

# THE IMPACT OF CREATIVE THINKING ON THE MANAGEMENT OF ADMINISTRATIVE PROBLEM-SOLVING

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**ABSTRACT:** *This study aimed at identifying the impact of creative thinking on the management of solving administrative problems in industrial companies in Jordan. To achieve the study objectives, the researcher developed a questionnaire and distributed it to the sample individuals. The study population consisted of (35) companies, while the study sample consisted of (220) employees working in the middle and senior management. The results revealed that the level of creative thinking in the management of problem-solving was high and that there is a statistically significant impact of creative thinking on the management of solving administrative problems with its dimensions.*

*The study recommended the necessity of urging industrial companies to continue supporting the level of creative thinking with its dimensions by adopting the methods of innovation, resilience, authenticity and sensitivity to problems, so that the approach of creative thinking is compatible with the management of solving administrative problems, in addition to the necessity of providing a work atmosphere that ensures the commitment of all employees in the various administrative levels.*

**Keywords:** Creative Thinking, Management of Administrative Problem-solving

## INTRODUCTION:

Technical skills are no longer viewed as the only skills that individuals should have in the work domain. Indeed, due to the increased importance and quality of the industry sector with its various organizations, the types of required skills changed, where the management of problem-solving has become the focus of interest among organizations since the problems facing organizations increase with the increased technological development. Therefore, organizations have to develop new skills related to problem-solving [1, 2]

Generally, the level of creative thinking is determined by the sum of the interaction between performance ability, desire to perform, and the surrounding environment. Since knowledge is generated from science, and is considered as the outcome of scientific research, innovation and creativity, its theoretical and practical value is determined by the inputs of these systems, where knowledge itself is considered one of the outcomes of this system [3,4].

Many individuals have a humble understanding of the concept of the creative process, its dimensions and its main elements. Despite the several studies that addressed this topic in the various domains of life and community, this understanding hasn't been well-established and didn't meet the required level. Within the context of organizations, a manager may issue certain orders to enhance the creative process, where he either determines a certain time for this motivation or insists on using a certain way for work. However, the practical reality confirms something else, where the implementation of the creative process becomes much easier, as managers understand it well [5].

Creative thinking has become one of the topics that frequently received increased interest by academics, researchers as well as productive, commercial and educational institutions. The creative process is viewed as a method for determining problems and using the skills of guessing and working in developing hypotheses and communicating ideas to others since establishing an environment that promotes creativity is considered one of the necessary issues [6, 7]. However, it is not sufficient to result in creative results, since the creative environment is an environment where the team members help each other, participate in creative activities and use the procedures of

creative work. To do the work creatively, individuals should participate in behaviours and activities that aim to develop appropriate solutions to solve administrative problems and contribute to the success of tasks [8, 9]

### The Study Problem:

Creative thinking refers to viewing things in a new and different way, or the so-called, thinking outside the box. Creative people can innovate new methods, do tasks and face challenges since they usually come to work while holding a new non-conventional perspective. Indeed, thinking creatively has the potential to help administrations and organizations move towards more creative directions. However, creative thinking could have a problem, which implies that any idea that isn't investigated accurately will look unrealistic; indeed, good solutions could seem unrealistic. The Jordanian organizations, just like other organizations around the world suffer from several administrative problems which, in turn, require moving quickly to solve those problems and avoid procrastination. Since creativity is considered an important element in facing the challenges of this era and responding to its requirements, creative thinking is considered the best way for Jordanian organizations can follow to continue their success and solve problems quickly with the least cost. Therefore, this study aimed to identify the impact of creative thinking and its impact on the management of solving administrative problems in companies.

### The Study Objectives:

This study aimed to achieve the following objectives:

1. Identifying the impact of creative thinking with its dimensions (authenticity, risk-taking, resilience and sensitivity to problems) on the management of solving administrative problems in industrial companies (mining and extraction).
2. Identifying the impact of creative thinking according to the dimension of authenticity and risk-taking on the management of solving administrative problems in industrial companies (mining and extraction).
3. Identifying the impact of creative thinking according to the dimension of resilience on the management of solving administrative problems in industrial companies (mining and extraction).

4. Identifying the impact of creative thinking according to the dimension of sensitivity to problems on the management of solving administrative problems in industrial companies (mining and extraction).

#### **The Study Importance:**

The practical importance of this study lies in its attempt to identify the impact of creative thinking with its dimensions (authenticity, risk-taking, resilience and sensitivity to problems) on the management of solving administrative problems in industrial companies (mining and extraction). Also, this study gained its importance from the following considerations:

1. This study can be considered as one of the administrative studies that addressed the role of administrative thinking in the management of solving problems in industrial companies .
2. This study is considered an extension for the previous studies that have a direct relationship with its independent and dependent variables. This study is expected to be a start that paves the way for conducting further studies in the domain of creative thinking by introducing mechanisms that guide and help organizations identify the impact of creative thinking on the management of solving administrative problems and making the appropriate decisions.
3. This study may provide a scientific addition to the domain of creative thinking and the management of solving administrative problems, in addition to providing data about the topic which, in turn, enriches the Arabic library in general and the Jordanian library in particular.

#### **The Study Hypotheses:**

To deal with the study problem and achieve its objectives, the researcher developed the following hypotheses:

**H01:** there is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking with its dimensions (authenticity, risk-taking, resilience and sensitivity to problems) on the management of solving administrative problems in industrial companies (mining and extraction).

**H1.1:** there is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of authenticity and risk-taking on the management of solving administrative problems in industrial companies (mining and extraction).

**H1.2:** there is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of resilience on the management of solving administrative problems in industrial companies (mining and extraction) .

**H1.3:** there is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of sensitivity to problems on the management of solving administrative problems in industrial companies (mining and extraction).

#### **The Theoretical Framework:**

(1) conducted a study aimed at identifying the elements and processes required to develop the skills of strategic thinking among the employees in a communications company. The study sample consisted of (46) employees who were selected randomly from those who participated in one of the workshops about strategic thinking. The results showed that strategic thinking enhanced the styles of decision-making among the sample individuals. (4) conducted a study that aimed at identifying the way through which strategic

creativity improves effective performance, establishes new markets, and enhances the methods of distribution in markets to identify the differences between the organizations with and without strategic creativity. The results revealed that strategic creativity doesn't only refer to producing new products, but also the new ways of distributing and preparing products. Also, customer's manners affect strategic creativity. (10) conducted a study that confirmed the impact of strategic orientation and managers' conceptualization for the work environment on innovation and supporting mechanisms, such as practical techniques, and administrative practices as well as mini and medium-sized companies. The results revealed that the strategic orientation was a good indicator of creativity and that it should be taken into consideration while setting the strategy and the stages of redistributing employees.

Others [11], conducted a study which confirmed that the British industry takes the necessary steps to consider creativity at the strategic level in their systems. The results revealed that most organizations don't have specialized staff for creativity and that few organizations employ some working staff in specific and simple innovative processes. Klocke [12], conducted a study that aimed at identifying the current developments for hybrid production processes or production systems that surpass manufacturing performance, as well as identifying the design methodology for the development of hybrid production processes, in terms of determining solutions for the hybrid processes as a part of the innovation process. The application of (TRIZ) shows various tools relating to the organizations specified for developing manufacturing processes. In Taiwan, others conducted a study that aimed to develop a model for designing sustainable development for products [13]. The study used the theory based on the results in finding out the findings of interviews and analyzing the factors of designing and developing sustainable products in the light of the principles of post-product service. The study developed a checklist for sustainable development and product services based on the life cycle as an assessment criterion for designing development and sustainable products. Finally, the study developed a decision model for sustainable development to design products. [14] This study offers insights into how different types of information factual (directly relevant for developing creative solutions) versus range (indirectly relevant) influence idea generation and the effectiveness of creative outcomes. The findings indicate that the impact of the type of information is moderated by the participant's creative thinking skills and domain knowledge. For individuals with high creative thinking skills, range information led to more original idea generation, which subsequently increased the novelty of creative outcomes but decreased their usefulness. [15] The study aimed to explore the relationship between managerial creativity and the time spent on making managerial decisions at the enterprise level. A linear least squares regression model was employed to determine how creativity influences the time allocated to decision-making. The findings from the sociological research and the regression analysis reveal that the average level of

creativity among managers and their motivation coefficient significantly impact the time spent on managerial decisions. This research holds both theoretical and practical value, offering managers insights that can help reduce decision-making time and enhance the efficiency of management processes and staff motivation.

**The Study Methodology:**

The study used the analytical descriptive approach to achieve the objectives and answer the questions. Therefore, the study design depends on the descriptive approach in human research to show the characteristics relating to the study problem, represented by creative thinking as an independent variable, and the management of solving administrative problems as the dependent variable. The study also used the analytical approach to link reason with effect to identify the impact of creative thinking on the management of solving administrative problems, where the study aimed to measure the variables affecting this phenomenon to conclude the effect and result from the reality of the companies in the study population.

**The Study Population and Sample:**

**The Study Population:**

The study population consisted of all the public shareholding industrial companies enlisted in Amman stock exchange, with a total of (68) companies according to the annual report of Amman stock exchange for the year (2021). The researcher selected a random sample that consisted of (35) companies from which (250) individuals were chosen from the middle and top managerial level. The researcher distributed (250) questionnaires; of those (230) were returned, and only (220) questionnaires were valid for analysis.

**The Study Instrument:**

The researchers developed a questionnaire to collect the field data from the study sample individuals based on a review of the relevant literature and previous studies, where a complete instrument was developed that measures the study variables and test its hypotheses.

**The Validity of the Study Instrument:**

Even though the researcher used scales that were used in similar previous studies, which are valid and reliable, he verified the validity of the study instrument and developed it according to the study purposes. The face validity was verified by introducing the study instrument to a number of academics and specialists. The researcher took their notices into consideration, where some items were deleted and added based on a high agreement percentage among arbitrators.

**The Reliability of the Study Instrument:**

The study used (Cronbach alpha) to measure the reliability of the study instrument, where its value was (91%) for all the questionnaire's items, and this is a good percentage and it is higher than the accepted percentage (60%) (Al-Zoubi and Al-Talafeha, 2004).

**The Statistical Methods Used in the Study:**

The researcher used (SPSS) to calculate the results based on the statistical processing that included frequencies, percentages, means, standard deviations and Cronbach alpha to measure internal consistency, regression analysis and test the hypotheses.

**Data Analysis and Testing the Hypotheses:**

**The Results of Descriptive Statistics for the Study Dimensions:**

The researcher calculated the means and standard deviations for the study dimensions related to the independent variables and dependent variables, as shown in table (1).

**Table (1) Means and standard deviations for the responses of the sample individuals**

Number	Dimension	Mean	SD
1	Authenticity and risk-taking	4.14	.646
3	Sensitivity to problems	4.08	.684
3	Resilience	4.06	.769
4	Problem-solving management	3.88	.770

Table (1) revealed that the average mean for the availability of creative thinking was high with a mean of (4.93). The domain of authenticity and risk-taking was in the first place with a mean of (4.14), followed by the domain of sensitivity to problems with a mean of (4.08), and finally the domain of resilience with a mean of (4.08). The average mean for problem-solving management was (3.88).

**Testing the Study Hypotheses:**

In this part, the researcher tested the study hypotheses that were cited based on the study problem and questions by using the suitable statistical method.

**The First Main Hypothesis:**

**H01:** there is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking with its dimensions (authenticity, risk-taking, resilience and sensitivity to problems) on the management of solving administrative problems in industrial companies (mining and extraction).To test this hypothesis, the researcher used multiple regression analysis to measure the impact of creative thinking on the management of solving administrative problems, as illustrated in Table (2).

Also, the analysis of variance) was to verify the model's validity and test the first main hypothesis.

**Table (2) Analysis of variance was to verify the model's validity and test the first main hypothesis**

Source	Total square	Mean square	R <sup>2</sup>	F	Sig. level
<b>Regression</b>	17.168	2.860	.626	88.629	*0.000
<b>Error</b>	10.262	453	0.031		
<b>Total</b>	27.430	458			

Statistically significant at (  $\alpha=0.05$ )

(2) reveals the results of testing the hypothesis, and shows the tabulated (f-value) at ( $\alpha=0.05$ ). The results showed the validity of the model to test the main hypothesis based on the high calculated (f-value) of (88.629). The results revealed that the independent variables (authenticity, resilience, sensitivity to problems) account for (63%) of variance in the dependent variable, which is considered as a high explanation

power. This indicates that there is a statistically significant impact for the independent variables on the dependent variable (the management of solving administrative problems). Also, a multiple regression analysis test was used to test the impact of creative thinking (authenticity, resilience, sensitivity to problems) on the management of solving administrative problems. Table (3) shows the results.

**Table (3) The results of multiple regression analysis to show the impact of creative thinking on the management of solving administrative problems with its dimensions among managers in industrial companies**

Variable	Beta	Calculated (t) value	Tabulated (t) value	Sig. level
<b>Authenticity and risk-taking</b>	0.219	4.071	1.95	<b>0.000</b>
<b>Sensitivity to problems</b>	0.070	4.222		<b>0.217</b>
<b>Resilience</b>	<b>0.171</b>	<b>4.166</b>		<b>0.000</b>

Sig= ( $\alpha=0.05$ ), F= .624, R<sup>2</sup>=88.621

Table (3) revealed that the calculated (t) value was (4.701) for the dimension of authenticity and risk-taking, (4.222) for the dimension of resilience, and (4.66) for the dimension of sensitivity to problems, which is more than the tabulated (t) value of (1.95) at the significance level ( $\alpha =0.05$ ). This means that there is an impact on creative thinking according to the dimension of authenticity and risk-taking, resilience, and sensitivity to problems on solving

administrative problems in the industrial companies, and that the dimension of authenticity and risk-taking is the most influential one in the management of solving administrative problems, while the calculated (t) value of creative thinking according to the dimension of resilience was (4.222), and has a positive impact on the management of solving administrative problems.

**The First Sub-Hypothesis:**

**Table (4) The test simple regression to measure the impact of authenticity and risk-taking on the management of solving of administrative problems in the industrial companies**

Hypothesis	(R <sup>2</sup> ) Determination coefficient	(R) Correlation coefficient	F	SIG
There is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of authenticity and risk-taking on the management of solving administrative problems in industrial companies	0.238	0.440	42.902	*0.000

\*statistically significant at ( $\alpha\leq 0.05$ )

The results in table (4) revealed that there is a statistically significant impact at ( $\alpha\leq 0.05$ ) for the dimension of authenticity and risk-taking on the management of solving administrative problems in the industrial companies, where the correlation coefficient was (0.440), indicating that there is a positive relationship between authenticity, risk-taking and the management of solving administrative problems. The determination coefficient (R<sup>2</sup>) accounted for (0.238) of variance in the dependent variable, which means that (23.8%) of the changes in the management of solving administrative problems resulted from the change in authenticity and risk-taking. The significance of that impact is confirmed by the

calculated (f) value of (42.902), with a significance level of (0.000), which is statistically significant at (0.05). Therefore, we reject the hypothesis stating that "there is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of authenticity and risk-taking on the management of solving administrative problems in the industrial companies", and accept the alternative hypothesis stating "there is a statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of authenticity and risk-taking on the management of solving administrative problems in the industrial companies."

**The Second Sub-Hypothesis:**

**Table (5) The test of simple regression to measure the impact of resilience on the management of solving administrative problems in the industrial companies**

Hypothesis	(R <sup>2</sup> ) Determination coefficient	(R) Correlation coefficient	F	SIG
There is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of resilience on the management of solving administrative problems in the industrial companies	0.235	0.442	39.908	*0.000

\*statistically significant at ( $\alpha \leq 0.05$ )

The results in table (5) revealed that there is a statistically significant impact at ( $\alpha \leq 0.05$ ) for the dimension of resilience on the management of solving administrative problems in the industrial companies, where the correlation coefficient was (0.442), indicating that there is a positive relationship between resilience and the management of solving administrative problems. The determination coefficient (R<sup>2</sup>) accounted for (0.235) of variance in the dependent variable, which means that (23.5%) of the changes in the management of solving administrative problems resulted from the change in resilience. The significance of that impact is confirmed by the calculated (f) value of (39.908), with a significance level

of (0.000), which is statistically significant at ( $\alpha=0.05$ ). Therefore, we reject the hypothesis stating that "there is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of resilience on the management of solving administrative problems in the industrial companies", and accept the alternative hypothesis stating "there is a statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of resilience on the management of solving administrative problems in the industrial companies."

**The Third Sub-Hypothesis:**

**Table (6) The test of simple regression to measure the impact of sensitivity to problems on the management of solving administrative problems in the industrial companies**

Hypothesis	(R <sup>2</sup> ) Determination coefficient	(R) Correlation coefficient	F	SIG
There is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of sensitivity to problems on the management of solving administrative problems in industrial companies	0.230	0.442	37.909	*0.000

\*statistically significant at ( $\alpha \leq 0.05$ )

The results in table (6) revealed that there is a statistically significant impact at ( $\alpha \leq 0.05$ ) for the dimension of sensitivity to problems on the management of solving administrative problems in the industrial companies, where the correlation coefficient was (0.442), indicating that there is a positive relationship between resilience and the management of solving administrative problems. The determination coefficient (R<sup>2</sup>) accounted for (0.230) of variance in the dependent variable, which means that (23%) of the changes in the management of solving administrative problems resulted from the change in sensitivity to problems. The significance of that impact is confirmed by the calculated (f) value of (37.909), with a significance level (0.000), which is statistically significant at ( $\alpha=0.05$ ). Therefore, we reject the hypothesis stating that "there is no statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of sensitivity to problems on the management of solving administrative problems in the industrial companies", and accept the alternative hypothesis stating "there is a statistically significant impact at ( $\alpha=0.05$ ) for creative thinking according to the dimension of sensitivity to problems on the management of solving administrative problems in the industrial companies."

**Discussing the Results:**

The study analyzed creative thinking and its effect on the management of solving administrative problems, and here is a display for the most important findings of the study:

1. The results showed that the conceptualization of the sample individuals for the dimensions of creative thinking was high, where the dimension of authenticity and risk-taking was in the first place with a mean of (4.14), followed by the dimension of sensitivity to problems with a mean of (4.08), and finally the dimension of resilience with a mean of (3.88). The perceptions of the sample individuals were high. This finding explains the interest of industrial companies with sensitivity and detecting problems before they take place due to the negative effects of problems on the performance level.
2. The results showed that the perceptions of the sample individuals for the items of the management of solving administrative problems were high. The results in Table (3) revealed that the average mean for the items of the management of solving administrative problems was (3.88). This finding explains the interest of industrial companies in the necessity of providing the management, in particular with the necessary tools for the management of solving problems and educating them concerning the

importance of such a type of management and its role in reducing the problems that face their companies.

- The results revealed that there is an impact of creative thinking according to the dimension of authenticity, risk-taking, sensitivity to problems, and resilience on the management of solving administrative problems in the industrial companies.

### Recommendations:

In the light of the results, the study recommended:

- The necessity of urging the industrial companies to continue promoting the level of creative thinking with its dimensions by adopting the approach of innovation, resilience, authenticity, and sensitivity to problems, where the method of creative thinking should be compatible with the management of solving administrative problems, in addition to the necessity of focusing on providing a work atmosphere to which all the employees in the various administrative levels are committed.
- The necessity of urging the industrial companies to pay attention to developing creative thinking among employees due to its positive impact on raising the company's level and enhancing its ability to adapt with the environmental changes and future requirements.
- The necessity of empowering employees with their different professional levels and involving them in the process of decision making and listening to their opinions due to the positive impact of that on enhancing their confidence and loyalty to the organization.
- The necessity of urging the industrial companies to provide the system of dealing with crises, due to the negative effects of crises on the future of companies.

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