Quantitative analysis of factors influencing the intention to adopt cloud computing in universities

التحليل الكمي للعوامل المؤثرة على نية تبني الحوسبة السحابية في الجامعات

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Abstract:

This study aims to investigate the factors influencing employees' intentions to adopt cloud computing at the University Centre of Maghnia in Algeria. Data was gathered from 56 employees through a questionnaire-based survey. Hypotheses were tested using hierarchical regression analysis with SPSS V26. The results showed that trialability and top management support significantly impact the intention to adopt cloud computing, while technology readiness does not. Organizations should carefully evaluate the pros and cons of cloud computing before implementation, considering elements like observaibility , flexibility and quality of services.

Keywords: cloud computing; adoption; TOE; DOI; University; Algeria**.**

Jel Classification Codes: I23; M15; Q33; M50

الملخص:

تهدف هذه الدراسة إلى التعرف على العوامل المؤثرة على نية العاملين لتبني الحوسبة السحابية في المركز الجامعي مغنية بالجزائر. تم جمع البيانات من 56 موظفا من خلال استبيان قائم على الاستبيان. تم اختبار الفرضيات باستخدام تحليل الانحدار الهرمي باستخدام برنامج *SPSS V26*. وأظهرت النتائج أن القابلية للتجربة ودعم الإدارة العليا يؤثران بشكل كبير على نية اعتماد الحوسبة السحابية، في حين أن الاستعداد التكنولوجي لا يؤثر ذلك. يجب على المؤسسات تقييم إيجابيات وسلبيات الحوسبة السحابية بعناية قبل التنفيذ، مع الأخذ في الاعتبار عناصر مثل إمكانية المراقبة والمرونة وجودة الخدمات.

الكلمات مفتاحية: حوسبة سحابية؛ تبني؛ DOI؛ معرف الهوية الرقمي؛ جامعة؛ الجزائر.

تصنيف JEL: I23; M15; Q33; M50 .

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1. Introduction:

Information technology has transformed the industrial era into the communication age, boosting productivity and economic growth (KardanMoghaddam et al., 2022, p. 175) In the last decade, enterprises have shown increasing interest in adopting cloud computing, which offers the potential to transform how they procure and manage computing resources efficiently and cost-effectively (El-Gazzar, 2014, p. 2). . Cloud computing is a fundamentally scalable and adaptable pay-as-you-go approach for providing IT services flexibly (Mohammed et al., 2017, p. 1). It is revolutionizing IT operations at universities, allowing institutions with budget constraints to access information services without new investments in ICT resources. By employing cloud applications, higher education institutions can effectively manage knowledge to enhance academic performance, effectiveness, and efficiency(Aydin, 2021, p. 1). Cloud computing virtualizes resources for online delivery, supporting distance education, e-learning, and mobile learning (Klug & Bai, 2015, p. 1). In academia, cloud computing offers significant scalability and flexibility, enabling campus users to access file storage, databases, and university applications from any location at any time (Okai et al., 2014).

The NIST defines cloud computing as a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. NIST's definition highlights key characteristics: ubiquitous access, on-demand network access, shared configurable resources, rapid provisioning, and minimal management effort. These attributes enhance mobility, efficiency, cost-effectiveness, and flexibility, allowing users to scale resources as needed. The definition also underscores the need for robust security, regulatory compliance, and reliable internet connectivity.(Mell & Grance, 2011, p. 2).

Cloud computing utilizes three primary service or delivery models (Diaby & Rad, 2017, pp. 52-53): Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). These models enable cloud computing to deliver its benefits efficiently. Furthermore, cloud computing employs four deployment models: public cloud, private cloud, community cloud, and hybrid cloud . Infrastructure as a Service (IaaS) offers virtualized computing resources such as virtual machines and storage via the internet, allowing flexible resource rental without hardware investment. Platform as a Service (PaaS) provides a development platform for applications without managing underlying infrastructure, including OS and database tools. Software as a Service (SaaS) delivers software

applications via web browsers on a subscription basis, eliminating installation and maintenance needs.Secondly the deployment model (Diaby & Rad, 2017, pp. 54-55) are: Private Cloud offers dedicated infrastructure managed internally or by third parties, ensuring robust data control and security. Community Cloud provides shared infrastructure for specific communities, managed by organizations or third-party providers. Hybrid Cloud combines public and private cloud resources to optimize IT infrastructure flexibility. These models cater to diverse organizational needs, prioritizing security, scalability, and operational control.

This study aims to investigate the factors influencing employees' adoption intentions of cloud computing at a university center. Our approach involves developing a theoretical model rooted in the Technological ,Organizationnal and Environmental framwork (TOE) and Diffusion of Innovation (DOI) theories. The outcomes of this research can benefit organizations, particularly Algerian universities, by enhancing their understanding of cloud computing and its potential to improve university operations. Additionally, this study offers insights into how these factors influence the adoption decisions within Algerian university settings.

The remainder of this paper is structured as follows: Section II reviews relevant literature; Section III presents the theoretical framework and research hypotheses; Section IV details the research methodology; Section V discusses the findings; and Section VI concludes the study.

2. Literature review:

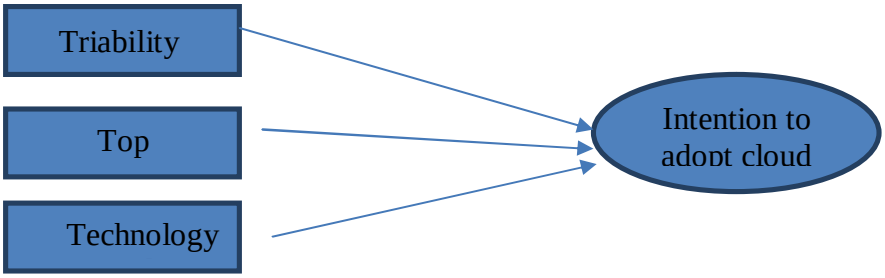
There are various studies on the factors influencing cloud computing adoption across different sectors and regions. Key factors identified include relative advantage, top management support, technical readiness, competitive pressure, perceived accessibility, usefulness, security, speed of access, and many other factors. highlighting the diverse influences on cloud computing adoption decisions , the first study by Ilahi et al. (2024) used the Technology-Organization-Environment (TOE) framework to determine the factors influencing the adoption of cloud computing by SMEs. They found that relative advantage, top management support, technical readiness, and competitive pressure played major roles.Similarly Alshanqiti (2021, p. 3) examined cloud computing adoption among King Abdulaziz University faculty in Saudi Arabia using the Technology Acceptance Model (TAM). This study found that perceived accessibility significantly influenced adoption, while perceived ease of use, usefulness, security, and benefits did not. Additionally, younger age was a significant predictor of adoption.. The study by Rababah et al. (2017) investigated factors influencing students' adoption of cloud computing in Jordanian universities. Their quantitative survey revealed that perceived usefulness,

ease of use, security, speed of access, and cost significantly influenced students' intention to use cloud computing, explaining 50.4% of the variance. The study by Hashim et al. (2015, p. 296 to 300) from University Tenaga Nasional reviewed factors influencing cloud computing adoption across various sectors, finding that security and privacy were the most common factors, followed by relative advantage, compatibility, complexity, ease of use, and usefulness). Klug and Bai (2015, p. 1 to 7) study, "Factors Affecting Cloud Computing Adoption among Universities and Colleges in the United States and Canada," examined why some educational institutions adopt cloud computing while others do not. Using the technology-organization-environment (TOE) framework, the study surveyed 119 CIOs and IT managers in 2013. The findings revealed that complexity, institutional size, and technology readiness significantly influenced cloud computing adoption, whereas relative advantage, regulatory policy, and service provider support did not. The results were analyzed within a theoretical model linking technology, organizational, and environmental factors to the adoption decision. Low et al. (2011) examined the factors influencing the adoption of cloud computing among firms in Taiwan's high-tech industry. The study considered factors such as relative advantage, complexity, compatibility, top management support, firm size, technology readiness, competitive pressure, and trading partner pressure. The findings revealed that five factors-relative advantage, top management support, firm size, competitive pressure, and trading partner pressure-positively impacted the adoption of cloud computing.

3. Research model and hypotheses:

The following section gives a detailed summary of the research model created to investigate the use of cloud computing. This model integrates variable based on the DOI model and two variables based on the TOE framework. These variables are built upon current literature and hypotheses regarding the connections between them and the tendency to embrace cloud computing technology. The following subsections delve into the definition of the variables and briefly analyze the hypotheses. Triability, Top management support and Technology readiness rooted in established frameworks and theories, form the basis of the research model designed to explore the factors influencing organizations' decisions to embrace cloud computing technology.

Fig. 1 Theoritical model



Source: Computed by The authors

3.1 Triability:

This variable is based on the Diffusion of Innovations (DOI) model, Rogers et al. (2014) refers that triability is " A degree to which as innovation may be exprim ented with on a limited basis . If an innovation is triable it results in faster adoptions. Triability in cloud computing is crucial because it reduces adoption risk(Wu, 2011) by allowing potential users to evaluate services without significant upfront investment. This trial period offers firsthand user experience (Oliveira et al., 2014), helping businesses understand how cloud services can enhance their processes. It also enables feedback to providers (Lin & Chen, 2012), who can then make necessary adjustments to better meet user needs, thereby improving satisfaction and increasing adoption likelihood. In this study, triability refers to the ability of university employees to experiment with cloud computing services before full-scale adoption. It allows them to assess the technology's fit with their tasks and workflows, thereby reducing uncertainty and increasing the likelihood of adoption. The hypothesis is as follows:

H2: Triability will positively influence the intention to adopt cloud computing at universities.

3.2 Top management support:

Top management support involves senior executives providing leadership, resources, and dedication to initiatives or technology adoption.Top management support is essential in driving cloud computing adoption in universities. Executives articulate a strategic vision that aligns with university goals (Low et al., 2011, p. 1012) .They commit financial, human, and technological resources(Gangwar et al., 2015, pp. 9-10) .By fostering a supportive environment, they encourage innovation and reduce resistance to change(Dutta et al., 2015) . Addressing concerns and providing training mitigates resistance from staff and faculty (Oliveira et

al., 2014, p. 502). Visible support from top management builds confidence and trust among stakeholders, ensuring successful adoption (Borgman et al., 2013). Top management support in universities encourages employees to adopt cloud computing by providing strategic direction, necessary resources, and a supportive environment that fosters innovation and reduces resistance. This leadership builds confidence and trust, aiding successful adoption. Thus, we propose the following hypothesis:

H2: Top management support will positively influence the intention to adopt cloud computing at universities.

3.3 Technology readiness:

Technology readiness measures how prepared individuals or organizations are to adopt and use new technologies. This readiness includes technological infrastructure, technical skills, and organizational capacity to integrate and utilize new solutions. To effectively adopt cloud infrastructure, robust and scalable hardware, software, and network capabilities are essential (Zhu et al., 2006, p. 1562). Equally important is the expertise of IT staff and end-users, which underscores the need for proper training and skill development(Grandon & Pearson, 2004) .Organizational readiness, including the ability to integrate new technology, manage change, and foster a supportive culture, is also crucial (Baker, 2012, pp. 2-3). Additionally, the adoption of user-friendly technologies that clearly demonstrate benefits increases the likelihood of successful implementation(Davis, 1989). Lastly, universities must prioritize innovation, adaptability to technological trends, and openness to change to effectively leverage new technologies (Arpaci et al., 2012) . Employees' readiness for adopting cloud computing in universities involves their willingness and capability to effectively integrate and utilize cloud technologies to boost organizational efficiency and efficacy in educational settings. Thus, we propose the following hypothesis:

H3: Technology readiness will positively influence the intention to adopt cloud computing at universities.

4. Methodology

To assess the proposed framework mentioned above, a questionnaire was developed. The initial step in questionnaire design involved selecting validated items that represent all variables in the framework. These items were sourced from existing literature on technology adoption and modified to align with the context of universities. For instance, the intention to adopt cloud computing (four items), Triability (four items), Top managment support (four items) and Technology readness (four items) were adapted from a study by (Al Khater, 2017).. In the second phase, the questionnaire was distributed to 56 employees at Maghnia University Center to test our

hypotheses. The data was collected using the SPSS program, and respondents rated each item on a five-point Likert scale.

Demographic data of the sample:

Below is a detailed analysis of the provided demographic data, covering gender, age, educational level, and position.

Table 01: Demographic data of the sample study (N= 56)

Demographic Variables		Count	Percent(%)
1-Gender	Male	21	37.5
	Female	35	62.5
2-Age	25-35	15	26.8
	36-45	36	64.3
	46-55	4	7.1
	55 and above	1	1.8
3- Educational level	Senior technician	6	10.7
	Professional level	4	7.1
	Bachelor's degree	7	12.5
	Master	32	57.1
	doctorate	6	10.7
	Other	1	1.8
4-Positon	State enginener	4	7.1
	Assistant manager	17	30.4
	Assistant director	3	5.4
	Assistant enginner	1	1.8
	Manager accountant	1	1.8
	Analysis manager	3	5.4
	Secretory	3	5.4
	Other	24	42.9

Source: Computed by The authors

From table (1), we found that the highest percent of the total sample were female by 62.5% while male were 37.5% of the total sample . This indicates a higher female representation among the participants.

About age they were (36-45) by 64.3% of the total sample ,followed by 26.8% for (25-35), while (46-55) and (55 and above) were 7.1% and 1.8% of the total sample . The age distribution is skewed towards the middle-aged group .This suggests that most respondents are mid-career professionals.

About Educational level ,the highest percent was for (Master) by 57.1% of the total sample , followed by (Bachelor's degree) with 12.5% of the total sample , while 10.7% for both (Senior technician and doctorate) ,

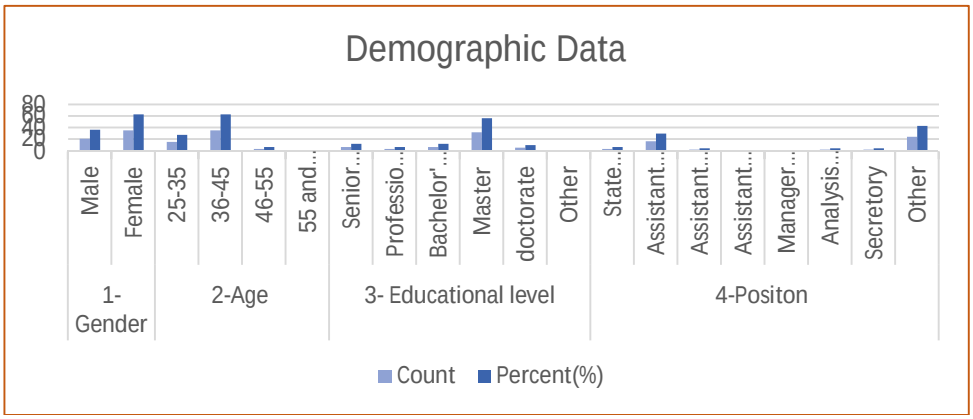
while (Professional level and Other) were 7.1% and 1.8% of the total sample .Than Educational attainment among the sample is high . A significant majority holding a Master's degree (57.1%) suggests a high level of specialization and expertise within the sample. The presence of Doctorate holders (10.7%) further underscores the advanced educational background of the respondents. The lower percentages for other educational levels might reflect the specific educational requirements or professional standards of the field. This results indicates a highly educated sample.

Finally about the position , the highest percent was for (Other) by 42.9 % of the total sample , followed by 30.4% for (Assistant manager) , while (State enginner) were 7.1% , followed by 5.4% of each (Assistant director ,Analysis manager and Secretory) , and the lowest percent was for both (Assistant enginner and Manager account) by 1.8% of the total sample . The distribution of positions indicates a diverse range of roles: than the high percentage of respondents categorized as "Other" (42.9%) suggests a variety of roles that may not fit traditional job titles, which could indicate a diverse or evolving job market. The significant presence of Assistant Managers (30.4%) highlights a substantial middle-management representation. The lower percentages in specific technical and administrative positions might point to either a smaller size of these departments or less participation from these groups in this study.

This demographic data suggests that the sample consists mainly of well-educated, mid-career professionals with a significant female representation, working in a variety of roles, many of which are managerial.

The next figure shows these results

Figure 1:Demographic Data



Source: Computed by The authors

Cronbach Alpha:

Reliability:

Reliability is the measure of internal consistency of the constructs in the study (Cronbach, 1951, p. 297) . A construct is reliable if the Alpha value is greater than .70 (Louangrath, 2018, p. 53) Construct reliability was assessed using Cronbach's Alpha. The results revealed that the Intention to adopt cloud computing scale with four items (.838). The reliability degree of 0.838 indicates a high level of internal consistency for the items measuring the intention to adopt cloud computing. This suggests that the items are well-correlated and consistently capture the construct of adoption intention.

The Triability scale with four items for a Cronbach's Alpha of 0.955, the triability scale exhibits excellent reliability. Such a high score implies that the items within this construct are extremely consistent with each other, providing a robust measure of how trialability affects cloud computing adoption.

The top management support scale's reliability degree with four items of 0.781 is above the acceptable threshold, indicating good internal consistency. This demonstrates that the items related to top management support are reliably measuring the construct.

The technology readiness scale with four items has a reliability degree of 0.815, signifying a high level of internal consistency. This suggests that the items effectively measure the readiness of the technology environment for cloud adoption.

Finally, The overall reliability of the questionnaire, with a Cronbach's Alpha of 0.827, indicates that the entire set of items (16 in total) is consistently measuring the intended constructs. This overall reliability degree reflects that the questionnaire is a dependable tool for assessing the factors influencing cloud computing adoption.Relaibility results are summerized in table (2).

Table 02: Reliability statistics.

The variables	Number of items	Alpha crombach's
IACC	**4**	.838
TRI	**4**	.955
TMS	4	.781
TCR	4	.815
Overall reliability of the questionnaire	**16**	.827

Source: Computed by The authors

Correlation

In order to evaluate the internal reliability validity, Pearson correlation coefficients were computed between the scores of individual items within each of the four variables and the overall score of their respective variable. This analysis was conducted using the statistical software SPSS V26. The correlation coefficients between each item and the total score of their respective variables are presented in the table below:

Based on the findings presented in Table No. 03, it is observed that all Pearson correlation coefficients between the items of each variable and the total score of that variable are statistically significant at a significance level of 0.01, as noted by(Cohen et al., 2009, pp. 37-38).

Regarding the dependent variable, the minimum correlation coefficient was 0.721, while the maximum was 0.871. This indicates that all items related to the intention to adopt cloud computing demonstrate internal consistency within the variable. Consequently, it confirms the validity of the internal consistency of the intention to adopt cloud computing items.

For the first independent variable, the minimum correlation coefficient was 0.535, and the maximum was 0.689. Therefore, all items associated with triability exhibit internal consistency within the variable, validating the internal consistency of the triability items.

In the second independent variable, the minimum correlation coefficient was 0.714, while the maximum was 0.848. This suggests that all items pertaining to top management support demonstrate internal consistency within the variable, affirming the validity of the internal consistency of the top management support items.

Lastly, in the third independent variable, the minimum correlation coefficient was 0.564, while the maximum was 0.880. This indicates that all items related to technology readiness exhibit internal consistency within the variable, thereby confirming the validity of the internal consistency of the technology readiness items .

While the high Internal Consistency confirm that the correlation coefficients for all variables (intention to adopt cloud computing, triability, top management support, and technology readiness) fall within a respectable range, suggesting that the items within each construct are measuring a similar underlying concept. This is a positive sign, as it indicates that our scales are reliable and internally consistent .As that the high correlations between items within each variable confirm the validity of our constructs, because the correlation coefficients provide a quantitative measure of the strength of the relationships between items. While all correlations are above 0.5, it's worth noting that some variables (like intention to adopt cloud computing and top management support)

exhibit stronger internal consistency than others (like triability and technology readiness)

Table 03. Correlation coefficients between the score of each item and the overall score of the all variables

Variables	Items	Person correlation	**significance**
Intention to adopt cloud computing	-1-	.847**	.000
	-2-	.844**	.000
	-3-	.721**	.000
	-4-	.871**	.000
Triability	-5-	.535**	.000
	-6-	.587**	.000
	-7-	.597**	.000
	-8-	.689**	.000
Top management support	-9-	.738**	.000
	-10-	.848**	.000
	-11-	.807**	.000
	-12-	.714**	.000
Technology readiness	-13-	.866**	.000
	-14-	.880**	.000
	-15-	.880**	.000
	-16-	.564**	.000

Notes: ** Correlation is significant at the 0.01 Level (2-Tailed).

Source: Computed by The authors

Descriptive statistics :

The table below outlines the Likert scale used to measure levels of agreement, the difference between the points, the corresponding intervals, and the interpretation of each level.

Table 04. **The rating scale according to the five-point Likert scale (Pimentel, 2010)**

Likert scale	Difference	Interval	Level
Strongly disagree	0.79	[1-1.79]	Low level
Disagree	0.79	[1.80-2.59]	
Neural	0.79	[2.60-3.39]	Moderate level
Agree	0.79	[3.40-4.19]	High level
Strongly agree	0.80	[4.20-5]	

Source: computed by the authors

This framework enables a nuanced grasp of participants' opinions and outlooks. The scale is crafted to maintain a uniform interval of around 0.79 to 0.80 between each point, ensuring a steady range across the board.

Table 05 :Descriptive statistics of the variables study

Construct	Number of items	Mean	Std .Deviation	Scale
IACC	4	3.82	.627	Agree
TRI	4	4.11	.554	Agree
TMS	4	4.01	.734	Agree
TCR	4	4.14	.800	Agree

Source: Computed by The authors

Descriptive statistics:

The table below outlines the Likert scale used to measure levels of agreement, the difference between the points, the corresponding intervals, and the interpretation of each level.

Table 06. The rating scale according to the five-point Likert scale (Pimentel, 2010)

Likert scale	Difference	Interval	Level
Strongly disagree	0.79	[1-1.79]	Low level
Disagree	0.79	[1.80-2.59]	
Neural	0.79	[2.60-3.39]	Moderate level
Agree	0.79	[3.40-4.19]	High level
Strongly agree	0.80	[4.20-5]	

Source: computed by the authors

This framework enables a nuanced grasp of participants' opinions and outlooks. The scale is crafted to maintain a uniform interval of around 0.79 to 0.80 between each point, ensuring a steady range across the board.

Table 07 :Descriptive statistics of the variables study

Construct	Number of items	Mean	Std .Deviation	Scale
IACC	4	3.82	.627	Agree
TRI	4	4.11	.554	Agree
TMS	4	4.01	.734	Agree
TCR	4	4.14	.800	Agree

Source: computed by the authors

Table No. 07 illustrates the descriptive statistics for the variables under study. The Weighted average with IACC was 3.82 with a Standard deviation of 0.627. This suggests that the inclination towards adopting cloud computing is perceived as "Agree" based on a 5-point Likert scale, as indicated in Table 4, since the value of 3.82 falls within the range of [3.40-4.19]. Therefore, the average IACC score of 3.82 reflects a high level of agreement.Similarly, the Weighted average with TRI was 4.11 with a Standard deviation of 0.554, indicating a positive trend towards "Triability" on the Likert scale in Table 4, as 4.11 falls within the interval [3.40-4.19]. The average TRI value of 4.11 suggests a high level of agreement.Furthermore, the Weighted average with TMS was 4.01 with a Standard deviation of 0.734, signifying a favorable stance towards "Top management support" according to the 5-point Likert scale in Table 4, since 4.01 lies within the range [3.40-4.19]. The average TMS value of 4.01 corresponds to a high level of agreement.Lastly, the Weighted average with TCR was 4.14 with a Standard deviation of 0.80. This indicates a positive outlook towards "Technology readiness" on the Likert scale in Table 04, as 4.14 falls within the interval [3.40-4.19]. The average TCR score of 4.14 reflects a high level of agreement.The scores between 3.40 and 4.19 on the 5-point Likert scale show that most respondents agree on the benefits of using cloud computing. While there's some variation in responses, the overall trend is positive and consistent.In general, the findings reveal a strong preference for adopting cloud computing. People view it positively in terms of trying it out, having support from top management, and being ready for the technology. This bodes well for successful cloud adoption in the studied economic area.

Correlation :

Results of correlation coefficient between intention to adopt cloud computing and the three independent varibles , are given in Table 06:

Table 08. The correlation between Intention to adopt cloud computing and the three independent variables

Variables	R-Value	P-Value
Triability	.265*	.049
Top management support	.477**	.000
Technology readiness	.151	.267

Notes: ** Correlation is significant at the 0.01 Level (2-Tailed).
* Correlation is significant at the 0.05 Level (1-Tailed.)
Source: computed by the authors.

In order to examine the relationship between the variables in our study, we performed a Pearson correlation analysis The findings presented in the table demonstrate a statistically significant moderate positive correlation coefficient of 0.477 between the intention to adopt cloud computing and top management support (Sedgwick, 2012, p. 2) . The notable positive correlation (0.477) between the intention to adopt cloud computing and top management support is significant, indicating a robust relationship. This finding is consistent with earlier studies such as Low et al. (2011, p. 1006) and Hassan et al. (2017, p. 21) emphasizing the essential role of top management in promoting cloud adoption .

On the other hand, a weak positive correlation coefficient of 0.265 was observed between the intention to adopt cloud computing and triability, which was also found to be statistically significant with a significance value of 0.049 at a confidence level.The correlation between the intention to adopt cloud computing and triability is weaker (0.265) but remains statistically significant. This indicates that the ability to test cloud services before fully committing influences adoption intention, though its impact is less substantial compared to top management support.

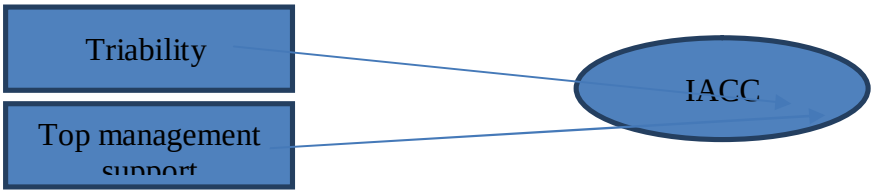
Furthermore, the study revealed a weak positive correlation coefficient of 0.151 between the intention to adopt cloud computing and technology readiness. However, this weak positive correlation was determined to be statistically non-significant, as the p-value of 0.267 exceeds the significance level of 0.05. The weak positive correlation (0.151) between the intention to adopt cloud computing and technology readiness is statistically non-significant. This implies that, in our study, the perceived organizational readiness for adopting cloud technology does not significantly influence adoption intentions.

Multiple Regression (Hierarchical Analysis:

Multiple regression analysis, particularly hierarchical regression, constitutes a statistical approach employed to investigate the association between a dependent variable and several independent variables. In hierarchical regression, independent variables are systematically included in the regression equation according to a predefined order, typically guided by theoretical or practical rationales. This method allows for the prediction of a dependent variable using multiple predictors, assessing the cumulative ability of these variables to account for variability in the dependent variable. Importantly, hierarchical regression evaluates the unique contribution of each independent variable while accounting for the influence of other variables already included in the model, thereby providing insights into the relative importance of predictors in explaining the outcome of interest (Chiou et al., 2023).

Model 01 :

Model 02 :



Model 03 :

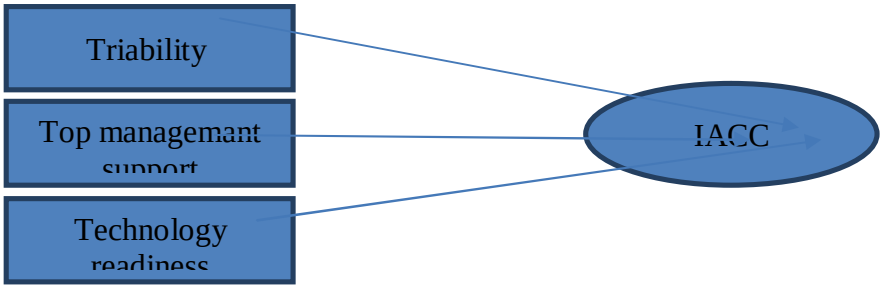


Table 09 show that the analysis also met the assumption of multicollinearity given that the tolerance values ranges fom 0.732 to 1.00 while the value inflation factor (VIF) ranges from 1.00 to 1.367 indicating that multicollinearity is not problem in this study (Farrar & Glauber, 1967) .The results of the hierarchical regression show that the triability accounted for 7% variance in triability intention to adopt cloud computing,

R2= 0.07 RR2= 0.07 .F(1.54) = 4.073 P<.05 ,and the analysis showed evidence of a significant effect of triability intention to adopt cloud computing (β = .27 ,CI =0 .002, 0.597,P <0.05) .This result compatable with Etsebeth (2012) and Al-Sharafi et al. (2017) . We accept research hypothesis 1.Also , the Top management support into the model 2 added additional 16.1% variance in predicting intention to adopt cloud computing , R2= 0.231 RR2= 0.161 .F(1.53) = 11.058 P<.05 , and it significantly predicted intention to adopt cloud computing (β = 0.448 ,CI =0 .152, 0.613,P <0.05) This result compatible with Kandil et al. (2018) .Thus we accept research hypothesis 2 . The analysis showed that the addition of the technology support showed additional 23.3% variance in intention to adopt cloud computing R2= O.233RR2=0.002.F(1.52) = P>.05 , and is not significantly predicted intention to adopt cloud computing (β = -0.052 ,CI =-0 .251, 0.170 , P > 0.05) indicating that hypothesis 3 was rejected.

Table 09 : the results of hierarchical regression Analysis

	Intention to adopt cloud computing					
Variables	Model 1	CI: 95%	Model 2	CI: 95%	Model 3	CI: 95%
Triability	0.27**	0 .002, 0.597	0.064**	0.234 , 0.378	0.073**	0.231 , 0.396
Top management support			0.448**	0 .152, 0.613	0.464**	0.153 ,0.639
Technology readiness					-0.052	-0 .251, 0.170
Model fit statistics						
F-value		4.073**	11.058**		0.150	
R^2		0.07	0.231		0.233	
R^2		0.07	0.161		0.002	

Notes: ** Correlation is significant at the 0.05 Level (1-Tailed).
Source: Computed by The authors

5. Conclusion:

Cloud computing has generated significant excitement both in academic circles and across various industries. Numerous small and medium-sized enterprises (SMEs) and IT firms perceive this technology as a potential avenue for substantial business expansion (Rai et al., 2015). The study at the University Centre of Maghnia in Algeria concludes that trialability and top management support significantly influence employees' intentions to adopt cloud computing, whereas technology readiness does not. These findings highlight the importance of organizations prioritizing

opportunities for employees to trial cloud solutions and securing robust support from top management to boost adoption rates. In summary, the empirical evidence underscores trialability and top management support as critical factors in cloud adoption, emphasizing the need for organizational strategies that facilitate trials and garner strong leadership backing. Nonetheless, the study indicates that technology readiness alone may not play a significant role in shaping adoption intentions within this particular context.

Despite valuable insights, this study has certain limitations. Firstly, the sample size was relatively small (56 employees), which might limit the generalizability of the findings to larger populations or different contexts. Additionally, the study focused solely on employees' perspectives without considering other stakeholders such as IT administrators or external service providers. Future research could address these limitations by conducting larger-scale studies across various organizational settings in Algeria or beyond. Moreover, investigating the long-term impacts of cloud computing adoption on organizational performance and exploring additional factors such as security concerns or regulatory compliance could provide deeper insights into effective adoption strategies. Furthermore, examining the role of training and support mechanisms in facilitating cloud computing adoption could offer practical recommendations for enhancing implementation success.

In summary, while this study provides valuable initial findings, further research is needed to comprehensively understand the complexities and implications of cloud computing adoption in organizational contexts .

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