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# **The Role Of Organizational Intelligence In Achieving Strategic Agility By Using The Complexity Leadership Theory**

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## **Abstract**

**This study aims to identify the role of organizational intelligence in achieving strategic agility by using the Complexity leadership theory. Therefore, this study started with a problem expressed in a number of intellectual and applied questions. The answer to it aimed to clarify the theoretical philosophy, intellectual connotations, and the applied capabilities for their variables covered by the study, namely (Complexity leadership, organizational intelligence, and agility of organizations), and then diagnose the level of its importance, impact, and the possibility of applying it in universities. This study was applied to a group of associates who hold senior management positions in it, the study used a group of statistical analyses and tests using the statistical programs (SPSS 18 and EXCEL) and Barron's equation. A special measuring tool was designed to collect the necessary data that serve the topics of the study. The study reached a set of conclusions, including: There is a direct, positive and strong impact for organizational intelligence on the agility of organizations in the sense of the contribution of administrative and adaptive leaderships and possible leadership in quickly responding to changes in the environment through agile strategies so that they apply the knowledge they possess in all their activities.**

**Keywords: organizational intelligence, strategic agility, complex leadership.**

# **El Papel De La Inteligencia Organizacional Para Lograr La Agilidad Estratégica Mediante El Uso De La Teoría Del Liderazgo De Complejidad**

## **Resumen**

Este estudio tiene como objetivo identificar el papel de la inteligencia organizacional en el logro de la agilidad estratégica mediante el uso de la teoría del liderazgo de Complejidad. Por lo tanto, este estudio comenzó con un problema expresado en una serie de preguntas intelectuales y aplicadas. La respuesta a esto tenía como objetivo aclarar la filosofía teórica, las connotaciones intelectuales y las capacidades aplicadas para sus variables cubiertas por el estudio, a saber (Liderazgo de complejidad, inteligencia organizacional y agilidad de las organizaciones), y luego diagnosticar el nivel de su importancia, impacto, y la posibilidad de aplicarlo en universidades. Este estudio se aplicó a un grupo de asociados que ocupan puestos de alta dirección en el mismo, el estudio utilizó un grupo de análisis estadísticos y pruebas utilizando los programas estadísticos (SPSS 18 y EXCEL) y la ecuación de Barron. Se diseñó una herramienta de medición especial para recopilar los datos necesarios que sirven los temas del estudio. El estudio llegó a una serie de conclusiones, que incluyen: Hay un impacto directo, positivo y fuerte para la inteligencia organizacional en la agilidad de las organizaciones en el sentido de la contribución de los liderazgos administrativos y adaptativos y el posible liderazgo para responder rápidamente a los cambios en el entorno a través de estrategias ágiles para que apliquen el conocimiento que poseen en todas sus actividades.

Palabras clave: inteligencia organizacional, agilidad estratégica, liderazgo complejo.

## **1. INTRODUCTION**

The global system is now characterized by its rapid movement in which changes and transformations are pursued and the forces of change escalate in many parts of the world, which requires building a balance between the continuity of organizations and taking into account the requirements of development and change and internal and external challenges affecting their survival, growth and their Capability to continue. In the new world of organizations, they are based on responding and dealing with uncertainty and risk situations (meaning adapting with uncertainty). Strategic agility is one

of the managing uncertainty methods, unexpected and continuous change, and managing the risks faced by organizations within this change. It means the Capability to survive and thrive in a constantly changing competitive environment, by interacting quickly with changing markets and producing unconventional services and products, It is the capability to efficiently change of working operations, and respond to changing uncertain market conditions. where the organizations that have the Capability to strategic agility are distinguished by having the skill required to navigate the changing business, through agile and targeted strategies that affect the speed of their response and adaptation to environmental changes. This requires organizational intelligence that relies on glowing memory, data integrity and creativity in creating ideas and translating them into reality in an easy and organized way. In order to achieve the aims of the study, it has been divided into four topics. The first topic included the study methodology with its problem, importance, goals, and hypotheses. The second topic dealt with the intellectual and theoretical aspects of the study variables. The third topic presented the analysis and interpretation of the statistical results obtained from the sample's answers to the questionnaire. The fourth topic came with the most important conclusions reached by the study and concluded with recommendations that can contribute to increasing awareness of the research companies of the importance of these variables.

### 1.1 organizational intelligence

Organizational intelligence is a wide range of applications, technologies, and processors for collecting, storing, accessing and analyzing data to help organizations make better decisions. It was defined by (Negash, 2004: 177) as a group of analytical tools used to understand the capabilities available to the organization and the prevailing trends in the used technology in the environment and the work of competitors for the purpose of providing the necessary information to decision-makers within the organization. Wixom and Watson, 92010: 13) indicated to organizational intelligence as a set of systems and procedures that convert raw data into useful information for managers in order to make a better decision. It also defined by (Surajit, 2011: 88) as a set of decision support techniques in organizations that aim to enable knowledge workers such as executives, analysts, and department managers to make decisions with high quality and shorter time, to achieve this support in decision making and support the operations of the organization, there must be a dynamic technical structure that enables decision-makers to invest the organization's resources from data and information. (Sabherwal, 2011: 220) also indicated to organizational

intelligence as the organization's Capability to acquire internal and external information and turn it into knowledge. Hence, this accumulated knowledge is used to develop mechanisms towards achieving a faster and better response to change. Organizational intelligence provides valuable information and knowledge to decision-makers by collecting data and information from a variety of structured or unstructured sources. Meaning that the primary goal for business intelligence is to support decision-making based on facts extracted from a variety of sources and turn these facts into actionable ideas (Kuilboer et al., 2013: 2). Organizational intelligence consists of a group of solutions containing capabilities of intelligence supported by a set of tools and comprehensive solutions for organizational intelligence are:

#### 1.1.1 organizational memory

Organizational memory represents the basis for organizational intelligence, it is the repository of information and knowledge that the organization collects from previous years. The most important tools for this Capability are data-warehouses. Before benefiting from this data, it should be extracted first from its original source and then transferred and carried to the warehouse. can also be benefited from documentation systems as another tool to implement the capability of organizational memory (Kuilboer et al., 2013: 4).

#### 1.1.2 Information Integration

This capability links structured and unstructured data from various sources such as internal databases and knowledge projects. This capability works to analyze large sizes of text data and extract the appropriate information from it and it saves a lot in terms of the time spent in analyzing the data if the process was done manually. The most important tools used to achieve the capability of information integration are:

- Extracting texts
- Network extraction (Kuilboer et al., 2013: 5).

#### 1.1.3 Creating ideas

The third capability is to create ideas, enable the organization to understand past events and make predictions about the future. The data extraction tools provide deep analysis for the data in order to construct predictive models and answering the asked questions. Network analysis also examines how users interact and explore company sites with the help of data storage and flow devices (Chaudhuri et al., 2011: 88).

#### 1.1.4 Introducing capability

This capability works to display and clarify ideas in different ways to

make the process of benefiting from them easier. For example, direct analytical processing supports a multidimensional data perspective and allows users to collect, filter and extract important pivotal data (Kuiliboer et al., 2013: 5).

## 1.2 Strategic Agility

Strategic agility is a relatively recent concept concerned with finding solutions to maintain a competitive advantage during times of uncertainty and volatility in the business environment. Sharifi and Zhang, (1999: 10) defined agility as the capability to face unexpected challenges and potential threats in a business environment and take advantage of changes as opportunities. Kidd, (2000: 4) defined strategic agility as the capability to rapidly adapt in response to unexpected changes and events, market opportunities and customer requirements. Sanbamuthy et al., (2003: 245) referred to agility as discovering creativity opportunities and exploiting these competitive market opportunities by quickly and surprisingly gathering the required assets, knowledge and relationships. Li et al., (2008: 410) defined it based on two factors: the speed and capabilities of the organization in using resources to respond to changes. McCarthy et al., (2010: 119) mentioned that the agile organization can quickly meet customer requests, offer new products, and can acquire strategic alliances or get rid of them quickly. This means that organizations today are in urgent need to focus on strategic alliances in order to develop solutions to the problems of their customers, rather than providing single products or services. This is the primary reason behind the request for strategic agility to search within the organization for core capabilities on the one hand and identifying the business environment and seize opportunities on the other hand. Strategic agility means the organization's capability to discover and exploit opportunities faster than competitors. It also means anticipating events and changes and then adequately responding to these new conditions. The agile organization is able to respond to changes quickly and benefiting from available resources to achieve adaptation to the changing environment (Mathiassen et al., 2006: 116). The speed here indicates the speed of responding to change, which is the time consumed to perceive events, understand them, evaluate their effects on the organization, and then define options and activities and accomplish them through the response speed. In order for the organization to be resourceful and capable, it must possess the people, technologies, processes, and knowledge that contribute to a rapid and effective response. To achieve agility, organizations need to feel and respond quickly to expected and unexpected events. Therefore, or-

organizations must build scope economies in order to effectively respond to change in the environment and be productive at the same time (Honey et al., 2010: 34). Administrations have recognized the importance of agility for the success of organizations in terms of rapid response to expected and unexpected events, where organizations see agility as essential to survival, continuity, and ownership of competitive capability because it enables them to develop a set of distinct capabilities and giving the opportunity for organization to respond and confront rapid and continuous change and seize new opportunities (Lin, Chiu & Chu, 2006: 288). The strategic agility in organizations is a major reason for staying in the fierce competition arena towards attracting clients and maintaining their loyalty, especially with entering into the World Trade Organization, opening borders and increasing competition. Agile organizations can be seen as a model for integrating technology and human resources through information and infrastructure for communication. It provides flexibility, speed, quality, service, efficiency, and empowerment to respond effectively, in a coordinated manner for the change in the environment (Mohamad & Elaheh, 2014: 1853). Strategic agility can be defined by the existence of certain specifications that must be met by any organization in order to actually call it the agile organization. These specifications are as following (Kidd, 2000: 2):

- 1- Their highest priority is to satisfy customers through providing their requirements and needs in an urgent and continuous manner and interest in knowing their implicit expectations, as well as seeking to overcome this by making customers happy and dazzling them with high-quality products and outstanding services, and responding quickly to customer complaints and suggestions.
- 2- Effective greet and positive response to the expected or imposed change requirements on it from the internal or external work environment, such as economic, political, or social variables, even if they were not taken into account.
- 3- Excelling with transparency internally towards employees and externally towards stakeholders from the state, investors, clients, and society.
- 4- The availability of an integrated measurement system for KPI's financial and productivity indicators, customer orientation, creativity, and learning aspects in terms of identifying, monitoring, following and evaluating it, and correcting their path whenever there is a need for that.
- 5- Financial and productive development sustainability.
- 6- Permanent vigilance with the events and changes surrounding it, exploring and anticipating the future effectively and continuously.

7- Permanent interest in building databases for all the needs, properties and internal and external influences for the organization, and facilitating the process of reaching them for all, especially when making decisions while activating the use of smart systems in this regard.

8- The decisions of the agile organization contradict the bureaucratic decisions of the organization without complicating or prolonging its time. Organizations need to find a balance between the strategic agility for internal and external organizations. Strategic agility is defined as the capability to change and reconfigure the internal parts for an organization, strategies, organization, techniques and even individuals in responding to change, unexpected events and uncertainty in the business environment. As for external strategic agility, it is the capability to change and reconfigure the external parts for the organization - partners, suppliers, distributors, and customers in response to change, unexpected events and uncertainty in the business environment (Kidd, 2000: 2). The patterns of strategic agility were multiplied by many researchers and writers, but in the field of research, the patterns of strategic agility identified by (Kuilboer et al., 2013: 3) were chosen as follows:

#### 1.2.1 Operational Agility

It indicates the organization's capability to achieve change to improve internal processes and procedures by reducing costs, improving quality, and refining distribution processes. Operational agility is defined as the capability of an organization to exploit both opportunities to increase revenue and reduce costs within its core business more quickly, effectively and more cohesively than competitors and it is the source of operational capability (Sull, 2010: 6), Or it is the capability to achieve speed, accuracy and economic costs in exploiting innovation opportunities (Sambamurthy et al., 2003: 246). Excellence in internal capabilities can be achieved through means of continuous improvement in enhancing capabilities and investment in enabling infrastructure for the information and service programs (Al-Lamy et al., 2018). The success of operational agility depends on a number of factors, including the capability to access the required information, analyze it, and maintain a focus on important primary goals.

#### 1.2.2 Portfolio agility

Portfolio agility focuses more on understanding and realizing new business opportunities with resources such as cash, talent, and managerial interest. The goal is to redistribute resources from units that have a dilatory to units with growth potential. This type of agility contributes to revenue



growth, although there is a great challenge in applying this type of agility, which is the possibility of disturbing the balance of Authority within the organization. Therefore, senior management needs significant control over resources to achieve portfolio agility. The organization also needs a group of managers who have multiple skills that can be described in different units. The perception of portfolio agility also depends on the information already available and the capability to quickly and accurately analyze internal and external data and information (Kuiliboer et al., 2013: 3). Sull also emphasized the need to make rational decisions based on facts, not standards of emotions and policies (Sull, 2009: 7).

### 1.2.3 partner agility

It means the capability to increase knowledge, and capabilities for suppliers, distributors, contractors through alliances, partnerships and joint ventures (Chen & Siau, 2012: 3). Strategic agility refers to the capability to discover and exploiting golden opportunities. Strategic agility often requires a rapid search for new business, enterprising entry into new markets, using new technology, or work to find important investments in energy. The strategic agility of organizations can be improved through the following (Tseng and Lin, 2011: 3693):

- 1- Rapid and efficient response to changes in market requirements.
- 2- The capability to make the required products and delivering them to customers.
- 3- The capability to produce and deliver new products through efficient means.
- 4- Reducing manufacturing costs.
- 5- Increasing customer satisfaction.
- 6- Removing activities that do not add value.

### 1.3 Complexity Leadership Theory

Complexity leadership theory focuses on identifying and exploring strategies and behaviors that embrace creativity, learning, and organizational adaptation when the dynamics of complex adaptive systems are enabled in Organizational Hierarchy processes in an organization (bureaucracy). Uhl-Bien, (2007: 299) referred to the complex adaptive systems (CAS) as the basic units for analysis in complex science and also defined as nerve-like networks of interactive and accredited agents who are linked in a cooperative dynamic through a common goal, vision, and need. It is also known as interchangeable structures with multiple and overlapping hierarchies, which are interconnected with each other by interacting dynamic networks. Lichtenstein and Plowman, (2009: 618) emphasized that

complexity leadership theory suggests that adaptability, which improves performance and innovation, occurs during everyday interactions between individuals in response to stress and opportunities in local environments. But the problem is that it is difficult to conduct this connection in organizations because of the organizational bureaucracy that imposes obstacles on the process of mutual communication. Therefore, the main question for the Complexity leadership theory is: How to enable leaders in these bureaucratic organizations to generate ideas, new solutions, and required innovations for the organization to remain the organization in this complex world?

The answer to this question depends on the understanding that organizations have two basic systems:

1- Operating System: This system leads to formal, standard, and organizational performance.

2- Entrepreneurial system: strives for creativity, learning, and growth. Arena & Uhl-Bien, (2016: 23) also emphasized the Complexity leadership theory about a leader's work that he is not managing conflict (in the sense of reducing it) despite the widely held belief. The struggle in the dynamic environment between the previous two systems is really the basis for creativity and adaptability in organizations. Innovation and adaptation appear in the stress and tension situations that occur between the operating system that leads to administrative efficiency and the pioneering system that leads to creativity, learning, and growth. The theory leads to the realization that adaptive organizations possess an advantage that they did not previously realize in leadership and the organization's theory, which is enabling adaptation in the presence of the adaptive space. It occurs during the interface between the operational and pilot systems (Arena and Uhl-Bien, 2016: 24). The perspective of Complexity leadership assumes that informal dynamics are embedded in the environment. The environment of complex adaptive systems is not an accident or an intermediary, but rather indicates the nature of interaction and reliability between agents (individuals and ideas) and others, structured departments, organizations and environments. This environment forms both complex adaptive and leadership systems where models are constantly monitored and the organization's history is very important (Osborn et al., 2002: 797). A complex leadership perspective also requires a distinction between leadership and leaders. The complexity leadership theory added the perspective of leadership as a dynamic, emerging, interactive and productive for adaptive products and it is called adaptive leadership (Heifetz, 2001: 131). Leaders

are considered as individuals who work with methods that affect this dynamic and output. The traditional leadership theory focused on leaders as individuals, meaning leaders' activities and it did not test the complex dynamic systems and processes that makeup leadership. Therefore traditional theories of leadership were neither integrated nor realistic (Hunt, 1999: 129). The perspective of complex leadership also helps to distinguish between leadership and administrative centers or offices (the bureaucratic idea). Most research on leadership has studied its formal form and their management roles (Bedeian and Hunt, 2006: 190). Leadership that occurs everywhere in the organization has not been studied, the administrative leadership refers to official activities that work on coordinating and structure organizational activities. The concept of adaptive leadership refers to leadership that takes place in emerging, informal and adaptive dynamics within the organization (Uhl-Bien, 2007: 300). Parks, (2005 :) emphasized that complex leadership occurs to face the challenges of adaptation (in the age of knowledge) and not the challenges of technical problems (in the age of industry). Challenges of adaptation are problems that require learning, innovation, new models and behavior, where It differs from the technical problems that can be resolved with the knowledge and procedures that are already in the organization. Day, (2000: 581) indicated this difference when he distinguished between:

- 1- Administrative development, which includes applying ready-made solutions available to solve known problems.
- 2- The leadership development in which groups need to learn new methods outside normal contexts and has not previously been presented as solutions to current or expected problems.

This is what has been called leadership by empowerment in the sense of enabling learning, creativity, and adaptation in knowledge-producing organizations. There are a group of patterns for complex leadership, including:

### 1.3.1 Administrative Leadership

Administrative leadership refers to the activities of people in official administrative roles when they work to plan and coordinate organizational activities. Administrative leaders work on structuring tasks, adhering to established plans, building visions, and acquiring resources to achieve goals and crisis management (Mumford and Licuanan, 2004: 163), managing people conflict and managing organizational strategy (Jehn, 1999: 530). Administrative leaders work on structuring tasks, adhering to established plans, building visions, and acquiring resources to achieve goals and crisis

management (Mumford and Licuanan, 2004: 163), managing people conflict and managing organizational strategy (Jehn, 1999: 530). The nature of this leadership varies according to the hierarchical level in the system:

1- At the strategic level: Leaders are committed with planning, coordinating, acquiring resources, and studying all conditions surrounding the strategy.

2- At the organizational level: Leaders implement more focused plans for creative processes and manage resource allocation.

Administrative leadership is a top-down function based on authority and location, therefore it has the authority to make decisions in an organization. Within the theory of complex leadership, management leadership exercises its authorities by paying attention to the organization's need for creativity, learning and adaptation so that its activities have a major impact on these dynamics (Uhl-Bien, 2007: 306).

### 1.3.2 Adaptive Leadership

It is an emerging and interactive dynamic that produces adaptive outputs in the social system. It is a collaborative change movement that creates a purchase from nothing. They arise from instances of disorganization between agents and groups through conflicting needs, ideas and preferences and transform into movements or alliances of people, ideas, technologies, or collaborative efforts (Lichtenstein, et al., 2006: 2). Adaptive leadership is a complex dynamic, not a person (although people have its own importance) and it has been called leadership because it is the central source of change in an organization. Adaptive leadership arises from asymmetric interaction and two types of asymmetry have been suggested:

First: It is related to Authority.

Second: that relates to preferences (and includes differences in knowledge, skills, and beliefs).

If the interaction is based on the authority and on one side only, the leadership is from top to bottom. But if the asymmetry of authority is more oriented towards preferences, then the leadership will rely more on interacting dynamics, which is derived from the difference of preferences. Complex leadership theory describes the conditions in which emerging dynamics emerge and generating the creativity and adaptive knowledge that greatly influences the creation of the desired change. Adaptive leadership is not the work of a single individual but is dynamic for certified dealers (Uhl-Bien, 2007: 307).

### 1.3.3 Possible leadership

The role of possible leadership within the framework of complexity lead-

ership theory is the direct adoption of the conditions that contribute to achieving adaptive leadership and allow its emergence. Often, middle-level managers will be in centers of commitment to empowerment behaviors because of their capability to access resources and their direct involvement in the surrounding conditions the system's level of production. But possible leadership can be found anywhere in the organization, and possible leadership roles can be summarized in the following (Uhl-Bien, 2007: 308). It effectively enables the mechanisms of complex adaptive systems by adopting enabling conditions that stimulate adaptive leadership and allowing it to emerge. Possible leadership manages agreements between administrative and adaptive leadership. This includes:

- 1- Managing the organizational conditions in which adaptive leadership exists.
- 2- Helping to spread creative products for adaptive leadership throughout the formal administrative system.

## 2. RESEARCH METHODOLOGY

### 2.1 Research problem

The research problem arises from the inability to face accelerated environmental changes as a result of not having the strategic agility that achieves the necessary flexibility to do so. A group of questions that express this problem can be formulated as follows:

- 1) Can organizational intelligence be used to achieve strategic agility?
- 2) Does the presence of complex leadership systems contribute to increasing the impact of organizational intelligence in achieving strategic agility?
- 3) Do the research organizations adopt the three variables of the study, organizational intelligence, complex leadership, and strategic agility.

### 2.2 The importance of research

The most important problem facing organizations today is the rapid and radical change in work environments, so we find that slow and flabby organizations can easily get out of the competition. Among the most important organizations that need to follow the methods of agility strategically and organizationally are the educational organizations where the accelerated development in educational curricula and modern educational systems, which caused an urgent need to achieve agility and flexibility to face environmental changes and adapt to them and perhaps one of the most important variables that achieve agility is individual and collective intelli-

gence in organizations and reliance on creative leadership and the lack of an appropriate administrative climate to achieve strategic agility is one of the most important problems facing educational organizations today.

### **2.3 Research objectives**

The research aims to analyze the impact of organizational intelligence on strategic agility directly first and indirectly through complex leadership systems second. It also aims to:

- 1) Diagnosing the patterns of strategic agility, organizational intelligence and strategic agility in the research organizations.
- 2) Measuring and testing the extent of the impact of organizational intelligence patterns in achieving strategic agility.

### **2.4 study hypotheses**

In order to achieve the goals of the study, the following hypotheses were formulated:

Hypothesis (1): There is no significant effect of organizational intelligence on strategic agility.

Hypothesis (2): There is no significant effect of organizational intelligence on strategic agility through complex leadership.

### **2.5 Research community and sample**

The research community represents the Iraqi private universities for the Middle Euphrates, where the sample was a group of selected private universities, which amounted to (6) universities in the provinces of Karbala, Babylon, and Najaf, which were represented by University of Warith Alanbiyaa, Ahl Al-Bayt University, Al-Hussein University Faculty, Al-Safwa University College, Hilla Private University college, University of Alkaf-eel. The sample (125) was represented by the deans, assistant deans, heads of scientific departments, divisional managers and administrative units.

## **3. DESCRIBING AND DIAGNOSING THE STUDY SAMPLE OPINIONS ON ITS VARIABLES**

The study in this paragraph attempts to describe and diagnose the opinions of the study sample about its variables that were approved, the independent variable: organizational intelligence and its patterns (organizational memory, information integrity, idea creation, and Introducing capability), the Moderating Variable: complex leadership and its patterns (administrative leadership, adaptive leadership, and possible leadership), and the Dependent variables: strategic agility and its patterns (operational agility, portfolio agility, and customer agility). Table (1) indicates the general description of the opinions of the study sample.

**Table 1:** Description and diagnosis of the study sample opinions about research variables.

Q	X	SD	CV	P	T
Organizational memory	3.572	1.017	28.31%	71.84%	6.51
Information integrity	4.198	0.639	15.23%	83.96%	20.95
Creating ideas	3.494	0.912	26.09%	69.88%	6.058
Introducing capability	3.666	0.713	19.46%	73.32%	10.44
Organizational Intelligence X	3.7325	0.634	16.98%	74.65%	12.92
Administrative leadership	3.768	0.62	16.45%	75.36%	13.85
Adaptive leadership	3.574	0.797	22.30%	71.48%	8.053
Possible leadership	3.372	0.984	29.17%	67.44%	4.229
Complex leadership y	3.5713	0.724	20.28%	71.43%	8.82
Operational agility	3.388	0.907	26.78%	67.76%	4.782
The agility of the organization	3.562	0.72	20.20%	71.24%	8.732
Partner agility	3.86	0.556	14.40%	77.20%	17.3
<b>Strategic Agility Z</b>	<b>3.6033</b>	<b>0.672</b>	<b>18.66%</b>	<b>72.07%</b>	<b>10.03</b>

REFERENCE: it was Prepared by researchers based on the results of the computer

Table (1) shows that all arithmetic mean was greater than the hypothetical mean which amounted to (3). The significance of the results is confirmed by the calculated T values which are greater than the tabulated t value, Organizational intelligence has achieved the highest arithmetic mean depending on the height of the media of dependent patterns, and this confirms the clear awareness for the study sample of the importance of applications, technologies, and processing for collecting, storing and analyzing data and converting it into knowledge and then using information integrity and creating ideas and organizational memory to develop intelligence and introducing ideas clearly. As for the strategic agility variable, it achieved arithmetic mean amounted to (3.6033) which is greater than the hypothetical mean and The significance of the results is confirmed by the calculated T values (10.3), which is greater than the tabulated t value. This means the Administrations' interest by studying unexpected challenges and threats, adapting to the business environment and responding to the available opportunities. Table (1) also shows that the arithmetic means for the complex leadership (y) amounted to (3.5713), which is the pattern of the least significant variable among the rest of the variables. In other words, the possibility of interest by the researched organizations to study leadership patterns that adopt creativity, learning and organizational adaptation with their administrative, possible and adaptive patterns.

#### 4. DISCUSSION

A group of methods was adopted for the purpose of testing the hypotheses, where simple and multiple regression analyses were used for the purpose of testing direct and indirect impact relationships between the patterns of the main study variables. Table (2) shows the results of regression anal-

ysis and shows the presence of a significant effect at (1%) level for organizational memory in strategic agility, where the beta coefficient values amounted to (0.268). The calculated F value amounted to (24,118) which is greater than the tabulated F value (4,605). This indicates the significance of the regression model for this hypothesis. The Coefficient of determination amounted to (0.164), meaning that after the organizational memory, it accounts for 16.4% of the changes that occur in strategic agility. There is also a significant effect at the level of (1%) after information integration in strategic agility, where the values of the beta coefficient amounted to (0.421). The calculated F value amounted to (23.429), which is greater than the tabulated F value (4,605), which indicates the significance of the regression model for this hypothesis, and the coefficient of determination amounted to (0.160) meaning that the information integration explains 16% of the changes that occur in strategic agility. It also shows a significant effect at the level of (1%) after creating ideas in strategic agility, where the values of the beta coefficient amounted to (0.425). The calculated F value amounted to (61.261) which is greater than the tabulated F value of (4,605), which indicates the significance of the regression model for this hypothesis. The coefficient of the determination amounted to (0.332), meaning that the creation of ideas explains 33.2% of the changes that occur in strategic agility. It was also observed that there was a significant effect at the level of (1%) introducing capability in strategic agility. The values of the beta coefficient amounted to (0.489). The calculated F value amounted to (45.362) which is greater than the tabulated F value of (4,605), which indicates the significance of the regression model for this hypothesis, and the coefficient of determination amounted to (0.269), meaning that introducing capability explains 26.9% of the changes that occur in strategic agility. After confirming the significance of the sub-patterns effect, We find that there is a significant effect at the level of (1%) organizational intelligence in strategic agility. The values of the beta coefficient amounted to (0.654). The calculated F value amounted to (75,391), which is greater than the tabulated value of (4,605), which indicates the significance of the regression model for this hypothesis. The coefficient of the determination amounted to (0.380) in the sense that organizational intelligence explains 38% of the changes that occur in strategic agility.



**Table 2:** Summary of regression equations, R<sup>2</sup> values and the calculated F value for the first major hypothesis.

	Independent variables	Regression equation Strategic agility	F values	R <sup>2</sup> values
<b>The first main hypothesis</b>	Organizational memory	Z=2.646 + 0.268 X1	24.118	0.164
	Information integrity	Z=1.837 + 0.421 X2	23.429	0.160
	Creating ideas	Z=2.117 + 0.425X3	61.261	0.332
	Introducing capability	Z = 1.810 + 0.489X4	45.362	0.269
	Organizational intelligence	Z = 1.162 + 0.654X	75.391	0.380

REFERENCE: it was Prepared by researchers based on the results of the computer

Table (3) shows the results of the regression analysis that there is a significant effect at the level of (1%) administrative leadership in strategic agility, where the value of the beta coefficient amounted to (0.583). The calculated F value amounted to (50.017), which is greater than the tabulated F value of (4,605). which indicates the significance of the regression model for this hypothesis, where the coefficient of determination for administrative leadership amounted to (0.289). It also appears that there is a significant effect at the level of (1%) adaptive leadership in strategic agility. The value of the beta coefficient amounted to (0.502). The calculated F value amounted to (67.458) which is greater than the tabulated F value of (4.605). which indicates the significance of the regression model for this hypothesis. The coefficient of determination for adaptive leadership has amounted to(0.354), which means that adaptive leadership explains (35.4%) of the changes that occur in strategic agility. Table (3) also shows that there is a positive significant effect at the level (1%) of the possible leadership on strategic agility, where he value of the beta coefficient amounted to (0.385). The calculated F value amounted to (57.101) which is greater than the tabulated F value of (4,605), which indicates the significance of the regression model for this hypothesis. The coefficient of determination for possible leadership has amounted to (0.317), which means that this pattern explains (31.7%) of the adverse changes that occur in strategic agility. After confirming the significance of the sub-patterns effect, we find that there is a positive significant effect at the level (1%) for the variable complex leadership in strategic agility, where the value of the beta coefficient amounted to (0.582). The calculated F value amounted to (79,510) which is greater than the tabulated F value of (4,605). which indicates the significance of the regression model for this hypothesis. The coefficient of determination for the complex leadership variable amounted to (0.393), which means that the complex leadership variable explains (39.3%) of the adverse changes that occur in strategic agility.

**Table 3:** Summary of regression equations, R<sup>2</sup> values and the calculated F value for the second major hypothesis.

	Independent variables	Regression equation Strategic agility	F values	R <sup>2</sup> values
<b>The second main hypothesis</b>	Administrative leadership	Z=1.406+0.583 Y1	50.017	0.538
	Adaptive leadership	Z=1.809+0.502 Y2	67.458	0.595
	Possible leadership	Z=2.305+0.385 Y3	57.101	0.317
	Complex leadership	Z=1.526+0.582 Y	79.510	0.393

REFERENCE: it was Prepared by researchers based on the results of the computer

• The Mediator role for the complex leadership variable is tested using (Baron and Kenny, 1986: 1176) method. It is a common method for testing the direct and indirect effects for independent variables on the dependent variables in the presence of a mediator variable, and this test is called the mediator model test. There are four steps to achieving a set of conditions necessary to ensure the presence of indirect effects in the presence of the Mediator variable is as follows:

1- The value of the standard beta coefficient for the regression equation between organizational intelligence (X) and strategic agility (Z) is significant as shown in Table (4).

2- The value of the standard beta coefficient for the regression equation between organizational intelligence and complex leadership (Y) is significant.

3- The value of the standard beta coefficient for the regression equation between complex leadership (Y) and strategic agility (Z) in the presence of the independent variable (organizational intelligence X) is significant.

4- The value of the standard beta coefficient for the regression equation between organizational intelligence (X) and strategic agility (Z) in the presence of the mediator variable (complex leadership Y) is significant. When the beta value for the independent variable at the present of the mediator is less than its values in the absence of the mediator, the mediator role for the complex leadership variable appears.

a. First condition test

Table (4) shows the results of testing the first condition for the relationship between the independent variable in its patterns (organizational memory, information integration, idea creation, Introducing capability) and the dependent variable (strategic agility)

**Table 4:** The first condition of the Mediator test.

First condition	Independent variables	Strategic agility				
		Beta coefficient	Significant	T	R <sup>2</sup>	F
	Organizational memory X1	-0.042	0.505	-0.668	0.452	24.794
	Integration of information x2	0.152	0.073	1.809		
	Creating ideas x3	0.314	0.00	4.542		
	Introducing capability X4	0.318	0.00	4.553		

REFERENCE: it was Prepared by researchers based on the results of the computer

It is noted from the table the significance of the regression model related to the first step and that the third and fourth variables have met the first condition with significance (0.01). The calculated F value amounted (24,794) which is greater than its tabulated F value of (4,605), which confirms the significance of the regression model and so the first condition achieves.

b. The second condition test

Table (5) shows the results of testing the second condition for the relationship between the independent variable in its patterns (organizational memory, informational integration, creating ideas, and Introducing capability) and the mediator variable (complex leadership).

**Table 5:** The second condition of the Mediator test.

Second condition	Independent variables	Strategic agility				
		Beta coefficient	Significant	T	R <sup>2</sup>	F
	Organizational memory X1	0.310	0.00	5.362		
	Integration of information x2	.0581	0.00	6.627		
	Creating ideas x3	0.500	.000	8.978		
	Introducing capability X4	0.535	.000	6.873		

REFERENCE: it was Prepared by researchers based on the results of the computer

It is noted from the table the significance of the regression model related to the second stage and that the first and second variables have met the second condition with significance (0.01). The calculated F value amounted to (24,794) which is greater than its tabulated F value of (4,605), which confirms the significance of the regression model as a whole and so the second condition achieves.

c. Third condition test

Table (6) shows the results of the third condition test related to the significance of the relationship between the mediator and the dependent variable in the presence of the independent variable. It is noted from the table the significance of the regression model related to the third condition and that the mediator variable achieved the third condition with significance (0.01). The value of beta amounted to (0.276) which indicates to the positive effect of complex leadership on strategic agility in the presence of the independent variable (organizational intelligence) and the calculated F value

amounted to (23.095) which is greater than its tabulated F value of (4.605), which confirms the significance of the regression model as a whole and so the third condition achieves.

**Table 6:** The third condition of the Mediator test.

Third condition	Independent variables	Strategic agility				
		Beta coefficient	Significant	T	R <sup>2</sup>	F
	Organizational memory X1	-0.20	0.751	0.318	0.492	23.095
	Integration of information x2	0.067	0.439	0.776		
	Creating ideas x3	0.212	0.005	2.843		
	Introducing capability X4	0.231	0.002	3.156		
	Complex leadership	0.276	0.003	3.062		

REFERENCE: it was Prepared by researchers based on the results of the computer

d. Fourth condition test

The fourth condition test involves comparing the regression path for relationships between independent variables (organizational memory, information integrity, creation ideas, and Introducing capability) with the presence of the Mediator variable (complex leadership) with the regression path for the direct relationship between the independent variables and the dependent variable (strategic agility). When the beta value for the paths in the first condition reduces than the paths in the second condition, this indicates that the fourth condition has been achieved in the sense of a partial mediation for the Mediator variable without regard to the significant level for the paths. To check the median of the Mediator variables (patterns), each pattern will be tested separately to know the mediation each of these patterns between the independent variables and the dependent variable as follows:

1) Test of mediating Administrative leadership

In order to test the mediating Administrative leadership for the relationship between organizational intelligence and strategic agility, we compare the regression paths for Table (7) with the regression paths for Table (4) in the first condition. The results of these paths are shown in the following table:

**Table 7:** The fourth condition of the Mediator test.

Fourth condition	Independent variables	Strategic agility				
		Beta coefficient	Significant	T	R <sup>2</sup>	F
	Organizational memory X1	-0.046	0.463	0.737	0.471	21.209
	Integration of information x2	0.087	0.332	0.974		
	Creating ideas x3	0.277	0.00	3.922		
	Introducing capability X4	0.271	0.00	3.740		
	Administrative leadership	0.203	0.42	2.052		

REFERENCE: it was Prepared by researchers based on the results of the computer

It appears from the table first: The third condition for the significance of the Regression path for the Mediator variable has been achieved, where the value of beta amounted to ( ), with significant (0.01). Thus, it is possible to move to verify the fourth condition regarding the administrative leadership pattern. It appears from the following table:

1- The administrative leadership does not mediate the relationship between the independent variable (Organizational memory) and the dependent variable (strategic agility) because the beta in the table (7) is greater than the beta value in the table (4).

2- The administrative leadership does not mediate the relationship between the independent variable (information integration) and the dependent variable (strategic agility) because the beta in the table (7) is greater than the beta value in the table (4).

3- The administrative leadership does not mediate the relationship between the independent variable (idea creation) and the dependent variable (strategic agility) because the beta in the table (7) is less than the beta value in the table (4).

4- The administrative leadership does not mediate the relationship between the independent variable (Introducing capability) and the dependent variable (strategic agility) because the beta in the table (7) is less than the beta value in the table (4).

In the sense of rejecting the null hypothesis for the first sub-hypothesis That is, mediating the pattern of administrative leadership for the relationship between organizational intelligence and strategic agility.

2) Test of mediating Adaptive leadership

In order to test the mediating Adaptive leadership for the relationship between organizational intelligence and strategic agility, we compare the regression paths of the table (8) with the regression paths of the table (4) in the first condition and the results of these paths are shown in the following table:

**Table 8:** Verifying from mediating Adaptive leadership

Fourth condition	Independent variables	Strategic agility				
		Beta coefficient	Significant	T	R <sup>2</sup>	F
	Organizational memory X1	-0.015	0.813	0.237	0.485	22.376
	Integration of information x2	0.064	0.467	0.730		
	Creating ideas x3	0.232	0.002	3.148		
	Introducing capability X4	0.245	0.001	3.356		
	Adaptive leadership	0.216	0.007	2.721		

REFERENCE: It was Prepared by researchers based on the results of the computer

It appears from the table first: The third condition for the significance of the Regression path for the Mediator variable has been achieved, where the value of beta amounted to (0.216), with significant (0.01). Thus, it is possible to move to verify the fourth condition regarding Adaptive leadership. It appears from the following table:

1- The Adaptive leadership mediates the relationship between the independent variable (Organizational memory) and the dependent variable (strategic agility) because the beta in the table (8) is less than the beta value in the table (4).

2- The Adaptive leadership mediates the relationship between the independent variable (information integration) and the dependent variable (strategic agility) because the beta in the table (8) is less than the beta value in the table (4).

3- The Adaptive leadership mediates the relationship between the independent variable (idea creation) and the dependent variable (strategic agility) because the beta in the table (8) is less than the beta value in the table (4).

4- The Adaptive leadership mediates the relationship between the independent variable (Introducing capability) and the dependent variable (strategic agility) because the beta in the table (8) is less than the beta value in the table (4).

In the sense of rejecting the null hypothesis for the second sub-hypothesis That is, mediating the pattern of administrative leadership for the relationship between organizational intelligence and strategic agility.

3) Test of mediating Possible leadership

In order to test the mediating Possible leadership for the relationship between organizational intelligence and strategic agility, we compare the regression paths for the table (9) with the regression paths for the table (4) in the first condition and the results of these paths are shown in the following table:

**Table 9:** Verifying from mediating Possible leadership

Fourth condition	Independent variables	Strategic agility				
		Beta coefficient	Significant	T	R <sup>2</sup>	F
	Organizational memory X1	-0.015	0.813	0.237	0.485	22.376
	Integration of information x2	0.064	0.467	0.730		
	Creating ideas x3	0.232	0.002	3.148		
	Introducing capability X4	0.245	0.001	3.356		
	Adaptive leadership	0.216	0.007	2.721		

REFERENCE: it was Prepared by researchers based on the results of the computer

It appears from the table first: The third condition for the significance of the Regression path for the Mediator variable has been achieved, where the value of beta amounted to (0.156), with significant (0.01). Thus, it is possible to move to verify the fourth condition regarding Possible leadership. It appears from the following table:

1- The possible leadership mediates the relationship between the independent variable (Organizational memory) and the dependent variable (strategic agility) because the beta in the table (9) is less than the beta value in the table (4).

2- The possible leadership mediates the relationship between the independent variable (information integration) and the dependent variable (strategic agility) because the beta in the table (9) is greater than the beta value in the table (4).

3- The possible leadership mediates the relationship between the independent variable (idea creation) and the dependent variable (strategic agility) because the beta in the table (9) is less than the beta value in the table (4).

4- The possible leadership mediates the relationship between the independent variable (Introducing capability) and the dependent variable (strategic agility) because the beta in the table (9) is less than the beta value in the table (4).

In the sense of rejecting the null hypothesis for the third sub-hypothesis That is, mediating the pattern of administrative leadership for the relationship between organizational intelligence and strategic agility.

## 5. CONCLUSIONS

1- Administrative leadership has a clear role in stimulating organizational memory, creating ideas, and presenting them in a distinctive way and its contribution to achieving strategic agility, The structuring of administrative tasks clearly contributes to defining the responsibilities and duties that would show the places of slack in the organizational structure and then help in Graceling universities.

2- It appears that there are socially interacting dynamics as free systems within universities that contribute to an increase in the impact of organizational intelligence in achieving strategic agility in the sense that adaptive leadership helps to arrange stored memory and the way ideas are presented in a way that reduces flabby in organizational structures.

3- The empowerment of managers at all levels to control the resources, the way in which they are distributed and exploited contributes to the development of the relationship between organizational intelligence and

strategic agility, where the availability of a possible leadership role contributes to reducing organizational slack after activating the roles of memory and creating new and creative ideas and clarity in presenting these ideas.

4- There is a direct impact on the development of organizational intelligence in achieving strategic agility and the work of complex leadership systems contributes to increasing this effect in the sense that there is also an indirect effect for organizational intelligence in strategic agility across the complex leadership system.

## 6. RECOMMENDATIONS

1- Activating administrative leadership systems by unifying the chain of roles and defining the duties and responsibilities of each job and all parties bear their job responsibilities in a clear and understandable way.

2- Activating informal systems and improving social relations between individuals, teams, and departments in universities in order to develop interdepartmental reliability and joint action to reduce the inappropriate atmosphere for work and improve the work environment.

3- Working to grant powers in a fruitful manner that achieves the goals of the university by granting confidence and working to provide young, creative energies to analyze information, present ideas, and be flexible in applying these ideas.

4- Working to transfer the tacit knowledge and turn it into explicit knowledge by transferring information, values, traditions, and customs of the university to the new workers in a way that increases their loyalty to the university and then doing all the tasks assigned to it without the need for strict and costly control systems.

5- Diversity in proposing ideas and not relying on repeated traditional ideas through use the creative method and thinking about what will be and how to achieve the goals of universities that reach a bright and achievable vision to avoid inefficient and unproductive works and streamlining tasks and administrative structures to increase the speed of the university in adapting with changes Environmental.

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