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# ARTIFICIAL INTELLIGENCE APPLICATIONS AND THEIR ROLE IN ENHANCING STRATEGIC IMPROVISATION ANALYTICAL STUDY TO SEE A SAMPLE OF ADMINISTRATIVE LEADERS PRESIDENCY OF AL- FURAT AL -AWSAT TECHNICAL UNIVERSITY

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**Abstract:**
This study aims to analyze the role of artificial intelligence (AI) in enhancing strategic improvement within educational organizations through an applied study at Al-Furat Al-Awsat Technical University. The research relied on a purposive sample of administrators at the university, as They are the group most closely connected to the research topic and strategic decision-making, to determine their awareness of the importance of AI and its impact on enhancing strategic improvement. The independent variable AI was measured through three main dimensions: expert systems, neural networks, and algorithms. The dependent variable Strategic Improvement was measured using four dimensions: strategic flexibility, strategic vigilance, innovation, and entrepreneurial orientation
The research sample consisted of (75) adminIstrative leaders at Middle Euphrates Technical University. The questionnaires were distributed to them, which included approved measures for the research variables. The research hypotheses related to the correlation and influence relationships between variables were tested using a set of appropriate statistical methods. The results of the statistical analyses showed a StatIstically SignificanT correlation and influence relationship between artificial intelligence and strategic improvement, both at the macro level and at the sub-dimension level. The research concluded that artificial intelligence tools represent a fundamental factor in enhancing strategic improvement at the university under study, as they support organizational flexibility, promote innovation, and improve the ability to respond strategically to environmental changes.

**Keywords:** Artificial intelligence, Strategic improvIsation, adminIstrative leadership, Middle Euphrates Technical University

## THE INTRODUCTION

to attest The world Contemporary revolution cognitive and technology not Previous in area intelligence artificial, that become from Most prominent Tools that Return formation environment Business and organizations in The opposite Faces Organizations Challenges Increasing resulting on Fluctuations markets And not Confirmation environmental The matter that imposes The need to adoption Strategies flexible Fast Response.And it stands out improvIsation Strategic As one practices AdminIstrative Modern that Grant Organizations ability on Adaptation and response Instant For variables.

Organizations today pressure enormous pressure to adapt to the environments of Business Fast Change and oTher Expected, and in thIs Context, become improvIsation Strategic any ability on Taking decIsions Fast Effective in shadow loss Information or the time-worker decIsive For Advantage Competitiveness.

This study aims to determine the extent to which applications intelligence artificial In strengthening abilities improvIsation Strategic I have The University under consideration Is The Middle Euphrates Technical University, and Focuses Search on three Applications Key to Artificial Intelligence: Expert Systems, Neural Networks, and Algorithms. from during review Literature Theory AnalysIs My approach to thIs Search The one who seeks to prove that intelligence

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artificial not merely tool help, but raTher he factor Enabling essential Grants Institutions VIsion and speed and flexibility Necessary To respond For The challenges New Effectively achieving a high level of Strategic improvIsation.

Section One: The Scientific Methodology of Research

**FIRST: PROBLEM SEARCH**

It lies problem Search in Lack of attention to The subject of Strategic ImprovIsation, which leads to weakness capacity Many from Organizations on Response Fast For changes SurprIsingly, which He dIsplays it danger loss Its competitiveness And with Evolution The big one For applications intelligence artificial, Stand out The need to understand how maybe For thIs Applications that Contributes in StrengThening capacity Organizations on ImprovIsation Strategic ally, and from thIs standpoint, we try through this research to explain the role of artificial intelligence applications in Enhancing Strategic improvement at the university under study, which is represented by The Middle Euphrates Technical University, one of the universities that keeps pace with technological, administrative, and strategic development. The research problem can be embodied through the following main question: (What is the role of artificial intelligence in enhancing strategic improvement under study?)

The question branches into a number of sub-questions, which are as follows:

1- What is the role of expert systems in promoting The Strategic improvement under investigation?
2- What Is The role of Neural Networks In Enhancing The Strategic improvIsation under investigation?
3- What is the role of algorithms in promoting The Strategic improvement under investigation?

Second: Importance Search

The Importance of this research Stems from the significance OF The topic, which addresses two variables of high importance to organizations across various dIsciplines: artificial intelligence and strategic improvement. The most prominent points highlighting The Importance Of ThIs ThI research Can be Summarized As Follows:

1- Enrichment side Theory in Link Between intelligence artificial improvIsation The strategIst.
2- Possible proposals and working contexts Help Organizations to understand the role of modern technologies in improving their performance.
3- to open Prospects For studies on Future Applied pools between side technologies and administrators.
4- Work to improve work contexts and strategic decisions at universities is under investigation.

Third: Objectives Search

1- To Identify The level of awareness among The Research Sample Regarding The importance of artificial intelligence applications at the university under study..
2- Statement of the research sample's level of awareness regarding the importance of strategic improvement at the university under study.
3- Exploring the nature of the relationship between artificial intelligence applications and strategic improvement at universities is under investigation..
4- Statement on the level of impact of artificial intelligence applications on strategic improvement at the university under investigation.

Fourth: The hypoThetical research plan

It was completed Structure HypoThetical research plan according toā toFor studiesPreviousFor literature related to (artificial intelligence Strategic improvIsation), as shown in The figure (1) The hypoThetical schema consIsts of two basic components ( variables ), which arear tificial intelligen ceIn terms of its sub-dimensions The three The second variable in The researchStrategic improvIsationIt was measured in its dimensions The four He tried Search To embody The reality of The relationship Between The two variables, which Is The aim of our current research.

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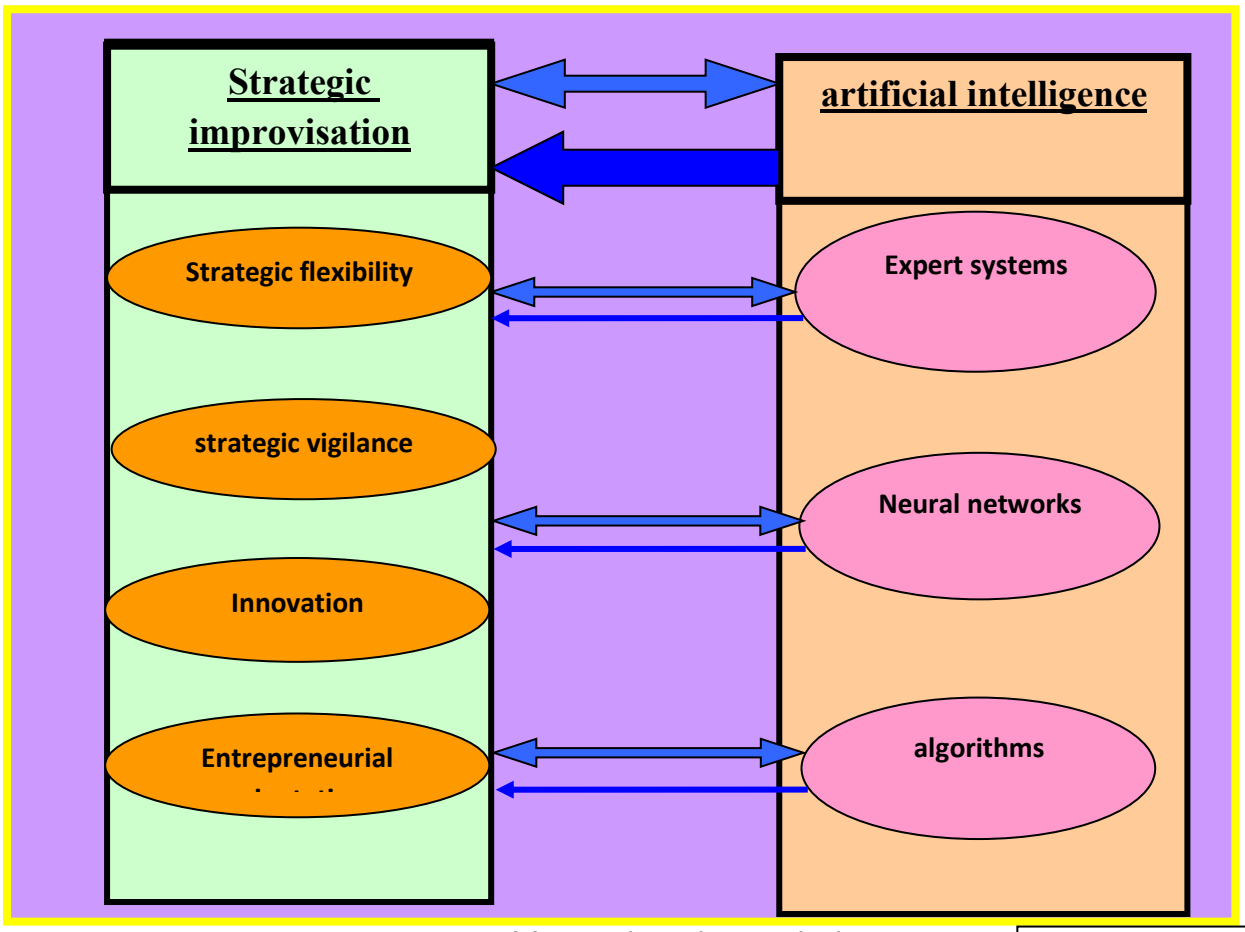


Figure (1) HypoThetical research plan

Fifth: Research hypoTheses

To achieve the research objectives, the following research hypotheses were

Main HypoThesIs first H1 There Is A statIstically Significant Correlation Between artificial intelligence Strategic improvIsation and From It branch out four sub-hypoTheses as follows::

First sub-HypoThesIsH1-1: There Is a StatIstically SignificanT correlation Between Expert systems Strategic improvIsation.

Second Sub HypoThesIs H1 - 2: There Is A StatIstically Significant correlation Between Neural networks' strategic improvement.

third Sub HypoThesIs H1 - 3: There Is a StatIstically SignificanT correlation Between algorithms Strategic improvIsation.

Main HypoThesIs 2 (H2): There Is a StatIstically SignificanT Effectartificial intelligence In Strategic improvIsation.

First Sub-Hypotheses Is H2 - 1 There Is A StatIstically SignificanT EffectFor expert systems In Strategic Improvement.

Second sub-officeH2-2 There Is a StatIstically SignificanT EffectFor neural networks In Strategic improvIsation.

Third sub-HypoThesIsH2- 3 There Is a StatIstically SignificanT Effect For algorithms In Strategic improvIsation.

Sixth: Research population and sample

The research community has been identified with administrative leadership At The Middle Euphrates Technical University; a sample was taken from Them consIsting from AdminIstrative leaders in The University's structures are under investigation, and questionnaire forms were prepared from a set of items to measure the dimensions of the research and were dIstributed to the research sample, which was adopted in the statistical analyses of the research.

Section Two : Theoretical Aspect

Firstly / Intelligence artificial

Intelligence represents artificial mechanisms or systems smart Digital Used To convert the job AdminIstrative from style traditional paper to pattern digital tasty; it dIstingues Ishspeed Performance, Accuracy, removal bureaucracy, and

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Interaction and The beneficiaries( Bakhitt , 2023: 3403)Intelligence also embodies artificial ability systems not mankind tangible on performance tasks, solution problems, communication, interaction, and behavior logically similar for humans ( Zúñiga et al ., 2023:334 ) .Intelligence is known as artificial because science and technology aim to develop systems and machines that mimic the intellectual mentality of humans, and it works to improve itself during Learning from Data Information that Get On it (Fayez ;2025:140).

Artificial intelligence branch from sciences computer Automated that may create Design Programs computers that mimic style intelligence Human, in order to He Is able computer Automated from performance some Tasks Instead from man Which Requires Thinking And The Understanding And Speaking And The Movement. logical and organizer Egyptian ( Al-Tarawneh , 2021:13 ).

Second - The importance of artificial intelligence

It is an important artificial intelligence: The following ( Tamam et al., 2025:2)

1- Modernity Changes Essential in sector education And opened Opportunities New To learn.
2- presentation Solutions Innovative To improve Effectiveness and allocation practical Learning.
3- Support education The rules, Translation, and The conversation In different languages.
4- Its use in to set Words Arabic on means communication social.
5- Enabling learners from Use tools like : Chat GPT , Canva And oThers.

Thirdly - Benefits of Artificial Intelligence

The benefits of artificial intelligence include boosting productivity and efficiency by automating repetitive tasks and improving decision-making by analyzing massive amounts of data (Al-Sultani, 2025: 1).

Artificial intelligence also has multiple benefits in the field of learning, which can be summarized as follows:

1- Learning The allocate

Helps intelligence artificial in analysIs Performance and determining points power And weakness, To present content educationally It fits with HIs needs IndividualIsm, as he explained ( Holmes et al. 2019: 57 ) that systems Learning smart Allows design Plans Educational Dedicated per individual according to Data HIs performance and speed Learn it.

2- Support Immediate Nutrition Returning:

Availability Applications intelligence artificial feeding return immediately for learners around their performance, Which Helps on revIsion MIstakes in The Time Suitable.

He mentioned ( Luckin et al. , 2016: 104 )that Systems Menu on artificial intelligence contributed to improving the Interaction Between individuals and the educational system via a feeding return vessel.

3- analysIs Data learners :

Allows tools intelligence artificial analysIs quantities huge from Data students To determine Patterns behavior and level Collection, Which Helps Departments Educational in Taking decIsions Built on The evidence, and he pointed out ( Baker & Inventado , 2014 : 61)to that analysIs Data learners Using intelligence artificial maybe Organizations from to improve quality education.

4- Automation Evaluation Correction :

It does systems intelligence artificial Correction Tests objectivity Presentation Reports evaluation minute, Which Reduces the burden on residents, and explained (Russell & Norvig, 2021: 489 )that intelligence artificial He can perform task evaluation efficiently high with preservation of accuracy and neutrality.

5- StrengThening Opportunities Learning bezel life :

From during Platforms Educational Smart, maybe For learners Access to content My training sophIsticated at any time And from any place And Explain (Ng, 2018: 29) that intelligence artificial Enable Individuals from Continued Learning via platforms smart adaptation Content with Their needs.

Fourthly / Applications intelligence artificial

1- Systems The expert :

The system The expert he One branches intelligence artificial It aims to simulation expertIse man specialIst in area specific, That's from during Use a base knowledge Contains on facts and rules Conclusion He managed order from presentation Solutions Consultations as if He was expert humanly. (Al-Zahrani ,2019: 85)

Systems The expert Represent program My computer He depends on acting Knowledge Humanity and use Methods Reasoning Logical To solve Problems that Requires expertIse Specialized, It Is considered from Most prominent Applications intelligence artificial in to support Taking decIsion(Mohammed , 2021: 112)

It Is Systems The expert One Most important Applications intelligence artificial, so Represent systems computer Capable on simulation practical Taking decIsion I have Experts humans. He does order The expert By AnalysIs Data and extraction Recommendations or Conclusions accurately and speed, Which Helps Users in solution Problems complex and taking DecIsions The occasion ( Giarratano & Riley, 2005:12)

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It consIsts of order The expert usually from four elements Main, which Is: a base Knowledge that Contains on Facts and rules and experiences Related in the field, and engine Conclusion that Applies ThIs Is amazing Rules To access to results minute, and the facade user that Allows Interaction with order, Finally MechanIsm Interpretation that It explains For the user a reason Recommendation or decIsion (Turban & Aronson, 2001: 46)

And it Is used Systems The expert in Fields Multiple, From it Medicine For diagnosIs DIseases, Engineering Design Systems, and management Business To support Taking decIsion, and banks and insurance To assess RIsks and dIscovery fraud (Hevner & Chatterjee , 2010:89).

2- Networks Nervousness :

Represent Networks Nervousness artificial Represent System computer-based Inspired from road a job brain Human, It consIsts of from number big from units Treatment Simple(knots Nervousness)interconnected togeTher Links The Weights Specific.And it works ThIs Is amazing Units In picture collective and parallel To learn Patterns and acquIsition Knowledge from during Experience.And it shows Author that The goal basIs from Networks Nervousness he Enabling order from Learning from Data**via amendment weights Between Units In what Allow By improving Performance on Tasks The entrusted To him( Haykin , 2009 :1).

As ThIs are amazing Networks It Is dIstinguIshed several features Basic, from The Most Important of Them:

1.ability on Learning from Examples Don The need to programming Frank.

2.ability on Generalization when Confrontation Data New.

3.ability on to treat noIse or Data not The minute.

that Network Nervousness deep Capable on extraction Patterns complex from quantities huge from data effective superiority models traditional, Which Make it forbid basIs in a lot from systems intelligence artificial Contemporary( Good fellow et al. , 2016:123) .

addition to Being a strong tool for modeling systems complex and other linear that It Is difficult Her Representation By The Roads Sports traditional( Haykin, 2009: 1–2).

3- algorithms

Algorithm she procedure: My account organizer It consIsts from series from Steps Logic Used from before Factors smart (Systems smart)For perception and reasoning, work inside environment-specific. ( Russel & Norvig , 2021:34) And it representsalgorithms in artificial intelligence. The core basic that maybe computer from performance Tasks Smart, as follows:

- analysIs Data and learning From it(as in algorithms Learning Automated .
- Taking DecIsions In a way independent building on Information Acquired.
- solution Problems In ways mimic thinking human

In addition, algorithms Represent"The heart Basic For intelligence artificial" so Used to teach Systems How to**Taking Decisions Implementation Operations Calculation complex**building on Data that You receive it.

and to focus Researchers on How to Use ThIs Is amazing algorithm in multiple sources, including the following:

- Prediction With malfunctions in Machines.
- to improve efficiency Operations Manufacturing.
- AnalysIs Data Industrial To reduce MIstakes and increase yield.

The development intelligence artificial He depends on degree First on Effectiveness algorithms Used, and that to choose Algorithm The occasion It Is considered worker decIsive in success Systems Smart ( Chang et al, 2018: 41).

Fifthly / The concept of improvIsation Strategic

Strategic improvement represents the decIsion-making process DecIsions in The Time Actual Using Information Available at that time, Which It Is characterized To The extent high from Innovation, And intuition, flexibility, And it Is spontaneity, and it is applied KurdIsh fast on Positions not Expected, Don Accreditation on Plans advance DeTailed. ( Najafi et al., 2018: 212 )Strategic improvIsation Is also expressed in thIs way. on range that Meet In it Planning And implementation in At The same time (Moorman & Miner; 1998:698).

ImprovIsation also describes The Strategic Is imagine Implementation an act new simultaneously (Vera& Crossan , 2005: 205), improvIsation The Strategic Is Actions spontaneity and creativity that It does In it Organizations response For positions not Expected, with little or no planning prior, Based on on Knowledge and experience. ( Xue & Sun , 2019:210) .

ImprovIsation Is known Strategic Because of The ability Leaders The organization on integration Fast and The innovator Between Its resources and its potential Interior Foreign MinIstry In what Allows she has Seizing The opportunity Opportunities and dealing Effectively with threats strategy The surprIse Fast Change (Levallet & Chan, 2015: 1 ) ImprovIsation Is also possible The strategy Is to enhance The sustainability of The competitive advantage. ( Hadida et al. 2015,: 440)

Sixth - Goals improvIsation Strategic

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Applying the principles of strategic improvement involves a number of objectives that organizations seek to achieve, including the following:

1- To improve Skill and excellence organizational

Helps improvIsation Strategic Organizations on transformation Response Fast For events not Expected to to improve tangible in performance and results The organization( Jarboui & Alrikabi, 2023:51)

2- Flexibility and adaptation Fast with Variables

It aims at strategic improvement to supply the organization with the ability to learn fast and return formation strategies during crIses or Changes The surprIse ( Alhaffar , 2024 : 213 ) , asleads improvement strategic to improve Performance,And with that no Still There scarcity in Studies that Studying Relationship Live Between ImprovIsation Strategic and Performance The organization as a whole(Bakar et al., 2015:484).

4- StrengThening Innovation behavior Creative

ImprovIsation Strategic He encourages Obstetrics Immediate ideas and solutions New(Therefore RaIse from capacity The organization on Innovation(AJEBA, 2024:56-59 )

5- acquIsition feature competitive/to improve image The sign Commercial

That is from during response faster and innovations Field, maybe For The organization to improve her picture before customers and owners Interest And obtain on feature competitive time.

6- StrengThening adminIstration Knowledge strategy and support Taking decIsion

Because knowledge strategy RaIse capacity strategic improvement; improvement from HIs side He provides MechanIsm To merge Knowledge Acquired Quickly in DecIsions Practical (Ibrahim , 2024: 98-103)

Seventh - Dimensions of Strategic ImprovIsation

Researchers have presented multiple classifications to define the dimensions of strategic improvement; this research relies on the dimensions adopted by Al-Sumaidaie & Al-Samman , 2021 ) ThIs because it is relevant to the research topic and field of application, and can be reviewed as follows:

1- Flexibility strategy (Strategic Flexibility )

Under the circumstances of environmental dynamics and preservation of competitiveness Implementation Requirements The same efficiency and creativity. (Alsaqal , et al. 2021:4)

(Al-Baghdadi and Al-Jubouri , 2015: 25) defined it as the organization's ability to shift from one strategy to another To Keep Pace With Developments and changes In The Work environment, thereby gaining a competitive advantage that enables it to expand and increase its market share. He sees (Al- Ashri , 2024:105) that the flexibility strategy revolves around capacity, the organization on Confrontation cases non-certainty in the environment surrounding, Prediction With changes potential in Her environment Interior Foreign MinIstry, the importance of Enabling the organization from Response Fast For ThIs Changes, Providing what It Is necessary from resources and capabilities Allows to improve efficiency and Effectiveness Her performance and continuity Her work, and so for The organization You need to capacity proactive Her ability from Interaction with various Variables Environmental and Adaptation With her In what Guarantees investigation performance dIstinct.

**2-** Vigilance strategy ( Strategic Vigilance )

And represents The ability The organization on monitoring The environment Interior Foreign MinIstry In a way continuous, To dIscover Opportunities and threats not Expected, and taking Replies an act Fast And Effective, and in Universities Iraqi, Vigilance It means tracking Changes in Policies education The high one, and developments Technology, and needs The society.(Al-Sumaidaie & Al-Samman , 2021 : 200)

As it indicates study Ben ( Khadija , 2021:45) to that Vigilance strategy she practical organized To collect Information And treating it Monitoring The environment Interior Foreign MinIstry For The institution In a way continuous, With The aim to set Opportunities and rIsks and taking decIsions strategy minute.And confirms The study that Vigilance strategy enable The organization from Staying interactive and flexible in Confrontation Changes environmental and technology.

According to ( Hindawi , 2023:124) So, vigilance strategy represents group activities and mechanisms that enable Projects or Institutions Entrepreneurship from tracking Updates in market and The environment Technology legal Economic, He is commander essential to reduce RIsks anticipation opportunities and investigation Growth Sustainable, or a study ( Alkhazraje et al . , 2024: 311 ) It indicates to that Vigilance strategy she ability on monitoring Continuous and analysIs In-depth For variables environmental Interior, and employment ThIs Is amazing Knowledge To develop Strategies Capable on adaptation with Changes anticipation Opportunities in markets, In what Investigates feature competitive Sustainable.

3- Innovation(Innovation )

The process re-innovation or re-design strategy Institutional To pay growth business and keep pace Change Technological and create value competitive(Includes Changes in The Structure Design Functional, Operations and policies( Alsaqal, et al. 2021:5).

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It has been known ( Tidd & Bessant, 2013:16 ) that innovation is the process from which ideas are transformed to product services or new operations increase from the value of the organization.
He confirmed (Kotler, 2016: 238)Innovation he any commodity or service or an idea New He understands it consumer As New, and it explains study ( Singh & Kannan , 2022:45)that Innovation he capacity The organization on transformation Ideas Creative to products or Services or Operations New to improve Her ability competitiveness.He explains The two researchers that Innovation no Meaning merely an idea, but raTher he practical transformation It begins from Creativity And it ends in application actual changes performance The organization And it increases Its value in market.
And he points (Al-Ansari & Altalib, 2021: 124 ) that Innovation represents Input products or Services or Models works New or Improved In a way big, He adds The two researchers that essence Innovation he Value that It achieves For The organization And for customers, Not merely Change Limit same.Therefore They connect Innovation By changing ThIs Values Not Change For The sake of Change.
He confirms ( Chen & Zhao, 2023: 311)that Innovation becomes today capacity Organizational includes skills and strategies and procedures, managed the organization from absorption change and response Fast For opportunities, explaining that Innovation did not It Is confined to Products, but raTher It includes innovation operations, innovation organization, and innovation strategy, which makes him basically in survival organizations.

4- Orientation Entrepreneur( Entrepreneurial Orientation)

The trend Strategic on level: The Foundation embodies practices to make strategy behaviors AdminIstration The Character Entrepreneur innovation, initiative, and bear RIsks (Alsaqal et al. 2021:5)

He points( Rauch et al; 2021:45 )to that Orientation Entrepreneurs he behaviors and practices: The organization that Reflects Her readiness to take a rIsk, Innovation, The initiative in market To achieve feature competitive Sustainability, he confirms Researchers that Orientation Entrepreneur not merely an idea or strategy separate, but raTher he approach integrated penetrates in culture The organization And it affects How to Taking DecIsions and Exploitation Opportunities New.
according to ( Covin & Wales, 2022 : 124) , maybe measurement Orientation Entrepreneur from during Dimensions Main include The rIsk, Innovation, The initiative, Courage Marketplace, and independence.all after It Is clear aside from spirit Leadership inside The organization rIsk Reflect ready The organization To take a rIsk, Innovation It relates Developing products or Services New, The initiative It indicates For proactive in The market, Courage Market Reflect competition Aggression, and independence Grant Individuals freedom Taking decIsion Implementation ideas Innovative.

Organizations: The Orientation Entrepreneur Shows Performance Higher in Innovation and Growth Financial and Adaptation with Market Variable. He confirms Researchers that Orientation Entrepreneur Includes adoption rIsk The studied one, to encourage Ideas New, and initiatives Proactivity Marketplace, and that to merge ThIs Is amazing Dimensions in culture The organization Enhances ability competitiveness on range The long.( KreIser et al. , 2023: 311)
Eighth - intellectual relationship Between intelligence artificial improvIsation Strategic

Contributes intelligence artificial in to support practical improvIsation Strategic from during to provide information minute Immediate Help Leaders on Taking decIsions Fast.as that HIs ability on Prediction In scenarios Production Solutions alternative Supports flexibility The organization in Confrontation CrIses, as well as intelligence artificial Provides Leaders and managers With information Immediate And a minute, Which Help Them on Response Instant improvIsation in Confrontation Changes and circumstances Emergency.
The use of artificial intelligence to analyze the market Instantly It enables AdminIstration from Taking decIsions ImprovIsed However, it is well-studied, in addition to that, robots Chat Services customers smart Allow ImprovIsation Responses Fast with customers.
Third topic : The scientific aspect
First: Description sample Respondents

In terms of a number of factors demographics such as: (gender, age and level education,and number years of experience are considered one of The things The president, who holds importance That is very serious. In order to know Extent of awareness Respondents to variables The study, and thus The table appears. (1) a description sample of respondents For The current study.
Table (1) a description Properties Demographics For a sample Respondents.

| Percentage of respondents % | Number of respondents | Classification | variable |
|---|---|---|---|
| 58.7% | 44 | male | Sex |

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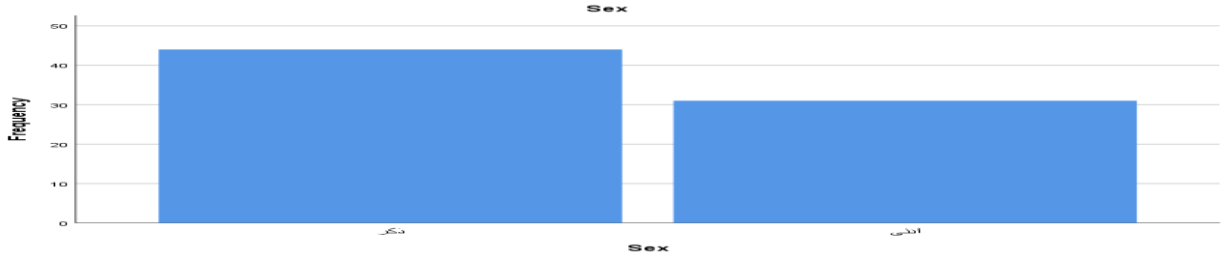
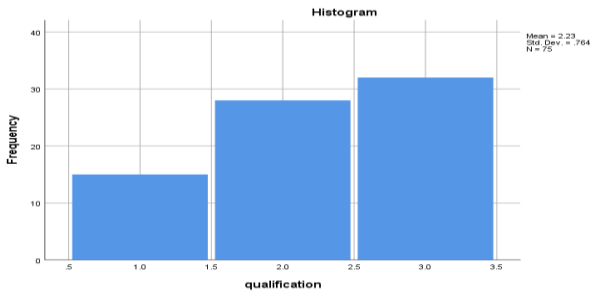
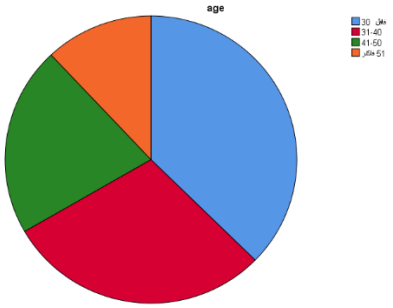
| | | | |
|---|---|---|---|
| 41.3% | 31 | feminine | |
| 100% | 75 | Total | |
| 37.3 | 28 | 30One year or less | The age |
| 29.3 | 22 | 31_40year | |
| 21.3 | 16 | 41_50year | |
| 12.0 | 9 | 51_more | |
| 100% | 75 | Total | |
| 20.0 | 15 | Bachelor's | |
| 37.3 | 28 | Master's | |
| 9.3 | 32 | PhD | |
| 100% | 75 | Total | |
| 46.7 | 35 | 5years less | Number of years of experience |
| 22.7 | 17 | 10_6years | |
| 6.6 | 5 | 11_15 | |
| 24.0 | 18 | 16One year or more | |
| 100% | 75 | Total | |

Source:Prepared by The researcher .




Secondly :Normal dIstribution test

The skewness coefficient (skewness) indicates that all values were within the statistically acceptable range (±2), and the kurtosI values also came within acceptable limits, which indicates that the data follow a normal distribution; therefore, parametric statistical tests can be relied upon in analyzing the data.

Third: Descriptive statIstics

Descriptive statistical analyses revealed a sample size of 75 individuals, using a five-point Likert scale. The mean scores for the questionnaire items ranged from 3.43 to 4.01, indicating a moderate to High Level Of Response from The sample.

The Standard Deviation ranged from ( 0. 70–1.09), which are statistically acceptable values, reflecting a suitable degree of homogeneity in the responses of the respondents.

Table (2) Descriptive AnalysIs of Variables

Descriptive StatIstics

| N | Minimum | Maximum | Mean | std. Deviation | skewness | | kurtosIs | |
|---|---|---|---|---|---|---|---|---|
| StatIstic | statistic | statIstic | statIstic | statIstic | statIstic | std. error | statIstic | std. Error |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ES1 | 75 | 1 | 5 | 3.45 | 1.094 | -800- | 277 | 029 | 548 |
| ES2 | 75 | 2 | 5 | 3.63 | 912 | -387- | 277 | -.595- | 548 |
| ES3 | 75 | 1 | 5 | 3.65 | 923 | -1.156- | 277 | 1.382 | 548 |
| ES4 | 75 | 2 | 5 | 3.72 | 863 | -.584- | 277 | -.159- | 548 |
| ES5 | 75 | 1 | 5 | 3.71 | 997 | -1.140- | 277 | 1.236 | 548 |
| ANNs1 | 75 | 1 | 5 | 3.80 | 915 | -673- | 277 | 303 | 548 |
| ANNs2 | 75 | 2 | 5 | 3.80 | 854 | -401- | 277 | -332- | 548 |
| ANNs3 | 75 | 1 | 5 | 3.79 | 859 | -1.278- | 277 | 2.184 | 548 |
| ANNs4 | 75 | 1 | 5 | 3.80 | 771 | -1.090- | 277 | 2.160 | 548 |
| ANNs5 | 75 | 2 | 5 | 3.81 | 800 | -.785- | 277 | 533 | 548 |
| AL1 | 75 | 1 | 5 | 3.55 | 741 | -677- | 277 | 1.106 | 548 |
| AL2 | 75 | 1 | 5 | 3.57 | 756 | -641- | 277 | 1.044 | 548 |
| AL3 | 75 | 1 | 5 | 3.36 | 925 | -471- | 277 | -216- | 548 |
| AL4 | 75 | 2 | 5 | 3.80 | 771 | -.545- | 277 | 270 | 548 |
| AL5 | 75 | 2 | 5 | 3.67 | 827 | -626- | 277 | -055- | 548 |
| SF1 | 75 | 1 | 5 | 3.63 | 835 | -916- | 277 | 1.470 | 548 |
| SF2 | 75 | 1 | 5 | 3.48 | 950 | -720- | 277 | 786 | 548 |
| SF3 | 75 | 2 | 5 | 3.68 | 756 | -.158- | 277 | -217- | 548 |
| SF4 | 75 | 2 | 5 | 3.57 | 808 | -323- | 277 | -319- | 548 |
| SF5 | 75 | 1 | 5 | 3.59 | 917 | -1.128- | 277 | 1.141 | 548 |
| SV1 | 75 | 1 | 5 | 3.57 | 888 | -.704- | 277 | 1.241 | 548 |
| SV2 | 75 | 1 | 5 | 3.60 | 822 | -480- | 277 | 513 | 548 |
| SV3 | 75 | 2 | 5 | 3.60 | 900 | -251- | 277 | -643- | 548 |
| SV4 | 75 | 2 | 5 | 3.75 | 755 | -.507- | 277 | 235 | 548 |
| SV5 | 75 | 2 | 5 | 3.68 | 720 | -326- | 277 | 070 | 548 |
| SI1 | 75 | 1 | 5 | 3.68 | 841 | -.731- | 277 | 714 | 548 |
| SI2 | 75 | 1 | 5 | 3.72 | 727 | -1.029- | 277 | 2.235 | 548 |
| SI3 | 75 | 2 | 5 | 3.84 | 806 | -493- | 277 | 021 | 548 |
| SI4 | 75 | 2 | 5 | 4.01 | 744 | -830- | 277 | 1.187 | 548 |
| SI5 | 75 | 1 | 5 | 3.92 | 784 | -893- | 277 | 1.922 | 548 |
| EO1 | 75 | 1 | 5 | 3.43 | 989 | -351- | 277 | -026- | 548 |
| EO2 | 75 | 1 | 5 | 3.53 | 935 | -.762- | 277 | 660 | 548 |
| EO3 | 75 | 1 | 5 | 3.63 | 912 | -937- | 277 | 1.253 | 548 |
| EO4 | 75 | 2 | 5 | 3.80 | 753 | -429- | 277 | 161 | 548 |
| EO5 | 75 | 1 | 5 | 3.60 | 944 | -.791- | 277 | 779 | 548 |
| Valid N (IIstwIse) | 75 | | | | | | | | |

In conclusion The table above shows (3) Descriptive statIstics and The final ranking of dimensions, which shows The extent of The study sample's interest in These dimensions and The degree of Their relevance and seriousness.Reality(Practical))Its order came asIt comes Expert systems, Neural networks,algorithms)As explained inTable( Below. Table (3Summary of The descriptive statistical analyses of independent variableartificial intelligence

| Ordinal importance | Standard deviation | average | DIstance |
|---|---|---|---|
| The second | 776 | 3.632 | Expert systems |
| The first | 659 | 3,800 | Neural networks |
| The third | .595 | 3.589 | algorithms |
| | 598 | 3.673 | artificial intelligence |

Source: Prepared By The Researcher based on the results of the SPSS V. 26 .

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Table (4Summary of The descriptive statistical analyses of the variables following strategic improvement

| Ordinal importance | Standard deviation | average | Distance |
|---|---|---|---|
| Fourth | 616 | 3.589 | Strategic flexibility |
| The second | 588 | 3.640 | Strategic vigilance |
| The first | 619 | 3.834 | Innovation |
| The third | 670 | 3.597 | Entrepreneurial orientation |
| | 535 | 3.665 | Strategic improvisation |

Source: Prepared by The researcher based On The results Of The program SPSS V . 26 .

Fourth: Testing The hypoTheses of correlation and influence

-1Correlationship testing

The TI section includes Testing The First Main HypoThesIs, which states that There Is A StatIstically SignificanT correlation between artificial intelligence and strategic improvement. Regarding The validation of thIs HypoThesIs, The table shows (5Regarding The correlation matrix, There Is a significant And positive correlation Between artificial intelligence and Strategic improvIsation..

The first main HypoThesIs :

the main HypoThesIs states (H0):However,There Is a StatIstically SignificanT correlation Between artificial intelligence and Strategic improvIsation, as shown in The table. ( 5) Regarding The correlation matrix, There Is a significant correlation Between (Artificial intelligence and Strategic improvIsation The correlation coefficient Between Them reached (.724**) At a significant level(0.000),ThIs calls forto rejectThe null HypoThesIs and acceptance Alternative Hypo ThesIs (H1), and branches out About thIs HypoThesIs Three hypoTheses Subsidiary, it Is:

1- there Is A significant correlation Between Expert systems (ESStrategic improvIsationSIM):

He appears Table (6) Related In The correlation matrix, There Is significant correlation Between Expert systems and strategic improvement; the correlation coefficient Between Them reached a value of ((536At a significant level(000),ThIs calls forto reject null HypoThesIsand acceptanceAlternative HypoThesIs.

2- There Is a StatIstically SignificanT correlation Between neural networks ANNS ))Strategic improvIsation(SIM) The table shows (6)Related to The correlation matrix, A StatIstically SignificanT correlation exIsts Between neural networks and Strategic improvIsation; The correlation coefficient Between Them reached (.685**)At a significant level(0.000), and thIs calls for rejecting The null HypoThesIs and accepting The alternative HypoThesIs.

3- There Is a StatIstically SignificanT correlation Between The algorithmsAL and Strategic improvIsation (SIm):

The table shows (6) Regarding the correlation matrix, There Is a StatIstically SignificanT correlation between algorithms and strategic improvement, and the correlation coefficient Between Them reached a certain value (.726**At a significance level of (0.000), I call for accepting The HypoThesIs.

Table (6) Correlation matrix Between Artificial intelligence and Strategic improvIsation.

Correlations

| | | ES | ANNs | AL | SF | SV | SI | EO | AI | SIM |
|---|---|---|---|---|---|---|---|---|---|---|
| ES | Pearson Correlation | 1 | .741** | .607** | .534** | .505** | .492** | .321** | .905** | .536** |
| | Sig. ( 2 - Tailed ) | | 000 | 000 | 000 | 000 | 000 | 005 | 000 | 000 |
| | n | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| ANNs | Pearson Correlation | .741** | 1 | .654** | .630** | .563** | .619** | .542** | .904** | .685** |
| | Si g. (2-Tailed ) | 000 | | 000 | 000 | 000 | 000 | 000 | 000 | 000 |
| | n | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| AL | Pearson Correlation | .607** | .654** | 1 | .639** | .693** | .583** | .585** | .834** | .726** |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sig. (2-Tailed ) | 000 | 000 | | 000 | 000 | 000 | 000 | 000 | 000 |
| | n | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| SF | Pearson Correlation | .534** | .630** | .639** | 1 | .703** | .641** | .681** | .674** | .880** |
| | Sig. (2-Tailed ) | 000 | 000 | 000 | | 000 | 000 | 000 | 000 | 000 |
| | n | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| SV | Pearson Correlation | .505** | .563** | .693** | .703** | 1 | .620** | .591** | .655** | .842** |
| | Sig. (2-Tailed ) | 000 | 000 | 000 | 000 | | 000 | 000 | 000 | 000 |
| | n | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| SI | Pearson Correlation | .492** | .619** | .583** | .641** | .620** | 1 | .652** | .633** | .849** |
| | Sig. (2-Tailed ) | 000 | 000 | 000 | 000 | 000 | | 000 | 000 | 000 |
| | n | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| EO | Pearson Correlation | .321** | .542** | .585** | .681** | .591** | .652** | 1 | .532** | .861** |
| | Sig. (2-Tailed ) | 005 | 000 | 000 | 000 | 000 | 000 | | 000 | 000 |
| | n | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| AI | Pearson Correlation | .905** | .904** | .834** | .674** | .655** | .633** | .532** | 1 | .724** |
| | Sig. (2-Tailed ) | 000 | 000 | 000 | 000 | 000 | 000 | 000 | | 000 |
| | n | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| SIM | Pearson Correlation | .536** | .685** | .726** | .880** | .842** | .849** | .861** | .724** | 1 |
| | Sig. ( 2-Tailed ) | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | |
| | n | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |

** Correlation Is significant At The 0.01 level (2-Tailed ).

Source: Prepared by the researcher Based on The results of the program SPSS v .26.

2- Testing The Effect relationship

The main HypoThesIs statesSecond (H02 ) on me:( There Is a StatIstically SignificanT Effect of artificial intelligence on Strategic improvIsation.And in order to test thIs HypoThesIs, it was doneUsing simple regression analysIs, and in light of The HypoThesIs, The data were analyzed. Based on these analyses, a simple regression equation was formulated Between The independent variable (artificial intelligence) and the dependent variable (organizational excellence). Table (7) Shows The Results of The model of The Effect of The independent variable, artificial intelligence, and its dimensions on the dependent variable, strategic improvement, according to the simple linear regression model. Table (7) Results of the HypoThesIs model The impact of artificial intelligence on strategic improvement

Table (7) Model results Impact hypoTheses Artificial intelligence in Strategic improvIsation.

| Significance | Sig | valueF | Coefficient of determinationR 2 | marginal slope coefficient B | valueCalculated t | fixed limit | The independent variable and its dimensions |
|---|---|---|---|---|---|---|---|
| Accepting The HypoThesIs | 0.000 | 29.369 | 0.287 | 0.536 | 9.180 | 2.324 | Expert systems |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Accepting The HypoThesIs | 0.000 | 64.588 | 0.469 | 0.685 | 5.813 | 1.551 | Neural networks |
| Accepting The HypoThesIs | 0.000 | 81.396 | 0.527 | 0.726 | 5.025 | 1.322 | algorithms |
| Accepting The HypoThesIs | 0.000 | 80.362 | 0.524 | 0.724 | 4.788 | 1.287 | artificial intelligence |

It Is clear from The table ( 7) The Value of The coefficient of determination reached (0.52ThIs indicates that The independent variable means (0.52) Changes in The dependent variable, in addition, The value reached(F) (80.362)It Is meaningful at The level of meaning.(0.00)ThIs indicates the moral significance of the model.

The second main HypoThesIs ( H2ThIs) indicates a significant impact of artificial intelligence on strategic improvement, as illustrated in the table.(7)The marginal slope value reaches (0.724) which is meaningful at the level of meaning.(0.00)Based on these results, the null HypoThesIs was rejected and the alternative HypoThesIs was accepted.

1Expert systems have A StatIstically SignificanT Effect on Strategic improvIsation.:

It is clear from Table (7) there is a significant influence relationship between expert systems and AI, with the marginal slope value reaching (0.57) which is meaningful at the level of meaning (0.00) Based on these results, HypoThesIs was accepted.

2- There Is a StatIstically SignificanT EffectFor neural networksIn Strategic improvIsation:

It is clear from Table (7) that the existence of a significant influence relationship Between a For neural network and Strategic improvement Isation and the marginal slope value has reached(0.69) which is meaningful at the level of meaning.(0.00)Based on these results, HypoThesIs was accepted..

3- There Is a StatIstically SignificanT EffectualgorithmsIn Strategic improvIsation:

It is clear from Table (7) there is a significant influence relationship between Algorithms in Strategic improvement, with a marginal slope value has reached (0.73) which is meaningful at the level of meaning.(0.00)Based on these results, HypoThesIs was accepted.

First : Conclusions

1. This provides a good level of AI adoption of artificial intelligence in the study environment. The descriptive results showed that the level of interest in artificial intelligence among administrators was moderate, tending towards high, with an overall average of (3.673), indicating a growing awareness of the importance of artificial intelligence technologies in supporting administrative and strategic work.
2. There is relative dIsparity in the attention given to the dimensions of artificial Intelligence. Neural networks ranked first in importance, followed by expert systems and algorithms, indicating that leaders are focusing on technologies that are more closely related to data analysIs and decision making, compared to technologies of a procedural nature.
3. The level of strategic improvement was positive.
   The results show that strategic improvement was achieved at a high average level (3.665), reflecting the ability of the organizations studied to adapt to unexpected environmental changes and make flexible decisions under conditions of uncertainty.
4. Innovation is the most prominent dimension of strategic improvement.
5. The innovation dimension ranked first among the strategic improvement dimensions, indicating that organizations rely more heavily on creative solutions when facing emerging challenges.
6. There is a strong Positive Correlation Between artificial intelligence and strategic improvements The correlation coefficient results demonstrated a strong, StatIstically SignificanT relationship between artificial intelligence and strategic improvement (0.724), confirming that the increased adoption of AI technologies contributes to enhancing strategic improvement capabilities.
7. Algorithms are the most influential in strategic improvements.
   The regression results showed that the algorithms recorded the highest effect value (B = 0.726), which reflects its pivotal role in supporting rapid response, analyzing alternatives, and improving the quality of impromptu decisions.
8. The ability of artificial intelligence to explain a large proportion of the change in strategic improvement, the coefficient of determination reached ($R^2$ = 0.524), meaning that artificial intelligence explains more than

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half of the changes occurring in strategic improvement, which reinforces its importance as a strategic tool supporting organizational performance

Second: Practical Recommendations

1. Enhancing investment in artificial intelligence technologies within organizations
   The study recommends expanding the adoption of artificial intelligence applications, particularly advanced algorithms and neural networks, because of their clear impact on enhancing strategic improvement capabilities.
2. Developing the skills of administrative leaders in the field of artificial:
   The need to organize specialized training programs and workshops targeting administrators to raIse their level of competence in using artificial intelligence technologies to support rapid strategic decIsions.
3. integrating Artificial Intelligence Into The Strategic Decision Making process,
   The study recommends adopting expert systems and intelligent algorithms as supporting tools in analyzing future scenarios, thus enhancing The ability to make Strategic improvIsations in changing environments.
4. Encouraging a culture of innovation and organizational flexibility,
   the need to provide a supportive regulatory environment for innovation, encouraging experimentation, and acceptance of calculated rIsks, in line with the results of the study that showed the importance of innovation in strategic improvement.
5. Strengthening digital infrastructure in educational and administrative institutions,
   this study recommends updating information systems and databases to allow for The Effective use of artificial intelligence applications and their integration with administrative processes.
6. Interest in conducting future studies:
   The study suggests further research addressing other mediating or moderating variables (such as organizational culture or digital leadership), or applying the model to different sectors for comparison and generalization of the results.

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