How important is the Experience of the External Auditor in the Audit of Electronic Commerce (A Case of Jordan)

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Abstract

This study aimed at identifying the general concept to E- Commerce's audit and the experience of the external auditor in the audit of E- Commerce in Jordan, where the study population consist from the Certified Public Accountants (JCPA) in 2012, randomly questionnaires have been distributed to a sample of JCPA in Amman capital, the study concluded that auditing of e-commerce is challenging to JCPA , moreover the computer assisted software packages used in the Auditing process is an essential for auditing of e-commerce operations. The study revealed a set of recommendations; audit firms should educate JCPA to cope with computer skills and, to deal smoothly with computer software packages.

1 Introduction and Literature Review

Historically, external auditing are related to financial matters, it is now applied to other disciplines such as: quality, environment, safety,foreinsic , information systems and security, and, it is expected that the breadth of Business to Business E-Commerce (B2B) auditor's expertise in business, auditing and accounting, computer science, networking, etc. has a material influence upon audit quality [1], and on the ultimate success of the B2B audit engagement [2] in the more complex E-Commerce scenarios [3].Thus the

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auditor's expertise in the technical details of computers, networks, security, and auditing [4] are all important components of productive good audits in an E-Commerce context.

The basic task of audit work is to censor the authenticity and correctness of the business materials, and further study the legitimacy, rationality and validity of the economic activity that the materials reflect with the development of enterprise informatization, the audit informatization is pushed forward constantly. E-commerce is an advanced form of enterprise informatization, and its essential feature is the application of IT and network, and its target is to realize business operation in a virtual, digital and more convenient form. However, e-commerce creates mostly whole new auditing environment, offers a platform for improving the auditing efficiency and quality. E-commerce inspires the great changes and innovation of the audit theory, method and means, at the same time it brings new challenge to audit. On the other hand, the audit informatization also provides protection for sound development of e-commerce. Electronic commerce (EC) systems allow organizations to increase the efficiency of their information processing. This efficiency is only the beginning of many EC system implementation efforts, because they are often coupled with business process reengineering which critically reexamines how business should be conducted among enterprises and their partners. The widespread developments of EC systems challenge the audit profession to examine its procedures. As more enterprises adopt EC systems and increase their sophistication through reengineering, auditors may find their processes and procedures in a subtle manner, the international Federation of Certified Public Accountants (International Federation Of Accountants) issued the statement of UN (1013), that is related to impact of e-commerce on audit of financial statements, which focused on the auditor's knowledge, client's business risks and internal control consideration and security. E commerce comprises both people and organization engaging in transactions without paper documents though computers and telecommunications networks [5]. There are two types of E commerce transactions [6], the first type is known as Business to consumer transactions, in this type, consumer visit the seller's website in the Internet, recognize products, fill in online purchasing orders, and pay money at the time the sale occurs via credit cards , The other type is known as Business to business transactions, this type includes transactions between business firms and each others (e.g., transactions between mobile manufacturer and vendors that produce mobile chips). The Jordanian new Companies Law 22/1997 [7] obliges all companies registered under the Companies Law to maintain sound accounting records and present annual audited financial statements in accordance with "internationally recognized accounting and auditing principles." Auditors are elected for one year with the possibility of renewal. The Accountancy Profession Law gives new powers to (JACPA), such as responsibility to draft its laws, disciplinary authority over its own members, and the right to inspect its members' working papers, but the regulations did not oblige to maintain which type of working papers should be kept that differ according to the auditees' business, and the profession is now paying more attention to the audit implications of EC systems. Others argue that IT, which is becoming ever more complex and   sophisticated, is revolutionizing businesses. A larger percentage of firms, large and small, rely on IT to initiate record, process and report financial data. Audit techniques must take into account the impact of this reliance in a financial statement audit, or in an audit of the internal control structure [8]. Prior to the issuance of SAS No. 94, many financial audits of IT systems bypassed testing of controls. In these situations, the auditor often assessed control risk at a maximum level and performed only substantive tests to gather evidence about management's financial statement assertions. SAS No. 94

provides specific guidance when a significant amount of financial information supporting one or more financial statement assertions is automated by complex electronic IT. In these situations, the auditor must assess control risk by performing tests of controls, regardless of firm size. Auditing through the computer techniques, such as test data, parallel simulation or embedded audit module, should be used to test controls when a firm has sophisticated IT systems. The test data technique is recommended for auditors with little IT experience [9]. In his study (ZFP Audit: A Computer-assisted Audit Tool for Evaluation of Microsoft Operating Systems) Admittedly, a zero-footprint configuration auditing tool for Windows only begins to address the needs of IT auditors, and is just one of the myriad opportunities for Computer-Assisted Auditing Tools Systems(CAATS) to improve IT audit quality and efficiency. Fortunately, ZFP Audit is not unique, where ZFPAudit refers to The Zero-Footprint Audit Tool is a script-based tool for gathering and reporting Windows-based computer system settings useful to the IT auditor in assessing compliance and risk elements. A global survey of 203 E-commerce auditors was conducted to investigate the perceptions about the potential determinants of expertise in E-commerce audits , the study found evidence indicating that information technology and communication expertise are positively related to expertise in E-commerce audit judgment , also found that system change management expertise and information technology audit expertise mediate this relationship [10]. The impact of networking technologies on information systems (IS) and its auditing is growing subtly. This growth is changing the nature of information systems in the modern organizations, with special reference to the e-commerce, It would also be reasonable to infer that a corresponding effect is increasing on the information systems auditing function [11] .The professional judgment of auditors is an important dimension of any auditing situation. In e-commerce auditing, there are three technical areas within which professional judgment is exercised: computing including database management, networking including communication [12], and auditing including security, Judgments formulated in these three areas tend to be independent because they rely upon different knowledge bases. However, these kinds of judgments are all interrelated within the context of the individual audit engagement. It is therefore, reasonable to expect that the technical judgment made by the IS audit staff generally affect the potential for success of the audit, It is also plausible that poor judgment by audit engagement planners decrease the likelihood of a successful IS audit. Organizations will face the challenges to establish management expertise and control mechanisms which are necessary for the successful implementation of newer e-commerce networks, e.g., Business to Business and Business to Consumer (B2B & B2C) that can accommodate the onslaughts of information technology in the years to come [13, 14, 15]. E-commerce of today is dependent on various technologies, like JAVA, ASP, Client-server computing, Pearl, CGI-Bin, Secure Socket Layer (SSL), TCP/IP, Asynchronous Transmission Mode (ATM), CORBA, DCOM, ERP, intelligent agents and so on [16, 17, 18]. Internet, extranet, and intranets are designed and devised on various platforms with different layers of security [19, 20]. Various communication technologies like ATM too have played an integrative role in the growth and the security of e-commerce activities during the last decade [21, 22, 23]. The over all impact of these complex and higher plane technologies is now visible on the modern day IS auditing processes. The modern IS auditing processes require a relatively higher level of understanding of these complex technologies by an auditor to succeed in the job [24, 25, 26, 27, 28], also, [29] their focus on this study is to identify the critical risk factors that can be used to assess the impact of B2B e-commerce on overall enterprise risk. The [30] framework for B2B e-commerce

assurance is applied as the organizing conceptual model for the study. The framework focuses on three primary risk components: (1) technical risks, (2) application-user risks, and (3) business risks. To identify a critical set of B2B risk factors, structured focus groups applying a nominal group techniques were conducted with three internal constituency groups (corporate groups consisting of IS security, internal IT audit, and ecommerce development managers) and two external constituency groups (e-commerce consultants and external IT auditors). Tests of consistency between the groups confirm strong agreement on the identified critical B2B risk factors. Tests were also conducted on participant groups' perceived relative importance of the critical B2B risk factors. The only substantial inconsistencies were between the internal constituencies groups versus e-commerce consultants' group for the business risk factors. This would appear to indicate that the priorities of internal groups might be different from the e-commerce consultants who appear more focused on management support of projects than necessarily on active involvement of trading partner staff with systems integration. Subsequent testing of the three component B2B risk assurance model with a follow-up questionnaire suggests that the identified risk factors support the model, including theorized interrelationships among the three risk components.

From the above literature review, a questionnaire items were developed in this study to indicate the degree of expertise in the use of information systems, auditing tools, techniques, methodologies and review of E-Commerce websites because the contemporary auditing context has been extended from electronic financial records to electronic based media such as e-mail and chat messaging**.**

2 Statement Problem

The previous background, formulated a problem statement for this paper as follows:
E-commerce entities are defined in this paper as those business organizations whose revenues arise significantly from the e-commerce operations , and whose majority of internal controls are integrated into the e-commerce technology-based accounting systems .Auditors face the current challenge in light of the enormous development of computer technology, that are used within e-commerce companies , some technology problems are produced , that affect the auditors' performance as of the negative impact on the audit efficiency, while conducting audit on an electronic accounting information systems. The main problem facing external auditors is the difficulty of obtaining sufficient and efficient evidence for the review process in light of advanced systems of information, because the course of audit no longer exists in its traditional form is traditional among the members of the auditing profession, the need and availability of new methods and tools are vital to facilitate such audit , and most auditors may have no enough knowledge to the technological developments related to e-commerce , and very little is known about how audit professionals view the impact of EC system sophistication on different areas of the audit process , in general , JCPA In Jordan faces some determinants to deal with e-commerce technical audit decisions .

3 Research Benefits

1. Encouraging the Jordanian Certified Public Accountants (JCPA) to develop their computer skills to keep pace with information technology developments , because most of accountants' works have become Computer assisted transactions , and E-commerce has become commonplace in Jordan.
2. Growth of e-commerce technologies, and the need for specific expertise in auditing, such auditing firms has created significant desire on the part of the audit community to expand its knowledge base.

4 Objectives

This paper has the following main Objectives that attempt to fulfill:
1. To know the current understanding and importance of auditor's expertise in E-commerce audit.
2. To know the impact of some personal auditor's characteristics on e-commerce audit.
3. To illustrate the problems or determinants faced by JCPA when dealing with e-commerce audit.

5 Propositions

Ha1: The external auditor realizes the role and importance of his expertise on E-commerce audit.
Ha2: There are significant differences between realization of E- commerce audit importance and the auditor's gender, age, experience, and qualification.
Ha3: The auditor faces some obstacles in the course of conducting e-commerce audit.

6 Research Methodology

6.1 Instrument, Sample and Response

The members of the Jordanian Association of Certified Public Accountants (JACPA) served as the subject for this research, those individuals who are practicing the profession in Amman capital constituted the subject pool. This pool of subject serves this research well for two reasons. First, JCPA, should possess a high level of information technology (IT) expertise in their respective firms, this should be especially true given any individual with an audit related background. Second, JCPA should possess the greatest knowledge concerning how IT may affect the audit process , a sample study consisted of (90) , the respondents were selected randomly, a set of questionnaire which contained three sections (namely Section A, B and C) was used and amended to suit the purpose of this study and circulated by hand to a sample of auditors representing JCPA and 75 members responded, forming a rate of (83%) were found suitable for statistical analysis, this meet the acceptable response rate, 60 %, as suggested by Sekaran (2000). The study was conducted in Jordan in 2012 , descriptive statistical techniques were used in analyzing data & testing hypotheses such as frequencies, percentages, standard deviation, means, one – sample t-

test and One Way ANOVA was used at (0.05), The Null hypothesis will be rejected if the calculated T is greater than 1.96.

6.2 Data Analysis and Discussion

6.2.1 Reliability Test

Reliability tests are conducted on Sections (A), and (B) and, (A&B) together. For Section (A) the Cronbach's alpha value is 0.6650 while for Section (B) is 0.8893, and for (A) and (B) together is (0.7707). [31] States that the closer the Cronbach's alpha is to (1), the higher is the internal consistency reliability. Therefore, these results indicate that the data collected are reliable since the alphas are very close to (1) as mentioned in table no. (1) Below:

Table 1: Cronbach's Alpha Test Results

Variables	No. of Inquiries	Cronbach's Alpha
Section (A)	1 – 17	0.6650
Section (B)	18 - 27	0.8893
Total (C)	1 – 27	0.7707

6.2.2 Analysis of Demographic Characteristics

Table 2 shows the respondents distributions by highest education level in accounting, age, and gender, and audit expertise in years. In summary, this table reveals that (64) of the respondents are having bachelor's degree in accounting , representing (85.0%) which is the highest rank , two persons hold PhD, representing (3.0%), regarding age, the most ranked class is (41-50) years, representing (32) auditors and twenty for class of experience (more than 50 years) which both constitute (42.7%), and (26.6%) respectively , from the gender's point of view, seventy three are males, the rest are females , constitutes (97.3%), and (2.7 %) respectively, this demographic characteristic means that no enough females were in an audit position due to nature of this profession, auditor's expertise in years also ranked forty five respondents, constitute the biggest class with a percentage of (60%), the lowest percentages for three years or less is (4.0%).

Table 2: Survey Respondent Demographic Data

Demographic Characteristics	Title	No.	%
Education in accounting	Diploma of Community College	6	8.0
	Bachelor's Degree	64	85.0
	Master's Degree	3	4.0
	Doctoral Degree	2	3.0
Age	**Total**	**75**	**100.0**
	Less than 30 years	8	10.7
	31 to 40 years	15	20.0
	41 to 50 years	32	42.7
	More than 50 years	20	26.6
Gender	**Total**	**75**	**100.0**
	Male	73	97.3
	Female	2	2.7
	Total	**75**	**100.0**
Audit Expertise	less than 1*	3	4.0
	Less than 8 years	12	16.0
	8-15	15	20.0
	More than 15	45	60.0
	Total	**75**	**100.0**

*There were (3) such respondents newly credentialed with no or less than a year's experience in audit.

6.2.3 Analyzing Data and Trends for the Variables of the Study

The arithmetic mean, standard deviation and the relative importance have been extracted to describe the answers of the sample towards the following paragraphs and hypotheses testing:

In the first hypothesis (Ha1) it was proposed that the external auditor realizes the role and importance of his expertise on E-commerce audit. For testing this hypothesis, Paragraphs related to the importance of auditor's expertise in E-commerce Audit as scheduled in tables (3) and (4) as follows:

Table 3: Respondents' opinions toward auditor's expertise in E-commerce audit by percentages.

No.	Paragraph	No. of Respondents				
		5	4	3	2	1
		Percentages (%)				
x1	Facilitating communication process among auditors and clients, exchange of information.	53 / 70.7%	0 / 0	2 / 2.7%	17 / 22.6%	3 / 4.0%
x2	More coordinating within different auditing activities	37 / 49.3%	3 / 4.0%	3 / 4.0%	16 / 21.3%	16 / 21.3%
x3	participating in designing of accounting software	13 / 17.3%	17 / 22.6%	14 / 18.8%	18 / 24.0%	13 / 17.3%
x4	Quality of service rendered to the clients	7 / 9.3%	39 / 52.0%	25 / 33.3%	3 / 4.0%	1 / 1.4%
x5	The ability to modify with the client's accounting software	11 / 14.6%	21 / 28.0%	12 / 16.0%	17 / 22.6%	14 / 18.8%
x6	Easiness of training on modern accounting soft ware and technology systems	8 / 10.7%	39 / 52.0%	27 / 36.0%	0 / 0	1 / 1.4%
x7	Getting information within short period of time	27 / 36.0%	0 / 0	3 / 4.0%	44 / 58.7%	1 / 1.4%
x8	Obtaining output with minimization of cost	25 / 33.3%	1 / 1.4%	7 / 9.3%	40 / 53.3%	2 / 2.8%
x9	Accuracy of auditing results	16 / 21.3%	18 / 24.0%	7 / 9.3%	33 / 44.0%	1 / 1.4%
x10	Understanding technological developments	0 / 0	33 / 44.0%	39 / 51.0%	2 / 2.7%	1 / 1.3%
x11	Easing of applying programs	10 / 13.3%	21 / 28.0%	19 / 25.3%	22 / 29.3%	3 / 4.1%
x12	Introducing of electronic operations concept	0 / 0	45 / 60.0%	28 / 37.3%	1 / 1.3%	1 / 1.3%
x13	Objectivity of management's decisions	2 / 2.7%	36 / 25.0%	36 / 25.0%	0 / 0	1 / 1.3%
x14	Materiality planning in electronic commerce operations	0 / 0	47 / 62.7%	22 / 29.3%	5 / 6.7%	1 / 1.3%
x15	Controlling of tasks done by the partner auditor or manager	0 / 0	24 / 32.0%	41 / 54.7%	9 / 12.0%	1 / 1.3%
x16	The ability to modify with auditing programs	8 / 10.7%	21 / 28.0%	20 / 26.7%	13 / 17.3%	13 / 17.3%
x17	The ability of auditing electronic commerce websites	41 / 54.7%	33 / 44.0%	0 / 0	0 / 0	1 / 1.3

We obtained our data from surveys, table (3) shows that; table (4) shows the values of the arithmetic mean, standard deviation, the relative importance, and ranks.

Table 4: Effect of E-commerce auditor's expertise ranked by arithmetic Mean, standard deviation, and relative Importance

Paragraph	Mean	S.D	Importance	Rank
X1	4.11	1.42	82.13	2
X2	3.39	1.72	67.73	8
X3	2.99	1.37	59.73	13
X4	3.64	0.76	72.80	4
X5	2.97	1.37	59.47	14
X6	3.71	0.71	74.13	3
X7	3.11	1.45	62.13	11
X8	3.09	1.42	61.87	12
X9	3.20	1.25	64.00	9
X10	3.39	0.61	67.73	8
X11	3.17	1.12	63.47	10
X12	3.56	0.60	71.20	5
X13	3.51	0.62	70.13	7
X14	3.53	0.68	70.67	6
X15	3.17	0.69	63.47	10
X16	2.97	1.26	59.47	14
X17	4.51	0.64	90.13	1
All	3.41	0.44	68.20	

By reviewing the paragraphs shown in tables nos. (3) and (4) above which are related to importance of auditors' expertise in E- commerce audit, it can be observed that the highest arithmetic mean is (4.51) with a relative importance degree approximated at (90.13%) as mentioned in table(3) above , this percentage is for paragraph no.(17) ,in which indicates the role of expertise in enabling auditor the ability of auditing electronic commerce websites, this benefit is considered as the highest percentage (98.7%) for respondents who express "strongly agree" or "agree" response according to table (3), the next is paragraph no. (1), table (3), in which auditor's expertise assists in Facilitating communication process among auditors and clients, exchange of information, this is another benefit from auditor's expertise towards E-commerce audit, its arithmetic mean is scored a high rank arrived at (4.11) as in table (4) , while E-commerce auditing paragraphs that indicates a relatively low level are three paragraphs,i.e, (5),the ability to modify with the client's accounting software due to not understanding of information technologies , paragraph (16), the ability to modify with auditing programs with arithmetic mean (2.97) with relative importance (59.47%) for both ,and paragraph(3), participating in designing of accounting software with percentage (59.73%), mostly ,the remaining (12) indicator variables were not different at their arithmetic means were not more than (3.64) and not less than (3) with relative importance (60%- 72.8%)as per tables (3)and (4) , in general , whole seventeen-indicators independent variables have a total average (3.44) with (68.20%) , The analyses provided strong numerical support for this hypothesis , this means we accept hypothesis (Ha1), the external auditor realizes the role

and importance of his expertise on E-commerce audit, the same result would be arrived in as per applying One Sample T test , table no.(5) below shows that value of significance ,Sig.<0.05 then , alternative hypothesis would be accepted , and (H01) would be rejected

Table 5: One Sample t - test

Title	Test Value = 3					
	T	D.F	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Ha1	8.143	74	.000	.4125	.3116	.5135

The second hypothesis (Ha2) proposed that there are significant differences between realization of E- commerce audit importance related to the auditor's qualification, age, gender , and experience, table (6) indicates that calculated value (F) for each variable of the following three demographic variables: Qualification, Age, and Gender is less than the value indexed at the degrees of freedom as in this table, the level of significance for each variable (sig.) > (0.05), this means that it did not show statistically significant differences in their perception or realization of E- commerce audit importance with the auditor's Qualification , age, and gender, then , the alternative hypothesis accordingly would be rejected , The main cause for these values may lie in the fact that often e-commerce auditors who are expert in IT audit have merely adequate expertise in IT audit practice regard less of their current qualification ,age ,or gender . While, calculated value (F) for expertise variable is more than tabulated, level of significance (sig.) <0.05, accordingly, alternative hypothesis (Ha2) should be accepted, null hypothesis (H02) is rejected, empirical support was not obtained for this sub- hypothesis.

Table 6: One way ANOVA to test (Ha2)

		Sum of Squares	D.F	Mean Square	F	Sig.	(Ha2)Test
Qualification	Between Groups	1.035	3	.345	1.854	.145	Rejected
	Within Groups	13.211	71	.186			
	Total	14.246	74				
Age	Between Groups	.676	3	.225	1.180	.324	Rejected
	Within Groups	13.569	71	.191			
	Total	14.246	74				
Gender	Between Groups	.156	3	.156	.807	.372	Rejected
	Within Groups	14.090	71	.193			
	Total	14.246	74				
Expertise	Between Groups	2.617	3	.872	5.327	.002	Accepted
	Within Groups	11.628	71	.164			
	Total	14.246	74				

The third hypothesis (Ha3) states that the auditor faces some obstacles in the course of conducting E-commerce audit.

Table 7: Analysis the Respondents' opinions towards obstacles while conducting E-commerce audit

No.	Paragraphs	No. of Respondents				
		5	4	3	2	1
		Percentages (%)				
18	Cost of E-commerce auditing doesn't adequately proportionate With auditing charges.	24	36	9	3	3
		32%	48%	12%	4%	4%
19	Unavailability of auditors' technical skills	14	53	5	3	0
		18.7%	70.6%	6.7%	4%	0
20	Unavailability of using a proper electronic accounting systems	18	43	4	10	0
		24%	57.3%	5.3%	13.4%	0
21	Unavailability of legislation to judge using of information technology	18	49	4	3	1
		24.0%	65.4%	5.3%	4%	1.3%
22	Inability of auditing electronic accounting packages by the auditors	17	44	6	1	7
		22.7%	58.7%	8%	1.3%	9.3%
23	Loose of innovation toward auditors who conducting audit by computers	17	42	8	6	2
		22.7%	56%	10.7%	8%	2.7%
24	Disclosing of any information in relation to e-commerce use	18	43	6	8	0
		24%	57.3%	8%	10.7%	0
25	Disqualification of e-commerce auditors	28	35	8	4	0
		37.3%	46.7%	10.7%	5.3%	0
26	Inability of auditors in foreign language skills	24%	33%	14%	3%	1%
		32%	44%	18.7%	4%	1.3%
27	Trustworthy less in E-Business	19	40	12	4	0
		25.3%	53.3%	16%	5.3%	0

From table no. (7)above, it can be observed that highest rank is given to item no.(25), Disqualification of e-commerce auditors, means ,(84%) of the respondents agree for clarity of such obstacle with an arithmetic mean (4.16), and relative importance (83.2%) for this item ,On this regard we have to indicate that auditing courses should be geared

toward educating students in B2B E-commerce in the higher educational institutions , and the same message may be valid for auditing firms seeking to train their auditors for B2B E-commerce audit and communication technology audits, these topics are not typically covered in current auditing courses.

The next is for item (21), Unavailability of legislation to judge using of information technology with an average (4.07), and relative importance (81.33%) as per table no.(8), the third relative importance was for item no, (19), Unavailability of auditors' technical skills, it means that majority of JCPA are not well qualified in E-commerce audit ,the lowest mean score is (3.84) for Inability of auditing electronic accounting packages by the auditors, with relative importance approximated at (76.80%). In general, the arithmetic mean for all paragraphs as a whole as revealed in table (8) is (3.99) with relative importance stood at (79.80%), all paragraphs' mean more than (3), therefore, the empirical results were highly favorable and significant at p=0.000.

Table 8: Obstacles ranked by Mean, standard deviation, and relative importance

Paragraphs	Mean	S.D	Importance	Rank
X18	4.00	0.99	80.00	5
X19	4.04	0.65	80.80	3
X20	3.92	0.91	78.40	8
X21	4.07	0.76	81.33	2
X22	3.84	1.09	76.80	10
X23	3.88	0.94	77.60	9
X24	3.95	0.87	78.93	7
X25	4.16	0.82	83.20	1
X26	4.01	0.89	80.27	4
X27	3.99	0.80	79.73	6
All	3.99	0.71	79.80	

To test the stated hypothesis, one sample t test is used for examining, table (9) reveals that value of significance, Sig. <0.05, then, alternative hypothesis (Ha3) would be accepted, and (Ha3) would be rejected.

Table 9: One Sample t – test

Title	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Ha3	13.704	74	.000	.9853	.8421	1.1286

7 Conclusion

Mostly, we find strong support for our hypotheses, except for significant differences related to auditor's qualification, age and gender, the study would have benefited from a sample that had more respondents from other Arab countries enabling us to address more

proposed recommendations, growth of E-Commerce technologies , and the need for specific expertise in auditing, such entities have a created significant desire on the part of the audit community to expand its knowledge base, the study also revealed the importance of e-commerce audit expertise from the Certified Public Accountants perspective in Jordan, in addition to realization of obstacles that the auditor might face .

8 Recommendations

1. To urge researchers for further studies between auditors practicing in the Arab World and other developed countries, because more detailed indicators can be identified as guidance on the specific indicators of expertise in E-commerce audits.
2. Urging government to enact modern legislation to judge using of information technology and E-commerce audit.
3. Cost of E-commerce auditing doesn't adequately proportionate with auditing charges that should be raised by government, and/or the Association of JCPA.
4. Auditing courses should be geared toward educating students in B2B E-commerce in the higher educational institutions in Jordan.
5. Internship courses may be required for auditors in B2B E-commerce audit, communication skills and technology audits.

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