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The Degree of Availability of an Innovative Climate in Global Virtual Universities in Light of the Variables of Incentives and Interest in Employees

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Abstract
This study aimed to identify the degree of availability of an innovation climate in global virtual universities in light of the variables of incentives and employee engagement. The study sample, which was stratified randomly, consisted of (380) faculty members. The descriptive survey approach was used in the current study. To achieve the study's objectives, a questionnaire was developed, and its validity and reliability were verified. The results showed that the degree of availability of the prevailing innovation climate in global virtual universities in light of the variables of incentives and employee engagement was moderate. The study results also revealed statistically significant differences at the significance level ($\alpha \leq 0.05$) due to the gender variable in favor of males. There were no statistically significant differences due to the variable of college type, and no statistically significant differences due to the variable of academic rank. In light of these results, the study recommended that global virtual universities pay utmost attention to the innovation climate, stimulating the conduct of studies and research from time to time to identify the conditions of faculty members working there and the nature of the problems they face at the economic, social, and psychological levels within the university work environment.

Keywords: Global Virtual Universities, Innovation Climate

Introduction

Global virtual universities, as institutions dedicated to providing higher education and scientific research services, are receiving great attention from all students worldwide. These institutions are able to provide higher education and scientific research more easily and at a lower cost in terms of time, effort, and money. Virtual universities have also been able to build bridges of trust between themselves and all those who practice learning and experience knowledge in all its aspects. They have worked to provide sources of knowledge and deliver them to students within principles that take into account the quality of education and the high quality of educational services provided, in accordance with the principles of international accreditation recognized worldwide, this has effectively contributed to reducing costs for students and enabling them to obtain certificates that guarantee employment. The best evidence of this is the distinguished educational outcomes provided by the American University of the People, which has opened up the opportunity for its students to be employed in the most famous international organizations, such as Google and Microsoft, in hospitals, within the fields of business, health, and education. Virtual universities play a major role in the fields of teaching, scientific research, community service, and advancement. This requires those institutions that raise the banner of higher education in societies to ensure an internal environment characterized by positivity, innovation, and creativity, and more effective atmospheres to enable them to carry out their duties and responsibilities towards society, as well as the students who constitute the elite chosen from all classes of that society.

Such a matter requires the university administrations in charge of this type of university to work hard to ensure the stability of the university environment to be an incubator for science and knowledge, so that it provides society with all its economic, social and educational institutions with distinguished competencies, which contributes to raising their level and improving their services. Hence, the importance of achieving an innovative climate in universities, especially virtual universities, becomes clear.

Numerous studies and research confirm that the innovative climate in any organization, with its various dimensions, contributes to highlighting principles that enhance the ability to develop, modernize, and continuously change, ensuring a state of new creation for everything new and not relying on what exists, while emphasizing the importance of preserving the achievements made by the organization so that they can be built upon and ensure their integration with everything new, and working seriously to advance the innovative and creative side of its employees, in a way that contributes to achieving the organization's goals and satisfying individual and collective needs and desires, An innovation climate is defined as the environment or general atmosphere within an organization, institution, or specific community that encourages the process of innovation and creativity. (Al-Baher, 2025) [2].

Research Problem and Questions

Any educational institution strives to create an innovative and effective environment, in order to achieve the highest levels of productivity, efficiency, and effectiveness. This ensures that it prioritizes everything that enhances the quality of its employees and ensures a high level of interaction, integration, and active participation in fulfilling the duties and tasks assigned to them. Looking at global virtual universities, the researcher noted a weakness in the level of incentives offered to faculty members in particular. This leads to a lack of attention to them, in terms of supporting them with attractive salaries and engaging them in conferences and training courses that contribute to building a system of innovation and creativity within them and raising their professional level. This has contributed significantly to the exclusivity of some employees and the monopolization of their studies and intellectual achievements, while others are not aware of their work and accomplishments.

Such a thing contributes to killing creativity and stifling the state of innovation, which must be clearly evident in higher education institutions, given that these institutions lead society and move it from its status to more advanced levels. This is confirmed by the results of the studies of each of: Jayan (2021) [3], Al-Jar (2023) [4], and Al-Hamad (2022) [5]. This study seeks to identify the reality of the innovation climate in global virtual universities in light of the variables of incentives and interest in employees, by answering the following questions:

- **Question 1:** What is the degree of availability of an innovative climate in global virtual universities, in light of the variables of incentives and employee engagement, from the perspective of faculty members working at these universities?
- **Question 2:** Are there statistically significant differences at the significance level ($\alpha \leq 0.05$) between the arithmetic means of the study sample members' responses to the degree of achievement of an innovative climate in global virtual universities, in light of the variables of incentives and employee engagement, attributable to the variables (gender, college type, and academic rank)?

Significance of the Study

It is hoped that the results of this study will:

- From a theoretical perspective, add a new knowledge base in the field of innovation climate and the methods and mechanisms for activating and leveraging it.
- From a practical perspective, assist in the field and decision-makers and policymakers in higher education by ensuring the stability of the concepts of creativity and innovation within the educational institution, achieving full commitment to its overall objectives, and localizing the principles of creativity and breaking away from convention within the virtual university work environment.

Study Terminology

This study included the following terms:

- **Global Virtual Universities:** These are universities that offer higher education in various disciplines remotely, making it available to all students in all countries of the world, regardless of their nationalities, ethnicities, origins, and ideologies (Jayan, 2021) [3].
- **Innovation Climate:** The shared sense among individuals about the extent to which their organization encourages new ideas, experimentation, calculated risk-taking, and learning from failure (Al-Baher, 2025) [2].

Study Limits

The study limits included the following:

- **Human limits:** Faculty members at global virtual universities.
- **Temporal limits:** The academic year (2024/2025).
- **Spatial limits:** Mid-Ocean University, Islamic University of Minnesota, and Leeds Professional University.

Previous Related Studies

This section will include a presentation of the previous studies reviewed, arranged chronologically from most recent to oldest, as follows:

Al-Jar (2023) [4] conducted a study aimed at identifying the relationship between work climate and innovative behavior among administrators in colleges of applied sciences in the Sultanate of Oman. To achieve the study objectives, the researchers prepared two questionnaires. The first questionnaire was about the work climate scale, which consists of 34 paragraphs distributed over seven areas. The second questionnaire was about the innovative behavior scale, which consists of 26 paragraphs. The study concluded that after verifying the validity and reliability of the questionnaire, (224) administrators and administrators from the study community were invited to answer the questionnaire paragraphs. The study used the descriptive approach, and the study concluded that there is a positive correlation between work climate and innovative behavior among administrators in colleges of applied sciences in the Sultanate of Oman. The researchers recommend the following: Developing future plans to nurture innovators, either by holding training courses to enhance their innovative behavior or competitions to motivate them to innovate

Al-Hamad (2022) [5] conducted a study aimed at revealing the impact of innovation management on the innovation climate through a comparative study of commercial banks in the State of Kuwait and the Kingdom of Bahrain. The descriptive analytical approach was used to collect information from primary sources of literature related to the topic of the innovation climate and its impact on achieving customer satisfaction. Data was also collected from primary

sources by developing a scale that serves the study's objectives. It was distributed to members of the study sample, which consisted of (5) banks in the State of Kuwait as well as in the Kingdom of Bahrain. After analyzing the study data, it was concluded that: There is a statistically significant impact of innovation management on the innovation climate, indicating the presence of a statistically significant correlation between innovation management and the innovation climate in the State of Kuwait and the Kingdom of Bahrain alike. It also showed the presence of statistically significant differences attributed to the impact of the region in all areas and in the overall score, and the differences were in favor of Bahrain. The study recommended the need to search for a training program to develop its employees to perform their work to the fullest extent, and to provide new methods and technology to facilitate the provision of service to customers, as well as the benefit of commercial banks in the State of Kuwait from the work of commercial banks in the Kingdom of Bahrain, and finally the need for commercial banks in the State of Kuwait to benefit from the work of commercial banks in The Kingdom of Bahrain aims to achieve higher practice scores in innovation management, which is expected to impact the innovation climate at work, which will impact overall business performance.

Jayan (2021) [3] conducted a study aimed at evaluating the reality of creativity and its impact on the organizational climate in educational institutions to diagnose the most important obstacles to creativity in the work environment. (100) validated questionnaires were distributed to teaching and administrative staff in two governmental and private educational institutions. The questionnaire included the main variables of the research (creativity and organizational climate) and three sub-dimensions for each variable for the purpose of conducting a comparative study between these two institutions. A number of statistical methods were used, including: (arithmetic means, standard deviations, simple correlation coefficient (Pearson), goodness of fit test, and impact test, in addition to tests for two independent, unrelated samples and other statistical methods). The most important conclusions reached by the research were that the management of private educational institutions was better than governmental educational institutions in creativity and organizational climate, due to their adoption of a policy of competition and attraction to increase their financial and human resources. Thus, we conclude that there are more obstacles to creativity in governmental educational institutions than in private institutions because the latter constantly seek to adopt and encourage distinguished energies. The most important thing recommended by the research is the necessity for the administration in these institutions to adopt strategies that are compatible with the reality of education in Iraq, which can help create and encourage creativity and creative people, believing in the impact of creativity on the organizational climate, as all organizations, whether service or production, seek to bring about positive changes from time to time, by investing the components they possess in the optimal way, and the creative human resource is one of the most important of these components on which the research is based.

Hilal (2021) [6] conducted a study that aimed to identify the concept, objectives, and models of virtual university education, in addition to identifying the factors that limit the achievement of the principle of equal educational opportunities in the traditional Saudi university education system, and examining the possibility of achieving the principle of equal educational opportunities in light of virtual university education. The current study derived its importance from the importance of the topic it addressed, as global and Arab trends focused on virtual education, and it is also a formula that helps expand higher education to achieve equal educational opportunities. The study relied on a complex methodology based on the pragmatic viewpoint in obtaining knowledge. It is based on a mixed quantitative/qualitative research design, which is based on the descriptive approach; given that it is compatible with the nature of the study in terms of description, interpretation, and analysis. The study used a questionnaire and interview as tools for data collection, which were applied to a sample of male and female students from some practical and theoretical colleges at Qassim University at the undergraduate and postgraduate levels. The study found that there are multiple models of university education, with varying levels of virtual component. It also found that virtual university education increases equal educational opportunities among learners by overcoming the factors that prevent them from accessing appropriate educational opportunities in the Saudi university education system. The study recommended the importance of implementing various models of virtual university education alongside traditional education to meet the needs of all those seeking educational opportunities that suit their economic, family, and work circumstances, or their geographical distance from university campuses.

The study of Al-Abaadi (2015) [1] aimed to identify the reality of the prevailing innovative climate in Jordanian public and private universities in the central region from the point of view of faculty members. The study sample consisted of (393) faculty members, constituting (8.4%) of the total study population. The results indicated that the degree of the prevailing innovative climate in Jordanian universities was average, as the dimension of relationships and communication came in first place with a high degree, while the dimension of leadership behavior came in last place with an average degree. The results also indicated that there were no statistically significant differences in the total degree attributed to gender, while statistically significant differences were shown in the total degree of the prevailing organizational climate and in the dimensions; organizational structure, decision-making, incentives and rewards, and professional advancement and development, attributed to academic rank, in favor of those with the rank of professor compared to those with the rank of instructor, and the presence of statistically significant differences in the degree of the overall innovative climate and the two dimensions; Morale, incentives and rewards are attributed to specialization, in favor of scientific specializations. It also showed that there are statistically significant differences in the overall innovation climate and dimensions attributed to the type of university, in favor of public universities.

Summary of Previous Studies and the Location of the Current Study

Previous studies were used to identify the appropriate methodology and statistical processes, and to identify the theoretical framework for the study's topics and variables. They also served to construct the study's tool, particularly the studies of Al-Abbadi (2015) [1] and Al-Jar (2023) [4]. The

current study is consistent with previous studies in reviewing the concepts of the innovation climate, their dimensions, and the extent of their activation in educational institutions, including universities. The current study is similar to previous studies, particularly the studies of Al-Hamad (2022) [5] and Jayan (2021) [3], in terms of the study population. However, it differs from those studies in its focus on studying global virtual universities.

Methods and Procedures

The descriptive survey approach was used to achieve the study's objectives.

Study Population: The study population consisted of all faculty members at global virtual universities, numbering (3,270). Table (1) shows the distribution of the study population according to the study variables.

Table 1: Distribution of the community according to the study variables

Variables	Variable	Number	Total
sex	Male	2242	3270
	Female	1058	
Academic Rank	Professor	433	3270
	Associate Professor	676	
	Assistant Professor	1572	
	Lecturer	589	
College Type	Humanity	1941	***3270***
	Scientific	1329	

Source: QS Foundation, 2024

Study Sample

According to Stephen Thompson's equation, the minimum size of a stratified random sample representing the population at a significance level of ($\alpha \leq 0.05$) was calculated, which was (343) faculty members. To account for sample waste and indifference in response, the actual sample size was determined to be (400) faculty members. The researchers distributed the questionnaire to the study sample located at three virtual international universities. (380) questionnaires were retrieved out of (400). Table (2) shows the distribution of the representative study sample, which was extracted according to Thompson's equation according to the study variables.

Table 2: Sample distribution according to study variables

Variables	Variable	Number	Total
sex	Male	283	400
	Female	117	
Academic Rank	Professor	50	400
	Associate Professor	86	
	Assistant Professor	202	
	Lecturer	62	
College Type	Humanity	239	400
	Scientific	161	

Study Tool

The study tool was developed by consulting theoretical literature and some previous studies, such as Al-Jar's study (2023) [4] and Al-Hamad's study (2022) [5], to achieve the study's objectives and answer its questions. The study tool, in its initial form, consisted of (30) paragraphs, and in its final form, of (24) paragraphs distributed across two areas: employee care (faculty members), consisting of (17) paragraphs, and incentives, consisting of (7) paragraphs.

To verify the validity of the tool, content validity was applied, as it was presented in its initial form to (9) arbitrators specialized in educational administration, and they were asked to express their opinion on the paragraphs of the study tool in terms of the wording of the paragraphs, and the extent of their suitability to the field in which they were placed, either by approving them, modifying their wording, or deleting them due to their lack of importance. Their comments were taken into account regarding the modification, deletion, addition, and merging of paragraphs, as the number of its paragraphs reached (24) paragraphs.

To verify the stability of the tool, the internal consistency coefficient was used according to the Cronbach Alpha equation to extract the stability of the study tool according to the fields. Table (3) shows the stability coefficients of the tool's fields:

Table 3: Cronbach's Alpha reliability coefficients for the study tool domains

number	Field	Cronbach's alpha
1	Employee Attention (Faculty Members)	0.96
2	Incentives	0.92

Table (3) shows that the reliability coefficients were acceptable. To assess the degree of availability of an innovative climate in global virtual universities, the following scale was adopted: low availability (2.33 or less), medium availability (2.34-3.67), and high availability (3.68 or more).

Study Results and Discussion

Results related to answering the first question: What is the degree of availability of an innovation climate in global virtual universities in light of the variables of incentives and employee engagement, from the perspective of faculty members working at these universities?

To answer this question, the arithmetic means and standard deviations were calculated for the responses of the study sample members in general and for each field of study, as shown in Table (4).

Table 4: Arithmetic means, standard deviations, and ranking of the degree of innovation climate in global virtual universities in light of the variables of incentives and interest in employees from the point of view of faculty members

Number	Field	Arithmetic Mean	Standard Deviation	Rank	Availability Degree
1	Employee Attention (Faculty Members)	3.55	0.91	1	Medium
2	Incentives	3.29	1.01	2	Medium
Overall Score					Medium

Table 5: Arithmetic means, standard deviations, ranking, and degree of availability in the field of interest to employees (faculty members) arranged in descending order

Number	Paragraph	Arithmetic Mean	Standard Deviation	Rank	Availability Degree
5	My colleagues in the department appreciate my efforts.	3.82	0.95	3.82	High
2	The department management allows me to actively participate in department meetings.	3.79	1.04	3.79	High
4	The department management appreciates my efforts in my work.	3.70	1.14	3.70	High
10	The department management is characterized by positive oversight, stemming from its trust in the faculty members.	3.67	1.01	3.67	Medium
3	The department management keeps me informed of what is happening in the department where I work.	3.67	1.01	3.67	Medium
16	The department management respects my perspective when making decisions.	3.62	1.14	3.62	Medium
1	The department management allows me to participate in the department's ongoing development process.	3.60	1.09	3.60	Medium
11	Faculty members in the department are subject to the same evaluation standards.	3.59	1.13	3.59	Medium
14	The department management is keen to ensure the continuity of faculty members' work in the department.	3.58	1.14	3.58	Medium
13	The department allows me to participate in (courses, conferences, and seminars).	3.57	1.22	3.57	Medium
6	I am satisfied with the capabilities available to me to carry out my academic duties.	3.55	1.19	3.55	Medium
15	I feel fair in the department where I work.	3.52	1.21	3.52	Medium
17	The department management provides (continuous preparation, qualification, and development) for the academic capabilities of faculty members.	3.48	1.11	3.48	Medium
9	I have the opportunity to receive support from the department management when my workload increases.	3.46	1.12	3.46	Medium
8	My work environment, in terms of space and equipment, makes me feel safe and secure.	3.35	1.15	3.35	Medium
12	The department meets my aspirations, hopes, and ambitions to develop my capabilities.	3.32	1.20	3.32	Medium
7	I am satisfied with The benefits available to me to improve my standard of livin	3.17	1.30	3.17	Medium
Overall Score		***3.55***	***0.90***	Medium	

It is noted from Table (5) that the degree of availability of the prevailing innovative climate in global virtual universities was average, as the arithmetic mean was (3.37) and a standard deviation of (0.93), and the fields were average. The field of concern for employees came in first place, with an arithmetic mean of (3.55) and a standard deviation of (0.91), and the field of incentives came in last place with an arithmetic mean of (3.29) and a standard deviation of (1.01). As for the paragraphs of each field, the results were as follows:

1. Field of interest to employees (faculty members): The arithmetic means, standard deviations, ranking, and availability degree were calculated for the items in this field, and Table (5) shows this.

Table (5) shows that the degree of availability of an innovative climate in global virtual universities in the field of interest in faculty members was average, as the arithmetic mean was (3.55) and the standard deviation was (0.90). The paragraphs in this field were average, and paragraph (5) came in first place, which reads, "My colleagues in the department appreciate my efforts." Paragraph (7) came in last place, which reads, "I am satisfied with the privileges available to me to improve my standard of living." This is due to the conviction of faculty members in one department, and their sincere feeling of the importance of development and modernization of the educational process, and to the ability of the department's management to provide privileges that match the level of ambition of faculty members in raising the standard of living that they hope to reach, which ensures the advancement of the level of innovation and the achievement of the highest levels of cognitive creativity.

2. Incentives field: The arithmetic means, standard deviations, ranking, and availability degree were calculated for the items in this field, and Table (6) shows this.

Table 6: Arithmetic means, standard deviations, ranking, and degree of availability in the field of incentives

Number	Paragraph	Arithmetic Mean	Standard Deviation	Rank	Availability Degree
1	Moral motivation in the department enhances my performance.	3.57	1.25	1	Medium
3	The department I work in has a positive, safe environment.	3.53	1.19	2	Medium
2	The financial motivation in the department enhances my performance.	3.35	1.29	3	Medium
7	The incentives offered by the department's administration enhance faculty loyalty to the department.	3.27	1.19	4	Medium
5	The department's administration takes into account workload responsibilities when promoting.	3.23	1.15	5	Medium
4	Outstanding achievement is rewarded in my department.	3.08	1.24	6	Medium
6	The department's administration encourages faculty members to propose new incentive systems.	3.02	1.23	7	Medium
Overall Score		***3.29***	***1.01***	Medium	

It is noted in Table (6) that the degree of availability of the innovative climate in light of the variables of incentives and interest in employees and prevailing in global virtual universities in the field of incentives came to average, as the arithmetic mean reached (3.29) and a standard deviation of (1.01), and the arithmetic means ranged between (3.57-3.02), and paragraph (1) came in first place, which states "moral motivation in the department enhances my performance." Paragraph (6) came in last place, which states: "The department administration encourages faculty members to propose new systems related to incentives." This is due to the ability of the academic administration to express the extent of their appreciation for the achievements made by faculty members, in addition to the high level of moral incentives that contribute to ensuring the availability of creativity and innovation within the university environment. What confirms this is that paragraph (1) came in first place, and paragraph (6) came in last place, which states: "The department administration encourages faculty members to propose new systems related to incentives." The researchers attribute this to the department's management's belief in the type of incentives available, their availability, and their ability to address all the human desires and needs of faculty members.

Results related to answering the second question, which reads: Are there statistically significant differences at the significance level (α≤ 0.05) between the arithmetic means of the study sample members' responses to the degree of achieving an innovative climate in global virtual universities, in light of the variables of incentives and employee interest, attributable to the variables (gender, college type, and academic rank)?

This question was answered as follows:

A. Gender variable: Arithmetic means, standard deviations, and a t-test were calculated according to the gender variable, as shown in Table (7).

Table 7: Arithmetic means, standard deviations, and t-test according to the gender variable

Field	sex	Number	Arithmetic Mean	Standard Deviation	T-Value	Significance Level
Employee Attention (Faculty Members)	Male	268	3.65	0.89	3.349	**0.001
	Female	112	3.31	0.89		
	Total	380	3.48	0.89		
Incentives	Male	268	3.36	1.02	2.152	**0.032
	Female	112	3.12	0.98		
	Total	380	3.36	1.00		
Overall Score	Male	268	3.63	0.82	2.559	0.011 **
	Female	112	3.43	0.83		
	Total	380	3.53	1.65		

** The difference is statistically significant at the significance level (α≤ 0.05)

To determine whether the differences between the averages are statistically significant at the significance level (α≤ 0.05), a t-test was applied. The results in Table (7) indicate that there are statistically significant differences at the significance level (α≤ 0.05) according to the gender variable based on the calculated (t) value, which amounted to (2.559) and a significance level of (0.011), as the difference was in favor of males, as evidenced by the increase in their arithmetic averages. This is attributed to the circumstances surrounding the working woman who goes beyond her responsibilities within the university to reach the home and family to which she belongs. This is what was confirmed by Al-Hamad's study (2022) [5]. Also, material incentives are highly accepted by males, as males are in a position of support for their families and relatives. Therefore, motivation, especially material, appears significantly among males, more than females, especially in global virtual universities.

B. College type variable: The arithmetic means, standard deviations, and t-test were calculated according to the college type variable, and Table (8) shows that.

Table 8: Arithmetic means, standard deviations, and t-test according to the variable of college type

Field	College type	Number	Arithmetic Mean	Standard Deviation	T-Value	Significance Level
Employee Attention (Faculty Members)	Humanity	223	3.52	0.89	-0.757	0.449
	Scientific	157	3.59	0.89		
	Total	380	3.55	0.89		
Incentives	Humanity	223	3.29	1.02	0.059	0.953
	Scientific	157	3.29	0.98		
	Total	380	3.29	1.00		
Overall Score	Humanity	223	3.53	1.64	-1.284	***0.200***
	Scientific	157	3.63	1.67		
	Total	380	3.58	1.65		

** The difference is statistically significant at the significance level (α≤ 0.05)

To determine whether the differences between the averages are statistically significant at the significance level (α≤ 0.05), the t-test was applied. The results in Table (13) indicate that there are no statistically significant differences at the significance level (α≤ 0.05) according to the variable of college type based on the calculated (t) value, which reached (-1.284) and at a significance level of (0.200), as the difference was in favor of the scientific colleges, as evidenced by the increase in their arithmetic averages, This is due to the prevailing scientific environment in the scientific colleges, in which experimentation constitutes the highest percentage, in addition to the discontinuity of the academic courses undertaken by faculty members in the academic department affiliated with the scientific colleges, which forces them to avoid complexity in communication and interaction with each other on the one hand and with the department administration on the other hand, which makes the department administration more aware of the level of difficulties and obstacles that the faculty member in the department is exposed to, which requires it - the department administration - to care for the faculty member and provide him with the capabilities and allow him to participate in external seminars and courses by nominating the faculty member for such matters, which contributes to raising his academic and living standard.

3. Academic rank variable: The arithmetic means and standard deviations were calculated according to the academic rank variable, and Table (9) shows that.

Table 9: Arithmetic means and standard deviations according to the academic rank variable

Field	Academic rank	Number	Arithmetic Mean	Standard Deviation
Employee Attention (Faculty Members)	Professor	44	3.58	0.95
	Associate Professor	81	3.67	0.96
	Assistant Professor	193	3.56	0.87
	Lecturer	62	3.33	0.86
	Total	380	3.53	0.91
Incentives	Professor	44	3.33	1.09
	Associate Professor	81	3.43	1.00
	Assistant Professor	193	3.29	0.98
	Lecturer	62	3.05	1.04
	Total	380	3.27	1.02
Overall Score	Professor	44	3.61	1.59
	Associate Professor	81	3.69	1.73
	Assistant Professor	193	3.54	1.61
	Lecturer	62	3.45	0.84
	Total	380	3.57	1.44

It is noted from Table (9) that there are apparent differences between the arithmetic means, according to the academic rank variable, as those in the category (Associate Professor) obtained the highest arithmetic mean of (3.69), and those in the category (Professor) came in second place, as the arithmetic mean reached (3.61), and in the last place came those in the category (Instructor), as the arithmetic mean reached (3.46). To determine whether the differences between the means were statistically significant at the significance level (α≤ 0.05), a one-way analysis of variance (One Way ANOVA) was applied, and the results of the analysis of variance came as shown in Table (10).

Table 10: One-way analysis of variance to find the significance of differences according to the academic rank variable

Field	Source of variance	Sum of squares	Degrees of freedom	Mean squares	F-value	Significance level
	Between groups	4.496	3	1.499	1.829	0.141
	Within groups	368.374	349	1.056		
	Total	372.87	352			
	Between groups	5.069	3	1.690	1.646	0.178
	Within groups	233.309	349	0.668		
	Total	238.378	352			
Overall Score	Between groups	3.076	3	0.316	0.633	***0.56***
	Within groups	295.151	349	0.311		
	Total		352			

** The difference is statistically significant at the significance level (α≤ 0.05)

The results in Table (10) indicate that there are no statistically significant differences at the level (α≤ 0.05), according to the academic rank variable, based on the calculated F value, which reached 0.633 and a significance level of (0.56), as well as in most areas except for the leadership style area. This may be due to the interest of faculty members who are in the category of professor, assistant professor, and instructor in incentives, material gains, communication, and advisory positions that meet their ambitions and help them develop their abilities and capabilities and enable them to achieve their hopes and professional expectations for promotion and professional advancement. The differences were in favor of the category of associate professor when compared to the category of assistant professor in the field of leadership style.

In favor of the associate professor category when compared with the instructor category in the field of decisions, in favor of the professor category when compared with the instructor category in the field of communication, in favor of the associate professor category when compared with the assistant professor category in the field of technology, in favor of the associate professor category with the instructor category in the field of employee interest, and in favor of the associate professor category when compared with the instructor category in the field of incentives. To know the correlation of differences according to the academic rank variable in the fields, the Scheffe test for differences was used, as shown in Table (11).

Table 11: Scheffe test for dimensional differences attributed to the academic rank variable

Academic rank	Arithmetic mean	Professor	Associate Professor	Assistant Professor	Lecturer
		3.58	3.54	3.69	3.45
Professor	3.45	-	0.954	0.955	0.710
Associate Professor	3.66	0.947	0.497	-	0.256*
Assistant Professor	3.51	0.951	-	0.497	0.835
Lecturer	3.39	0.685	0.835	0.256	-

The difference is statistically significant at the level (α≤ 0.05)

Table (11) shows that the difference favors the Associate Professor category when compared to the instructor category.

Recommendations

Based on the previous results, the researchers recommended the following:

1. University administrations should prioritize the issue of the innovation climate by studying the conditions of their faculty members and periodically identifying the nature of their economic, social, and psychological problems specific to the university work environment.
2. University administrations should work to strengthen systems of material and moral incentives, value superior effort, and reward outstanding achievement.
3. Hold conferences, seminars, and periodic meetings between university senior administrations on the one hand and faculty members on the other to identify their issues and listen to their opinions and suggestions.

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