

"Entrepreneurship Creativity in Light of the Digitization of Mental Abilities According to the Hermann Scale": An Applied Study in the Presidency of Al-Mustansiriya University¹

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ABSTRACT

This study was based on the idea that the study of mental abilities and the possibility of digitizing them and determining their trends according to the Hermann scale, in which he identified specific functions of the four brain departments (objective - executive - emotional - creative) an effective and important role in the advancement of the components of entrepreneurial creativity in the research organization. Where the researchers adopted the descriptive, analytical and statistical approach in dealing with variables based on measures consistent with the objectives and nature of the environment under study.

He expressed the problem of the study with a set of questions of a theoretical and practical nature, which were formulated in the hypothetical scheme of the study and resulted in a set of hypotheses. The study was applied in a community represented by the departments of the Presidency of Al-Mustansiriya University and a sample of (30) individuals. The data were collected through a questionnaire that included (40) questions that dealt with the dimensions of the study and were processed using measures of central tendency and statistical methods when using the electronic calculator within the program (SPSS ver-10).

The researchers reached a set of conclusions, the most important of which is the existence of a significant effect of the independent variable, the digitization of mental abilities with its dimensions determined by the Hermann Scale in Entrepreneurial Creativity, according to which the hypothesis was accepted.

INTRODUCTION

In light of the crowd of new global variables, the world is moving towards building educational institutions in ways that are consistent with the renewed behavior in adopting contemporary digitization with high performance, the changing environment, and the actual need for use and application, which resulted from the trend towards using the Hermann scale to identify mental abilities, invest them, and direct them towards building intellectual capital capable of Leading institutions in light of the rapid dynamic changes and the optimal use of resources. For the purpose of knowing mental abilities not at the level of intelligence and aptitude, but rather to measure the correct logical thinking method, researchers try to study these abilities according to the Hermann scale, which depends on various questions about the skills and functions of the four parts of the brain (objectives, executives, emotional, creative) within the functions of the left and right side of the brain To determine which of the brain sections dominates a person's thinking more than the rest of the sections to achieve entrepreneurial creativity and direct the way of thinking to advance institutions to a high performance strategy. Therefore, the study raised the following questions.

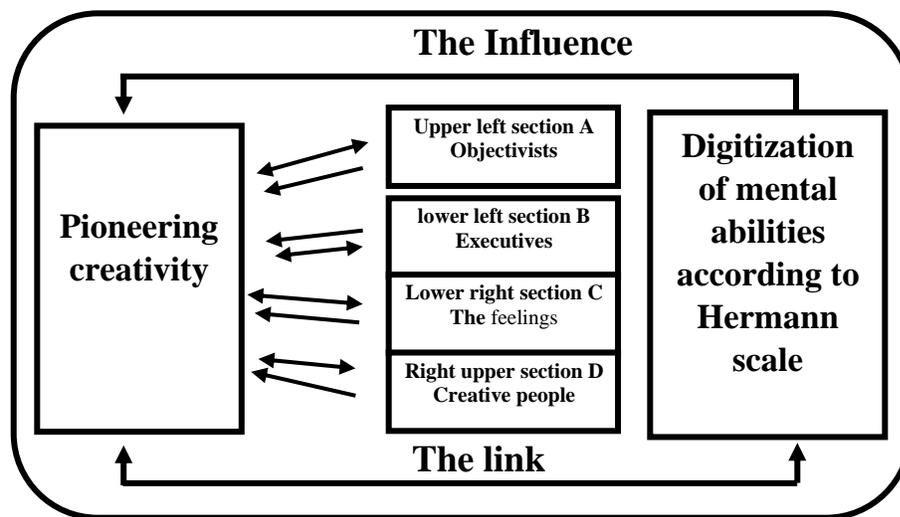
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- 1- Does the Hermann scale depend on defining and measuring the way of thinking only according to its four sections to guide the way of entrepreneurial creativity?
- 2- What is the level and nature of the study variables (digitization of mental abilities according to the Hermann scale - entrepreneurial creativity) in the researched institution?
- 3- Is there a correlation between the study variables in the researched institution?
- 4- Is there an effect of the future variable (digitization of mental abilities according to the Hermann scale) on the dependent variable (entrepreneurial creativity) in the researched institution?

The importance of the study emerged through the role played by intellectual capital represented by mental abilities and increased brainstorming by organizing the renewable digitization capabilities of it to generate a state of pioneering creativity to lead educational institutions towards high performance, which forced us to adopt the Hermann quadruple model that divided the right and left side of the lower and upper human brain and study it. Determining the way of thinking sought by leaders and workers by arranging the vocabulary of the mind in line with the nature of the variables that keep pace with the movement of development and growth.

The study aims to achieve goals and ambitions, and goals of a strategic nature must be drawn up that take upon itself the programming of mental abilities to achieve a greater goal and reach the vision by measuring the digitization of mental capabilities through the way of thinking according to Hermann’s model of thinking divided into four parts (objectives - executives - emotional - creative). As well as directing cases of pioneering creativity in the institution through bringing about changes in modernity, flexibility, thinking and analysis to serve the movement of change and re-engineering the vocabulary of reason and way of thinking, as well as measuring and testing the hypotheses of the study (correlation and influence) between the variables of the study.

The researchers came up with putting forward the hypothetical scheme of the study



THE HYPOTHETICAL SCHEME OF THE STUDY

The researchers reached the formulation of two basic hypotheses:

The first main hypothesis "There is a statistically significant correlation between the digitization of mental abilities according to Hermann's model and entrepreneurial creativity"

The second main hypothesis "There is a statistically significant effect of digitization of mental abilities according to Hermann's model of entrepreneurial creativity"

The two researchers applied the study in the presidency of Al-Mustansiriya University and its scientific departments, and an intentional sample was chosen from its leaders, who numbered (30) individuals. For the scientific

side, I relied on preparing a questionnaire that included (40) questions distributed over (20) questions for each variable, using the five-point Likert scale. In terms of data analysis, the descriptive and statistical method was relied upon using (the weighted arithmetic mean, standard deviation, Spearman's rank correlation coefficient (r), coefficient of determination (R^2) and test (F).

CHAPTER TWO: THEORETICAL SIDE

First: the digitization of mental abilities

1- Concept

The definitions of the concept of digitizing mental ability have varied, as it is the actual ability or power to perform the digitized performance, or it is a specific activity or a group of performances or interrogations, and according to what Mahmoud Abdel Qader refers to, mental ability may be the current ability of the individual to perform that he has reached through training or from Without it, and therefore, it represents the individual's ability now in the work he can do in the event that the necessary external conditions are available by adopting modern methods of digitization.

The researchers can define the digitization of mental abilities as: a methodology adopted by the mind through the use and employment of the responses received to it to enhance the work of individuals and the use of data in a regular and effective manner and follow-up continuously to ensure the continuity of its flow and analysis and the possibility of retrieving information according to digital retrieval systems to make effective decisions.

2- Dimensions of digitization of mental abilities

It is possible to identify (dimensions, elements, or foundations) of the mental abilities that should be available to individuals working in the organization as follows:

A- Attention

Attention is considered the first step to perception, while the individual perceives the things that fall in his attention circle and provokes him to determine his response to them, and he defines (Al-Maghrabi, 101: 2004) attention as the mental and emotional focus on a specific stimulus, and the success of the perception process depends on the degree of attention that the receiver gives to the stimulus on the one hand On the other hand, the ability of the stimulus to obtain the attention of the future. As for (Zakaria, 2005: 184), he defines it as the mental focus and feeling of a specific thing or stimulus.

B- Perception

Perception is the essence of human mental activity, as it is the image by which the individual organizes the experiences he passes through and the impressions he forms, and thus deals with the environment on its basis, that is, it is a thinking process that includes selecting information and giving it a specific meaning, and defines it (Al-Qurayouni, 2012: 125) as a dynamic psychological process Responsible for receiving, organizing and interpreting computed information, and often the perception process takes place without conscious planning and without the ability to control, while the writers (Kiuicki, Kretiner, 2012: 84) define perception as a cognitive mental process that helps to interpret and understand what surrounds us.

Perception then represents the way an individual sees things and people, and then forms and changes them from the reality of what is stored in information and experiences in his memory, given that the human mind is the vital active part that distinguishes man from other living beings with his capabilities, capabilities, and features to collect and store quantities. Unlimited information and the mind organizes it in a specific way to give a useful meaning.

C- Intelligent intelligence

Intelligence is considered a strategic element that helps to accomplish typical activities, add value to them, and influences their preoccupational performance. (McLeod & Schell, 2019:149) indicates, however, that intelligence is the ability to adjust the interrelationships between the facts contained in order to direct work towards achieving the

desired goal, while (Qatami, 2009: 205) refers to intelligence as the ability to respond to environmental situations through the ability to learn, benefit from experience, acquire types of skills, collect information, and organize all of that in useful forms and images and coordinated episodes that contribute to organizing thinking and behavior.

Second: Hermann scale

1- Concept:

This theory is called the thinking compass or the Hermann scale of thinking and symbolizes it as (HBDI), which is an acronym (Hermann Brain Dominance instrument) and literally means the Hermann Brain Dominance instrument (Ituge, 2010; 1). The creator of this theory is Hond Hermann, a physicist born in (1922) who is Civil engineer, artist and painter.

This theory began in (1976) and divided the brain into four parts, bypassing the theory of the world Roger Sperry (Two Hemispheres theory - Roger Sperry), who divided the brain into two halves of a vertical section (left and right), and Herman combined the Sperry model and the Maclean model in one model, which Hermann's quadrilateral model from which his theory was based indicates that Hermann's quadruple division of the brain is symbolic, not physiological, and Figure (1) refers to Hermann's division of the brain

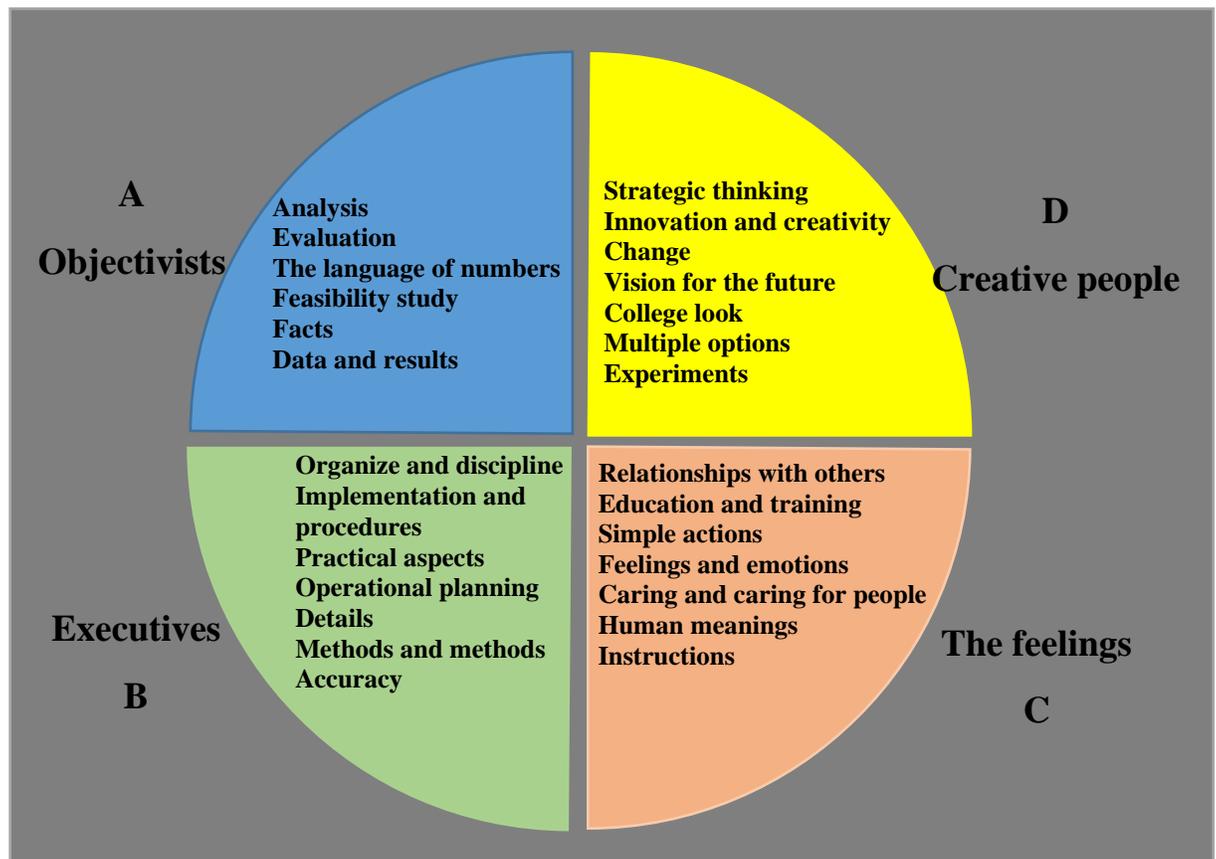


Figure (1) Hermann's division of the brain

The prevailing concern was about thinking and personality because it is the basis for success in work, and after the emergence of the theory in the seventies, the focus began on material and technical matters at the time, until the eighties, in which the focus became stronger on Hermann's idea than in previous decades (the one who gathers minds at the level of equal thinking between the quadrants (Edward) indicates that this was the result of technological development that called for an evolution in the way of thinking and an increased focus on creativity in performance

(Lumsdaine, 2008: 5), and he developed a virtual shape of the brain that contains four sections starting from the top left and bottom to the bottom right. Above, it is counterclockwise (A, B, C, D), and others emphasized that it gave each style a specific color that reflects its style of thinking, so the thinking style (A) is blue, the thinking style (B) is green, the thinking style (C) is red, the thinking style (D) Yellow (Khalid et al, 2011:90) and described it in a circle consisting of four rings, each ring representing a degree of strength, by its distance or proximity to the center of a very strong number (1) (primary preference), which is the farthest ring from the center and represents (0 - 34) points, and number (2) average (secondary preference), which is after the first episode and represents (34-66) points, and number (3) is very weak (the least preferred), which is closest to the center point and represents (97-99) points, and each quarter contains specific divisions that show the intellectual preferences of the individual by dividing them according to each (10) degrees (40, 30, 20, 10) to make the division clear and the results more accurate, and on the basis of which the brain point will be determined.

1- The four types of the Hermat scale

A- Thinking pattern A in the upper left of the brain

It is the pattern or method in which the individual thinks in an accurate analytical way about the outstanding problems by prior planning for them with full responsibility for implementation and thus reaching specific results. It starts from the top left of the brain and is characterized as (logical, analytical, quantitative, financial) Mahnane, et al, 2011: 670)) logical by his ability to infer and deduce from what happened previously to him, analytical, i.e. he has the ability to fragment ideas and attitudes and then examine them to see their compatibility with each other, quantitative, i.e. he tends towards numerical relationships and tends to know the real measurements financially in monitoring and addressing relevant quantitative issues costs, budgets and investments.

(Coffield, et al, 2011:90) indicated that the owners of this style have weak relationships with others, have a purely leadership personality, and their thinking is always critical of others. They prefer to solve difficult problems and love challenges, and the owners of this style of thinking tend to make sure that Data and building empirical theories, and they think about the fine details of things taking into account the chronological sequence of events, and the individuals in this quadrant are called objective and they are characterized by solidity and difficulty in dealing with them and they care about their personal interest. and analysis.

B - thinking pattern B lower left of the brain

It is the pattern or way in which the individual thinks in the way of following tedious procedures step by step

and careful attention to preference and continuous planning for what is and exists that starts from the bottom left of the brain and is distinguished by its owners with a set of unique features and its most important characteristics (Mahnane, et.al. 2011:670) (scheme Organized, preferential, sequential) The planner is able to formulate different methods and means to achieve the desired goals before making a decision. An organizer is able to arrange different concepts and topics in interdependent relationships with each other. One after the other and in order, and he called them (Coffield, et al. 2011:27) the organizers or executives who find it difficult to have the spirit of innovation and experiment, and the owners of this style work according to specific steps, and respect fixed procedures, and they have discipline and high care, and they respect and manage time effectively, they love the system.

C- Thinking pattern C, lower right of the brain

It is the pattern or way in which the individual thinks in a way in which emotion and tolerance are apparent, in cooperation with work teams to draw plans stemming from their imagination of the subject, starting from the lower right of the brain and its most important characteristics are (emotional, social, spiritual, musical) (Mahuane, et al.: 2011) emotional because he has strong feelings with the ease of arousing them from others, social because he has the ability to establish, develop and maintain relationships for different types of classes, spiritual because of his ability to deal with the spirit of something away from its components, musical because of his high interest in it and he is also gifted with it, and he indicated To them (Coffield, et al., 2011:7) are humanists who find it difficult to work rationally by relying on their emotions and feelings at work because they always seek to find good human relationships and seek to build them with clients and colleagues at work and their feelings are gentle and they like to work as a team, their reference is external to their decisions Built on feelings, highly sensitive, non-serious, non-objective.

D- Thinking pattern D, upper right of the brain

It is the pattern or method in which the individual thinks creatively, focusing on the big picture of the outstanding problems and ignoring the environmental ambiguity by putting an intellectual synthesis of a group of future visions and dreams located in the upper right of the brain and its characteristics (holistic, intuitive, integrative, synthetic) (Mahuane, et al.: 2011:670) holistic in his ability to perceive and understand the big picture without caring about individual issues and emotions, intuitive because he knows things without thinking about them and possesses understanding and knowledge without needing real results, integrative because of his ability to collect parts of different ideas and concepts and formulate them in an integrated manner, synthetic in mixing And the unification of separate ideas in something new, and it was described (Coffield, et al, 2011:77) that they are innovators who find it difficult to organize even though they are creative and insightful at work (Less, 2007:2), their vision is characterized by orientation towards the future, always searching They look for innovations to find new solutions and their thinking is strategic based on anticipating the future. They tend to look and visualize broad and comprehensive. They are always renewed. Their information and experiences are abundant. They have multiple options and rely on intuition and axiomatics. They love exploration and adventures. Rah.

Third: pioneering creativity

1- Concept and importance

Creativity is one of the concepts that have received great attention from writers and researchers as the artery of development that guarantees survival, growth and continuity in the world of competition. Renewable as a result of the extraordinary changes that affect the surrounding elements, whether these variables are economic, social, political or technological, with their comprehensiveness and escalation they exert great pressure on decision makers and makers to achieve excellence in performance and catch up with the information, communication and electronics revolution, i.e. the need for innovation to how to deal with each What affects their performance and competitive position in providing the service or commodity to customers or beneficiaries.

While (Rubolcaba & Gallago, 2010:6) indicates that entrepreneurial creativity is nothing but changes in the organization's structures and processes that result from the implementation of modern administrative and operational concepts and practices, and that the distinctive features of administrative creativity are those that have not been used before and which are It can appear as a result of strategic decisions, and thus the level of modernity is challenged (Rubolcaba & Gallago, 2010:7), and this has been confirmed (Angelo, 2021:5) that creativity is modernity, that is, everything that is new in the organization.

So, it can be said that entrepreneurial creativity is modernity, with the individual's abilities to think, communicate, take risks, and drive to find non-traditional solutions to solve problems at the level of the organization.

2- The pillars of creativity and the elements of the creative process

Creativity does not arise from a vacuum, but rather it is based on several basic things, which are (Jamal Al-Din, 2004):

- A- The creative individual.
- B- Organization.
- C- Society.

Among the basic elements that constitute the creative process, as indicated by (Batah, 2016):

- 1- The innovative inquiring mind.
- 2- The ability to analyze and investigate (Deductive - Seductive).
- 3- The ability to imagine and intuition (Imagination Guess).
- 4- Self-confidence.
- 5- Rebellion against authority.
- 6- Tendency Experimentation.
- 7- Self-Evaluation.

Fourth: the complementary relationship between the research variables

The logical relationship of the research variables indicates that there is a correlation between entrepreneurial creativity in light of the digitization of mental abilities according to the Hermann scale, as the ability refers to the classification of the activity of the mind to form responses to the situations generated by individuals and the possibility of developing reality according to the requirements of changes in the competitive environment, where the response varies between individuals according to the nature of the individual and based on what he possesses of capabilities, intelligence, perception and attention, on the basis of which the work that individuals will perform is classified and the intellectual tendency to classify the mind according to what is indicated by the Hermann scale to achieve the creative state. Balancing between the thinking of the individual and the thinking of those who surround him to try to use the means of persuasion with the decisions, strategies and methods of work that will be adopted by the organization or its members in order to adopt the method that achieves gaining satisfaction and increase appreciation and focus on the advantages of those who are dealt with to achieve the best in the productivity of the individual and achieve the creative side at work and in If all the requirements for the application adopted by the Hermann scale are available, the Iraqi mind will go to provide m Equal squares of the human mind that Herrmann referred to in terms of his divisions of the mind.

CHAPTER THREE: THE PRACTICAL SIDE**First: the level and nature of the study variables.**

This paragraph seeks to present the results of the descriptive analysis of the study variables (digitization of mental abilities according to the Hermann scale and entrepreneurial creativity), where the weighted arithmetic mean and standard deviation methods were used to determine the level and nature of each of these variables as follows:

1- The level and nature of the independent variable (digitizing mental abilities according to the Hermann scale)

This variable included (20) items in a questionnaire distributed over four sub-variables, with an average of (5) items for each variable. Table (1) shows the analysis of the level and nature of the main variable as well as the sub-variables in the light of the answers of the research sample.

Where it is noted that there is a clear tendency to measure the digitization of mental abilities according to the Hermann model and its distribution into four sections that represent the true start of the content of mental transactions and the orientations of these abilities through what was determined by the value of the total arithmetic mean for this variable, which amounted to (4), and this value is higher than the value of the hypothetical mean of (3).) with a standard deviation (0.74), indicating a relatively small dispersion in the respondents' answers, which reflects the state of consensus in an acceptable manner. We can explain below a diagnosis of the nature and level of the four sections, as shown in the aforementioned table.

A- The left upper part of the brain (A)... (Objectivists)

Through the results of Table (1), we found that the value of the arithmetic mean amounted to (3.9), and this value is higher than the hypothetical mean of (3), which indicates a clear tendency for the respondents to use this section as they are keen to achieve accuracy and find facts away from Emotions and the use of numbers have their connotations as the language of affirmation on which they depend, as well as the ability to justify events, draw objective logical conclusions, and stay away from unexpected possibilities. With a standard deviation of (0.81), which indicates a relatively small dispersion in the respondents' answers and a tendency towards agreement.

B- The left lower part of the brain (B).. (executives).

The results of the descriptive analysis in Table (1) indicate that the value of the arithmetic mean was (4.3), and this value is higher than the value of the hypothetical mean of (3), which indicates a clear tendency for some respondents to use this part of the brain as it depends on planning Detailed and defining methods, methods and procedures for their implementation based on arrangement, organization and classification as realistic vocabulary on which he relies in his actions more than his tendency to reflect, as well as his completion of work within specific instructions specifying his steps and accuracy of work away from improvised decisions within conditions of uncertainty and with a standard deviation of (0.58), which indicates There is clear agreement about its paragraphs, with relatively little dispersion in the respondents' answers.

C- The lower right part of the brain (C).. (The feelings).

The results of the descriptive analysis in Table (1) indicate that the value of the arithmetic mean was (4.1), and this value is higher than the hypothetical mean of (3). Where feelings depend and exchange them to solve problems and help others with time, effort and money and motivate them to do better, overcome difficulties and rush forward as well as promote the development of relationships with others and the ability to anticipate their needs. With a standard deviation of (0.73), it reflects a relatively small dispersion in the respondents' answers and the tendency towards agreement.

D- The upper right part of the brain (D).. (Creative people).

The descriptive results in Table (1) indicate that the value of the arithmetic mean was (3.8), and this value is higher than the value of the hypothetical mean of (3). Unusual and new ideas, moving away from the restriction of laws and legislation, adopting strategic thinking and future vision within multiple options, the way to launch the freedom of thought towards creativity. And a standard deviation of (0.83), which reflects a relatively small dispersion in the respondents' answers.

By analyzing the aforementioned values, the following can be seen:

1) The direction of the study sample towards the arrangement of using the brain sections according to the extracted values and in the following order:

- a. The use of the left lower part of the brain: executives) with a value of (4.3).
- b. The use of the right lower part of the brain: the empathys), with a value of (4.1).
- c. The use of the left upper part of the brain: the objective), with a value of (3.9).
- d. Use of the right upper part of the brain: creative people) with a value of (3.8).

2) The descriptive analysis of the study sample shows the convergence of the aforementioned values and a clear use of all the terms of the mind on the basis that the sample is among the best scientific minds among the teaching staff who held the title of professor.

3) Although these minds reached the top of giving, we find that the state of creativity and objectivity came in the last ranks, relying on the implementation of orders without the need for endurance, adventure and impulsiveness.

4) The focus of the study sample on the behaviors that link the sample with others, including professors, students and employees, considering that the use of feelings is the basis for movement, impulsiveness and motivation.

Schedule (1)

The level and nature of the independent variable (digitizing mental abilities according to Hermann scale)

Seq.	paragraphs	Totally agree	Agreed	neutral	I do not agree	Totally disagree	Arithmetic mean	standard deviation
First	The left upper part of the brain (A).... (Objectivists)							
	1. My keenness on accuracy and facts in the eyes of others makes me feel dry	10	7	5	7	1	3.6	0.93
	2. Realize numbers and their meanings and the ability to calculate and develop them	10	16	4	-	-	4.2	0.64
	3. He has a high ability to explain events and deduce their logical effects	14	13	2	1	-	4.3	0.61
	4. I feel that work is more important than human feelings	9	8	4	7	2	3.5	0.96
	5. Stay away from unexpected possibilities and outcomes	11	11	2	5	1	3.9	0.89
	Total						3.9	0.81
Second	Left lower part of the brain (B)..... (Executives)							
	1. Adopt detailed planning and specify methods, methods and procedures	9	18	3	-	-	4.2	0.64
	2. I feel comfortable while performing the work of classification, arrangement and organization	17	11	2	-	-	4.5	0.45
	3. I tend to act more than my tendency to reflect, think and theorize	11	17	1	1	-	4.3	0.61
		14	12	2	2	-	4.3	0.61
		14	15	1	-	-	4.4	0.58

	4. Have the ability to continue work until it is completed within specific instructions 5. I do things step by step and enjoy accuracy in my work							
Total							4.3	0.578

Seq.	paragraphs	Totally agree	Agreed	neutral	I do not agree	Totally disagree	Arithmetic mean	standard deviation
Third	Right lower part of the brain (C). The feelings							
	1 .People describe me as emotional and I always tell them about my feelings	5	10	10	2	3	3.4	1.12
	2 .Listen to other people's problems, help them, and give them my time, money, and effort	13	11	6	-	-	4.2	0.64
	3 .Adopt motivation and inspire others	17	9	4	-	-	4.4	0.58
	4. I am able to develop and maintain relationships with others	14	9	7	1	-	4.3	0.61
	5. I have the ability to anticipate and consider the needs of others	12	10	7	1	-	4.1	0.69
Total							4.1	0.73
Fourth	Right upper part of the brain (D) ... (Creative People)							
	1. People describe me as adventurous and impulsive.	11	7	3	5	4	3.5	0.96
	2. I am attracted to unusual and new ideas.	13	9	5	3	-	4.1	0.69
	3. Laws and regulations make me feel restricted at work.	8	12	5	5	-	3.8	0.91
	4. I tend to judge things more on intuition and expectations than on my tendency to analyze.	6	11	6	5	2	3.5	0.96
	5. Adopt strategic thinking with a future vision and multiple options.	12	15	3	-	-	4.3	0.61
Total							3.8	0.83
Total							4	0.74

Schedule (2)

The level and nature of the dependent variable (entrepreneurial creativity

Seq.	paragraphs	Totally agree	Agreed	neutral	I do not agree	Totally disagree	Arithmetic mean	standard deviation
	Entrepreneurial creativity contributes to changes in the organizational structure and operations of the organization	14	11	3	1	1	4.2	0.64
	Pioneering creativity contributes to redesigning work according to new policies and procedures	9	14	3	3	1	3.9	0.89
	Entrepreneurial creativity depends on new monitoring systems and training programmes	10	13	6	-	1	4	0.71
	Entrepreneurial creativity is a way of thinking that is far from traditional contexts	12	13	5	-	-	4.2	0.64
	Pioneering creativity depends on modernity, with the individual's abilities to think, communicate and take risks	17	11	2	-	-	4.5	0.45
	Entrepreneurial creativity contributes to solving unstructured problems at the organization level	16	10	3	1	-	4.4	0.58
	Pioneering creativity contributes to the production, development, analysis and evaluation of ideas	18	9	3	-	-	4.5	0.45
	Entrepreneurial creativity depends on flexibility, originality, and continuing the direction towards the goal to create a new business or idea	12	12	6	-	-	4.2	0.64
	Pioneering creativity achieves the efficiency of improving performance and reducing administrative costs, leading to job satisfaction	18	5	7	-	-	4.4	0.58
	Entrepreneurial creativity contributes to adding intrinsic value to the organization and its outputs	16	8	5	1	-	4.3	0.61
	Pioneering creativity contributes to the strategic planning and employment of new policies	18	9	2	1	-	4.5	0.45
	Pioneering creativity works to achieve communication between leadership and employees	14	11	4	1	-	4.3	0.61
	Pioneering creativity contributes to developing the mental capabilities of leaders and workers and improving their quality	20	6	2	2	-	4.5	0.45
		17	11	2	-	-	4.5	0.45
		15	9	5	1	-	4.3	0.61
		16	10	4	-	-	4.4	0.58
		11	16	3	-	-	4.3	0.61
		14	13	3	-	-	4.4	0.58

Pioneering creativity contributes to drawing up a strategy for interaction with the organization's internal and external environment	12	14	4	-	-	4.3	0.61
Entrepreneurial creativity is characterized by risk-taking, independence, intuitive speed, and flexibility in work	15	12	3	-	-	4.4	0.63
Entrepreneurial creativity has the ability to analyze and investigate, as well as to imagine and intuition							
Entrepreneurial creativity depends on the ability to think strategically in interactions with renewable variables in the environment							
Entrepreneurial creativity stimulates employees and leaders by generating ideas and building a brainstorming strategy							
Pioneering creativity helps select and promote individuals on the basis of achievement							
Entrepreneurial creativity contributes to evaluating the organization and identifying the pattern of strengths, weaknesses, opportunities and threats							
Total						4.3	0.59

2- The level and nature of the approved variable (entrepreneurial creativity)

This variable included (20) questions in the questionnaire, and Table No. (2) Shows the analysis of the level and nature of the dependent variable in light of the special answers of the research sample.

Where it is noted that there is a clear contribution of entrepreneurial creativity in reprogramming and engineering work in proportion to the volume of developments in the competitive environment in order to keep pace with the changes taking place in it in order to draw up the appropriate strategy that achieves the objectives of the organization and raises the level of performance of an organization and thus adds substantial value to the organization and this is achieved through the adoption of entrepreneurial creativity Modernity With the capabilities of the individual to think, communicate, take risks, produce, develop, analyze and evaluate ideas, adopt flexibility to achieve new ideas and actions, develop the digitization of the mental capabilities of leaders and workers, and improve their quality.

Through what was determined by the value of the total arithmetic mean for this variable, which amounted to (4.3), this value is higher than the value of the hypothetical mean of (3) and with a standard deviation of (0.59), indicating a slight dispersion in the respondents' answers that reflects the state of performance agreement in an acceptable manner.

Second: Testing the correlation hypotheses.

This paragraph seeks to test the first main correlation hypothesis and the sub-hypotheses related to the correlation between (digitization of mental abilities according to the Hermann model and entrepreneurial creativity), which will be clarified in the table below and as follows:

Table (3): The association of the independent variable with the dependent one

arrangement	administration creativity		dependent variable	Seq.
	Say	Rank correlation (r) coefficient		
The Third	0.00	0.68**	Objectives (A)	1
The First	0.00	0.81**	Executives (B)	2
The Second	0.00	0.73**	The feelings (C)	3
The Fourth	0.00	0.65**	creatives (D)	4
	0.00	0.79**	total mental capacity	

Source: Prepared by researchers based on the output of the electronic calculator

1. The results of the statistical analysis in Table (2) indicate that there is a strong positive correlation between the digitization of mental abilities and entrepreneurial creativity, and this was revealed by the value of the correlation coefficient, which reached (0.79) at a significant level (0.01). In light of this, we accept the first main hypothesis that states on (the existence of a significant correlation with statistical significance between measuring the digitization of mental abilities according to the Hermann model and entrepreneurial creativity), and we reject the null hypothesis.

2. The results of the statistical analysis in Table (2) indicate that there is a relatively strong positive correlation between the objective and entrepreneurial creativity, and this is indicated by the correlation value, which reached (0.68) and at a significant level (0.01). In light of this, we accept the first sub-hypothesis (H1). Which states (there is a significant correlation between the use of digitization of the mental abilities of the upper left part of the brain (objectives) and entrepreneurial creativity) and we reject the null hypothesis.

3. The results of the statistical analysis in Table (2) indicate that there is a relatively strong positive correlation between executives and entrepreneurial creativity, as the correlation coefficient value indicated (0.81) at a significant level (0.01). Significant between the use of digitization of the mental abilities of the left lower part of the brain (executives) and entrepreneurial creativity), and we reject the null hypothesis.

4. The results of the statistical analysis in Table (2) indicate that there is a relatively strong positive correlation between sentimentalists and entrepreneurial creativity, as the value of the correlation coefficient was (0.73) at a significant level (0.01). Therefore, we accept the third sub-hypothesis which states (the existence of a significant correlation between the use of digitization of the mental capacities of the lower right brain (emotionalists) and entrepreneurial creativity) and we reject the null hypothesis.

5. The results of the statistical analysis in Table (2) indicate that there is a strong positive correlation between creative people and entrepreneurial creativity, as the correlation coefficient was (0.65) at a significant level (0.01). Therefore, we accept the fourth sub-hypothesis, which states (that there is a significant correlation between the use of digitization of the mental capabilities of the upper right part of the brain (creative people) and entrepreneurial creativity (and we reject the null hypothesis).

In the light of these results, the values of the correlation coefficient were arranged, and it was found that the sample studied resorts to using the lower left part of the brain primarily (executives), then comes (emotional people), then (objectives) and then (creatives) to achieve the optimal use of mental capabilities in order to reach Top bid for pioneering creativity.

Third.. Testing the impact hypotheses

This paragraph deals with testing the effect of the future variable (digitization of mental abilities according to Hermann's model) on the dependent variable (entrepreneurial creativity). Then we discuss the effect of the sub-variables of the independent variable on the dependent variable. The statistical methods listed below were used to test the validity of the second main hypothesis and its various sub-hypotheses as follows: -

1. Determination coefficient (R2): It is used to know and interpret the percentage of changes that occurred in the dependent variable due to the influence of the independent variable, where its value (R2) lies between zero and one for true ($0 \leq R2 \leq 1$), and therefore its value is the interpretation of the strength or weakness of the interpretation of the regression equation, the higher it is The value of zero and approached the correct one increased the effect.

2. Test (F): Where the (F) test shows the form of the relationship between the independent variable and the dependent variable, whether it is acceptable or not, depending on the level of significance extracted from the ANOVA table. If it is ($P \leq 0.05$), this means that the regression model With a high degree of reconciliation and compatibility, and the value of (F) is acceptable, and this indicates that there is a significant effect of the independent variable on the dependent variable.

Schedule (4)

The effect of the independent variable on the dependent

	Pioneering creativity	dependent variable	
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P. Value	β	The coefficient of determination (R ²)	the independent variable Digitization of brainpower	ت
0.00	0.238**	0.46	Objectives (A)	1
0.00	0.545**	0.66	Executives (B)	2
0.00	0.315**	0.53	The feelings (C)	3
0.00	0.203**	0.42	creative (D)	4
0.00	0.456**	0.62	Total digitization of brainpower	

Source: Number of researchers based on the output of the electronic calculator

In order to measure the impact of the independent variable (digitization of mental abilities) on the dependent variable (pioneering creativity), the following was found:

1- The results of the statistical analysis are indicated in Table (3) for the second main hypothesis, which states (there is a significant effect of the digitization of mental abilities according to Hermann's model of entrepreneurial creativity), and through it the following can be noted:

A- The total value of the determination coefficient (R²) was (0.62), which indicates that (62%) of the changes that occurred in entrepreneurial creativity are caused by the digitization of mental abilities. As for the rest of the effect, it is caused by other factors that were not addressed in the research, and this percentage is considered well if it is used. The sections of the brain in a scientific and logical manner, taking into account the scientific integration of these sections through which pioneering creativity has been achieved.

B- It is noted from the analysis of the results of Table (3) that the calculated value of (F) amounted to (45.6) at a significant level of (0.01), which indicates that the form of the relationship is acceptable with the effect of digitization of mental abilities on entrepreneurial creativity, and therefore we accept the first main hypothesis and reject the null hypothesis.

2- The first sub-hypothesis: - which states that there is a significant effect of using digitization of the mental abilities of the left upper part of the brain (thematics) in entrepreneurial creativity. The results of the analysis in the aforementioned table indicated the validity of the hypothesis as follows:

A- The value of the coefficient of determination (R²) was (0.46), and this indicates that the value of (46%) of the changes that occurred in entrepreneurial creativity were caused by the digitization of the mental abilities used by the subjects who deal with the left upper part of the brain. As for the rest of the effect, it is caused by other factors that the research did not address.

B- It is noted from Table (3) that the calculated (F) value amounted to (23.8) and at a significant level (0.01).

3- The second sub-hypothesis: which states that there is a significant effect of using digitization of the mental abilities of the lower left part of the brain (executives) in entrepreneurial creativity. The results of the analysis in the table indicated the validity of the hypothesis as follows:

A- The value of the determination coefficient (R²) was (0.66), which means that its value is (66%) of the changes that occurred in entrepreneurial creativity due to the digitization of the mental abilities of executives who deal with the left lower part of the brain. As for the rest of the effect, it is caused by other factors that the research did not address.

B- From Table (3), the calculated value of (F) was (54.5) at a significant level (0.01). This indicates that the form of the relationship is acceptable with the effect of digitizing the mental abilities of executives on entrepreneurial creativity, and accordingly we accept the second sub-hypothesis and reject the null hypothesis.

4- The third sub-hypothesis: - which states that there is a significant effect of using digitization of the mental abilities of the lower right part of the brain (the feeling people) in entrepreneurial creativity, where the results indicated the validity of this hypothesis, as shown below:

A- The value of the determination coefficient (R²) was (0.53), and this indicates that the value of (53%) of the changes that occurred in entrepreneurial creativity were caused by the digitization of the mental abilities of the emotional people who deal with the right lower part of the brain. As for the rest of the effect, it is caused by other factors that the research did not address.

B- It is noted from the aforementioned table that the calculated value of (F) amounted to (31.5) at the level of significance (0.01), which means that the form of the relationship is acceptable with the effect of digitizing the mental abilities of the Moshayaris in entrepreneurial creativity, and accordingly we accept the third sub-hypothesis and reject the null hypothesis.

5- The fourth sub-hypothesis: - which states that there is a significant effect of using digitization of the mental abilities of the upper right part of the brain (creative people) in entrepreneurial creativity, where the results of the analysis indicated the validity of the hypothesis as follows:

A- The value of the coefficient of determination (R²) was (0.42), meaning that the value of (42%) of the changes that occurred in entrepreneurial creativity is due to the digitization of the mental abilities used by creative people who deal with the right upper part of the brain. As for the rest of the effect, it is due to other factors that were not covered by the research.

B- The calculated value of (F) was (20.3) at a significant level of (0.01), which means that the form of the relationship is acceptable with the effect of digitizing the mental abilities of creative people in entrepreneurial creativity. Therefore, we accept the fourth sub-hypothesis and reject the null hypothesis.

CHAPTER FOUR: CONCLUSIONS AND RECOMMENDATIONS

First: conclusions

1. Digitization of mental abilities plays a prominent role in increasing brainstorming among individuals and thus generating a state of creativity, excellence and innovation in administrative work. This is evident through the individual's ability to solve problems associated with work and reduce the tension generated as a result.

2. The individual's attempt, through his mental capabilities, to reprogram and engineer work in a way that is in line with the developments taking place in the competitive environment characterized by uncertainty under the Hermann scale, without the need for adventure and impulsiveness.

3. Achieving goals and ambitions by drawing goals of a strategic nature after programming mental abilities in proportion to the changing reality and leading to the drawn plans, since the research sample is from the holders of the title of professor and they are from the advanced scientific classes.

4. Pioneering creativity is the process of programming efforts to develop the goods and products of the organization after making improvements to them through the use of the vocabulary of the mind with all the capabilities and mental capabilities that the individual possesses.

5. Building a scientific mentality that relies on programming behaviors in order to reach the reality of a thing, not only by its external appearance, but rather by knowing what is behind things, and here lies the real philosophy of the mind through the merger of what is realistic, operational, and what is scientifically imaginary, in order to reach the reality of seeing things that indicate the look. Possible future through which creativity is achieved.

6. It is not necessary for the human mind to be distinguished by a clear point, but several directions may be merged into one thought in order to perpetuate the process of thinking from all directions to ripen an idea based on looking at things from different directions and on this basis management philosophy was built.

7. In Iraq, the individual tends to implementation more than feelings, because scientific minds tend to reality with its procedures, legislation, and laws in the implementation process without reaching decisions with mental leaps that allow creativity.

8. Objectivists rely on fixed theories, sometimes taking into account the trend towards developing these theories and canceling them at other times based on the new variables that emerge.

9. The lack of creative thinking causes crowding in the vocabulary of the mind as a result of the surrounding environmental conditions that generated it by not devoting itself to knowledge in a way that reaches the level of ambition, and therefore the process of external polarization is very likely for Iraqi minds, through which all means are provided that distance thought from its basic components and empty it for scientific creativity.

Second: Recommendations

1. Conducting scientific research of a practical nature using the advanced technology of neural programming to determine the capabilities of the mind and develop these orientations towards the correct uses.

2. Training scientific minds in a correct way to avoid a state of intellectual stagnation in one direction through which the human mind is confined to one window.

3. Orientation through the contribution of scientific minds with their skills, experiences and capabilities by following up external developments in the competitive environment and creating a state of adaptation to developments and responding to environmental situations.

4. Accurate work should be adopted and not rush to judge others for lack of understanding and find accurate information about others.

5. Improving the effectiveness of the work of the team and work groups through understanding and appreciating the relationships between individuals, and after raising the level of effectiveness of understanding and communicating positively.

6. Investing in the digitization of the mental capabilities that Iraqi scientific minds possess, as best as possible, to achieve and enhance creativity.

7. Providing the appropriate atmosphere for scientific minds by the state to reduce the phenomenon of brain drain and emptying the Iraqi scientific mind for creativity and keeping it away from disturbances to limit immigration.

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