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Administrative Creativity in Knowledge based-Organizations (Study of a sample of Research laboratories in Algerian universities)

الإبداع الإداري في المنظمات القائمة على المعرفة

(دراسة حالة عينة من مخابر البحث بالجامعات الجزائرية)

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Abstract

The goal of this study is to ascertain the influence of administrative creativity on the development of research laboratories in Algerian universities as knowledge-based organizations with particular knowledge-based characteristics as a crucial component for growth.

In order to conduct this study, a questionnaire was sent to directors of the laboratories and the chiefs of research teams at the universities of Oum el Bouaghi and Constantine2. Based on the results of SmartPLS4 software that tested the study's fictitious model, several conclusions were made, the most important of which was that the impact of management creativity on the development of research laboratories was minimal, on the development of research laboratories.

Keywords:Administrative Creativity, Knowledge-based Organizations, Research Laboratories Algerian Universities.

ملخص

تهدف هذه الدراسة إلى تحديد أثر الإبداع الإداري على تطوير مخابر البحث بالجامعات الجزائرية باعتبارها منظمات قائمة على المعرفة.

ولتحقيق هذه الدراسة تم توزيع استبيان على مدراء مخابر البحث ورؤساء فرق البحث بجامعتي أم البواقي وقسنطينة2، وبالاعتماد على نتائج برمانج *SmartPLS4* اختبرنا النموذج الفرضي للدراسة، وتوصلنا إلى نتائج عديدة أهمها أن أثر الإبداع الإداري كان ضئيلا على تطوير مخابر البحث.

الكلمات المفتاحية: الإبداع الإداري، المنظمات القائمة على المعرفة، مخابر البحث، الجامعات الجزائرية.

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1. INTRODUCTION

Given the strong competition and the abundance of substitute products that threaten its market share, business organizations must adapt in order to maintain their position in the market and sustain their activity. This is especially true given the rapid technological development in today's world, the enormous revolution in the field of information, and the emergence of many changes in the external environment of business organizations.

It becomes vital for commercial organizations to modify their strategies and principles to become dependent on high levels of knowledge in a knowledge-based economy where the focus is on using knowledge as a competitive advantage factor rather than on material resources. (For instance, e-industry sector businesses, consulting firms, government agencies, hospitals, etc.), whose conceptualization is murky because many of these organizations' traits have been taken from others through research by different academics.

University research laboratories are the most crucial foundational institutions for scientific research to conduct various studies in many domains among these knowledge-based organizations. To increase the opportunities for scientific research and create a strong foundation of knowledge in support of research and development goals, they rely primarily on knowledge and share the findings of their investigations. In other words, they have educational and developmental goals that universities support while also having a good impact on the economy at large. Since the study looks at the significance and effects of administrative creativity in the growth of research laboratories in Algerian universities as knowledge-based organizations, the study's issue is clear.

1.1Study questions: Based on the foregoing, the problem posed can be expressed by the following **fundamental question**: What is the impact of administrative creativity on the development of research laboratories in Algerian universities as knowledge-based organizations? This substantive question includes the following sub-questions:

-Sub-question1: Is there a moral impact of knowledge-based organizations' characteristics in the development of research

laboratories at Algerian universities?

-Sub-question 2: Is there a moral impact of administrative creativity in the development of research laboratories at Algerian universities?

-Sub-question 3: Is there a moral impact of knowledge-based organizations' characteristics on managerial creativity?

-Sub-question4: Is there a moral impact of the characteristics of knowledge-based organizations on the administrative creativity of the development of research laboratories at Algerian universities?

1.2 Study hypotheses: Depending on the questions raised above, hypotheses can be formulated as a preliminary answer as follows:

-Substantive hypothesis: There are moral implications of administrative creativity for the development of Algerian universities' research laboratories as knowledge-based organizations.

-Sub-hypothesis1: There are moral implications for the development of research laboratories at Algerian universities of the characteristics of knowledge-based organizations.

-Sub-hypothesis2: There are moral implications of administrative creativity for the development of research laboratories at Algerian universities.

-Sub-hypothesis3: There are moral implications of knowledge-based organizations' characteristics for managerial creativity.

-Sub-hypothesis4: There are moral implications of knowledge-based organizations' characteristics for the development of research laboratories through their impact on management creativity.

1.3 The importance of the study and its objectives: This study is of great importance, divided into two parts of scientific and practical importance, The scientific significance of this study can be shortened by addition of scientific research, as it combines very important and modern elements so that management creativity is one of the features of KBOs and examines its application in the university research laboratories. The importance of practical research implies the important role played by Algerian universities in achieving development through their research laboratories, which focus on knowledge, produce it and disseminate it so as to advance and drive the economy towards growth by encouraging it to apply

administrative creativity within it. In order to achieve this study and answer all questions raised, research's objectives can be formulated in the following points:

-Examining the importance of the role of Administrative creativity in organizations and determine the concepts of characteristics of KBOs;

-Building a hypothetical study model linking the characteristics of knowledge-based organizations with the dimensions of administrative creativity and the development of universities' scientific research laboratories, thus testing the validity of the model;

-To make practical recommendations with regard to encouraging the application of administrative creativity in research laboratories and paying attention to the realization and adoption of characteristics of KBOs.

1.4 Study curriculum and tools:

The conclusive hypothesis approach was used which proceeds from making hypotheses and then testing them on the ground, The field study was carried out using the questionnaire as a key data-gathering tool, which targeted research laboratory managers and chiefs of research teams in some Algerian universities and analyzed it on the basis of the SPSS V. 23 program, and in order to test the validity of the study's hypothetical model, the Smart PLS4 modelling program was based on the constructive formula.

1.5 Study axes: The study was divided into three main axes in addition to the introduction and conclusion as follows:

- **The first axis**, previous research work on our topic is presented and reviewed directly or indirectly in order to build the hypothetical model of study, as well as the basic concepts of knowledge-based organizations, administrative creativity, and research laboratories in Algerian universities.

- **The second axis**: We present the methodological procedures for the field study.

-**The third Axis**: The results of the study are presented and analyzed based on SPSS outputs and the testing of hypotheses according to SEM-PLS micro-squares program outputs.

2. Audit of previous research work and theoretical and conceptual

roots of knowledge-based organizations, administrative creativity and research laboratories at universities:

Here we will review the literature and previous studies on Administrative Creativity, knowledge-based organizations and research Laboratories, which have often been linked to other variables close to or far from the current study, that have enabled us to build and link these variables with each other in the current study in an attempt to produce findings and recommendations that help laboratory managers and chiefs of research teams to support and develop scientific research methods whose results are used to achieve positive effects at the national economic level in general and on the success of Algerian universities in particular, in addition to presenting the concepts of each study variable.

2.1 Review of pre-study research work:

Beginning with the study of (Aljawarneh.N.M & Masa 'd.F, 2020, pp. 9574-9548) addressing the topic "Administrative creativity and career performance at Jadara University". The study aimed to determine the reality of management creativity and its impact on the performance of the University's administrative staff by drawing on a questionnaire as an essential tool in analysis. The results found a positive relationship to management creativity in its dimensions. (authenticity, analytical ability, risk acceptance, fluency and flexibility) on functional performance. As studied (Suleiman.A & Yagoub.A, 2021, pp. 86-95) The topic "Knowledge management and its impact on management creativity under the coronavirus in Sudanese banks" was based on the questionnaire as a key tool in the analysis. It was found that knowledge management had an average impact on management creativity. This study recommended that attention be paid to the dissemination of a knowledge management culture to support the creative capabilities of employees.

(Al-Nashmi, Al-Da 'eis, 2017, pp. 181-199)'s Study entitled "Administrative creativity and its relationship to achieving competitive advantage in private universities in Yemen". Through this study, the researchers sought to learn about the relationship of administrative creativity with its dimensions (creative climate,

creative capabilities, creative behaviour, creative implementation) by achieving the competitive advantage of Yemen's private universities by using the analytical descriptive curriculum and adopting the questionnaire as a key tool in data collection. The results of the analysis found a correlation between all dimensions of managerial creativity and achievement of competitive advantage, except after creative capabilities, which turned out to be irrelevant to achieving competitive advantage. The study found that universities' adoption of administrative creativity in general drives them towards excellence.

(Güldenberg. S, & Konrath. H, 2004, pp. 1-25)'s Study entitled "Smart leadership in knowledge-based organizations" This paper examines how leadership influences organizational learning and has always had a significant impact on the company's learning capabilities so that leaders in particular play a key role in promoting innovation within knowledge-based organizations. The study covered the view of 125 leading companies with a focus on the high-tech industry sector and used the questionnaire as a data collection tool, showing that smart leadership in knowledge-based organizations went beyond the traditional concept of leadership for the concept of deeper representative in social intelligence and shared leadership as key dimensions.

Fathia Yahyaoui's Study (Yahyaoui, 2019, pp. 239-396) "Innovation strategies in knowledge-based organizations" An intentional questionnaire was distributed to 95 frameworks of enterprises active in the electronic industries sector in the state of Burj Bouaririj. A number of conclusions were reached, the most important of which was that they undertook knowledge management processes and realized the knowledge-based organizations' characteristics and innovation strategies under the proposed model. as well as the study of Khalil Chergui (Chergui, 2016, pp. 142-148) entitled "Strategic choices in knowledge-based organizations" it also addressed the topic of knowledge-based organizations by strategic options in which they could be applied, referring to their specificities and distinction from other organizations such as an educated organization knowledge is essential to its success, To achieve this study, 120 questionnaires were

distributed to a group of managers of enterprises active in the electronic industries sector in the state of Bourj Bouaririj s strategic choice, emphasizing the need to invest in these characteristics to develop effective strategic options in a highly competitive environment.

Study of (Moraru, 1842, pp. 411-414) entitled "Creativity in knowledge-based organizations". This paper focuses on highlighting the importance of organizational creativity in this type of organization, starting with an original blueprint used to formulate and invest individual, collective and organizational creativity within the organization.

study (Salhi, Bouderhem, Labza, 2021, pp. 153-170) entitled "Scientific Research Laboratories and their Role in Achieving Excellence in Algerian Universities: A Field Study at the University of Qasdi Marbah Ouargula" With the aim of knowing the role of research laboratories in achieving excellence from the point of view of the heads of laboratories and drawing on the questionnaire as an essential tool in the analysis, which was distributed to a sample of 30 heads of research laboratories, it concluded that: "There is an acceptable reality for the university's scientific research laboratories with a high level of excellence in them, and there is a positive, statistically significant relationship between the research laboratories as a tool for scientific production and the distinction of university institutions."

Administrative creativity plays an important role in the development of university research laboratories as a tool for scientific production, and one of the baseline structures for scientific research. In the present study, we found a link between administrative creativity and organizational characteristics that also contribute to improving the performance and development of these laboratories.

2.2 Theoretical and conceptual rooting of knowledge-based organizations:

According to Leibowitz & Beckman, current and future organizations are obliged to learn how to use their knowledge by allowing staff, managers and clients to exploit it by determining where, when and how to apply knowledge and how to build, transfer and manage it,

means that they are obliged to adopt the concept of "knowledge is power" (J.Liebowitz & T.J Beckman, 1998). Knowledge is a fundamental factor of competitive advantage and is the cornerstone of modern theoretical concepts. On the macro-KBE and micro-scale we find knowledge-based organizations. (Pawlowski et al, 2011, p. 2) where knowledge-based organizations are defined as (an entity that recognizes the importance of its internal and external knowledge to the Organization and applies techniques to maximize the use of this knowledge to its shareholders and clients) (J.Liebowitz & T.J Beckman, 1998, p. 14) is also defined as (A community of knowledge workers with computerized infrastructure where their work is supported by different types of knowledge in a coordinated manner) (Holsapple & Whinston, 1987, p. 77), and given the ambiguity of these organizations, they have distinct characteristics from other organizations that we can mention in the following points (Chergui, 2016, p. 143): Focus on Knowledge, Knowledge Creation, Organizational and Strategic Learning, Strategic Intelligence, Dynamic Change.

2.3 Administrative Creativity in knowledge-based organizations:

According to Amabile, creativity is defined as (the process involved in developing an idea for a new product) (Bhattacharya.S & Job.P.A, 2007, p. 53) which evolves and grows only when the individual, group and organization have sufficient knowledge to solve problems, so knowledge-based management focuses on encouraging creativity and innovation on the one hand and treating staff who use the organization's vital knowledge privately on the other. (Moraru, 1842, p. 411) The wealth taken by the Internet and the creation of new technologies have led to the emergence of new management methods that have increased the need for managerial creativity. Today, organizations seek to develop work capabilities that contribute to problem-solving, participation in decision-making and the generation of ideas, because management creativity encompasses a range of resources based on humanity and knowledge. (Aljawarneh.N.M & Masa 'd.F, 2020, p. 9574) Administrative creativity is defined here as (Processes through which new ideas are generated and accepted by

organizations, viewed as a collective process in which ideas are proposed, evaluated, adopted and implemented) (West, J P. & Berman, E.M., 1997, p. 447), if through all the above knowledge can be said to be a key factor for achieving creativity within the organization.

For administrative creativity, certain elements are measured as follows: (Abdul-Aal, 2018, pp. 20-21)

-**Originality**: means the quality of ideas, modernity and non-communion on a particular subject;

-**Fluency**: the ability to produce as many ideas as possible that meet certain demands at a given time;

-**Flexibility:** is intended to be able to change the viewpoint through which objects and situations are perceived;

-**Risk acceptance:** the ability to provide new ways of doing business and accepting risk;

-**Ability to analyze:** That is, detail elements of any work into simple units to be reorganized in a unique and creative way.

2.4 Research laboratories as knowledge-based organizations:

University research laboratories are one of the baseline structures for scientific research aimed to achieving the goals of research and development primarily and conducting various studies to disseminate knowledge that will prepare and create researchers and provide the right environment for scientific production, creativity and innovation in all fields (Fellouh, 2018, page 10) Established at the level of higher educational and training institutions or public institutions with autonomy in management, the informant consists of at least four research teams (Falah, 2018, p. 100) Its most important tasks are the following points: (Azuz, 2012, p. 245)

-Achieving the objectives of scientific research, development and technology in a specific field of science;

-undertake studies and research work with a view to establishing the laboratory;

-Participation in the preparation of research programs related to their activities;

-Participation in the acquisition of new scientific and technological knowledge;

-Participation in the improvement of production and product techniques and methods;

-Upgrade, disseminate and facilitate access to research results.

In order to achieve this study, the following dimensions were drawn on to measure the development of research laboratories, which were drawn from (Machhouk, 2012, p. 3)'s study:

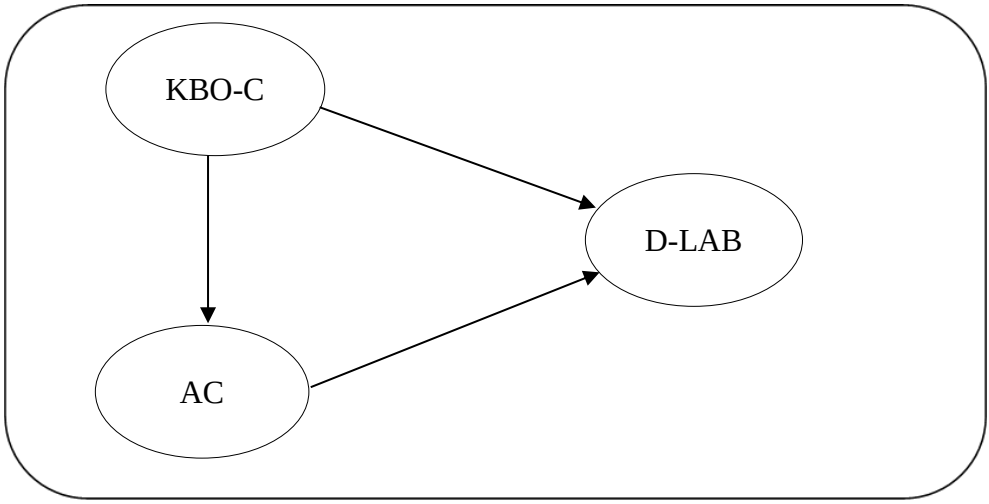
- **Organizing the gestion of scientific research in research laboratories (OGSR)**: This dimension reflects how the conduct of research work and projects within the laboratories is organized in terms of providing the necessary means and laboratory devices for conducting studies especially in scientific disciplines, the amounts spent on scientific research through the system of material and moral incentives, the approved financial system and other factors;

- **Monitoring the scientific production of research laboratories (MSPoL)**: This dimension reflects the scientific research products such as patents and actual innovations, their contribution to the development of scientific and practical skills of researchers and students, the effectiveness of the laboratories in national and international scientific publishing.

2.5 Hypothetical model of study:

By examining past reference work related to the subject matter of the study as well as the conceptual and theoretical rooting of knowledge-based organizations and their administrative creativity and research laboratories at universities as knowledge-based organizations, we have built the following hypothetical model:

Fig.1.: The Hypothetical model of study



Source: Prepared by researchers.

3 . Methodological procedures for field study:

In this focus, we will address the identification of both the sample of the study and the way it is withdrawn, as well as the statistical methods used and the testing of hypotheses.

3.1 Preview and study tool:

The field study is linked to research laboratories in Algerian universities. Some research laboratories have been selected for the universities of Oum el Bouaghi and Constantine as a sample study. The questionnaire was used as the main data collection tool. The directors of the laboratories and the heads of the research teams of 52 professors were targeted in different disciplines (economics, social sciences, technological disciplines, mathematics and machine media, literature, literature, arts and languages, nature and life sciences).

3.2 Statistical methods used:

In order to find out the direction of answering questionnaire questions, descriptive statistical methods represented by the arithmetic average and standard deviation to measure dispersion were used. In order to test the hypotheses of the study and the validity of the hypothesis model, Partial Least Squares (PLS-SEM) was used as one of the modeling approaches to the constructive equation.

4. Presentation and analysis of study results and hypothesis testing:

In this element we will address the presentation and analysis of

the directions of answering questions in the form including the general characteristics of the sample studied and then analyze the results of the micro-square approach to test the validity of hypotheses and the study model.

4.1 Presentation and analysis of the study's descriptive results:

Based on descriptive analysis, the characteristics of the sample studied as illustrated in the table below:

Table 1. General characteristics of the sample

General Characteristics		Repeats	Percentages%
Gender	Male	37	72.5
	Female	14	27,5
Duration of activity	More than 15y	14	27,5
	Between 10&15y	8	15,7
	Between 5&10y	14	27,5
	2y and more	6	11,8
	2y and less	9	17,6
Specialization	Economics	23	45,1
	Social Sciences	4	7,8
	Technical Specialties	11	21,6
	Literature and Languages	7	13,7
	MI	3	5,9
	Nature and Life Sciences	3	5,9

Source: Prepared by researchers based on SPSS outputs.

From the above table, we note that the majority of the researchers are male at 72.5%. The duration of the laboratory activity studied was mostly more than 15 years, as well as the duration of its activity ranging from 5 to 10 years with equal ratios of 27.5%. The highest proportion of economics disciplines was 45%, followed by technical disciplines 21.6%, arts and languages 13.7%, followed by

social sciences disciplines 7.8%, and the proportion of researchers in MI and nature and life sciences is 5.9%. This can be due to the fact that men are the most inclined to run laboratories than women and that the period during which laboratories were known to have peaked was the period from 1999 to 2008, which saw a large number at the time, As for the disciplines, this is due to the sample available which responded to our study.

Table 2. Responding directions to questionnaire questions

	N	MIN Value	MAX Value	Mean	Ecarte type
KBO-C					
FoK	51	1.00	5	4.00	0.911
KC	51	1.00	5	4.01	0.755
OSL	51	1.00	5	3.98	0.869
ST	51	2.33	5	3.92	0.678
DC	51	2.00	5	3.58	0.744
AC					
Originalty	51	2.33	5	3.97	0.695
Fluency	51	2.75	5	3.91	0.713
Flexibility	51	2.75	5	3.81	0.664
Risk Acceptance	51	2.50	5	4.00	0.764
Ability to Analyze	51	2.75	5	4.09	0.599
D-LAB					
OGSR	51	1.63	4.63	3.10	0.715
MSPoL	51	1.88	5	3.83	0.703

Source: Prepared by researchers based on SPSS outputs.

From the table above, we note that most of the interviewers have only answered all dimensions of the questionnaire in strongly approved and compatible terms, where the averages exceeded 4.01. (Strongly agreed) The remaining averages were confined between 3.58 and 4.00 (agree), this could be because research laboratories are one of the base structures that require administrative creativity the most. As regards standard deviations, we note that their values are

fairly large, and this indicates a large dispersion in the investigators' answers. This can be attributed mainly to different laboratory disciplines. Technical and technological disciplines and the natural sciences are largely based on the laboratory's means and equipment, high-speed Internet, and other flows and therefore need to be funded only by the researchers' view that most laboratories in these disciplines suffer from a significant shortage in this regard.

4.2 Test the validity of hypotheses and the hypothesis model of the study:

The validity of hypotheses and modelling model is tested by constructive equation using the PLS-SEM approach.

4.2.1 Convergent Validity Test: The results are presented in the following table:

Table 03. Convergent Validity

Latent Variables	Indicators	Loadings	Composit reliability	AVE	VIF
KBO-C	FoK	0.750	0.913	0.724	2.104
	KC	0.860			
	OSL	0.916			
	SI	0.847			
	DC	0.843			
AC	Originality	0.899	0.945	0.795	2.104
	Fluency	0.925			
	Flexibility	0.917			
	Risk Acceptance	0.848			
	Ability to analyze	0.866			
D-LAB	OGSR	0.918	0.858	0.864	///
	MSPoL	0.941			

Source: Prepared by researchers based on SmartPLS4 outputs.

The table shows that the Convergent test indicators are all good as follows:

- Starting with saturation (Loadings), its value has decreased (0.70) for all variables as an indication of its strength and sincerity in expressing

underlying variables (the characteristics of knowledge-based organizations, Administrative Creativity and Research Laboratory Development);

- To confirm the above we note that Composit Reliability values are also high values above 0.70 indicating the validity of the dimensions represented for each variable;

-AVE value exceeded 0.50 This indicates dimensional convergence;

-The VIF test is acceptable as a value of less than 5 indicates that there is no problem of the linear multiplicity of independent variables (KBO-C, AC).

4.2.2 Discriminant Validity: This test shows the extent to which the built dimensions of each variable diverge and differentiate from the other variable, and their convergence in the variable they belong to as shown in the following table:

Table 4: Cross loading

	AC	**D-LAB**	**KBO-C**
Originality	**0.898**	0.615	0.745
Fluency	**0.927**	0.559	0.575
Flexibility	**0.917**	0.631	0.732
Risk Acceptance	**0.847**	0.451	0.529
Ability to analyze	**0.866**	0.521	0.611
FoK	0.432	0.471	**0.764**
KC	0.507	0.653	**0.876**
OSL	0.659	0.646	**0.922**
SI	0.713	0.582	**0.859**
DC	0.753	0.601	**0.825**
OGSR	0.489	**0.918**	0.622
MSPoL	0.669	**0.941**	0.676

Source: Prepared by researchers based on SmartPLS4 outputs.

The table above shows that Cross Loading values are higher for the belonging dimensions of the variable which measure compared to other variables For example, the dimension of Originality (0.898) is more valuable in the variable of Administrative Creativity than other

variables, Likewise, the Focus on Knowledge dimension is greater at the variable of knowledge-based organizations' characteristics (0.764) than other variables and we find that OGSR has greater value within the research laboratory development variable (0.918) and lower at other variables, This indicates that the adopted dimensions of each variable are best represented .The most appropriate place for the knowledge Creation dimension, for example, is undoubtedly the characteristics of knowledge-based organizations.

In confirmation of the foregoing, we will examine the variables' spacing and non-overlapping depending on the Fornell Larker Test and shorten the results in the following table:

Table 05. Fornell Larker Test

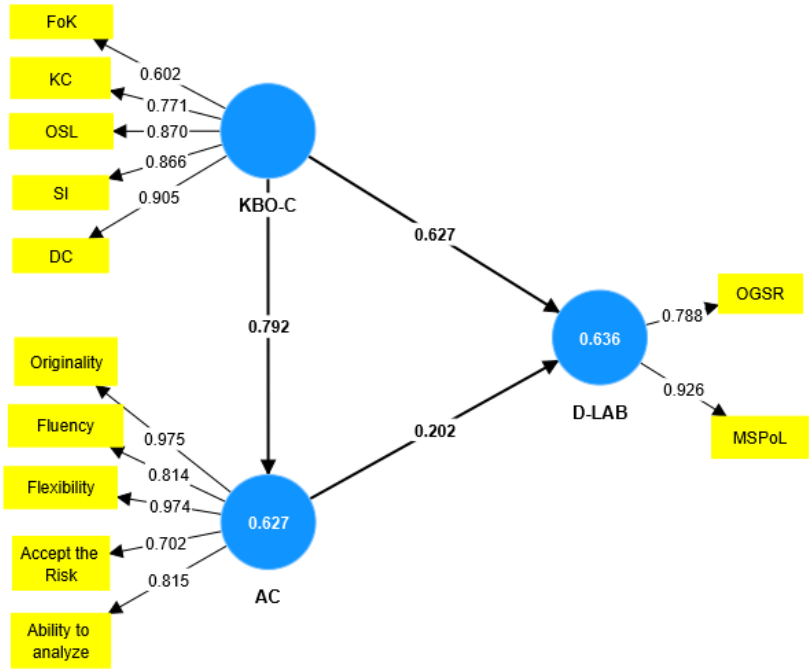
Variabls	AC	D-LAB	KBO-C
AC	0.892		
D-LAB	0.630	0.930	
KBO-C	0.724	0.700	0.851

Source: Prepared by researchers based on SmartPLS4 outputs.

From the table 5 we note that the correlation of underlying variables with themselves is greater than with other variables where the test indicates an estimated correlation value of 0.892 for the Administrative Creativity variable with itself 0.930, for the research laboratory development variable with itself and 0.851 for variable of the characteristics of knowledge-based organizations with themselves, This confirms that the underlying variables do not overlap with each other and that each variable is unique and distinctive and its association with itself is higher and stronger compared to its association with other variables.

4.2.3 Modeling results of the construction formula PLS-SEM:

Fig.2. The Hypothetical Model Test Results



Source: SmartPLS4 outputs.

It appears from figure (01) that the proposed model is fit to study the relationship between variables in relation to the measurement model and the structural model, where we note that saturation values exceeded 0.70 for the relationship between variables and dimensions used to measure them, in order to demonstrate the sincerity of the convergence we have already addressed (measurement model), as for the relationship between the underlying variables, we note that the determining factor of the dependent variable (Research laboratory development) was 0.521, which is very acceptable for the ability of independent variables ("AC" and "KBO-C") on influencing the dependent variable (D-LAB) (structural model), and for more detailed results we indicate in the following table the validity of the model:

Table 6: Model validity

Variables	R^2	F^2	Q^2
KBO-C	///	1.683(AC)	///
KBO-C	///	0.403 (D-LAB)	///

AC	0.627	0.042 (D-LAB)	0.473
D-LAB	0.636	///	0.447

Source: Prepared by researchers based SmartPLS4 outputs.

Based on the table data above, the following observations can be recorded:

-Determination factor (R^2) of "AC" was 0.627, meaning that 62.7% of the changes in it due to changes in the "KBO-C", for the "D-LAB" amounting to 0.636 meaning that 63.6% of changes in it are caused by changes in both "KBO-C" and "AC". They are good values for interpreting the relationship between independent and affiliated variables;

-Size of the impact (F^2) of "AC" on the "D-LAB" is lower (0.042) than (0.35). Size of the impact (F^2) of "KBO-C" on the "D-LAB" is higher (0.418) than (0.35) and higher for their impact on "AC" at a value (1.683).

-Value of Q^2 exceeded 0%. This indicates the strength of the model, in the sense that independent variables are able to explain changes in affiliate variables.

From the observations presented, which reflect the model's ability to test the validity of the built hypotheses, the results of which are presented in the following table:

Table 7: Direct Related Hypotheses Test

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV	T statistics (|O/STDEV|	P values
AC » D-LAB	0.370	0.374	0.226	1.638	0.101
KBO-C» D-LAB	0.812	0.829	0.056	14.458	0.000
KBO-C » AC	0.777	0.797	0.074	10.433	0.000

Source: Prepared by researchers based SmartPLS4 outputs.

From the table 7, the following can be recorded:

-The first sub-hypothesis: there is a moral effect of "AC" on the "D-LAB" in Algerian universities is **not realized** because the probability value was above 5% estimated at 10.1%;

-The Second Sub-hypothesis: There is a moral effect of the "KBO-C" on the "D-LAB" in Algerian universities **realized** because the probability value is less than 5% estimated at 0%;

-The third sub-hypothesis: There is a moral effect of the "KBO-C" on "AC" **realized** because the probability value is less than 5% estimated at 0%.

Note: There is an additional impact of "KBO-C" on the "D-LAB" as a result of their impact on the achievement of "AC" in research laboratories. Whenever there are positive changes in these characteristics, this has a more positive impact on the achievement of "AC", which is reflected in the "D-LAB" with an estimated value of 0.160, which **underscores the validity of the fourth sub-hypothesis** "There is a moral impact of the "KBO-C" on the "D-LAB" through their impact on "AC"", as shown in the following table:

Table 8: Specific indirect effects

	Specific indirect effects
KBO-C -> AC -> D-LAB	0.160

Source: Prepared by researchers based SmartPLS4 outputs.

4. CONCLUSION

After learning the theoretical aspect and learning about the study variables (KBO-C. AC. D-LAB) The realization of the field study based on the development of hypotheses and the construction of a hypothesis model linking these variables, whose validity and sincerity have been verified by modelling the constructive equation in a way that approaches micro-squares, which confirmed the validity of hypotheses and denied the validity of other hypotheses, and in more detail will be reflected in the following **findings**:

-Algerian universities' research laboratories adopt the characteristics of knowledge-based organizations;

- Research laboratories do not seriously adopt elements of administrative creativity;

- A direct moral impact of knowledge-based organizations' characteristics on the development of research laboratories;

There is no direct moral impact of administrative creativity on the development of research laboratories;

- There is a positive additional impact that the characteristics of knowledge-based organizations achieve on the development of research laboratories through their influence on management creativity and increased rate of adoption by research laboratories.

In the light of its findings, the study **recommends**:

- The need to encourage the realization and adoption of administrative creativity as a key factor in the development of research laboratories and to raise the quality of their output by intensifying meetings between laboratory directors, team chiefs, and members to propose ideas, Through our visit to the study's laboratories, we have found that the communication factor is small. According to most professors, the meeting is only to collect academic outcomes, it means that no creative or new additional work is provided;
- The need to provide the necessary means and allocate a larger budget for the acquisition of laboratory equipment and tools that will speed up the cycle of academic production and research, particularly in scientific, technical, and technological disciplines and health problems, such as finding a cure for the coronavirus crisis, environmental and urbanization problems, and earthquake protection…
- The need for in-depth studies in the near future to address the issue of research laboratories failing to incorporate creative elements. How will the latter progress without adapting to the external variables surrounding them and accelerating technological developments;
-Reliance on knowledge is an important and essential factor. Research laboratories as knowledge organizations should invest in knowledge which is the basis for their development;
-Taking into consideration the "KBOs-C" and not neglecting them, because their impact is very clear and important in achieving progress.

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