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The Mediating Role of Artificial Intelligence on the Relationship Between Organizational Climate and Employee Creativity Behavior: A Field Study

Hussain K. Hussain Alagele[1], Nagham H. Neama[2], Natalya ahmed alkaseer[3] Haidar Ali Al Dulaimi[4], Sanaa eesee abd[5]

Abstract

The transportation sector is considered one of the important sectors in all countries because of its importance in keeping pace with the development and technology used in various fields. Today, the world competes to provide the best services to customers and citizens. The transportation sector is divided in all countries. In light of the technology used today by some countries, it is considered a qualitative addition to the transportation sector. In this study, three main variables were taken (organizational climate, artificial intelligence, Employee creativity Behavior). A random sample of workers in the transportation sector was taken using a questionnaire as a main tool in collecting data. 220 transport sector workers were selected. The data collected was analyzed through the SPSS statistical program, Model 24, and through the structural equation model, SEM - AMOS program, Model 24. The results showed that the role of the mediator, artificial intelligence, is very important in mediating the relationship between the organizational climate and Employee creativity Behavior. In addition, artificial intelligence affects Employee creativity Behavior, and the organizational climate affects artificial intelligence and innovation directly and indirectly with a positive statistical significance.

Keywords: *Organizational Climate, Artificial Intelligence, Employee Creativity Behavior, Transportation Sector, SEM-AMOS.*

Introduction

All countries are interested in the transportation sector with great interest due to its prominent role and effective contribution in serving customers and citizens. The transportation sector has witnessed significant and noticeable development in recent years, as this sector has emerged through the use of modern technologies in various scientific fields and modern studies in the field of public transportation and the private transportation sector. [1] Technology has contributed directly and indirectly to the process of urban development in advanced stages in very advanced countries of the world, as it has shed light on the transportation sector and focused studies on the role of transportation and its connection in various fields, especially in the field of technology, as there is a close relationship between technology and the transportation sector, as this relationship contributes to the development of transportation lines from modern and advanced machines and equipment that contribute to global competition in the field and world of transportation. The transportation sector in the countries of the world is represented by a large system of transportation lines represented by air, maritime transportation and land transportation, as each sector or means of transportation mentioned includes a large system of workers in this sector who contribute greatly to completing their work in a way that ensures the best services for customers. [2] There is great competition between the public sector and the private sector in the field of air, maritime and land transportation, as they compete on how to provide the best services to citizens and customers. In the view of many researchers The transportation sector is considered one of the important sectors that attract attention because of the great importance of this sector in the services it provides and the services provided by it, and because the sector is constantly changing and updating in all areas specialized in transportation. The transportation sector is strongly linked to other sectors, especially technological ones[3,4]. The

[1] Ministry of Higher Education and Scientific Research, Baghdad Iraq, Email: hussain.alagele@gmail.com, (Corresponding Author)
[2] Department of Economics of Investment and Business Management, College of business economics, Al- Nahrain university, Baghdad Iraq, Email: nagham_alnama@nahrainuniv.edu.iq
[3] Faculty of Administration and Economics, University of Kufa; Natalya.alkaseer@uokufa.edu.iq
[4] College of administrative sciences, Al- mustaqbal university; Haidar.ali.aldulaimi@uomus.edu.iq
[5] Department of Economics of Investment And Business Management, College of business economics, Al- Nahrain university, Baghdad Iraq

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modernity of the transportation sector is very important because it contributes to facilitating and developing work between the citizen and the transportation sector [5]. There comes the role of quality in transportation projects, as the quality of services provided in the field of transportation varies from one country to another according to the nature of the climate and the raw materials used in transportation projects. Countries occupy high ranks in these projects due to their quality and service provided.

Literature Review

Many studies have proven that the climate plays a major role in strengthening the relationship and in the modernity and technology used in transportation projects. The organizational climate includes the work environment of labor and raw materials and provides high opportunities to attract modern projects in the field of transportation to work on developing transportation in general. Accordingly, the organizational climate is considered an effective and very important element in providing and preparing the work environment. Administrative leaders contribute to providing a suitable work environment for projects specialized in transportation by setting plans, goals and strategies that are appropriate for completing the work projects specialized in transportation. The stage of arrival of workers in the field of transportation comes through providing a high-level work environment that is capable of development and modernization according to solid scientific standards. [21,22,23]The organizational climate contains the organizational climate. The organizational climate is considered one of the most important fields that contribute to the modernity of technological sciences, including various scientific fields.[15,16,17] Many studies have proven that the organizational climate is considered one of the Variables are of great and strategic importance due to their significant impact on the work environment and the importance of their relationship with other variables, as many studies have proven that there is a strong relationship between the organizational climate and artificial intelligence. In addition, artificial intelligence is considered a modern topic. Given the importance of artificial intelligence, it has received a large amount of attention from many researchers due to its great importance in many recent studies, which have proven that artificial intelligence has a great relationship with the organizational behavior of employees and the organizational climate of the work environment. In addition, there is a strong relationship between the organizational climate and artificial intelligence.[5,6] Modern institutions are interested in artificial intelligence because it facilitates work procedures and provides the work environment with scientific and technological services in facilitating the work environment, which contributes to developing employee behavior and raising the level of capabilities and experiences. Since artificial intelligence is considered a very important and effective element and an indivisible part of the work environment, artificial intelligence contributes greatly to developing the work environment from all administrative, technical and technological aspects and in raising the level of skills and capabilities of employees in the organization.[9,13,14] Modern research has focused on artificial intelligence by conducting scientific field and exploratory studies and in various Fields and sciences where artificial intelligence is linked in all fields, especially at the present time, there is an urgent and necessary need and because it is in a state of continuous development and the world and all countries are competing to develop programs related to artificial intelligence and in continuous development as an important part of daily life Modern industries rely on it to operate the place, equipment and mechanisms, and in line with keeping pace with global development.[10,12,25,26] Employee creativity behavior is also considered one of the important topics that organizations aim to achieve by adapting to the advanced and modern work environment, as there is a strong relationship between artificial intelligence and Employee creativity behavior, which is what recent studies have proven. Employee creativity behavior is considered a basic goal that all organizations aspire to achieve.[1,2,7] Studies have shown that Employee creativity behavior is closely related to artificial intelligence, and organizations seek to shed greater attention for the purpose of achieving Employee creativity behavior through the work environment, organizational climate[18,19,20], level of technology and artificial intelligence, all of which contribute to achieving Employee creativity behavior. Innovation creation comes through great efforts in skills, goals, plans and strategies that organizations work with in order to achieve the highest level of innovation, as Employee creativity behavior differs from one organization to another, and all of them seek to achieve the highest level of innovation stages [8]. Accordingly, this study came to study three main variables that focus on shedding high attention on an important sector of the public sectors, which is transportation in all its fields (land transportation, maritime transportation and air transportation). Each of these branches includes many branches and large

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work spaces, the aim of which is to provide the best services provided to Workers in this sector and since the study was based on three main and important axes to study the transportation sector in general and the axes or variables were (organizational climate, artificial intelligence, Employee creativity behavior) and all of them were studied in the transportation sector from various administrative and technical aspects and given the importance of this topic the study focused on these variables and given the existence of a strong relationship between the variables mentioned a positive moral relationship because artificial intelligence has a relationship with all other administrative and technical sciences and accordingly this study focused on the role of artificial intelligence as a mediator between the organizational climate and Employee creativity behavior for workers in the public and private transportation sector.

The Problem of The Study

The transportation sector is considered one of the important sectors in all countries and is of wide interest to researchers due to its great importance in the services it provides to customers and in its various branches (sea, air and land transport) and its close connection with the technology used. Therefore, the work environment represented by the organizational climate contributes directly and indirectly to achieving innovation for workers in the transportation sector. This is done through artificial intelligence due to its major role in facilitating work procedures from developing and raising the level of capabilities of workers in the transportation sector in addition to its contribution to keeping pace with modernity. Accordingly, this study focused on studying the role of the mediator of artificial intelligence on the relationship between the organizational climate and Employee creativity behavior for workers in the transportation sector.

Objectives of Study

- To Measuring the impact of organizational climate on artificial intelligence in transportation sector.
- To Measuring the impact of organizational climate on Employee creativity behavior in transportation sector.
- To Measuring the impact of intelligence significantly on Employee creativity behavior in transportation sector.

Hypothesis of Study

- Hypothesis (H1) organizational climate (OCL) significantly affects artificial intelligence(AI).
- Hypothesis (H2) organizational climate (OCL) significantly affects Employee creativity behavior (OC).
- Hypothesis (H2) artificial intelligence (AI) significantly affects Employee creativity behavior (OC).

Conceptual Framework

Figure 1 shows the theoretical framework of this study, which consists of three main variables: the independent variable, mediating variable, and the dependent variable. The independent variable in this study is the organizational climate, the mediating variable is artificial intelligence, and the dependent variable is Employee creativity behavior. Accordingly, this study focused on studying the direct impact of the organizational climate on Employee creativity behavior. This study focused on studying the mediating impact of artificial intelligence on the relationship between organizational climate and Employee creativity behavior.

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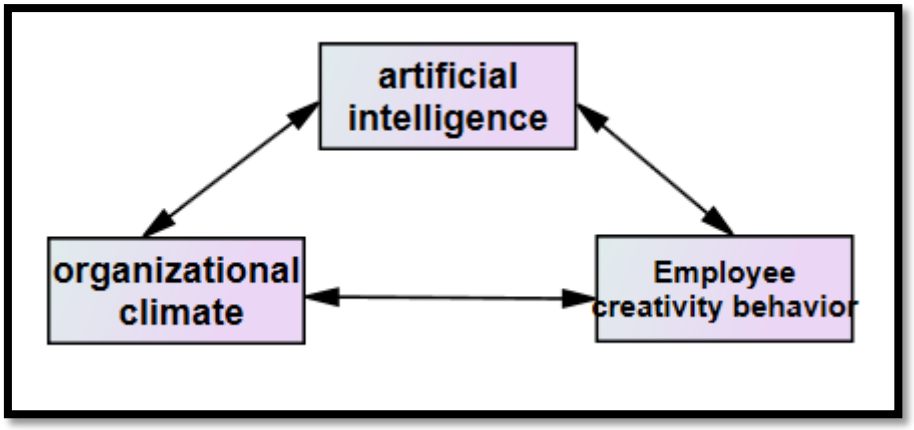

Figure 1. Conceptual Framework

Results

The data was collected by selecting a random sample of workers in the transportation sector, as the main tool for collecting data is the questionnaire form used in collecting data. This questionnaire was designed based on previous studies, as the independent variable represented by the organizational climate included [10] paragraphs, the intermediate variable represented by artificial intelligence [8] paragraphs, and the dependent variable, Employee creativity behavior, included [7] paragraphs. The collected data were analyzed using the statistical program, where they were entered into the SPSS program, model 24, and then the relationship and influence were measured using the structural equations model SEM-AMOS, model 24, where the data was used as an initial stage for the purpose of demonstrating the reliability and homogeneity of the data.

Reliability

The data was entered into the SPSS program to analyze the reliability of the data, where it was found that the valid percentage for the analysis was 227. Through reliability, it was found that all the ratios were acceptable, more than 0.70, according to the table 1 shown.

Table 1. Reliability of Variables

Variables cod		Items
organizational climate (OCL)	independent	0.87
artificial intelligence(AI).	mediator	0.80
Employee creativity behavior (OC).	dependent	0.87

The Measurement Model for Organizational Climate (Ocl)

Figure No. 2 shows the measurement of the items related to the organizational climate variable through the Amos program, the structured equations model, where ten items were measured and it became clear that three of them were deleted because they were less than 0.50, which are (OCL2,OCL4,OCL6,OCL8) according to [28,29,30]. The rest of the items were in accordance with and in conformity with the standards, which are (OCL1,OCL3,OCL5,OCL7,OCL9,OCL10) the impact factor was more than 0.50

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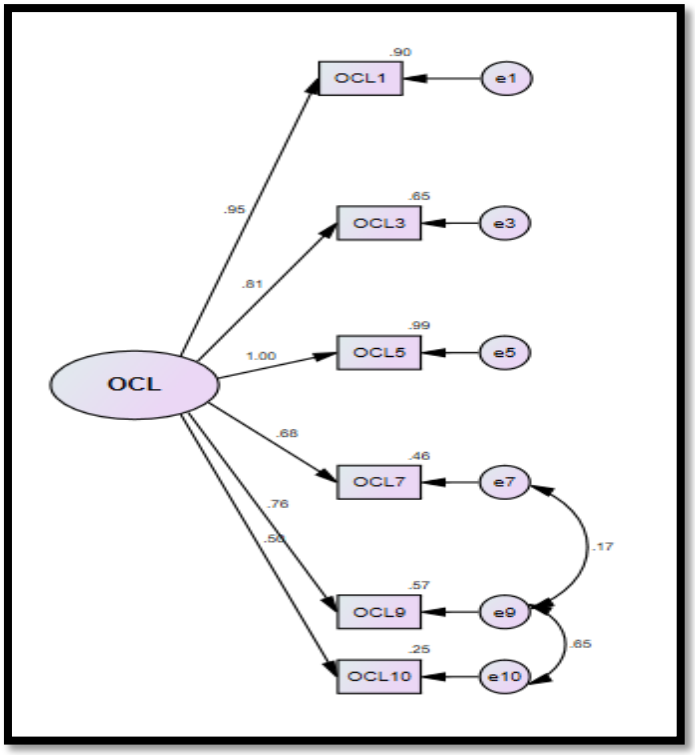

Figure 2. The Measurement Model for Organizational Climate (Ocl)

The Measurement Model For Artificial Intelligence(Ai).

The items related to the mediating variable (artificial intelligence) were measured, eight in number, through the Amos program, and it was found that some items were less than (AI4,AI6,AI7,AI8) was deleted and the remaining items were acceptable because the impact factor was more than (0.50) (AI1,AI2,AI3,AI5) according to (25,26,27).

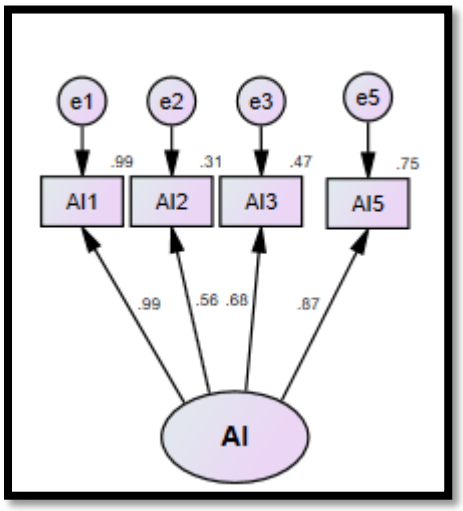

Figure 3. The Measurement Model For Artificial Intelligence(Ai).

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The Measurement Model for Employee Creativity Behavior (Oc).

The items of the dependent variable were measured through the structural equations model using the Amos program, where seven items were tested and it was found that the seventh item OC7 was impact factor less than and was deleted, while the remaining six items (OC1,OC2,OC3,OC4,OC5,OC6) were according to the standards, as the influence factor is more than 0.05 according to [29,30,31].

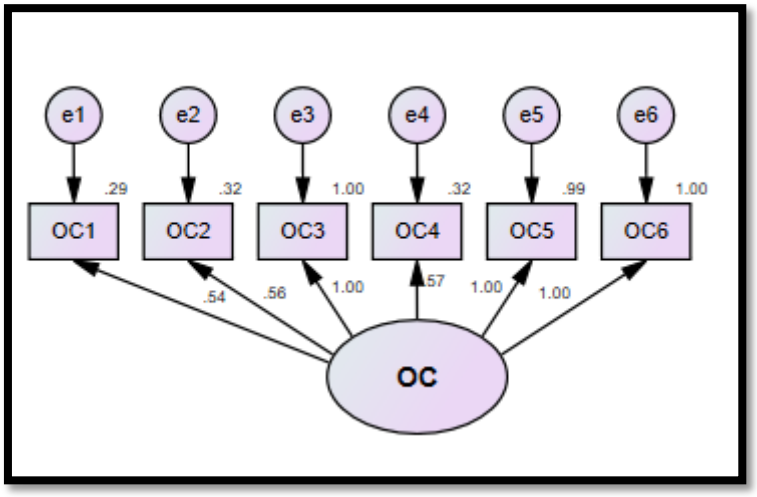

Figure 4. Measurement Model for Employee Creativity Behavior (Oc).

The Relationship Between Organizational Climate And Artificial Intelligence And Employee Creativity Behavior

Figure 5 shows the relationship and influence between the three variables organizational climate and artificial intelligence and Employee creativity behavior by measuring them using the structural equations model. The hypotheses that were set, which consist of three basic hypotheses for the study, were tested, as it is clear from testing the first hypothesis that there is a strong direct relationship between the organizational climate and artificial intelligence. In addition, the organizational climate affects artificial intelligence with a significant statistical effect, and accordingly, the first hypothesis is considered acceptable and achieved. Figure 5 shows the relationship and influence between the three variables by measuring them using the structural equation model. The results showed that there is a strong relationship between organizational climate and Employee creativity behavior, i.e. the independent variable, organizational climate, affects the dependent variable, Employee creativity behavior, with a significant statistical effect. Therefore, the second hypothesis is considered achieved and accepted. In addition, the variable, artificial intelligence, affects Employee creativity behavior with a significant statistical effect. Therefore, the third hypothesis is considered achieved.

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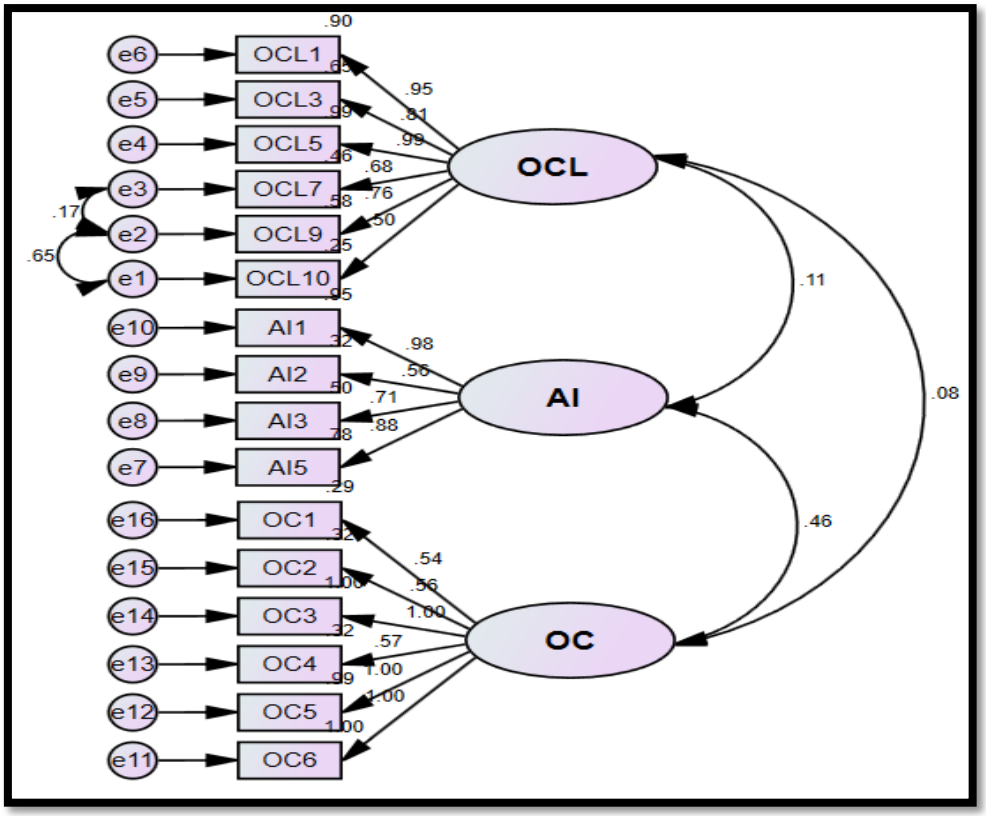

Figure 5. Relationship Between Organizational Climate and Artificial Intelligence and Employee Creativity Behavior

Table 2: Tests of Hypothesis

	Hypothesis	Test
H1	organizational climate (OCL) significantly affects artificial intelligence(AI).	Supported
H2	organizational climate (OCL) significantly affects Employee creativity behavior (OC)	Supported
H3	artificial intelligence (AI) significantly affects Employee creativity behavior	Supported

Conclusion

This study was conducted in the transportation sector due to its great importance in daily life and in view of the technological development that the world is witnessing today and the global competition in this sector, which made it obligatory and a focus of great attention and interest. Accordingly, a random sample of workers in the transportation sector in its various branches was selected. Three basic variables were selected in contact with the transportation sector, namely the organizational climate, meaning the work environment of labor, machinery, equipment, technology, social conditions, and the level of management used, where it was chosen as an independent variable. The dependent variable was chosen, which is Employee creativity behavior, meaning how to bring workers to the highest level of innovation and organization. Artificial intelligence was chosen as an intermediary variable due to its great importance in updating information and keeping pace with the outside world in using the highest technology and technology. The data were collected by relying on the questionnaire form as a basic tool and the data were entered using the SPSS program, model 24. The reliability of the data was measured and the structured equations model was used through the AMOS - SEM program to find the relationship and influence between the variables. Based on the hypotheses, they were tested, as it was found that there is a strong

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relationship between the organizational climate and Employee creativity behavior, a relationship and influence with positive moral significance. In addition, it was found that there is a positive relationship and influence between the organizational climate and artificial intelligence, a relationship with moral significance.

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