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(The impact of technological capabilities and their role in promoting continuous improvement activities in the organization) An exploratory study of the opinions of a sample of workers in Al-Noura Factory - Holy Karbala

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Mohanad Jasim Mahdi 1, Assistant Professor. Safaa Abd Ali Abdulameer, (The impact of technological capabilities and their role in promoting continuous improvement activities in the organization) An exploratory study of the opinions of a sample of workers in Al-Noura Factory - Holy Karbala, -- Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(10), 2686-2708. ISSN 1567-214x

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ABSTRACT

The purpose of the study to me Determine the role of technological capabilities in promoting activities Continuous improvement in Al-Noura Factory in Holy Karbala , Andcame the importance ofstudy represented by presenting a theoretical framework linking two important variables: And technological capabilities represented in their dimensions (technology knowledge, strategic capabilities in the field of technology, personal technology, inter-organizational relations, relations with suppliers, infrastructure), Andcontinuous improvement And represented by its dimensions (understanding optimization continuous, get On Usually optimization continuous, the focus On optimization continuous, Spread optimization continuous development the permanent system optimization continuous building the organization educated) Disht study on an intentional sample consisting of (155) security guy (Engineers and technicians) was used resolution As the main tool for data collection and measuring variables The answers were analyzed to reach the final results of the research by using a set of methods statistic , building. On the measurement of the variables ofstudy Diagnosing it and testing the relationship and the effect, the statistical methods produced a number of results, perhaps the most prominent of which are: The validity of the hypothesis (There is a relationship Link and influence technology capabilities in the activities ofFor continuous improvement in the organization) did notNoura's workA number of recommendations were reached, the most important of which are:

necessityNS Work to provide and enhance the efforts of engineers and technicians inrelationship investment positivity between optimization continuous What contributes to their having sufficient knowledge of modern technological capabilities and also achieves an important characteristic for them, which is the ability to adapt to modern technological changes .

Introduction

The world is witnessing continuous change and development at all levels, and the rapid development of technology in today's world has made companies in a race and competition in order to obtain that technology to raise the level of the products they provide or improve the services provided to customers andPrepare Technological capabilities One of the most important resources the main which supplies thea company with competitive advantage In our contemporary world Seeking Organizations have to change their old methods, by following what is new, to develop their technological capabilities and to enhance their competitive position to fit with continuous improvement activities, and to achieve efficiency, effectiveness and excellence in performance and provide the best services to meet the desires and needs of customers, and in the midst of this huge competition the importance of continuous improvement activities has emerged As a strategic tool forTo overcome difficulties and obstacles and reach theorganisation to achieve its main objectives that striving to achieve, andTo defeat routine in performing Employees the organization Via Innovation, development and creativity , Organizations strive to empower its employees, and improve adiseaseThey are forcreate atmosphere organizational ylead to improve its activities AndStrengthen performahahah., Andmay be Was selected Al-Noura Factory in Holy Karbala As a field for the practical side ofstudy , The questionnaire was mainly relied on in all data and information, as well as what was doneNS TheResearcher Of unremitting efforts that enabled him to obtain data and information through field coexistence with the fieldgeometry andFannin in the organization a sample TheStudy in order to verify its hypotheses.

Study Methodology

First: the problem of study

The world is constantly evolving in a All levels and fields, and that the development at the level of Technological capabilities Which companies always seek to own in order to acquire the advantage that enables them to outperform the companies operating in the same sector, especially those companies that work at the level of providing products and services, and this study comes in order to know Effect Technological capabilities in promote activities Theimprovement continuous organization Especially since we live in an era of rapid development And in all areas , as tissued Technology today is an important center in All sides And that every development process must-pass by-Technology bur NSNS NSn fold-NS Capacity Technological-d gatefor any step-Where did you find it?-s in p-The-NS Today.

Based on the foregoing, the study problem can be embodied in answering the following questions:

1- Is there sufficient awareness of the research organization of the importance of developing technological capabilities?

2- What is the nature of the level of importance of the dimensions of technology capabilities and continuous improvement activities?
3- Is there a tendency for the organization under study to adopt the dimensions of continuous improvement?
4- Is there a correlation between technological capabilities and continuous improvement activities?
5- Is there an impact of technological capabilities on continuous improvement activities at the level of the organization?

Secondly: Importance studying

stem Importance search Present from Importance its variables and its dimensions intellectual and its effect in a to encourage organizations SOA On Development and improve permanent On level its services from During role Which you play it Capacity technology from okay Ability On meet requirements customers and boost their confidence with their services , As well as About role Which you play it Quality the product in a Investigation Goal the organization And from This premise We find Variables the main in a search represented by with capabilities technology , and activities optimization continuous may be got Interest lab as a Tools and the means and goals that enable her from improvement her performance , and boost from her ability On keeping up the changes continuous in a environment Business As well as About keeping up Requirements renewable needs consumer and on This the foundation Acquire search Present Importance Farida from During Friday for the variables and benefit Of which in a Access to me Goals strategy Mission Includes Investigation higher Values for quality comparison with competitors **.**

Third: goals to study

The study aims mainly at showing the impact of technological capabilities in promoting the activities of continuous improvement of the laboratory and improving the quality of its products on a sample of engineers and technicians working in the Noura factory in Karbala, in addition to that. This study seeks to achieve several Objectives andShow it:-
1- Explain how the concept of technological capabilities is used and how it contributes to promote activities Theimprovement continuous products in a lab mentioned.
2- Statement of the most important technological capabilities tools that can be relied upon in activities Theimprovement continuous NSproducts in theThe research laboratory .
3- Disclose the nature of continuous improvement activities to be adopted in the research organization .
4- Explain the role that technological capabilities play in consolidating the relationship betweenlab Andconsumer And how it reflects on Continuous improvement activities for the organization.
5- Take advantage of the conclusions that Complete Thereached in terms of technological capabilities in . activitiesimprovement continuous for the organization that Provided by the lab .

Fourthly: chart hypothetical to study

Show chart hypothetical to study Relationship And the effect between variables studying and sub represented by by variable independent Capacity technology and the variable subordinate activities optimization continuous

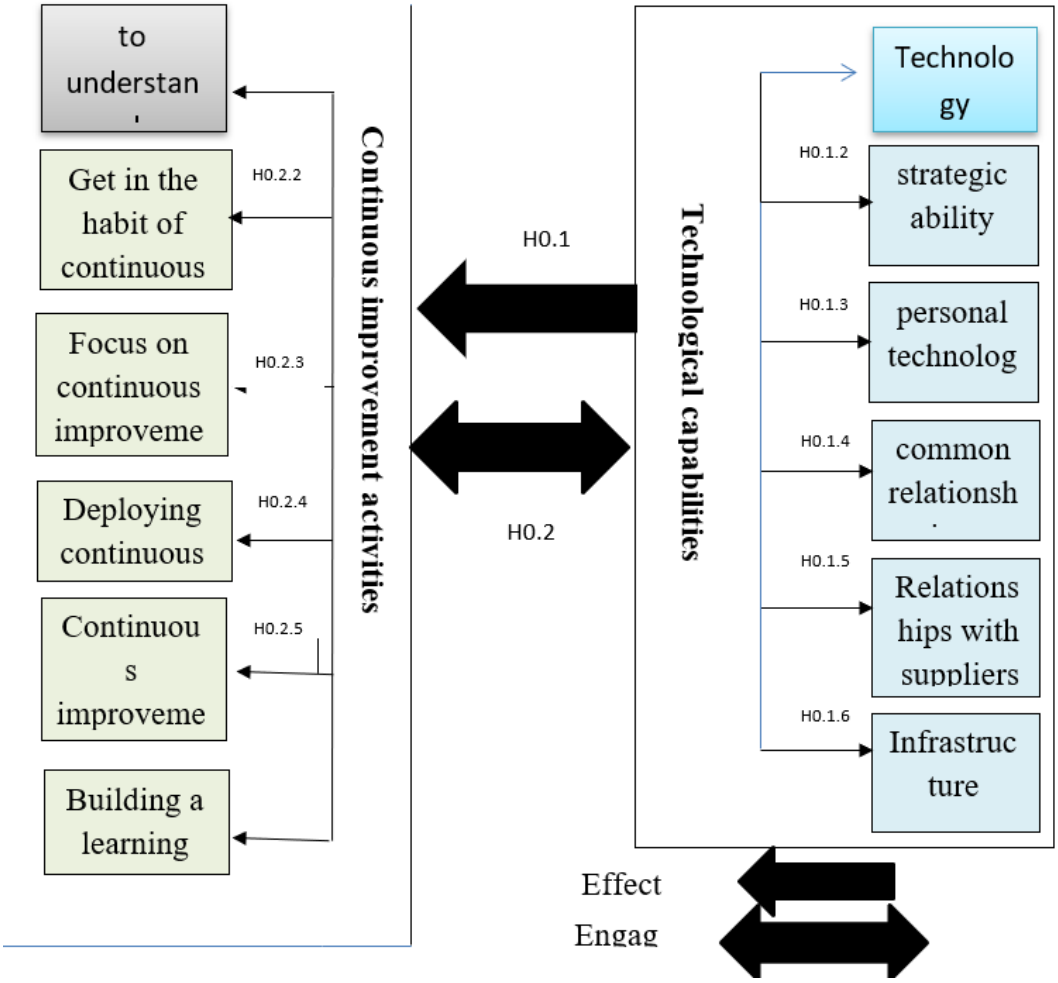

Figure (1) The hypothetical scheme of the study

Fifthly: the hypotheses of the study

In the methodology, the researcher will be limited to mentioning the main hypotheses, while the sub-hypotheses are mentioned in the practical side, and for short, the study is based on the following main hypotheses:

1- The first main hypothesis: - The dimensions of technological capabilities are not available in Al-Noura laboratory.

2- The second main hypothesis: - Al-Noura laboratory does not adopt continuous improvement activities.

3- The third main hypothesis: - There is no significant correlation between technological capabilities in their dimensions and continuous improvement activities in their dimensions.

4- The fourth main hypothesis: - Technological capabilities do not affect continuous improvement activities.

5- The fifth main hypothesis: The dimensions of technological capabilities do not affect continuous improvement activities.

Sixth: The limits of the study

- Spatial (Geographical) Boundaries: The limits of the study include all sections of the Al-Noura factory within all the facilities of the laboratory, which is located within the administrative borders of the Holy Karbala Governorate.
- Time limits of the study: This study was applied and the questionnaires were distributed and received in addition to the interviews from (1/12/2020) to (15/6/2021), as this period was sufficient for the process of distributing and collecting questionnaires from the members of the studied sample.

Seventh: The study population and sample

1- study community

Al-Noura Laboratory in Holy Karbala was chosen as a community for the research sample, and the researcher chose it because of the capabilities, capabilities, methods and scientific methods that the laboratory possesses, especially since the laboratory provides good services since its establishment to this day, in addition to its engineering cadres and young cadres that rise to a high level of their efficiency. Their capabilities and the ability to make a difference with competitors in terms of the quality of their products at the level of the country and other countries, the study sample

The sample of the study was chosen in particular if it included a number (sample) of engineers and technicians working in Al-Noura factory, and its size was (155 engineers and technicians out of the original research community of (264) engineers and technicians, based on the scale ratio for the method of selecting the study sample, and 155 questionnaires were distributed. The form for the study sample, as all the distributed forms were retrieved and actually used in the statistical analysis processes.

Eighth: The statistical tools adopted in the study

The researcher adopted a set of statistical methods to analyze the results and to test the research hypotheses and the hypothesis scheme. These methods are:

1. The search tool test and the preliminary test for the data of the research variables included the following tests:

- The confirmatory factor test: using the statistical program (AMOS V.23) for the purpose of verifying the validity and accuracy of the theoretical constructs of the scale in the field.
- Adjusting the scale: The validity coefficient, the reliability coefficient, was usedCronbach's Alpha)),
- Test the normal distribution of the data: by subjecting the questionnaire to a test Kolmogorov- Smirnov))

2. Descriptive statistics of the research variables: subjecting the dimensions of the variables to the calculation (the weighted arithmetic mean to determine the level and concentration of the answers of the sample members to the research variables, the standard deviation to indicate the level of dispersion of the response values from their arithmetic mean, the coefficient of variation to indicate the amount of difference in the values from their arithmetic mean, the relative importance of indicating the severity the answer)

3. Analytical statistical methods: through the correlation coefficient test Spearman's rho)) to measure the strength of the relationship between the research variables, the multiple regression coefficient to test the effect of the independent variables combined on the dependent variable and the regressive elimination method, the interpretation

coefficient (R^2) to indicate the amount of changes in the dependent variable, the t-test (to analyze the significance of the correlation coefficient, and the test) f) to analyze

The intellectual and conceptual foundations of the study variables

First :- Technological capabilities (Technological Capability)

Play technology capabilities (Lee & Lee, 2016,2) A prominent role in enhancing the ability of organizations to continuously progress and develop by relying on a continuous technology development strategy that is directly related to growth and expansion, at a time when many sectors have witnessed major changes in technology due to the emergence of new and renewable sources of energy, which necessitated continued investment in technology

Technological capabilities lead (Murovec, 2009,859) A major role in activating the capabilities of organizations, as investors in emerging economies acquire technological capabilities by investing technologies developed by others and then benefiting from them in the development of local technologies.

see researcher that capacity **technology** It means what the organization possesses of capabilities, energies and technological resources that the organization seeks to invest and exploit throughNoFor the experience, skills and capabilities of its employees, and employ them in the interest of effectively and efficiently improving the quality of its products and operations.

Secondly :- The importance of technological capabilities

contribute Technological capabilities Reichert & Zawislak, 2014 :3) and directly in enhancing the organization's ability to carry out its tasks in a successful and proper manner throughNoNS The use of modern technologies owned by the organization, as technological capabilities are of great importance that contribute to achieving organizational goals that lie in a Grant Personnel working skills, knowledge and experience Thewanted to operate modern systems.

confirmed ,2018:3) (Zhiqiang;etal that it Manufacturers should have the ability to acquire and apply valuable external knowledge and provide domestic technological capability to companies ability pNSI understand different typesNSa lot of funNSHe died and knowledge, and that helps pNSIntegrate relevant knowledge and resourcesNSeffectively . seeGuerra & Camargo, 2016, 50) that Technological capabilities are important to enable organizations to operate effectively despite intense competition in a volatile and rapidly changing world **.**

Third :- Technological Capabilities

Technological capabilities contribute to mobilizing various scientific and technological resources in a way that enables organizations to successfully develop their innovative products and production processes throughNoIt has a number of goals, which are: (193 : Ahmad et. al, 2014)

1. Generate a competitive environment that enables the organization to outperform other organizations throughNoTo achieve advantages competitiveness and performance improvement.
2. Grant patents, produce new products and solve complex problems byNol Rely on strategies related to technology sourcing strategy.
3. Create, operate, assimilate, support and scale new values of processes and products in a dynamically changing manufacturing environment.

4. Management unlessTechnological strategy of the organization from KNoTo identify, implement, maintain and improve technology cooperation in an effective and efficient manner.
5. Generate a state of cooperation between theNSTechnology strategy and the dynamic ability of the organization, in a way that gives it an effective strategic ability to achieve a competitive advantage.

Fourthly :- dimensions Capacity technology

1. Technology knowledge) technology knowledge)

Indicates Slack, etal, 2007:466)) To a set of knowledge that aims to create, process and evaluate technology and focuses on creating new systems and in solving problems or needs through technological tools for scientific knowledge. Often the most advanced technology knowledge is in the possession of large companies or governments. Technological knowledge depends on creativity and technical knowledge.

2. Strategic capabilities in technology Strategic capabilities in technology

seem (MacDonald (etal, 2019:14) Since the nineties of the last century, interest in modern concepts in the field of strategic management, the most important of which was the concept of strategic capabilities, which is the main assistant and driver for business organizations in the practice of their work, through planning to achieve superiority over competitors, achieve goals and talk About strategic capabilities in organizations occupies a large space in the awareness of those contemporary organizations.

3. personal technologypersonal technology)

that Reid & Sanders, 2013:61-62)) The scientific revolution represented by the so-called modern technology has greatly affected human life and has become a measure of progress that has reached the inimitable human minds, as hardly a day passes without hearing about the invention of a sophisticated technological machine or more advanced and smarter than its predecessors. Rather, every individual cannot dispense with The use of technology, whether in his scientific life or his practical life, because he will lose a lot by losing the tools and forms of technology .

4. Relationships with suppliers Relationships with suppliers

That relationship with suppliers ((Reid & Sanders, 2013: 64-65 Another source of product ideas, so many people seekorganizations To strengthen the partnership with these peopletwo rosesIn order to satisfy customers. May sharetwo roses in a program called Share the painrose early stage" in which it is involved in the early stages from Product Design .

5. Inter-organizational relationships Inter-organizational relationships

Indicates Huang Yin & Law, R,2019:4)) The needs of societies are so many and their problems so complex that any of the three sectors (governmental, private and civil-civil) will not be able to meet the needs alone. Therefore, in this context, these diverse sectors must cooperate with each other to achieve their vision of a better society, and by following the principle of Partnership Different partners can gain access to new resources that they would not otherwise have.

6. Infrastructure Infrastructure

Infrastructure refers to Di Nunzio, M,2018:2)) To everything related to the systems of a country or a company of a physical nature, such as water, electricity, communications, sewage and transportation, so that these systems constitute high-cost investments, but they are an essential pillar for achieving economic growth and prosperity in any country. It is known that governments provide the necessary funding to improve the

infrastructure, and implementation is either Before public or private companies or in partnership between them and as long as the required physical components are available

Second: Continuous improvement (Continuous Improvement)

First: - The concept of continuous improvement (Concept of Continuous Improvement)

Continuous improvement is known in Japanese as (KAIZEN, a Japanese term consisting of two syllables, the first is KAI, which means "change," and the other is ZEN, which means "change."to the best) to become the meaning of change survive the best(fonseca &domingues, 2018:37), Today's environment depends on routine (the usual procedures) and proceeding with the saying (Juran) (If it ain't broken, don't fix it)(Jurans,1998:328) , As rapid change has become a way of life in recent years, and continuous improvement adopts this change approach, which is a necessary means for success in the markets (Bessant&et.al,1993:247)This means that everyone in the organization knows it well and now says, "We can still do better." Continuous improvement is one of the key areas to help the organization understand its business and achieve a competitive advantage ,McCrory, 2013:24)) It is a term widely used in a variety of social, organizational, or academic disciplines ((Farnsworth,2017:19

be seen researcher Continuous improvement is the process that includes continuous, iterative, and incremental improvements made by the organization to achieve customer desires and expectations and to enhance its ability to survive for the sake of leadership. .

Secondly :- The importance of continuous improvement

confirmed (Alvarado-Ramírez, et al, 2018:257) that organizations sector year miss meaning of the job in spirit the team so adopted This style it's helps On Create spirit the team I have Everyone, and that the importance of continuous improvement is evident through disposal of wastage in production processes .

The importance of continuous improvement can be summarized in the following points (Al-Jubouri, 2008: 266)

1. Continuous improvement is not a technique, tool or method, but rather a way of life that focuses on the customer, not on the market share, so it is one of the cornerstones of the success ofthe organization and persistence in the market.
2. Continuous improvement is a race without a finish line, it is a never ending stage because there are areas for improvement throughout the worldorganisation all.
3. Continuous improvement focuses on methodology What What How How Not The Who.
4. Continuous improvement is based on the idea that prevention is better than cure through a correct working principle from the start.
5. Continuous improvement forces management and employees to make learning the main goal to be achieved as one of the methodsSupporting organizations in the field of competition.

Third :- Continuous improvement goals Continuous improvement goals

be seen (Holtskog,2013:578)That is the main goaly process of continuous improvement inorganized It is to achieve complete mastery through continuous improvement of business processesorganized ,This is despite the fact that access to complete mastery of work inorganized is a target Difficult to achieve, but this requires the need to make sufficient effortsyIn pursuit of this main objective of continuous improvement in theorder.

Fourthly :- activities optimization continuous

1 . Understand continuous improvement : And it means Milner & Savage, 2016 :20)) Explain and clarify the values of continuous improvement and understandContinuous Improvement The ability to articulate the core values of continuous improvement. Members of the organization must know or agree on what continuous improvement is. This understanding means that employees of all levels demonstrate a shared belief in the value of an employee's increased contribution.

2. Get in the habit of continuous improvement: It usually means getting the habit of continuous improvement, which is developing the ability to permanently participate in continuous improvement And a group of scholars divide habits into two types Bessant & Caffyn, 2001, p:72)):

individual habits (habit) They are recurring patterns and habits according to which the individual acts in a special way so that his practice of them is unconscious and that leaving them does not result in harm to society.

group habits costom))These are the recurring rules and habits that belong to the society in which the individual lives. These rules and habits are based on social thought.

3. Focus on continuous improvement: It is intended to generate and establish the ability to link continuous improvement activities with the strategic objectives of the organization (Bessant & Caffyn, 2000:72 .)) If the goal of the application of total quality management is to achieve customer satisfaction, then continuous improvement achieves the introduction of development and improvement to the process so that interaction with the changing and renewable needs of the customer is achieved.

4. Deploying continuous improvement : It refers to the ability to move continuous improvement activity across organizational boundaries (Gao,2011,p:37) The main lesson is the need for business ownership and self-confidence as a driving force for continuous improvement, the importance of customer-related activities and the required achievements of teamwork. Al-jawazneh,2011,p:237)) The work of the philosophy of continuous improvement is to make every aspect of the operations improved and to try to identify all the changes that occur during the process (Case et al. 1992: 47) .

5- Continuous development of the continuous improvement system : is meant by(Gao (2011:37) The ability of management to develop continuous improvement strategically, indicated(Al-jawazneh,2011:237) Continuous improvement is a program to reduce order completion, service development times and delivery service times, as well as reduce office work and to identify lost time and increased cost to complete operations to participate regularly in practices aimed at continuous improvement of those operations.

6- Building the organization educated : mean in the organization educated she portability education from During activities optimization continuous (Gao, 2011, p:38). And (Geng) (Geng, 2020:2) believes that the learning organization is the organization that must be a place where people continue to learn together constantly and that new ideas raise them to create the results they desire, and new intellectual patterns become clear.

The practical side of the study

Presentation, analysis and interpretation of the study results

The researcher aims to present the results consequences studying, With the analysis and interpretation of those Results. The research included two vertebrae, The first dealt with the technological capabilities variable in its dimensions, As for the secondNS It also dealt with the variable of continuous improvement activities in its dimensions. Included

all vertebrae an offerNS for arithmetic averages weighted for paragraphs Resolution and its deviations normative The severity of the answer and the test (t) for one sample. Note that the researcher adopted the hypothetical arithmetic mean of (3) for the purpose of comparing the responses of the sample members.

First: - Technological capabilities

In order to test the availability of dimensions of technological capabilities in the Al-Noura lab, which is the community of the current study, the researcher proceeded from the following hypothesis

(H0) Dimensions of technological capabilities are not available in Al-Noura lab.

(H1) Dimensions of technological capabilities are available in Al-Noura lab.

In order to test the above hypothesis, the researcher adopted a test (t) for one sample, and it was compared with the value of (t) Tabular amounting to (1.660) with a significant level (5%), and with a degree of freedom (154).

1- Technology knowledge

(H0): Noura lab does not have the knowledge of technology

(H1): Al Noura lab has the know-how of technology.

It is clear from the table that after knowing the technology, it was achieved middle. arithmetic. Mozuna. years reach (3.59) and skew normative (0.91), The severity of the answer (71.81%), ,The value was (t(computed)8.03), which is greater than its tabular value of (1.6 .).6).

Table (1) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) to know the technology (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	I have a high degree of knowledge in the field of modern technology.	3.65	72.90	0.92	8.69
2	I am well informed about the innovations in the field of modern technology.	3.64	72.77	0.91	8.73
3	I have the ability to quickly apply the available technology.	3.59	71.74	0.88	8.30
4	I have the ability to manage modern technology projects.	3.49	69.81	0.94	6.48
	Technology knowledge	3.59	71.81	0.91	8.03

Source: Prepare researcher

The researcher infers that the workers in the Al-Noura factory, including engineers and technicians, possess sufficient knowledge of modern technology that pertains to their work, especially modern innovations. Adoption and management of modern technological projects. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (Al Noura Laboratory has the knowledge of technology).

2- Strategic capability in technology

(H0): Al-Noura lab does not have the strategic capacity in the field of technology

(H1): Al Noura lab has the strategic ability in the field of technology

It is clear from the table that the strategic ability in the field of technology has been achieved middle. arithmetic. Mozuna. years reach (3.71) and skew normative (0.86), The severity of the answer (74.26%), ,The value was (t(computed)10.38) which is greater than its table value1.66).

Table (2) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) for the strategic ability dimension in the field of technology (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	I have a clear vision of how the value of the lab can be increased through technology.	3.72	74.45	0.88	10.23
2	I consider the planning of technological operations in my work important.	3.88	77.55	0.81	13.51
3	Plans are prepared by the laboratory regarding access to advanced technology.	3.66	73.29	0.88	9.43
4	The lab has a detailed program on how to implement modern technology.	3.59	71.74	0.84	8.75
	Strategic capability in technology	3.71	74.26	0.86	10.38

Source: Prepare researcher

The researcher infers that the workers in the Noura plant realize the importance of strategic planning for technology, as it is one of the competitive advantages. In fact, the strategic plan stems from the clarity of the workers' vision regarding the great impact of technology on the value of the plant, and this matter pushes the laboratory to prepare the necessary plans, but the matter needs to proceed in These plans through detailed programming. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (Al Noura Laboratory has the strategic ability in the field of technology).

3- **personal technology**

(H0): The employees of the Noura lab do not have the ability to personally participate in the field of technology

(H1): The employees of the Al-Noura lab have the ability to personally participate in the field of technology

It is clear from the table that after personal technology has achieved middle. arithmetic. Mozuna. years reach (3.72) and skew normative (0.86), The severity of the answer (74.39%), ,The value was (t(computed)10.42) which is greater than its table value1.66).

Table (3) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) for the personal technology dimension (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	I have a thorough understanding of the lab's priorities and their association with technology.	3.70	74.06	0.86	10.16
2	I fully understand the lab policies and their connection to technology.	3.65	73.03	0.83	9.82
3	I am well aware of my work procedures and its connection with modern technology.	3.85	77.03	0.82	12.93
4	The objectives of the technological laboratory are clear to me.	3.67	73.42	0.92	9.08
	personal technology	3.72	74.39	0.86	10.42

Source: Prepare researcher

The researcher infers that the workers in the Al-Noura lab are well aware of their work procedures, and they have a comprehensive understanding of the lab's priorities with regard to technology, especially with regard to technological goals. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (the workers in the Noura lab have the ability to personally participate in the field of technology).

4- **Inter-organizational relationships**

(H0): Noura lab does not have joint relations with other organizations

(H1): Al-Noura laboratory has joint relations with other organizations

It is clear from the table that after personal technology has achieved middle. arithmetic. Mozuna. years reach (3.72) and skew normative (0.86), The severity of the answer (74.39%), ,The value was (t(computed)10.42) which is greater than its table value1.66).

Table (4) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) for the dimension of inter-organizational relations (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	If there are people connected to technology in the environment in which I live, they trust me.	3.66	73.16	1.02	8.02
2	If there are people related to technology in the environment in which I live, they consult me	3.41	68.13	0.94	5.40
3	If there are people connected	3.81	76.13	0.76	13.27

	to technology in the environment in which I live, our relationship is one of respect.				
4	If there are technology-related people in the environment in which I live we appreciate both parts of our work.	3.52	70.45	0.80	8.13
	Interrelationships with other organizations	3.60	71.97	0.90	8.31

Source: Prepare researcher

The researcher infers that the employees of the Al-Noura laboratory are well aware of the great importance of the rule of mutual respect relations between technology experts, as well as the rule of mutual trust between them. The researcher infers that the null hypothesis is rejected.H0), and accepting

the alternative hypothesis (H1) meaning (Al Noura Laboratory has joint relations with other organizations).

5- **Relationships with suppliers**

(H0): Al Noura lab does not have good relations with suppliers

(H1): Al Noura lab has good relationships with suppliers

It is clear from the table that after the relations with suppliers achieved middle. arithmetic. Mozuna. years reach (3.56) and skew normative (0.86), The severity of the answer (71.23%), ,The value was (t(computed)8.11) which is greater than its table value1.66).

Table (5) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) to distance relations with suppliers (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	Technology providers notify plant management immediately when they have problems that may affect the service they provide.	3.69	73.81	0.75	11.43
2	Laboratory management trusts the ability of technology providers to respond to their technology needs in a timely manner.	3.50	69.94	0.87	7.10
3	There is a trustworthy relationship between plant management and technology providers.	3.50	69.94	0.94	6.56
	Relationships with suppliers	3.56	71.23	0.86	8.11

source: Prepare researcher

In general, the researcher infers that Al-Noura Factory realizes the great importance of maintaining good relations with the technology suppliers that pertain to its work in order to obtain from them the necessary facilities to achieve the best possible performance. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (Al Noura Factory has good relations with suppliers).

6. Infrastructure

table (6) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) for the infrastructure dimension (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	The laboratory has people responsible for giving it support and advice on technology.	3.66	73.29	0.91	9.13
2	The plant management invests annually in technology.	3.26	65.29	1.06	3.11
3	The computers owned by the lab are all connected to the Internet.	2.83	56.52	1.20	-1.81
	Infrastructure	3.25	65.03	1.11	2.82
	Technological capabilities	3.59	71.75	0.92	7.91

(H0): Al Noura Factory does not have the infrastructure that would enable it to sustain and improve its work.

(H1Al Noura Factory has the infrastructure that enables it to sustain and improve its work.

It is clear from the table that the infrastructure dimension has been achieved middle. arithmetic. Mozuna. years reach (3.25) and skew normative (1.11), The severity of the answer (65.03%), ,The value was (t(computed)2.82) which is greater than its table value1.66).

Source: Prepare researcher

In general, the researcher infers that the Noura lab is technology consultants, and that it invests annually in the field of technology with the aim of developing its production, but it turns out that most of the lab's computers are not connected to the Internet. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (Al Noura Factory has the infrastructure that enables it to sustain and improve its work).

It should be noted afor him is an The technological capabilities variable achieved a general balanced arithmetic mean (3.59), skewed normative (0.92), The severity of the answer reached (71.75%), while the value of (t) calculated (7.91), which is higher than its tabular value of (1.66) with a significant level of (5%), which leads the researcher to reject the null hypothesis (H0and accepting the alternative hypothesisH1) Regarding the

first main hypothesis, i.e. (the dimensions of technological capabilities are available in the Al-Noura lab).

Second: - Continuous improvement activities

The researcher started in his analysis of the responses of the sample members from the second main hypothesis, which stipulated the following:

(H0Al-Noura Laboratory does not adopt continuous improvement activities.

(H1Al Noura Laboratory adopts continuous improvement activities.

1- Understand continuous improvement

hypothesis (H0): The employees of the Noura plant do not have an understanding of continuous improvement.

hypothesis (H1): Al Noura lab employees have an understanding of continuous improvement.

The table shows that after understanding continuous improvement, it is achieved middle. arithmetic. Mozuna. years reach (3.72) and skew normative (0.76), The severity of the answer (74.41%), ,The value was (t(computed)11.77) which is greater than its table value1.66).

Table (7) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) After understanding continuous improvement (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	Shows workers at all levels their absolute loyalty , by sharing theNSActive in making improvements continuous and recognition.	3.69	73.81	0.83	10.40
2	When something goes wrong, the natural reaction of workers at all levels is to look for the reasons behind it rather than blaming the individual.	3.79	75.87	0.71	13.94
3	Continuous improvement is a system and to maintain overall productivity, in order to solve the involvement of all workers in the plant in continuous improvements	3.68	73.55	0.75	11.29
	Understand continuous improvement	3.72	74.41	0.76	11.77

Source: Prepare researcher

In general, the researcher infers that the workers in the Al-Noura lab realize the great importance of their cooperation in solving the problems they face during work, and that they have a high degree of loyalty to the lab, and they believe in the need to involve them in continuous improvement. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (the workers in the Noura factory have an understanding of continuous improvement).

2- **Get in the habit of continuous improvement**

hypothesis (H0): Al-Noura lab does not adopt the habit of continuous improvement of its employees.

hypothesis (H1): Al-Noura lab adopts promoting the habit of continuous improvement among its employees.

It is evident from the table that after obtaining the habit of continuous improvement was achieved middle. arithmetic. Mozuna. years reach (3.61) and skew normative (0.82), The severity of the answer (72.29%), ,The value was (t(computed)9.30) which is greater than its table value1.66).

Table (8) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) for after obtaining the habit of continuous improvement (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	Laboratory management uses appropriate tools and technology to support Activities continuous improvement .	3.60	72.00	0.83	8.95
2	NSdepend lab management Measurement to form a continuous improvement process.	3.48	69.55	0.72	8.21
3	Managers (as individuals and groups) participate in and implement continuous improvement activities.	3.79	75.74	0.86	11.39
4	The ideas and proposals of continuous improvement activities are responded to in a clear and timely manner.	3.59	71.87	0.84	8.77
	Get in the habit of continuous improvement	3.61	72.29	0.82	9.30

Source: Prepare researcher

In general, the researcher infers that laboratory managers participate in continuous improvement activities in terms of formulation and implementation, and management supports the use of technology for the purpose of continuous improvement, as well as responding to constructive suggestions and ideas. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (Al Noura Laboratory adopts promoting the habit of continuous improvement among employees).

3- **Focus on continuous improvement**

hypothesis (H0): Noura lab does not focus on continuous improvement.

hypothesis (H1): Al Noura lab adopts a focus on continuous improvement.

It is clear from the table that after focusing on continuous improvement, it has been achieved middle. arithmetic. Mozuna. years reach (3.64) and skew normative (0.81),

The severity of the answer (72.71%), ,The value was (t(computed)9.75) which is greater than its table value1.66).

Table (9) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) to focus on continuous improvement (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	Individuals and groups use the lab's strategic goals and objectives to focus on their continuous improvement activities.	3.76	75.23	0.72	13.14
2	Managers and individuals evaluate the proposed improvements through their compatibility with the strategic objectives before starting to propose and implement them.	3.48	69.68	0.80	7.52
3	Individuals and groups monitor and measure the results of their continuous improvement activity and its impact on the strategic goals and objectives of functional departments.	3.72	74.45	0.80	11.22
4	is more activeNS Continuous improvement is an integral part of individual or group work and not a parallel activity.	3.57	71.48	0.89	8.04
	Focus on continuous improvement	3.64	72.71	0.81	9.75

Source: Prepare researcher

In general, the researcher infers that the laboratory considers continuous improvement as one of its most important strategic activities, and that working individuals monitor the results of performance evaluation in order to ensure the feasibility and effectiveness of continuous improvement, and the laboratory management is working to spread a culture of continuous improvement among individuals. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (to adopt Lab Noura the focus On optimization continuous).

4- Deploying continuous improvement

hypothesis (H0): Noura lab does not adopt continuous improvement dissemination.

hypothesis (H1): Al-Noura laboratory adopts continuous improvement dissemination.

It is clear from the table that after publishing continuous improvement, it has been achieved middle. arithmetic. Mozuna. years reach (3.68) and skew normative (0.78), The severity of the answer (73.58%), ,The value was (t(computed)10.89) which is

greater than its table value1.66).

Table (10) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) to post continuous improvement (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	Workers in all departments of the plant cooperate in continuous improvement activities.	3.88	77.55	0.70	15.69
2	Workers and groups adopt the laboratory's strategy and objectives to focus on and prioritize their continuous improvement activities	3.75	75.10	0.71	13.32
3	Relevant continuous improvement activities include representatives from different organizational levels.	3.62	72.39	0.82	9.45
4	Personnel are directed towards internal and external customers in a continuous improvement activity.	3.46	69.29	0.82	7.02
	Deploying continuous improvement	3.68	73.58	0.78	10.89

Source: Prepare researcher

The researcher infers, in general, that the laboratory workers cooperate with each other strongly for the purpose of implementing continuous improvement activities, by adopting the laboratory's strategic objectives, given that continuous improvement constitutes all organizational levels. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (to adopt Lab Noura Spread optimization continuous).

5- **Continuous improvement of the continuous improvement system**

hypothesis (H0): Noura Laboratory does not adopt permanent improvement of the continuous improvement system.

hypothesis (H1): Al-Noura Laboratory adopts the continuous improvement dissemination of the continuous improvement system.

It is clear from the table that after the permanent improvement of the continuous improvement system has been achieved middle. arithmetic. Mozuna. years reach (3.62) and skew normative (0.81), The severity of the answer (72.45%), ,The value was (t(computed)9.62) which is greater than its table value1.66).

Table (11) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) for the dimension of permanent improvement of the continuous improvement system (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	The system of continuous improvement activities is continuously monitored, developed and measured for the laboratory.	3.73	74.58	0.79	11.46
2	There is a periodic planning process through which the system of continuous improvement activities is regularly reviewed and modified.	3.57	71.35	0.88	8.07
3	There is a periodic review of the system activities Continuous improvement in terms ofa job as a whole which may lead to important changes.	3.66	73.29	0.71	11.58
4	Senior management provides adequate resources (time, money, and personnel) to support the continuous development of the system activities continuous improvement for lab .	3.53	70.58	0.82	7.99
	Continuous improvement of the continuous improvement system	3.62	72.45	0.81	9.62

Source: Prepare researcher

In general, the researcher concludes Monitors the development of his continuous improvement activities, through periodic reviews, within periodic plans prepared in advance. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (to adopt Lab Noura Continuous improvement of the system optimization continuous).

6- Building a learning organization

hypothesis (H0Al-Noura Lab does not seek to build a learning organization.

hypothesis (H1Al Noura Lab seeks to build the learning organization.

It is clear from the table that after building the learning organization, it has been achieved middle. arithmetic. Mozuna. years reach (3.79) and skew normative (0.74), The severity of the answer (75.76%), ,The value was (t(computed)13.26) which is greater than its table value1.66).

Table (12) weighted arithmetic mean Response severity, standard deviation, response level, and value (t) for the dimension of building the learning organization (n=155)

NS	Phrase	Arithmetic mean	answer intensity %	standard deviation	Values t calculated
1	learn workers From their positive and negative experiences	4.00	80.00	0.65	19.02
2	All working individuals look for learning opportunities (eg, experience activities, achieve their own learning goals).	3.82	76.39	0.69	14.82
3	Individuals and groups at all levels share what they have learned from all work experiences and experiences of continuous improvement activities.	3.83	76.65	0.63	16.38
4	The lab clarifies and enhances the results of individuals and groups and actively participates in them	3.66	73.16	0.80	10.22
5	Managers accept and act upon learning	3.70	74.06	0.85	10.25
6	Managers and teams are keen to include their learning in the lab by making use of the available mechanisms.	3.79	75.87	0.72	13.76
7	Appropriate organizational mechanisms are used to spread the wordNS Learn it between sections of the lab.	3.71	74.19	0.76	11.56
	Building a learning organization	3.79	75.76	0.74	13.26
	Continuous improvement activities	3.69	73.76	0.79	10.91

Source: Prepare researcher

In general, the researcher concludes Employees benefit from their mistakes and experiences, and that their participation in experiences is in the style of teamwork, and that everyone is looking for opportunities to learn, and learning is one of the important goals that workers must be committed to achieving. The researcher infers that the null hypothesis is rejected.H0), and accepting the alternative hypothesis (H1) meaning (Al Noura lab seeks to build the learning organization).

It is clear from the table in general that the variable of continuous improvement activities achieved a weighted arithmetic mean of (3.69) with a standard deviation of (0.79), and the severity of the answer amounted to (73.76%), noting that the value of (t)

calculated amounted to (10.91), which is higher than its tabular value of (1.66) with a significant level of (5%). This leads the researcher to reject the null hypothesis.H0and accepting the alternative hypothesisH1) for the first main hypothesis, meaning (Al-Noura laboratory adopts continuous improvement activities).

Conclusions

The study confirmed that the engineers and technicians working in Al-Noura Factory possess sufficient knowledge of modern technology that pertains to their work, especially modern innovations. To adopt and manage modern technological projects.

1- The study indicated that the employees of the Al-Noura plant realize the importance of strategic planning for technology, as it is one of the competitive advantages. In fact, the strategic plan stems from the clarity of the workers' vision regarding the great impact of technology on the value of the plant, and this matter pushes the lab to prepare the necessary plans, but the matter needs to proceed. In these plans by developing detailed programs.

2- The study showed that the workers in the Al-Noura lab are well aware of their work procedures, and they have a comprehensive understanding of the lab's priorities with regard to technology, especially with regard to technological goals, as the researcher infers to reject the null hypothesis (H0), and accepting the alternative hypothesis (H1) meaning (the workers in the Noura lab have the ability to personally participate in the field of technology).

3- The researcher infers that the employees of the Al-Noura laboratory are well aware of the great importance of the rule of mutual respect relations between technology experts, as well as the rule of mutual trust between them. The researcher infers that Al-Noura Laboratory has joint relations with other organizations.

Recommendations

1- The necessity of working to provide and enhance the efforts of engineers and technicians in a way that contributes to with your fullness Sufficient knowledge of modern technology that pertains to their work, especially modern innovations. It also achieves for them a very important characteristic, which is the ability to adapt to modern technological changes, which require To the workforce enjoying high flexibility and enhancing the ability to adopt and manage modern technological projects.

2- The need to work to promote belief The employees of the Al-Noura lab stressed the importance of strategic technology planning, as it is one of the competitive advantages as well as finding Ways and ways to solve NSObstacles to achieving that What contributes to clarification The employees' vision regarding the significant impact of technology on the value of the laboratory.

3- Work on Strengthen NSwowprophet NSlikeNSAs workers in Al-Noura lab, the ability to participate personally in the field of technology in order to keep pace with the great developments that keep pace with the work of current organizations, which requires the development of capabilities and skills Job angel According to best practices In addition to theto understand Thecomprehensive priorities The lab for technologyA, what reinforces perception the good for procedures staff in a their work.

4- Work must be done to encourage the employees of the Al-Noura laboratory to realize the great importance of the rule of mutual respect relations between technology experts.What is reflected in the creation of an environment inside the organization It helps to adopt and reinforce these behaviors As well as the rule of mutual trust between

them enhances the ownership of Al Noura laboratory joint relations with other organizations.

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