for all organizational levels from senior management to middle managers, project managers and researchers, as they determine the degree of openness of the organization and its organizational culture (Giannopoulou et al., 2010: 170). Based on social exchange theory, it can imply that the supportive and overarching features of leadership made employees feel obligated to repay the leader and the organization, that the desire for reciprocity led employees to actively participate in solving problems that required generating creative ideas, and encouraged inclusive leadership in a social exchange perspective. Positive social exchanges that developed cognitive thinking and the motivation to engage in innovative performance (Javed et al., 2019: 557). And the Leadership in the context of open innovation is particularly interesting, because the R&D project team leader must manage team members from different organizations with different perceptions about what to aim for and how to reach it, in addition to their other business priorities, and also often lacks The leader has formal authority over outside team members and has to direct the work
from a distance, and the leader needs to create an environment where cooperating partners trust each other and dare to share information (Singh, Wenzlaff, 2014: 21). Scholars generally agree that the shift from a closed innovation approach to a more open innovation approach requires a cultural change within the organization, which must be facilitated by management and requires specific leadership skills, and the leader's responsibility in identifying and fighting potential resistance to change is seen, until leaders need to motivate employees. For those involved in the open innovation process and building an effective relationship with partners inside and outside the organization (Giannopoulou et al. 2010: 515: 516).

**RESEARCH METHODOLOGY**

The review of inclusive leadership literature and open innovation strategies resulted in the crystallization of a hypothetical outline for the research as in Figure (1), which was prepared in light of the research problem and its objectives, and the main hypotheses were formulated as follows:

**first main hypothesis (H1):** There is a significant correlation between inclusive leadership and open innovation strategies.  

2. **The second main hypothesis (H2):** There is a significant effect of inclusive leadership on open innovation strategies.

**Inclusive Leadership Scale:** The independent variable, inclusive leadership, as it consists of (13) items divided into two dimensions, namely (cognitive diversity processes, affective diversity processes) based on (Ashikali, 2018).

**Open Innovation Strategies Scale:** The Responsive Variable Open Innovation Strategies, as it consists of (9) items divided into two dimensions, namely (Inward-oriented open innovation, Outward-oriented open innovation) based on (Sun et al., 2019) (Naqshbandi, Tabche, 2018). The five Likert scale has been adopted.
Research sample: The intentional sample was used, as the total human community reached (197) individuals who meet the required specifications for those who occupy the position of general director, assistant general manager, department director and division official, and are considered to be individuals who represent the administrative leaders in the Ministry of Higher Education and Scientific Research. Thus, the research sample in its final form would be (150) individuals represented by (76%) of the total community.

DATA DISCUSSION AND ANALYSIS

Reliability test: Cronbach's Alpha Coefficient was used to measure the internal consistency of the scale paragraphs, dimensions and variables, and the scale as a whole. Table (1) shows the values of the reliability coefficient ranged between (0.928–0.807) for the variables and dimensions, which is greater than (0.70), and this indicates However, the variables and dimensions have an appropriate internal consistency, and the internal consistency coefficient (Cronbach's Alpha for the scale in general) reached its value (0.97), as it enjoyed a high evaluation and these results indicate that the current research scale (the resolution) has a good level of stability.

<table>
<thead>
<tr>
<th>The Scale</th>
<th>Cronbach Alpha coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>cognitive diversity processes</td>
<td>0.807</td>
</tr>
<tr>
<td>affective diversity processes</td>
<td>0.864</td>
</tr>
<tr>
<td>Inclusive leadership</td>
<td>0.886</td>
</tr>
<tr>
<td>Inward-oriented open innovation</td>
<td>0.886</td>
</tr>
<tr>
<td>Outward-oriented open innovation</td>
<td>0.877</td>
</tr>
<tr>
<td>Open Innovation Strategies</td>
<td>0.928</td>
</tr>
<tr>
<td>Questionnaire in General</td>
<td>0.97</td>
</tr>
</tbody>
</table>
DISCUSS RESULTS

The hypothesis test (H1): It appears through Table (2) the correlation coefficient between comprehensive leadership and open innovation strategies (0.599 **) at a significance level (0.000) and it is less than the significance level (0.05) as shown in Table (49), and this Means accepting the hypothesis that states (There is a significant correlation between inclusive leadership and open innovation strategies.), which indicates that inclusive leadership has an effective and clear role in open innovation strategies. The correlation coefficient between the dimension of cognitive diversity processes and open innovation strategies was (0.398 **) at a significance level (0.000), which is less than the significance level (0.05), and the correlation coefficient between the dimension of affective diversity processes and open innovation strategies was achieved (0.667 **) at a significant level (0.000) which is less than the significance level (0.05), and this means that all the correlations between the dimensions of inclusive leadership and open innovation strategies are positive and positive.

<table>
<thead>
<tr>
<th>of Inclusive leadership Variable</th>
<th>Correlation Value and Significance Level</th>
<th>open innovation strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inward-oriented open innovation</td>
</tr>
<tr>
<td>cognitive diversity processes</td>
<td>Correlation Value</td>
<td>0.372**</td>
</tr>
<tr>
<td></td>
<td>Sig</td>
<td>0.000</td>
</tr>
<tr>
<td>affective diversity processes</td>
<td>Correlation Value</td>
<td>0.666**</td>
</tr>
<tr>
<td></td>
<td>Sig</td>
<td>0.000</td>
</tr>
<tr>
<td>Inclusive leadership</td>
<td>Correlation Value</td>
<td>0.584**</td>
</tr>
<tr>
<td></td>
<td>Sig</td>
<td>0.000</td>
</tr>
</tbody>
</table>
The value of the correlations between (inclusive leadership) in its dimensions and after (inward-oriented open innovation) and respectively (0.372 **, 0.666 **, 0.584 **) all indicate the existence of positive and positive moral correlations at a level ranging from acceptable to average. The correlations between (Inclusive leadership) in its dimensions and after (outward-oriented open innovation) and respectively (0.372 **, 0.578 **, 0.534 **) all indicate the existence of positive and positive moral correlations and at a level ranging from acceptable to average.

**Hypothesis test (H2):** It appears through Table (3) that the value of (F) computed between inclusive leadership in open innovation strategies was recorded (82.848), which is greater than the tabular (F) value of (3.94) at a level of significance (0.05), and accordingly We accept the hypothesis that states (There is a significant influence of inclusive leadership in open innovation strategies) at a level of significance (5%), i.e. a degree of confidence (95%), which indicates that there is an effective and clear influence of inclusive leadership in achieving open innovation strategies. When the leadership in the surveyed ministry is characterized by being inclusiveness and concerned with the processes of cognitive and affective diversity and working to create an environment for cooperation and intellectual and knowledge exchange and a climate that encourages innovation for employees, this will have a positive impact on achieving open innovation strategies. It is evident through the value of the coefficient of determination (²R) of (0.359) that the inclusive leadership explains (36%) of the variables that occur to open innovation strategies, while the remaining percentage (64%) is due to other variables that are not included in the research model. As the value (t) computed for the marginal propensity coefficient for the inclusive leadership variable was (9.102), which is greater than the tabular value (t) of (1.660) at the level of significance (0.05). Through the value of the marginal propensity coefficient (β) of (0.701) that increasing the inclusive leadership by one unit will lead to an increase in open innovation strategies by (70%), and the value of the constant (α) in the equation is (0.937), meaning when the inclusive leadership is equal to zero The open innovation strategies will not be less than this value.
### Table (3) Analysis of The Impact of inclusive leadership Variable on open innovation strategies

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Value (α)</th>
<th>Value (β)</th>
<th>Coefficient (R²)</th>
<th>Calculated (F) value</th>
<th>Calculated Value (t)</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>cognitive diversity processes</td>
<td>Open innovation strategies</td>
<td>0.937</td>
<td>0.701</td>
<td>0.359</td>
<td>82.848</td>
<td>9.102</td>
<td>0.000</td>
</tr>
<tr>
<td>affective diversity processes</td>
<td></td>
<td>2.003</td>
<td>0.419</td>
<td>0.158</td>
<td>27.823</td>
<td>5.275</td>
<td>0.000</td>
</tr>
<tr>
<td>Inclusive leadership</td>
<td></td>
<td>0.976</td>
<td>0.690</td>
<td>0.445</td>
<td>118.798</td>
<td>10.899</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The value of (F) computed between the dimension of cognitive diversity processes was recorded in open innovation strategies (27.823), and it is greater than the (F) tabular value of (3.94) at the level of significance (0.05). Open innovation strategies, as by activating the processes of cognitive diversity, it will have a positive impact on increasing knowledge and its diversity among employees, which will positively affect the success of implementing open innovation strategies. It appears through the value of the coefficient of determination (R²) of (0.158) that the processes of cognitive diversity explain (16%) of the variables that occur to open innovation strategies, while the remaining percentage (84%) is due to other variables that are not included in the research model.

The value of (t) computed for the marginal propensity factor for cognitive diversity processes reached (5.275). It is greater than the tabular (t) value of (1.660) at the level of significance (0.05). This indicates that the marginal propensity coefficient is proven to be significant for cognitive diversity processes. By one unit, it would increase open innovation strategies by (42%). The value of the constant (α) in equation (2.003), meaning when the cognitive diversity processes are equal to zero, the open innovation strategies will not be less than this value.

As the value of (t) computed for the marginal propensity factor for cognitive diversity processes reached (5.275). It is greater than the tabular (t) value of (1.660) at the level of significance (0.05). This indicates that the marginal propensity coefficient is proven to be significant for cognitive diversity processes. By one unit, it would increase open innovation strategies by (42%). The value of the constant (α) in equation (2.003), meaning when the cognitive diversity processes are equal to zero, the open innovation strategies will not be less than this value.

The value (F) computed between affective diversity processes achieved in open innovation strategies (118.798), which is greater than the (F) tabular value of (3.94) at a level of significance (0.05). This
indicates that affective diversity processes have an effective and clear role in open innovation strategies. i.e., whenever there is affective diversity and cooperation between workers within the ministry, treating everyone fairly without discrimination or social classification, and taking the ideas of all parties whenever this contributes to achieving open innovation strategies. Through the value of the coefficient of determination ($R^2$) of (0.445), it is clear that the affective diversity processes explain 44% of the variables that occur to open innovation strategies, while the remaining 56% is due to other variables that are not included in the research model. As the value ($t$) computed for the marginal propensity coefficient for affective diversity processes was (10.899), which is greater than the tabular value ($t$) of (1.660) at a level of significance (0.05). The value of the marginal propensity coefficient ($\beta$) of (0.690) states that increasing the affective diversity processes by one unit will lead to an increase in open innovation strategies by (69%). The value of the constant ($\alpha$) in the equation (0.976), meaning when the affective diversity processes are equal to zero, the open innovation strategies will not be less than this value.

**CONCLUSIONS**

It was found that comprehensive leadership has an effective influence in adopting open innovation strategies, and this has been demonstrated through the relationships of engagement and influence, as the comprehensive leadership works to encourage employees to open up and cooperate in exchanging ideas, sharing knowledge and transferring them, thus creating an internal environment for the ministry that supports cooperation and the ability to assimilate knowledge, ideas and external technology, and work to apply them to serve methods of work the Ministry and its development, which the Ministry obtains through relying on the inward-oriented open innovation strategy.

**RECOMMENDATIONS**

Emphasizing the increase and expansion of the Ministry of Higher Education and Scientific Research's interest in research variables represented in (inclusive leadership, open innovation strategies) and sub-dimensions of each variable, by holding seminars, conferences and training courses to educate administrative leaders and employees about the importance of these variables and the nature of the actual reality of these variables and discussing the obstacles that limit the ministry's ability to implement it.
SOURCES AND REFERENCES


