

## External auditors' reliance on internal auditors and its impact on external auditors' independence: Evidence from Algerian audit environment

إعتماد المدقق الخارجي على أعمال المدقق الداخلي وأثره على استقلالية المدقق الخارجي: دليل من بيئة التدقيق الجزائرية

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### Abstract:

This study investigates the external auditor (EA) reliance on internal audit's work and its impact on external auditors' independence. The study employs a mixed method comprising a survey-based factorial experiment in addition to semi-structured interviews. The results, based on 55 fully-crossed factorial experiments with EAs, show that external auditors' reliance on internal auditors work has a significant impact on external auditor's independence by influences on both external auditor's mental and virtual independence, and external auditor's mandatory change, and has no significant impact on providing advisory services.

**Key words:** External audit, internal audit, reliance on internal auditor work; external auditors' independence, Algerian audit environment.

### ملخص:

تبحث هذه الدراسة في اعتماد المدقق الخارجي على عمل التدقيق الداخلي وتأثيره على استقلالية المدققين الخارجيين. تستخدم الدراسة طريقة مختلطة تشمل على تجربة قائمة على المسح بالإضافة إلى بعض المقابلات شبه المنظمة. وتُظهر النتائج المستندة إلى 55 استبانة مقدمة إلى عينة من للمدققين الخارجيين في الجزائر، أن اعتماد المدققين الخارجيين على عمل المدققين الداخليين له تأثير كبير على استقلالية المدقق الخارجي من خلال التأثيرات على كل من الإستقلال الذهني والظاهري للمدقق الخارجي، والتغيير الإلزامي للمدقق الخارجي، وليس له تأثير كبير على تقديم الخدمات الإستشارية.

**الكلمات المفتاحية:** تدقيق خارجي، تدقيق داخلي، اعتماد المدقق الخارجي، إستقلالية المدقق الخارجي، بيئة التدقيق الجزائرية.

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## 1. INTRODUCTION

The value internal audit (IA) can add to the organization is affected by the co-operation and co-ordination between the internal and external audit, although the primary purpose of internal audit differs from that of the external audit (EA), there are common interests that provide the basis for co-operation between them<sup>1</sup>.

External auditors' (EAs) reliance on the work of internal auditors (IAs) has gained heightened attention in recent years<sup>2</sup>. External auditors can choose to rely on the works of internal auditors in performing their audit<sup>3</sup>. There are many opportunities for coordination and cooperation between the two functions which may yield synergistic outcomes such as higher quality audits and economic benefits<sup>4</sup>. From the external audit point of view, co-operation and coordination is only possible when some basic criteria on common skills and competencies are met but this does not exclude the possibility of establishing other forms of interaction, and if the internal audit work is based on credible facts, adequate enough for external audit<sup>5</sup>. Recent guidance from the ISA 315 addressed how the knowledge and experience of the internal audit function can inform the external auditors' understanding of the entity and its environment and identification and assessment of risks of material misstatement. The Public Companies Accounting Oversight Board (PCAOB) has recommended that external auditors "rely (more) on the work of others" to reduce the greater-than-expected corporate (audit client) costs<sup>6</sup>. Including the professional auditing standards provide guidance for EAs on the proper use of the internal audit work<sup>7</sup>. International Auditing Standard 610, SAS 500 in the UK, SAS 128 (replacing SAS 65) in the USA<sup>8</sup>, and NAA 610 in Algeria state that EAs can rely on the work of IAs, and provide guidelines on EAs' considerations of IA work in the conduct of financial statement audits. However, these standards do not provide specific guidance for EAs regarding the degree of reliance on IAs' work. In fact, professional auditing standards recognize the potential contribution that internal auditors can provide to external auditors, This contribution can be made indirectly when internal auditors assist external auditors or directly when internal auditors perform various audits and reviews throughout the audit year on which the external auditors may rely<sup>9</sup>. The higher presence of standards, which allows external auditors to rely on the IAF, will elevate the importance to meet the criteria required for efficient and effective IAF<sup>10</sup>. ISA 610 provides the external auditor with guidelines for use when determining whether, and to what extent they can rely on the work of the internal auditors. External auditors need to consider: The objectivity of the internal audit function, The technical competence, Whether the work of the internal auditors is likely to be carried out with due professional care, and Whether there is likely to be effective communication between the internal auditors and the external auditor<sup>11</sup>. The coordination between internal auditors and external auditors on audit matters can efficiently reduce budgeted external audit hours, external audit efforts, external audit fees and audit delay<sup>12</sup>.

However, cooperation between External auditors and internal auditors has been assumed to be something of a double-edged sword<sup>13</sup>. The external auditor's use of the internal auditor's work may take a negative turn, and periodic meetings and meetings with the internal auditor and the familiarity that creates between them will lead him to accept or overlook the abuses that may be issued by the internal auditor, and thus bias in favor of the various parties of the organization's management at the expense of the relevant parties and reduce his objectivity in Expressing a neutral technical opinion, especially when relying excessively and unjustified.

So, the primary purpose of this paper is to advance prior research in internal audit (IA) evaluation, and how it can impact on external auditor's independence. By developing a questionnaire that can provide a response to the main problem: **How does the external auditor's reliance on of the internal auditor's work affect on external auditor's independence?**

And Sub questions:

**Q01:**How does the external auditor's reliance on of the internal auditor's work affect on external auditor's mental and virtual independence?

**Q02:**How does the external auditor's reliance on of the internal auditor's work affect on external auditor's mandatory change?

**Q03:**How does the external auditor's reliance on of the internal auditor's work affect on providing advisory services?

In a similar vein, we believe that configural information processing is influential to EAs when they use material prepared by IAs. Hence, the study hypothesizes that EAs' judgment decision-making regarding their reliance on IA work is configural; EAs look for and take into consideration both the individual (i.e., main effect) and interactive effects of the three dependent variables as follow:

**H1: 'There is a no significant impact of external auditors' reliance on internal auditors on external auditor's independence'**

**H1a: 'There is a no significant impact of external auditors' reliance on internal auditors on external auditor's mental and virtual independence'.**

**H1b: 'There is a no significant impact of external auditors' reliance on internal auditors on external auditor's mandatory change'.**

**H1c: 'There is a no significant impact of external auditors' reliance on internal auditors on providing advisory services.**

## **2. Back ground and literature review**

"Relying on the work of IAs" refers to using their work in preparing for and conducting an external audit. This work can include past reports and documentation produced by IAs as well as using IAs as assistants or advisors for the EAs<sup>14</sup>. It may be efficient for internal and external auditors to use similar techniques, methods and terminology to coordinate their work effectively and to rely on the work of one another.<sup>15</sup>

The international standards for internal auditing that define how internal audit may rely on other assurance providers, external auditor<sup>16</sup>. The standards for both internal and external audit require effective information sharing and coordination. The external auditor has sole responsibility for the audit opinion expressed<sup>4</sup> and that responsibility is not reduced by the external auditor's use of the work of the internal audit function<sup>17</sup>.

ISA 610 (Revised 2013) includes new requirements and guidance addressing the external auditor's use of internal auditors to provide assistance<sup>18</sup>. For example, EAs could use IAs' knowledge (i.e., by consulting them) or parts of their previous or new work to benefit from the IAs' "insider knowledge" and their continuous monitoring of the organization's internal control systems, potentially improving the quality of the external audit. In such cases, the work of the IAs would contribute to the planning and/or the content of the external audit. Alternatively, EAs could directly use some of the work of IAs in order to reduce duplication of work and the required time and cost, in addition to achieving quality in the work provided, because the success could be achieved only if the internal environment is strong enough to meet the challenges of external requirements.<sup>19</sup> as well as reducing the audit's disruption of the organization's operations<sup>20</sup>. However, these standards do not provide specific guidance for EAs regarding the degree of reliance on IAs' work in particular it focused on internal

auditor (IA) objectivity, competence, and work performance can influence EA evaluations of EA decisions to rely on the work of internal audit<sup>21</sup>.

A number of studies have been undertaken to investigate the contribution of internal auditors in the external audit work and/or the relative importance of factors affecting external auditors' evaluation of internal auditors' strength. Schneider 1984 examined the factors that might be considered important by external auditors in order to evaluate the reliability of the internal audit function. This study addressed the issue of how auditors evaluate the strength of the IA function, synchronize with the recognized of the Auditing Standard Executive Committee in 1975 by published a separate auditing standard, Statement on Auditing Standards (SAS) No. 9, which provides guidance on IA judgment<sup>22</sup>.

Stein and all examined the impact of internal audit contribution, on external audit fees, this variable was not a significant determinant of external audit fees.

Krishnamoorthy investigated how the three factors (objectivity, competence and work performance of internal auditors) addressed by SAS 9 and 65 interact in determining the strength of internal auditing function. The study employed analytical methods and the results of the study revealed that the importance of the three factors varied with the type of evidence (convergent or divergent) observed and is contingent on the interrelationships among the three factors.

Hasnah and all addressed the issue of how auditors evaluate the strength of the internal audit function. Based on AI 610, three factors were investigated. These factors are internal auditors' competence, objectivity and work performance. The findings of the study indicate that technical competence and scope of function are the two most important criteria that external auditors consider in their reliance on internal auditors<sup>23</sup>.

**In Arabian environment,** Al-Twaijry and all examined the level of coordination between directors of internal audit departments and partners and managers of external audit firms in Saudi Arabia. Using questionnaires and interviews, the results of the study indicated that external auditors are not satisfied with the current practice of internal auditing, on the other hand, internal auditors described the level of cooperation between internal and external auditors as limited. The results also showed that the extent to which external auditors rely on the work of the internal auditor varied with the quality of internal audit department. Finally, external auditors considered objectivity, competence and work experience of internal auditors as important factors affecting their reliance decision<sup>24</sup>.

**In Jordan,** Qasim and Suwaidan investigate the perceptions of a sample of Jordanian external auditors for the importance given by them to a number of factors which may influence their reliance on an internal auditor during their external audit. The paper also examines the relationship, if any, between the degree of reliance on the internal and external audit fees. The results of the paper indicate that external auditors in Jordan consider the objectivity, competence and work performance of internal auditors as very important factors affecting their reliance decisions. The results of the multiple regression analysis indicated that the size of the audited company is the most important variable in explaining the variation in audit fees paid by the sample companies. As for the reliance variable, it is found insignificant<sup>25</sup>.

**In Egypt,** Abbass and Aleqab studied the effect of the Internal Auditors' Characteristics on audit fees, the results of this study indicate that certain internal auditors' characteristics are significant determinants of external audit fees. Specifically, in terms of IA characteristics, internal audit organizational status, work performed, competence, and professional due care larger internal are associated with lower audit fees. Specifically, the more management is ready to act upon internal

audit staff findings and recommendations, the better the education of internal auditors, the more the practices for hiring and training internal auditors are satisfactory, the more the adequacy that working paper documentation support the internal auditors' conclusions, and the more the sufficiency of internal audit evidences, the lower the audit fees<sup>26</sup>.

One of the most relevant studies that evaluated this topic in developing countries is the research carried out by Ashraff (2018). The objective of the study was to investigate the extent of EA's reliance on the work performed by IAF and determine the factor that influences Jordanian EA's to collaborate with IA. The research also investigated how the reliance affects audit fees. The study concluded that the major factors that influenced EA's reliance decision are competence and work performance of the IA. Furthermore, the researcher determined that the most important factor that determined this reliance was the client's size<sup>27</sup>.

Another study that was carried out in developing countries was by Mihret and Admassu (2013) in Ethiopia. The aim of the study investigated internal and EA cooperation in the context of corporate governance. According to the study, EA's dependence on the IA or the input is a concept from the west and has failed to have an impact in developing countries. According to the study, the quality of the work done by IAF is the main factor that influences EA's reliance decision. Additionally, apart from the issue of EA, the researchers proved that improving the quality of the IAF leads to quality corporate governance and encourages cooperation between external and IAors.

So, the most of previous studies on this relationship have been researched in the U.S.A, Early studies of this kind were aimed at gaining a better understanding of the relative importance of each factor in the external auditor's overall evaluation, however, they did not attempt to understand the interrelationships between the factors and how the interactions between them can help auditors gain an understanding of the effect of this reliance on external audit. There is little evidence from different environments like Arab countries context.

So, it is important to have evidence from different environments to enrich the external auditors' reliance on internal auditors. Research based on US firms may not be applicable to Algerian firms as business and institutional environments as well as ownership structure of firms from Algeria must differ from those of the U.S. firms.

As mentioned earlier in this paper, the objectives of the study are threefold. The first objective investigates the perceptions of a sample of external auditors as to the effect of their rely on the work of the internal auditor on their mental and virtual independence, the second one is to know the effect of their rely on the mandatory change policy, and To provide advisory services by the external auditor.

This is done by conducting a cross-sectional multiple regression analysis. The following sections discuss the methodology employed by the study to achieve these objectives.

## **2.1. The questionnaire**

A questionnaire is used to investigate the perception of external auditors as for the potential impact of their reliance on internal auditors in the conduct of their external audit work on their independence. In order to ensure the suitability of the questionnaire in terms of wording, factors included and coverage of topics, the questionnaire was reviewed and discussed with a group of (05) professors, including (03) professors specializing in accounting and auditing, an accounting expert, and a professor in methodology and statistics. Consequently,

their notes and remarks were taken into consideration in the final version of the questionnaire.

The questionnaire is divided into two parts. The first part is designed to obtain information about the respondents of the questionnaire (e.g. academic qualification, years of experience in external auditing). The second part consists of 38 factors, which believed that they have an effect to the independence of the external auditors when they rely on the work of the internal auditors. A three-point Likert scale was used to indicate the relative importance of each item. The scale ranges from “high” to “middle” to “low”. This questionnaire was designed to find out the views of external auditors concerning the relationship between the reliance on internal auditors and their independence.

## **2.2. Sample of external auditors**

81 copies of the questionnaire were distributed to external auditors by the researchers. For a better response rate. Out of the 81 questionnaires, 60 questionnaires were returned of which 55 were usable and seven were excluded due to missed data. This represents a 74 percent response rate.

## **2.3. Variables used in the model and their measurements**

### **2.3.1. Dependent variable**

The dependent variable used by the study is the external auditor independence.

### **2.3.2. Experimental variable**

The experimental variable of the study is the reliance of the external auditor on internal auditor in the conduct of his/her external audit. Consistent with previous studies, this variable was measured for external auditors.

This was done by distribute a questionnaire to the external auditors. The external auditor was asked to determine the degree to which he relies on internal auditors' work in the conduct of his external audit work. Which could range from 01 to 03, where 01 indicates that the external auditors have low acceptance for the reliance on internal auditor in some areas, 02 indicates the middle acceptance and 03 indicates the high one.

## **3. Data Statistics Analysis**

### **3.1. Characteristics of respondents**

As mentioned earlier in the study, the first section of the questionnaire requires demographic information about the respondents (external auditors). Table 01 provides a summary of this information.

**Table 01: Demographic distribution of the respondents**

<b>Data</b>		<b>Frequency</b>	<b>%</b>
<b>Highest academic degree</b>	Bachelor	28	50.9
	Master	12	21.8
	Majister's	06	10.9
	Ph.D	09	16.4
<b>Function</b>	Accountant expert	14	25.5
	account holders	41	74.5
<b>Experience</b>	Less than 05 year	11	20
	05-10 years	08	14.5
	More than 10 year	36	65.5
<b>Linking with international audit offices</b>	Yes	05	09.1
	No	50	90.9

*Source.* By reseachers.

As seen from the table, of the 55 external auditors who responded to the questionnaire, 28 respondents or 50.9 percent hold a bachelor degree and 12 respondents or 21.8 percent have a masters certificate. It can also be seen from the table that the majority of responders (74.5 percent) are accounts holders and 14 of them (25.5) are accountant expert. The majority of responders have had experience in external auditing for more than 10 years. As for the area of linking with international audit offices 90.9 percent of audit offices have no relation with international offices, but 09.1 are linked with it.

### **3.2. Data analysis and discussion questions**

#### **3.2.1. Statistical analysis for the first axis**

**Table 0:2 means and standard deviations for external auditor's reliance on internal audit work**

<b>Statement</b>	<b>M</b>	<b>SD</b>	<b>Direction</b>
1. View the results of the Internal Audit Department's examination of the internal control system	2.89	0.36	High
2. I rely on internal control system plans conducted by the internal audit department in order to identify the strengths and weaknesses of the system	2.69	0.60	High
3. I cooperated with the internal audit department in understanding the nature of the accounting system of the institution	2.65	0.67	High
4. I cooperate with the internal audit department in understanding the nature of the information system of the institution under audit	2.82	0.54	High
5. I cooperate with the internal auditor to make recommendations for improvements to the internal control system	2.67	0.63	High
6. I rely on internal auditor work when the audit committee supports the relationship between internal and external auditors	2.43	0.73	High

7. I use internal auditor work when the Board of Directors encourages communication between internal and external auditors	2.67	0.63	High
8. I collaborate with the internal auditor to make recommendations for improvements in governance procedures	2.49	0.79	High
9. I examine the risk assessment procedures carried out by the staff of the internal audit department	2.87	0.43	High
10. I use internal auditor work to estimate the procedures that I must follow when assessing control risks	2.56	0.71	High
11. I coordinate with the internal auditor to determine the control procedures that are supposed to prevent potential errors and manipulations	2.45	0.81	High
12. I compare control risk assessment results with control risk assessment results conducted by the Internal Audit Department	2.67	0.61	High
13. I examine the work programs of the internal auditor when planning the audit mission	2.56	0.73	High
14. My dependence on internal audit work is reduced from the external audit program	2.12	0.74	High
15. The audit program was prepared based on the results of internal control system evaluation doing by the Internal Audit Department	2.20	0.86	High
16. Look at the reports prepared by the Internal Audit Department to identify the problems of the institution	2.89	0.41	High
17. I make sure that internal audit reports include important results and applicable reports	2.67	0.51	High
18. I follow up the extent to which the internal auditor is keen to inform the Board of Directors in the event that the institution's problems are not resolved	2.56	0.68	High
19. I follow up the extent to which the organization's management responds to the recommendations of the internal auditor	2.72	0.55	High
<b>The overall average of external auditor's reliance on internal audit work</b>	<b>2.61</b>	<b>0.29</b>	<b>High</b>

Source. By reseachers.

Nineteen factors were used to reflect the integration between internal audit and external audit. Table 02 provides the results of the questionnaire concerning the level of importance given by external auditors to each factor. As can be seen from the table, the overwhelming majority of the respondents consider factors such as " **View the results of the Internal Audit Department's examination of the internal control system**" and "**Look at the reports prepared by the Internal Audit Department to identify the problems of the institution**" arithmetic mean (2.89) and standard deviation (0.41) with high direction. In addition, sixteen out of factors included in this group received a high average response with low standard deviations (SDs), suggesting that there is a high level of agreement among the respondents concerning the importance of these factors.



### 3.2.2. Statistical analysis for the second axis (block 01)

**Table 03: means and standard deviations for mental and virtual independence**

Statement	M	SD	Direction
1. I am keen to prevent members of the audit team from establishing personal relationships, financial or commercial operations, etc.,	2.90	0.29	High
2. I contract with the institution, taking into account the provisions of Article 715 bis 6	2.85	0.40	High
3. I observe the provisions of Article 64 of Law 01-10 while practicing the auditing profession to ensure intellectual independence	2.90	0.29	High
4. I refrain from carrying out the functions stipulated in Article 65 of Law 10-01 to ensure financial independence	2.80	0.40	High
5. I abide by the provisions of Article 70 of Law 10-01 and do not seek from the client to request a task or job that falls within my legal competence	2.85	0.35	High
6. The institutions I audit have an audit committee	2.16	0.73	High
7. The presence of an audit committee in the institutions that I audit contributes to the implementation of the process independently.	2.50	0.66	High
<b>The overall average of mental and virtual independence</b>	<b>2.71</b>	<b>0.24</b>	<b>High</b>

*Source.* By researchers.

Seven factors were used to reflect the mental and virtual independence of an external auditor. Table 03 presents the results of the questionnaire concerning the level of importance given to each factor by external auditors. As seen from the table, It is noticed that they belong to the category of approval, with a low standard deviation, and their agreement with the statements of this axis, i.e. their approval of the need to achieve the mental and apparent independence of the external auditor, and most of them have high importance. the overwhelming majority of the respondents consider factors such as " **I am keen to prevent members of the audit team from establishing personal relationships, financial or commercial operations** " and " **I observe the provisions of Article 64 of Law 01-10 while practicing the auditing profession to ensure intellectual independence** " arithmetic mean (2.90) and standard deviation (0.29) with high direction. In addition, six out of factors included in this group received a high average response with low standard deviations (SDs), suggesting that there is a high level of agreement among the respondents concerning the importance of these factors. In addition, the mean response for this factor is 2.71 with a SD of 0.24, suggesting that there is a high level of agreement among the respondents about the importance of this factor in the reliance decision.

### 3.2.3. Statistical analysis for the second axis (block 02)

**Table 04: means and standard deviations for external auditor's mandatory change**

Statement	M	SD	direction
1. The length of my contract with the audited institution increases my experience and a better understanding of the nature of the work	2.78	0.56	High
2. The duration of my association with the audited institution is determined by Article 27 of Law 01-10;	2.90	0.29	high
3. I am more compatible with the decisions of the Board of Directors the longer the contract period is as a result of convergence of interests with the management of the institution;	1.90	0.77	middle
4. My change after a specific period of contracting with the institution enables me to resist the pressures that the administration may exert;	2.25	0.75	middle
5. I approve the working papers that were prepared in the previous custody when my relationship with the customer continues for two consecutive terms;	2.72	0.55	high
6. I lose the method of professional skepticism when renewing my contract with the institution under scrutiny;	1.45	0.74	low
7. Sometimes a change is resorted to by the institution after only one term of the contract without allowing the completion of two consecutive terms;	2.21	0.76	high
8. Changing me after a specific period of the contract leads to an increase in the effort to gain knowledge about the institution under audit;	2.29	0.73	high
<b>The overall average of mandatory change of the external auditor</b>	<b>2.25</b>	<b>0.35</b>	<b>high</b>

*Source.* By researchers.

Eight factors were used to measure the extent to which the independence of the external auditor is affected by the policy of mandatory change, Table 04 presents the results of the questionnaire concerning the level of importance given to each factor by external auditors. As seen from the table 04 tends to be relative approval, with a low standard deviation, indicating that there is no significant dispersion in the answers of the study sample. "The duration of my engagement is determined with the institution according to Article 27 of Law 10-01", the most important statement for the study sample units with an arithmetic mean (2.90) and a standard deviation (0.29), which confirms the care of the study sample units to comply with the provisions of the laws in connection with the institutions under audit.

The general average of the dimension of the mandatory change of the external auditor was (2.25), and the standard deviation for all respondents' answers was (0.35), and this indicates the agreement of the study sample units on the importance of the policy of the mandatory change of the external auditor in ensuring its independence.

### 3.2.4. Statistical analysis for the second axis (block 03)

**Table 05: means and standard deviations for provide advisory services**

Statement	M	SD	direction
1. I take care about the separation between advisory services and the task of legal auditing from the provision of auditing service	2.70	0.53	high
2. I do not provide legal auditing and advisory services to the same client at the same time	2.90	0.29	high
3. I provide advisory services by following special policies and procedures	1.90	0.77	middle
4. The institution under audit makes restrictions on the provision of services other than the legal audit service	2.25	0.75	middle
<b>The overall average of provide advisory services</b>	<b>2.70</b>	<b>0.53</b>	high

Source. By reseachers.

Four factors were used to measure the extent to which the independence of the external auditor is affected by the provide advisory services, Table 05 presents the results of the questionnaire concerning the level of importance given to each factor by external auditors. As can be seen from the table, the overwhelming majority of the respondents consider factors such as " **I do not provide legal auditing and advisory services to the same client at the same time**" and " **I take care about the separation between advisory services and the task of legal auditing from the provision of auditing service**" arithmetic mean (2.90), (2.70) and standard deviation (0.29), (0.53) with high direction. In addition, the tow out of factors included in this group received a middle average response with low standard deviations (SDs), suggesting that there is a high level of agreement among the respondents concerning the importance of these factors.

## 4. RESULTS AND DISCUSSION

### 4.1. Hypothesis testing

Hypotheses will be tested using a one-way Anova test, as follows:

**H1: 'There is a no significant impact of external auditors' reliance on internal auditors on external auditor's independence'**

To test this hypothesis we can use regression and variance model as follows:

**Table 06: results of regressing the independent variable (external auditors' reliance on internal auditors) on the dependent variable (external auditor's independence)**

regression model	R	R <sup>2</sup>	B	A	variance analysis ANOVA			
					F	SIG	T	SIG
	0.322	0.104	0.337	1.788	6.127	0.017	2.475	0.017

Source. By reseachers

Table 06 shows the results of regressing the independent variable on the dependent variable, (external audit independence). As seen from the table, the regression model is highly significant (F-value 6.127) and low adjusted R<sup>2</sup> of 0.104, which means that 10.4 percent of the variations in external audit independence can be explained by external auditor's reliance on the work of the

internal auditor. And it is considered a weak degree, meaning that the external auditor's reliance internal auditor's work has a weak statistically significant positive effect on external auditor's independence, and the significance level value ( $\alpha$ ) is estimated at (0.017), which is less than (0.05).

From the above **H1** is incorrect and we **accept** the alternative hypothesis:

**There is a significant impact of external auditors' reliance on internal auditors on external auditor's independence'**

The external auditor's reliance on internal auditor's work and its impact on external auditor's independence can be detailed by testing the sub-hypotheses as follows:

**H1a: 'There is a no significant impact of external auditors' reliance on internal auditors on external auditor's mental and virtual independence'**

To test this hypothesis we can use regression and variance model as follows:

**Table 07: results of regressing the independent variable (external auditors' reliance on internal auditors) on the dependent variable (external auditor's mental and virtual independence)**

regression model	R	R <sup>2</sup>	B	A	variance analysis ANOVA			
					F	SIG	T	SIG
	0.729	0.580	0.229	2.122	4.491	0.039	2.119	0.039

*Source. By reseachers*

Table 07 shows the results of regressing the independent variable on the dependent variable, (external auditor's mental and virtual independence). As seen from the table, the regression model is highly significant (F-value 4.491) and low adjusted R<sup>2</sup> of 0.580, which means that 58 percent of the variations in external auditor's mental and virtual independence can be explained by external auditor's reliance on the work of the internal auditor. And it is considered a strong degree, meaning that the external auditor's reliance internal auditor's work has a strong statistically significant positive effect on external auditor's mental and virtual independence, and the significance level value ( $\alpha$ ) is estimated at (0.039), which is less than (0.05).

From the above **H1a** is incorrect and we **accept** the alternative hypothesis:

**There is a significant impact of external auditors' reliance on internal auditors on external auditor's mental and virtual independence'**

**H1b: 'There is a no significant impact of external auditors' reliance on internal auditors on external auditor's mandatory change'**

To test this hypothesis we can use regression and variance model as follows:

**Table 08: results of regressing the independent variable (external auditors' reliance on internal auditors) on the dependent variable (external auditor's mandatory change)**

regression model	R	R <sup>2</sup>	B	A	variance analysis ANOVA			
					F	SIG	T	SIG
	0.859	0.585	0.229	1.197	148.873	0.000	12.201	0.000

*Source. By reseachers*

Table 08 shows the results of regressing the independent variable on the dependent variable, (external auditor's mandatory change). As seen from the table, the regression model is highly significant (F-value 148.873) and low adjusted R<sup>2</sup> of 0.585, which means that 58.5 percent of the variations in external auditor's mandatory change can be explained by external auditor's reliance on the work of the internal auditor. And it is considered a strong degree, meaning that the external auditor's reliance internal auditor's work has a strong statistically significant positive effect on external auditor's mandatory change, and the significance level value ( $\alpha$ ) is estimated at (0.000), which is less than (0.05).

From the above **H1b** is incorrect and we **accept** the alternative hypothesis:

**There is a significant impact of external auditors' reliance on internal auditors on external auditor's mandatory change'**

**H1c: 'There is a no significant impact of external auditors' reliance on internal auditors on providing advisory services**

To test this hypothesis we can use regression and variance model as follows:

**Table 09: results of regressing the independent variable (external auditors' reliance on internal auditors) on the dependent variable (Providing advisory services)**

regression model	R	R <sup>2</sup>	B	A	variance analysis ANOVA			
					F	SIG	T	SIG
	0.131	0.17	0.235	2.069	0.919	0.342	0.959	0.342

*Source. By reseachers*

Table 09 shows the results of regressing the independent variable on the dependent variable, (external auditor's mandatory change). As seen from the table, the regression model is highly significant (F-value 0.919) and low adjusted R<sup>2</sup> of 0.17, which means that 17 percent of the variations in external auditor's providing advisory services can be explained by external auditor's reliance on the work of the internal auditor. And it is considered a weak degree, meaning that the external auditor's reliance internal auditor's work has a weak statistically significant effect on external auditor's Providing advisory services, and the significance level value ( $\alpha$ ) is estimated at (0.342), which is more than (0.05).

From the above **H1c** is incorrect and we **accept** the alternative hypothesis:

**There is a no significant impact of external auditors' reliance on internal auditors on providing advisory services'**

## 4.2. results

The study was successful in measuring both the relative main and interactive effects of the independent variable on dependent variables. to investigate the perceptions of a sample of Jordanian external auditors to the importance given by them to a number of factors which may influence their reliance on internal auditor during their external audit; to examine the relationship, if any, between the degree of reliance on the internal audit and external auditor's independence. To accomplish these objectives, a questionnaire was designed and distributed to a sample of Algerian external auditors. The objectives measure revealed that external auditors' reliance on internal auditors affects on external auditor's independence of 10.4 %. External auditors' reliance on internal auditors affects on external auditor's mental and virtual independence of 58 %. External auditors' reliance on internal

auditors affects on external auditor's mandatory change of 58.5 %. external auditors' reliance on internal auditors affects on providing advisory services of 17 %.

## 5. CONCLUSION

The issue of the extent to which the external auditor depends on the work of the internal auditor is a recent topic, especially in the Algerian environment. And in the context of striving to keep up with the global pace and to encourage the external auditor to use the work of the internal auditor. It may be more appropriate to try to influence this reliance on the basic foundations of the external auditing profession, including the extent to which the independence of the external auditor is affected by this reliance or use.

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