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Providing a Structural Pattern of Problem Solving for Managers at Tehran Islamic Azad University Based on Decision-making and Evaluating the Mediation role of Organizational culture

Mohammad Hossein Amanihamedani[1], Fattah Nazem[1*], Samad karimzadeh[1]
1. Department of Education, Roudehen Branch, Islamic Azad University, Roudehen, Iran.

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Abstract

Purpose: The present study aimed to provide a structural model of creative problem solving in the managers of the Islamic Azad University of Tehran based on the decision: evaluation of the mediating role of organizational culture.

Methodology: This research was an applied, descriptive-correlational study. The statistical population of this study included all managers of the Islamic Azad University of Tehran in the academic year 2018-2019 that from the mentioned population with a volume of 1300 people, using Krejcie and Morgan table, 297 people were selected by cluster random sampling. The data were collected using the Creative Problem Solving Questionnaire of Basader Managers (1995), Scott and Bruce Decision Making (1995) and Edgarschin (2004) Organizational Culture. Structural equation modeling was used to analyze the data.

Findings: The results showed that decision making and organizational culture significantly predict creative problem solving in the managers of Islamic Azad University of Tehran and organizational culture mediates the relationship between decision making and creative problem solving in the managers of Islamic Azad University of Tehran. He does.

Conclusion: Decision making and creativity is one of the most central processes in organizations, especially in educational environments and is considered as the main task of managers at all levels.

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* Corresponding author: nazem@riau.ac.ir

1. Introduction

Understanding and defining the problem requires finding the right information and ignoring irrelevant details. According to the definition, when a person is faced with a situation that he cannot quickly respond to the situation using the information and skills he has at that moment, when a person has a goal and has not yet found a way to achieve it, he said. Be faced with an issue. According to this definition of the problem, problem solving can be defined as the recognition and application of knowledge and skills that lead to the correct response of the learner to the situation, or his achievement of the desired goal. So the important feature of the problem is that it cannot be solved with the first answer that comes to mind. Solving the problem requires the use of previous principles and knowledge in the form of a new combination (Bazl, 2013). Many people believe that the process of problem solving or problem solving is a great example of thinking. We try to solve a problem, which we do not have any tools ready in advance. We must break that goal down into sub-goals, and perhaps again into smaller goals, in order to finally achieve the necessary tools (Bazl, 2013). Problem solving is a thought that is directed towards solving a specific problem that involves both the formation of answers and the choice of possible answers. We face many problems in our daily lives that force us to formulate response strategies, select potential answers and test the answers in solving a problem (Elsolso, 2017). If someone does not know how to achieve his goal, it means that he is facing a problem, and if there is no goal, then there is no problem. In other words, the desire to meet the need to achieve the goal and face the problems is the main conditions of the problem (Turer, 2016).

Different people have come up with different ideas about how to solve the problem, some of which are mentioned. Some researchers see the problem as a situation of stimuli to which the organism does not have a ready response. Bransford & Stain (1984) also define the problem as follows: The defining characteristic of a problem is the existence of an obstacle in the path leading to a specific goal. In other words, a problematic situation creates a certain tension in the person and the person tries to reduce this tension by changing the construction of the situation by solving the problem (Hosseini Nejad, 2018).Problem solving requires a lot of activities so that first the problem must be defined accurately and correctly and then different solutions are put together and finally, the appropriate solutions are selected and implemented from among the possible solutions (Kim, 2019).

There are several ways to solve problems and issues facing people, and several important and pivotal solutions are briefly discussed: 1. Problem-solving through trial and error: When we encounter a problem that does not have a pre-known rule and principles to solve it, we try to solve it through trial and error. This method is very expensive and can only be used to solve a certain problem. This method does not have certain principles. The only thing that is learned is to solve the same problem and no rule is learned to solve other problems. 2. Problem solving through insight and cognition: Once the elements of a problem are known to man, it can be solved through insight and cognition. Using this method leads to discovering the rules and principles that lie in the problem and as soon as they are known, it can lead to solving the problem. Action with insight has two conditions: a) the basic principles must be known and understood. B) The codes in the problem are changed to solve the problem. 3. Problem solving with analytical method: Gradual and step-by-step analysis in order to achieve problem solving, requires a better understanding of all stages and related relationships. This method is a mixture of trial and error, insight and logical thinking. To solve complex problems, scientists usually explain the cause of phenomena and make predictions about phenomena (Mayseless, Hawthorne, Reiss, 2019).

The creative problem-solving process is a dynamic approach to teaching-learning and its advantages are: a) More active involvement of the learner in teaching-learning. B) Creating maximum attention and motivation in the learner c) Increasing the learner's expectations in solving various problems d) Giving the learner more scope and freedom and eliminating the spirit of submission in him o) Gaining skills and mastery in various matters and) Increasing the team spirit And improving communication skills g) growth

of creativity, innovation and innovation in the learner. Until a few years ago, creative problem solving was defined as a matter of reason and logic, and scientists paid attention to qualitative factors for analysis. But now they realize that a purely rational approach does not cover all aspects of problem solving, and creativity is essential in this process. Therefore, this process was called the creative problem solving process. In the creative problem solving process, there are eight steps, which are environment analysis, problem recognition, problem recognition, hypothesis making, solution presentation, solution selection, solution implementation and control.

Environmental Analysis: If you are not constantly looking for problems then how do you know if these problems exist or not? Cognition of the problem: Both reasoning and intuitive thinking take place at this stage. But identification is a logical and reasoning process. Hypothesis building: Hypothesizing about the status of future factors in problem solving conditions is essential. Creating different solutions: Creating different solutions requires listing known solutions and creating additional solutions. Creating different solutions is somewhat logical and reasoning, and somewhat intuitive and non-argumentative, Choosing from different solutions: Different solutions must be available for selection. Each technology may need to be evaluated for its impact on various problem-solving factors. Execution: Once you have a clear vision of what is to be done, you need to have a plan to do it, then you can actually get started. Execution requires constant attention. This means being meticulous in the details and anticipating and overcoming obstacles. Control: Evaluating the results is the last step in the creative problem solving process that is often overlooked. This step leads directly to the stage of environmental analysis and a new cycle of creative problem solving begins. Diagnosis of defects is important at this stage (Colin, Belpayem, Kanglossi et al., 2016).

Cassady & Burnside (1996) identified six styles of creative problem solving: trust, inclination, helplessness, control, and avoidance. Confidence in problem solving style expresses a person's belief in solving problems. Style shows a tendency to have a positive attitude towards problems and a desire to face them face to face. Helplessness style is a sign of helping a person in a problematic situation. The restraint style refers to the effect of external and internal controllers on the problematic situation. Finally, avoidance style indicates a tendency to ignore problems instead of dealing with them. The first three styles are constructive problem solving methods and the next three styles are non-constructive problem solving methods. Constructive practices are associated with structures such as positive emotional life satisfaction, personal well-being, achievement motivations, and social support, and nonconstructive practices are associated with anxiety, depression, frustration, hostility, and job stress (Lewis, Knoblich, Poe (2018)). .

Managers who seek to solve problems creatively have a very difficult task, because their success depends on the numerous decisions of many people. Appropriate strategies for making and implementing these decisions do not guarantee the success of an organizational transformation, but poor decision making and poor implementation of decisions will lead to even very precise and planned change plans (Rahimi Baghmalek, Babaei (2019)). Decision making is an important element in the management profession and managers should be familiar with the decision-making process as professionals (Mohammadi Matin & Davoodi, 2019).

New theories of organization and management have a strong tendency to use improvisation as an alternative to general strategic planning. This tendency is influenced by environmental pressures that force management to reconsider its operational paradigms and break with traditional decision-making methods and patterns (Chelariu, 2012). In the current complex and chaotic situation, no event can be ignored, because every small event can have serious and irreparable consequences and become a crisis (Mendonca, 2007). In a crisis where speed is at stake, a decision that is not made quickly will lead to a wrong decision. For this reason, organizations must learn how to make quick decisions (Khorasani & Shekari, 2019).

The decision-making process has a dynamic nature that reflects the synergy that can occur during a process, and this synergy can play an important role in situations where managers are forced to make

strategic decisions because it can be the basis for success. Be (Saba & Hassani Manesh, 2019). Decision making describes the process by which a solution to a particular problem is selected (Stoner, 1983). An important part of managers' time is spent solving problems and making decisions. Almost everything managers do requires a decision. Determining the goals of the organization, the basic tasks of planning, organizing, leading and controlling decision-making requires. Similarly, various activities such as selecting the organization's technology, selecting and hiring employees for various organizational jobs, and determining motivational factors to motivate and encourage employees, require decision making. In fact, the decision-making process has been considered by some management experts as the core of managers' work (Alagheband, 2011).

Managers deal with a variety of situations when making decisions. Also, the decisions that are made by them are diverse in nature. Numerous alternatives are sometimes evaluated by extensive research to decide, for example, on the construction of a building. However, sometimes with a little reflection on how an employee works, decisions are made about his salary. Each specific situation requires a specific method of decision making (Rezaian, 2004).

EdgarSchein (2007), as one of the so-called experts on the subject of culture, defines it as: a model of common assumptions that the group learns, so that it solves its problems with external adaptability and internal coordination, and due to performance And its good effect is recognized as valid and therefore as a correct way of perceiving, thinking and feeling about their problems, it is taught to new members of the group (EdgarSchein, 2007). EdgarSchein (2007) emphasizes that leaders play an important role in shaping and strengthening their organizational culture (Lacatus, 2013). Decision making is the process through which a solution to a particular problem is selected and culture is one of the elements that always has potential influence in decision making and action (Degroot, 2008). Decision-making is the commitment to take action imposed on us by environmental conditions (Mintzberg, 1976).

Organizational culture refers to beliefs and values (often subconscious) that are fully established and shared among the employees of an organization (Yunlong et al, 2016). Organizational culture manifests itself in the specific characteristics of that organization and therefore to a set of fundamental assumptions. Points out that they have done so well in the past that they are known in the organization as correct assumptions. These hypotheses are confirmed in the continuous process of human interaction (which is manifested in attitudes and behaviors) and in other words as the right way to do things and understand problems in the organization. The components of everyday behavior, norms, values, philosophy, rules of the game, and emotions are all part of organizational culture (Mahmoudi, 2017).

Organizational culture is a set of behavioral patterns that determine the way employees interact with each other (Hock, Clauss, Schulz, 2016). Some see organizational culture as a source of sustainable competitive advantage for business (Nazarian et al, 2017).

Organizational culture consists of two main layers. The first layer (values and beliefs) is the layer that represents tangible symbols such as manners, behavior, rituals, ceremonies, myths and legends. The other layer of organizational culture is the basic layer or foundation of organizational culture, which refers to the underlying values, assumptions, beliefs and thought processes of individuals and organizational groups. This layer actually constitutes the true culture of the organization. Factors that make up the culture of the organization are: norms, traditions, rituals and assumptions. The general question of the present study was whether the structural model of creative problem solving in the managers of the Islamic Azad University of Tehran based on the decision: evaluation of the mediating role of organizational culture has a good fit?

2. Methodology

The present research is based on the purpose of the applied type and due to trying to explain the relationships between the studied variables, this research is a descriptive correlational study. The statistical population includes all the administrators of the Islamic Azad University of Tehran who worked in this

university in 1998-97, whose number is 1300 people. Using cluster random sampling, 297 people were selected. Random form among 22 university units, 14 university units including units of Tehran University of Science and Research, North Tehran, South Tehran, Central Tehran, East Tehran, West Tehran, Robat Karim, Shahreri, Parand, Pardis, Safadasht, Islamshahr, Firoozkooh and Shahriyar were chosen. Then, due to the geographical dispersion of the faculties of each university unit and the heterogeneity between groups, the faculties of each unit were considered as the next clusters, Distributed among all principals of selected faculties. In order to collect data, library resources (including books, authoritative scientific databases and academic dissertations) and questionnaires were used. The research questionnaire consists of two parts. One section includes the general characteristics of the subjects such as gender, field of study, educational status and service history, and the other section includes three standard questionnaires. The first questionnaire is the Basadur (1995) Creative Problem Solving Questionnaire, which aims to examine the creativity of managers and consists of 16 items. The scale of this questionnaire is of the Likert type and its score is between 5 and 1. The response spectrum to the items is set as (often = 5, often = 4, sometimes = 3, rarely = 2, not at all = 1). Items No. 16, 12, 11, 8 are presented in reverse and their scores are calculated in reverse of the above scores, In the present study, the reliability of this questionnaire by internal consistency method using Cronbach's alpha method / 83. The second questionnaire is Scott & Bruce (1995) Decision Making Questionnaire, which aims to select a solution from different options and consists of 25 items. The scale of this questionnaire is of the Likert type and its score is between 5 and 1. The response spectrum to the items is set as (often = 5, often = 4, sometimes = 3, rarely = 2, not at all = 1), In the present study, the reliability of this questionnaire by internal consistency method using Cronbach's alpha method / 75. The third questionnaire was Edgarshine (2004) Organizational Culture Questionnaire, which aims to examine the culture of the organization and consists of 21 items that are a scale. The scale of this questionnaire is of the Likert type and its score is between 5 and 1. The response spectrum to the items is set as (often = 5, often = 4, sometimes = 3, rarely = 2, not at all = 1), in the present study, the reliability of this questionnaire by internal consistency method using Cronbach's alpha method for the components of external consistency and internal cohesion, respectively / 80, is obtained.

3. Findings

The sample group of the present study included 296 managers (94 women and 202 men) of the Islamic Azad University of Tehran, of whom 53 were under 10 years old, 140 were 11 to 15 years old and 103 were over 15 years old. The level of education of 5 participants was postgraduate, 48 undergraduate, 201 postgraduate and 42 doctoral, and finally 60 of them were single and 236 were married.

Table1. Mean standard deviation and Cronbach's alpha coefficient of decision-making styles, creative thinking, organizational culture, creativity and creative problem solving

variable	average	The standard deviation	Cronbach's alpha
Decision-making style - rational	15/56	3/67	0/850
Decision-making style - intuitive	15/49	3/86	0/821
Decision-making style - dependent	13/45	2/44	0/714
Decision-making style - instant	12/44	2/13	0/735
Decision-making-avoidance style	13/70	8/10	0/694
Creative Thinking	72/84	12/39	0/895
Organizational Culture / External Compatibility - Mission	11/30	3/62	0/786
Organizational culture / external compatibility - goals	13/96	3/06	0/830
Organizational culture / external compatibility - tools	13/35	3/15	0/726
Organizational culture / internal cohesion - common language	10/66	3/14	0/869
Organizational culture / internal cohesion - group boundary	6/66	2/30	0/633
Organizational culture / internal cohesion - reward and punishment	10/35	2/81	0/796
Organizational culture / internal cohesion - power relations	6/43	1/90	0/618

Creativity - fluidity	21/51	5/42	0/682
Creativity - Flexibility	20/34	5/36	0/812
Creativity - initiative	19/47	5/91	0/792
Creativity - Expansion	18/77	5/83	0/756
Creative problem solving	58/83	7/23	0/780

Table (1) Mean, standard deviation and Cronbach's alpha coefficients of decision-making styles (rational, intuitive, dependent, immediate and avoidance), creative thinking, organizational culture / external adaptation (mission, tools and goals), organizational culture / internal cohesion (common language) Indicates group boundaries (reward and punishment and power relations), creativity (fluidity, flexibility, initiative and expansion) and creative problem solving. Cronbach's alpha coefficients of research components of all components are close to or higher than 0.7.

The distribution of univariate data in the present study was normal, because the indices related to skewness and elongation of any of the research variables were not limited to less than 2%. Also, evaluation of tolerance and variance inflation values showed that the assumption of alignment was established between the predictor variables, because the tolerance coefficient and inflation variance of the predictor variables were greater than 0.1 and less than 10, respectively. In order to evaluate the establishment or non-establishment of the assumption of normality of multivariate distribution, data analysis related to "Mehlnobis distance (D)" was used. The values of skewness and elongation of the information related to the distance of Mehlanobays D were 0.677 and 0.603, respectively. This suggests that the multivariate distribution is normal among the data.

In the present study, it was assumed that the latent variable of organizational culture / external adaptation is measured by indicators of mission, tools and goals and the latent variable of organizational culture / internal cohesion is measured by common language, group boundary, reward and punishment and power relations. How to fit the research measurement model was evaluated by confirmatory factor analysis using AMOS 24.0 software and maximum likelihood estimation (ML). Examination of Chi-square index showed that the model did not have an acceptable fit with the collected data ($p < 0.01$, 131.23 ($df = 41$, $N = 296$) 2c). Evaluation of other fitness indices showed that with the exception of RMSEA index, other fitness indices support the acceptable fit of the initial measurement model with the collected data (df / 2c = 3.20, CFI = 0.996, 0.932 = GFI, 0.888 = AGFI and 0.086 = RMSEA). Therefore, after evaluating the correction indices and creating covariance between the errors of the two indicators of reward and punishment and the mission of organizational culture, the correction model and finally the fitness indices were obtained which showed that the measurement model fits with the collected data (113/18 = 2c, df / 2c = 2.83, CFI = 0.975, GFI = 0.941, AGFI = 0.900 and RMSEA = 0.079. Table 2 shows the standardized factor loads for each of the indicators of the latent variables.

Table2. Parameters of research measurement model in confirmatory factor analysis

Concealed variable - indicator	β
Organizational culture / internal cohesion - common language	0/804**
Organizational culture / internal cohesion - group boundary	0/**693
Organizational culture / internal cohesion - reward and punishment	0/**880
Organizational culture / internal cohesion - power relations	0/781**
Organizational Culture / External Compatibility - Mission	0/928**
Organizational culture / external compatibility - goals	0/669**
Organizational culture / external compatibility - tools	0/**824

The table above shows that the factor loads of all indicators are higher than 0.32. So that the highest factor load belonged to the mission indicator ($\beta = 0.928$) and the lowest factor load belonged to the goals indicator ($\beta = 0.669$) organizational culture / external compatibility. Accordingly, it was concluded that all markers have the necessary power to measure the latent variables of the present study.

Structural model: After ensuring the acceptable fit of the measurement model, in the next step, the fit indices of the structural model were estimated and evaluated. In the structural model of this research, it was assumed that thinking styles both directly and through the mediation of organizational culture (internal cohesion and external adaptation) predict creative problem solving. How to fit the structural model was tested using the structural equation modeling method. The results showed that the fit indices did not support the acceptable fit of the initial structural model with the collected data (2c = 225.32 (dd = 43.4), df / 2c = 5.24, CFI = 0.948, 0.898 = GFI, 0.779 = AGFI and 0.120 = RMSEA). For this reason, by creating covariance between the errors of the two latent variables of internal coherence and external consistency of organizational culture, the structural model was modified and finally the fit indices were obtained, which show that the structural model has an acceptable fit with the collected data (119.79 = (42df =) 2c, 2.85 = df / 2c, C97 = 0.978, GFI = 0.944, GFI = 0.876 and RMSEA = 0.079). Table 3: total, direct and non-direct path coefficients, Shows the directness between the research variables in the structural model.

As can be seen in Table 3, the total path coefficient (sum of direct and indirect path coefficients) between the avoidance decision style (p <0.01, β = -0.224) and the dependent decision style (<0.01). p, β = -0.152) is negative with creative problem solving and is significant at the level of 0.01. Also, the total path coefficient between intuitive decision-making style (p <0.01, β = 0.310) and rational decision-making style (p <0.01, β = 0.326) with creative problem solving is positive and at the level of 0.01 0 was significant. According to the results of Table 3, the path coefficient between the external compatibility dimension of organizational culture and creative problem solving (p <0.05, β = 0.166) on the one hand and the path coefficient between its internal coherence dimension with creative solution (<0.01) p, β = 0.365) on the other hand was positive and significant at the levels of 0.05 and 0.01, respectively. Table 3 shows that the indirect path coefficient between avoidant (P <0.01, β = 0.075) and dependent (P <0.05, β = 0.049) decision-making styles with creative solution the problem is negative and significant at the levels of 0.01 and 0.05, respectively. Also, indirect path coefficient between intuitive decision-making styles (P <0.01, β = 0.200) and rational (P <0.01, β = 0.80) with positive problem solving and at the level of 0.01 It was meaningful. This finding indicates that the dimensions of organizational culture mediate the relationship between intuitive and intellectual thinking styles with creative thinking in a positive way and the relationship between dependent and avoidance decision-making styles with creative problem solving in a negative and meaningful way. Figure 1 shows the research model in explaining the structural relationship between decision-making styles, organizational culture and creative thinking among the managers of the Islamic Azad University of Tehran.

Table3. Total and direct path coefficients between research variables in the structural model

	Predictive variable	b	S.E	β	sig
Total path coefficient	Creative problem solving→Creative Thinking	0/266	0/029	0/458	0/001
	Creative problem solving→Avoidance decision-making style	-0/241	0/098	-0/092	0/008
	Creative problem solving→Instant decision-making style	0/048	0/100	0/014	0/662
	Creative problem solving→Dependent decision-making style	-0/364	0/113	0/124	0/004
	Creative problem solving→Intuitive decision-making style	0/299	0/091	0/160	0/003
	Creative problem solving→ Rational decision-making style	0/426	0/080	0/217	0/001
Direct path coefficient	Creative problem solving→ Creative Thinking	0/099	0/043	0/170	0/033
	Creative problem solving→ Avoidance decision-making style	0/014	0/120	0/005	0/905
	Creative problem solving→ Instant decision-making style	0/007	0/091	0/002	0/995
	Creative problem solving→ Dependent decision-making style	0/082	0/147	0/028	0/507
	Creative problem solving→ Intuitive decision-making style	-0/032	0/100	-0/017	0/729
	Creative problem solving→ Rational decision-making style	0/214	0/081	0/109	0/012
	Creative problem solving→ Creativity	0/704	0/219	0/424	0/001
	Creative problem solving→ Organizational culture / external compatibility	0/186	0/181	0/086	0/319
	Creative problem solving→ Organizational culture / internal cohesion	0/703	0/222	0/279	0/005
Indirect path coefficient	Creative problem solving→ Creative Thinking	0/167	0/038	0/288	0/001
	Creative problem solving→ Avoidance decision-making style	-0/255	0/100	-0/097	0/003
	Creative problem solving→ Instant decision-making style	0/041	0/064	0/012	0/519
	Creative problem solving→ Dependent decision-making style	-0/446	0/132	-0/151	0/002
	Creative problem solving→ Intuitive decision-making style	0/331	0/081	0/177	0/002
	Creative problem solving→ Rational decision-making style	0/212	0/072	0/109	0/004

As can be seen in Table 3, the total path coefficient (sum of direct and indirect path coefficients) between the avoidance decision style ($p < 0.01$, $\beta = -0.092$) and the dependent decision style ($p < 0.01$, 124 / 0- = β) is a negative problem with creative solution and is significant at the level of 0.01. Also, the total path coefficient between intuitive decision-making style ($p < 0.01$, $\beta = 0.160$) and rational decision-making style ($p < 0.01$, $\beta = 0.217$) with creative problem solving is positive and significant at the level of 0.01. Was. Thus, in testing the first hypothesis, it was concluded that among the decision-making styles, negatively avoidant and dependent styles and positive and meaningful intuitive and rational styles predict creative problem solving in Azad University administrators.

The total path coefficient between creative thinking and creative problem solving is positive and significant at the level of 0.01 ($p < 0.01$, $\beta = 0.458$). Thus, in testing the second hypothesis, it was concluded that creative thinking positively and meaningfully predicts creative problem solving in free university administrators. The path coefficient between the external compatibility dimension of organizational culture and creative problem solving is insignificant at the level of 0.05, in contrast, the path coefficient between its internal coherence dimension with the creative problem solving was positive and significant at the 0.01 level ($p < 0.01$, 279/0 = β). Thus, in testing the third hypothesis, it was concluded that unlike the external adaptation dimension of organizational culture, its internal cohesion dimension positively and meaningfully predicts creative problem solving in Azad University administrators. The coefficient of creativity and creative solution of the problem is positive and significant at the level of 0.01 ($p < 0.01$, $\beta = 0.424$). Thus, in the test of the fourth hypothesis, it was concluded that creativity positively and meaningfully predicts creative problem solving in Azad University administrators.

Indirect path coefficient between avoidant decision-making styles ($P < 0.01$, $\beta = -0.097$) and dependent ($P < 0.01$, $\beta = -0.151$) with creative problem solving negative and significant at the level of 0.01 Is. On the other hand, the indirect path coefficient between intuitive decision-making styles (P

<0.01, β = 0.177) and rational (P <0.01, β = 0.109) with creative problem solving at the level of 0.01 It is meaningful. Also, the indirect path coefficient between creative thinking and creative problem solving was positive and significant at the level of 0.01 (P <0.01, β = 0.288). This finding, however, suggests that the dimensions of organizational culture and creativity mediate the relationship between creative thinking, intuitive, rational, dependent, and avoidance thinking styles with creative problem solving. However, given that in this study there are three mediating variables (creativity). , The dimension of external adaptation and the dimension of internal cohesion of organizational culture) are present, so the significance of the role of each of them in mediating the relationship between creative thinking, intuitive, rational, dependent and avoidant thinking styles with creative problem solving is not certain. For this purpose, the formula proposed by Baron & Kenny (1986) was used to play the unique role of each of the mediating variables (creativity, external compatibility dimension and internal cohesion dimension of organizational culture) in the relationship between creative thinking, intuitive, rational thinking styles, Dependent and avoidant to be determined by creative problem solving. Table 4-13 shows the significance of the role of creativity mediator, the dimension of external adaptation and the dimension of internal cohesion of organizational culture in the relationship between creative thinking, intuitive, rational, dependent and avoidant thinking styles with creative problem solving.

Table4. The mediating role of organizational culture and creativity in the relationship between decision-making styles, creative thinking and creative problem solving

routes	a*b	SE_{ab}	Z	β
Creative thinking → creativity → creative solution of the problem	0/102	0/036	2/83**	0/175
Instant decision-making style → creativity → creative problem solving	0/073	0/048	1/52	0/022
Avoidance decision-making style →Creativity →Creative problem solving	-0/212	0/080	-2/65**	-0/081
Dependent decision-making style → Creativity → Creative problem solving	-0/371	0/128	-2/89**	-0/126
Intuitive decision-making style → creativity → creative problem solving	0/132	0/058	2/28*	0/071
Rational decision-making style →Creativity → Creative problem solving	0/027	0/042	0/643	0/014
Creative thinking → Organizational culture / external adaptation → Creative problem solving	0/021	0/020	1/05	0/035
Avoidant decision-making style → organizational culture / external adaptation → creative problem solving	-0/008	0/014	-0/571	-0/002
Avoidant decision-making style → organizational culture / external adaptation → creative problem solving	0/011	0/016	0/687	0/007
Avoidance decision-making style →organizational culture / external adaptation → creative problem solving	-0/011	0/020	0/553	-0/004
Dependent decision-making style → organizational culture / external adaptation → creative problem solving	0/044	0/045	0/980	0/023
Intuitive decision-making style → organizational culture / external adaptation → creative problem solving	0/051	0/049	1/04	0/026
Rational decision-making style → organizational culture / external adaptation → creative problem solving	0/045	0/017	2/64**	0/077
Creative thinking → organizational culture / internal cohesion → creative problem solving	-0/028	0/161	-0/174	-0/007
Instant decision-making style → organizational culture / internal cohesion → creative problem solving	-0/061	0/038	-1/61	-0/024
Avoidance decision-making style → organizational culture / internal cohesion → creative problem solving	-0/064	0/042	-1/52	-0/022
Dependent decision-making style → organizational culture / internal cohesion → creative problem solving	0/155	0/042	3/69**	0/083
Intuitive decision-making style → organizational culture / internal cohesion → creative problem solving	0/134	0/051	2/63**	0/068

Table 4 shows that the path coefficient between intuitive decision-making style ($p < 0.01$, $\beta = 0.083$) and rational decision-making style ($p < 0.01$, $\beta = 0.068$) by creatively solving the problem mediated by the internal coherence dimension. Organizational culture is positive and significant at the level of 0.01. This suggests that the internal coherence dimension of organizational culture positively and meaningfully mediates the relationship between intuitive and rational decision-making styles with creative problem solving. And as the table above shows, the external compatibility dimension of organizational culture does not mediate the relationship between any of the decision-making styles and creative problem solving. Accordingly, in the fifth hypothesis test, it was concluded that the internal coherence of organizational culture mediates the relationship between intuitive and rational decision-making style with creative problem solving in the managers of the free university.

The path coefficient between creative thinking and creative problem solving mediated by the internal cohesion dimension of organizational culture is positive and significant at the level of 0.01 ($p < 0.01$, $\beta = 0.077$). In contrast, the indirect path coefficient between the two through the external compatibility dimension of organizational culture at the level of 0.05 was not significant. Accordingly, in the context of the sixth hypothesis, it was concluded that the internal coherence of organizational culture mediates the relationship between creative thinking and creative problem solving in a positive and meaningful way. On the one hand, the path coefficient between avoidant ($p < 0.01$, $\beta = 0.081$) and dependent decision-making styles ($p < 0.01$, $\beta = -0.126$) with creative problem solving mediated by negative creativity and at the level of 0.01 is significant. On the other hand, the path coefficient between intuitive decision-making styles and creative problem solving mediated by creativity was positive and significant at the level of 0.05 ($p < 0.01$, $\beta = 0.071$). Accordingly, in the seventh hypothesis test, it was concluded that creativity in Azad University managers mediates the relationship between intuitive decision-making style and creative problem solving in a positive way and the relationship between avoidant and dependent decision-making styles in a negative and significant way.

The path coefficient between creative thinking and creative problem solving mediated by creativity is positive and significant at the level of 0.01 ($p < 0.01$, $\beta = 0.175$). Accordingly, in the eighth hypothesis, it was concluded that creativity mediates the relationship between creative thinking and creative problem solving among the managers of Azad University in a positive and meaningful way.

Figure 1 shows the research model in explaining the structural relationship between creative thinking, decision-making styles, organizational culture, creativity and creative problem solving among the managers of the Islamic Azad University of Tehran. In this way, among the decision-making styles, avoidant decision-making style and negatively dependent decision-making style, and intuitive decision-making style and rational decision-making style positively and meaningfully predict creative problem solving in Azad University administrators. Creative thinking positively and meaningfully predicts creative problem solving in Azad University administrators. In contrast to the external compatibility dimension of organizational culture, its internal cohesion dimension positively and meaningfully predicts creative problem solving in Azad University administrators. The internal coherence of organizational culture mediates the relationship between intuitive and rational decision-making style with creative problem solving in free university administrators. The internal coherence of organizational culture mediates the relationship between creative thinking and creative problem solving in a positive and meaningful way. Creativity in Azad University administrators mediates the relationship between intuitive decision-making style and creative problem solving in a positive way and the relationship between avoidant and dependent decision-making styles with creative problem solving in a negative and meaningful way. Creativity mediates the relationship between creative thinking and creative problem solving among Azad University administrators in a positive and meaningful way.

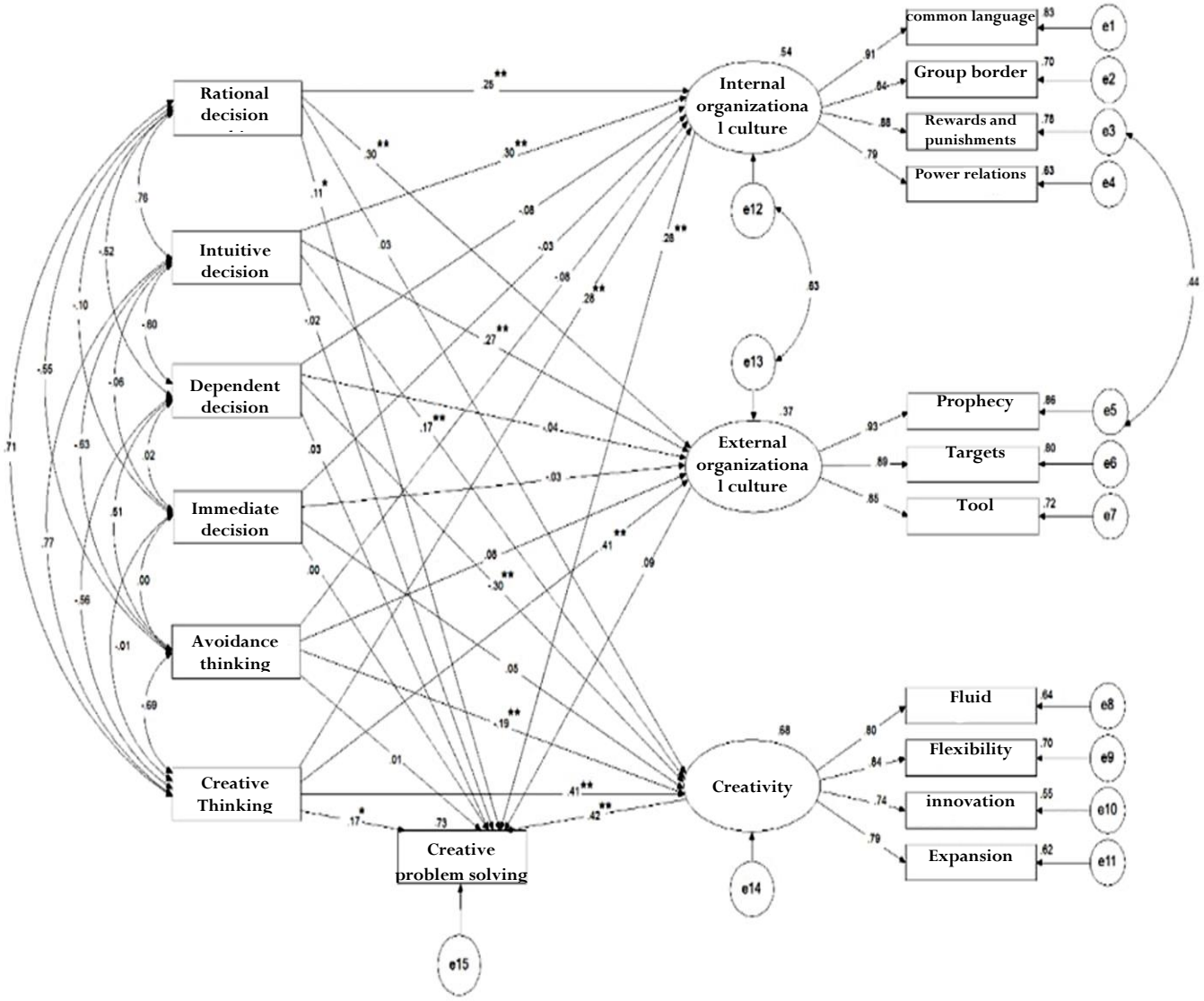

Figure1. Structural relationship between creative thinking, decision making styles, organizational culture, creativity and creative problem solving among the managers of Islamic Azad University of Tehran

4. Discussion

Life is a continuous process of facing problems and trying to solve them. Successful solving of life problems leads to more self-confidence and peace of mind, while incomplete resolution or unresolved knots will seriously threaten a person's mental health. Problem solving enables one to face the problems of one's life constructively. Facing constructive problems is an extremely valuable skill that training is absolutely necessary for people (Khorasani & Shekari, 2019). The first finding showed that decision-making styles significantly predict creative problem solving in Azad University administrators. Decision making is one of the most central processes in the organization and is the main task of managers at all levels. As some experts believe, all management is decision making. The existence of a plan, program, policy and policy depends on the existence of decision making. Also, the manager usually considers his main task to be decision-making, because he should always think about what path to choose, what to do,

how to divide the tasks between people, etc, Creative solution of managers' problems from the perspective of experts in the field of educational management. In the model analysis, it has been found that among the decision-making styles, avoidance-dependent and negatively dependent styles, and intuitive ($\beta = 0.160$) and rational ($\beta = 0.217$) styles, positively and meaningfully creative problem solving, Predicts in the managers of Azad University. Consistent with the obtained results can be the results of research of Mazaher et al (2017), Moradi, Baseri, Moaven Jula (2017), Khodayari (2015), Amouzad (2015), Ghasemi Pir Balouti (2015), Ghadiri (2014), Zare & Sheikh Bahaei (2014) and Jafarpour (2011), Çidem (2017), Uwaleke, Offiah (2013) and Sternberg & Lobart (2001) and in explaining the result, it can be stated that In different situations, they are forced to make decisions and show different reactions to decisions. In order to be able to make the right and creative decision, they must rely more on their rationality than their emotions and make rational and logical decisions.

The second finding showed that organizational culture significantly predicts creative problem solving in Azad University administrators. Organizational culture is an environmental variable that affects all members of the organization to a different extent and therefore a proper understanding of this structure is important for the management of the organization and effective work. The members of the organization teach the written and even unwritten culture of their organization to the new members to solve the problems related to external compliance and internal integration as the best way to solve the problems. Therefore, by having the necessary capacity to change and transform the organizational culture, it is possible to change the actions of the thoughts and feelings of a large part of the members of the organization. Findings indicate that the development of organizational culture that stimulates creativity and innovation is essential for organizations seeking competitive advantage (Sirkova, 2016). Basically, managers need a strong and supportive culture in their organization to solve problems creatively. It is an environment in which the qualities of teamwork, trust as well as participation prevail. The results of the study also indicate that the dimension of internal cohesion of organizational culture positively and significantly predicts creative problem solving in Azad University managers ($\beta = 0.279$) and the dimension of internal cohesion of organizational culture predicts the relationship between intuitive decision making (083). $B = 0.0$) and rational ($\beta = 0.068$) mediates the problem by creative problem solving as well as the relationship between creative thinking and creative problem solving in free university administrators ($\beta = 0.07$) which can be consistent with the result obtained. Referring to the study of Alamin et al (2015), Sirkova (2016) and in completing the explanation of the result stated that in order to have a creative atmosphere in schools, strengthen organizational culture for internal cohesion, and define group boundaries, rewards and punishments, relationships Power is essential.

The third finding showed that organizational culture mediates the relationship between decision making and creative problem solving in free university administrators. Organizational culture has a significant impact on employees' attitudes and responsibilities and, consequently, the overall effectiveness of the organization (Hogan & Coote (2014)). The stronger the culture, the greater its impact on employees 'attitudes and behaviors, and increases employees' decision-making power to solve creative problems creatively. Due to employees 'alignment with organizational values, strong culture can respond to employees' stimuli. The phrase should be acceptance of innovation and creative problem solving (Naranjo-Valencia et al, 2016).

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