

# External Audit Services Quality and Client Satisfaction: Evidence from Jordan

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## Abstract

The current study investigates the current status of external audit services in Jordan. In particular, the study comes to evaluate the audit quality attributes and the client satisfaction with audit services in various sectors in Jordan. In addition, the study outlines the possible procedures necessary to enhance the quality of audit services. Furthermore, the study tests the relationship between audit quality attributes and client satisfaction. Based on 48 useable questionnaires, clients see that audit firms have the necessary technical competence, experience and expertise to conduct of audit field work effectively. Thus, findings indicate that clients are satisfied with audit services in Jordan to a considerable extent. A significant, positive relationship has been found between “field work conduct and technical competence” factor and client satisfaction. No significant relationship has been found between the other two factors (i.e. experience and responsiveness and independence and executive involvement) and client satisfaction with audit services in Jordan.

A consensus in the perception of clients from different sectors toward the evaluation of audit quality attributes and satisfaction with audit services has been found.

The results indicate that more emphasis should be given to some audit quality attributes (i.e. responsiveness, independence and executive involvement) to enhance the overall satisfaction of clients with audit service in Jordan. In addition, the study findings revealed that providing better training for auditors and compliance with corporate governance code for auditing are important procedures to improve audit quality in Jordan.

**Keywords:** Audit services quality, audit quality attributes, client satisfaction, Jordan

## 1. Introduction

The auditing profession has influenced by the changes that taken place in the global business markets (Kleinman *et al.* 2014) and the development of accountancy as a whole. In addition to the catastrophic effects of global financial crisis (e.g. Knechel 2007; Wittek *et al.* 2008; Hakim & Omri 2009; Kilgore *et al.* 2011), the development and the complexity of new markets, the appearance of public practices in auditing and high competition were critical factors in the development of audit profession in general and the audit quality in particular (De Ruyter & Wetzels 1999; Duff 2005; Beattie *et al.* 2006). In this context, Peecher *et al.* (2007, p. 464) referred the development of audit profession to the “*response to changes in society’s information needs, regulations, business organization’s value-creation processes, and available accounting and audit technologies*”.

According to Knechel (2007), the last 20 years are crucial in the development and change of audit profession. According to the author, auditing profession currently meshes with financial reporting and corporate government requirements, where the quality of audit is a critical element for both of them (Abdullah *et al.* 2008). In this context, Iskandar *et al.* (2010, p.158) argue that, “*the external audit of high quality serves a corporate governance role in enhancing the quality of reporting. It enhances the credibility of financial statements and users’ confidence in the statements*”. Moreover, the development of securities market and the risky involved in the investment decisions, were important factors in emersion of audit quality (Beattie *et al.* 2006).

The audit quality has been given a considerable attention in previous literature, auditing standards and audit legislations especially in Western context. Despite that, there is no agreement on one definition for audit quality as each one in the stakeholders of financial reporting view audit quality according to his work or position (Knechel *et al.* 2013; Anis 2014).

However, there are many rules govern the audit quality. Some of these rules are clearly introduced in different audit profession legislations, while large portion of them depend mainly on the own believes, ethics and technical abilities of auditor. In this context, Arruñada (2000) suggested that efficient and independent are the two main interrelated requirements in the auditor to ensure the audit quality. These two features can be gained through continuous learning and the commitment to the auditing profession code of ethics (Mansouri *et al.* 2009). In addition, Gul *et al.* (2013) argued that audit quality is depended mainly on the auditor competence and independence. Thus, Gul *et al.* (2013) study investigated the effect of individual auditor characteristics on audit quality. Similarly, Hardies *et al.* (2010) investigated the gender differences effect of three personal auditor characteristics including problem-solving ability, risk profile and independence on audit quality.

Therefore, it is rational to argue that audit quality depends not only on the written rules and procedures, but also the technical abilities and individual characteristics are critical factors to improve and sustain it.

However, the lack of previous studies in this filed in Jordan and other Middle East developing countries are the main motivations for conducting the current study. In particular, audit quality has been given a big emphasis in previous research,

especially in Western context, while has been ignored in less developed countries. Furthermore, only few studies (e.g. Behn *et al.* 1997; Saxby *et al.* 2004; Samelson *et al.* 2006; Iskandar *et al.* 2010) have connected audit quality attributes to client satisfaction based on the perception of clients. That is, most of the previous studies connect audit quality to factors other than client satisfaction. These include, for example, audit firm size in DeAngelo (1981) and Lawrence *et al.* (2011), audit partner rotation in Bamber & Bamber (2009); Chi *et al.* (2009) and Daugherty *et al.* (2013), auditor tenure in Vanstraelen (2000) and Lim & Tan (2010).

For all these reasons, the current study comes to assess the current status of audit services quality in Jordan by empirically answering the following questions:

1. How do clients evaluate the different audit quality attributes in Jordan?
2. To what extent do clients satisfy with audit services in Jordan and what are the possible actions to improve the quality of audit services?
3. Which, if any, of audit quality attributes are associated with overall client satisfaction?
4. Is there a difference in clients' evaluation of audit quality attributes due to the client's sector?
5. Is there a difference in clients' satisfaction with audit services due to the client's sector?

The reminder of this paper is organized as follows. Section two discusses the audit regulations in Jordan. Section three reviews the relevant prior studies in the field and develops the study hypotheses. Section four describes the research method. Section five discusses the study results. Finally, section six concludes the paper.

## **2. Audit Regulations and Quality Protection in Jordan**

Both the Companies Law No. 22 of 1997 and Jordanian Association of Certified Public Accountants (JACPA) emphasized the adoption of the International Standards on Auditing (ISA) in Jordan (see, for example, Al Sawalqa & Qtish 2012). Therefore, Jordan has not its own standards in auditing. Al-Awaqleh (2010) outlines the reasons that might hinder the issuance of local auditing standards in Jordan in the effect of current legislations, the lack of knowledge and the institutional control in Jordanian business market.

Apart from Accountancy Profession Law No. 73 of 2003, some related legislations in Jordan (i.e. Securities Law No.76 of 2002, Companies Law No. 22 of 1997) give very small emphasis on the audit quality (Rahman & Waly 2004), which forms the central core of the auditing profession (Peecher *et al.* 2007).<sup>2</sup>

Accountancy Profession Law No. 73 of 2003 was issued in June 2003 with the purpose of arranging the accounting profession in Jordan. So, two important organisations were emerged from this law; including High Council for Accounting and Auditing (HCAA) and Jordanian Association of Certified Public Accountants (JACPA) (Rahman & Waly 2004). These two organizations have contributed significantly toward regulating audit profession and have enhanced audit services as a whole in Jordan. In addition, Accountancy Profession Law No. 73 of 2003 has identified in Article No. 22 the main conditions and rules that must be met by a person who wants to get a license to practice the accounting profession in Jordan. The law has put more emphasis on the qualification and training period of the applicant. However, an applicant who passes the profession exam becomes directly a member in JACPA.

More important, the Accounting Profession Practice Law No. 6 of 2006 which issued accordance to Accountancy Profession Law No. 73 of 2003 has focused in its different articles on a range of rules that would enhance the audit quality. For example, Article No. 4 listed the prohibited activities that certified accountant must avoid, Article No. 5 outlined the field work procedures that certified accountant must follow to effectively perform the audit mission, and more important article No. 10 outlined the necessary details about the training that the applicant should meet.

Despite that Accountancy Profession Law No. 73 of 2003 offers many rules to organize the auditing profession in Jordan, still there are many details need to be covered and many necessary changes and amendments need to be included in this law (Al-Thuneibat *et al.* 2012).

## **3. Literature Review and Hypotheses Development**

In general, audit quality is associated with the quality of financial reporting as the external auditor is considered the main guaranty for the accuracy of financial statements (Iskandar *et al.* 2010). The studies relevant for the current study are those focused on the audit quality attributes on the one hand and the relationship between the audit quality attributes and client satisfaction on the other hand.

### **3.1 Audit Quality Definitions and Measurement**

Many attempts to define audit quality have been observed in prior studies, and most of them were the outcomes of the presence of certain attributes in an auditor (Knechel *et al.* 2013, p.387). Early, DeAngelo (1981, p. 186) defined audit quality as “the market-assessed joint probability that a given auditor will both (a) discover a breach in the client's accounting system, and (b) report the breach”. Hence, audit quality depends mainly on the ability of an auditor to detect and report misstatements (Blandón & Bosch 2013). Long time after that of DeAngelo, the Government Accountability Office (GAO)

<sup>2</sup> You can find the full version of Accountancy Profession Law No. 73 for 2003, Securities Law No.76 of 2002 and Companies Law No. 22 of 1997 at: <http://www.lob.gov.jo/AR/Pages/AdvancedSearch.aspx>

(2003, p.13) refers audit quality “to the auditor conducting the audit in accordance with generally accepted auditing standards (GAAS) to provide reasonable assurance that the audited financial statements and related disclosures are (1) presented in conformity with GAAP and (2) are not materially misstated whether due to errors or fraud”. These two definitions can show the rapid change in the rules that govern the audit quality. In this context, Catanach Jr & Walker (1999) described audit quality in terms of auditor’s technical ability to detect material errors and auditor’s professional conduct (see also, Vanstraelen 2000; Francis 2011). According to Skinner & Srinivasan (2012, p.1738), the litigation/insurance incentive and the reputation incentive are the two main reasons stressed in prior accounting literature that encourage the auditors to strongly maintain high audit quality. For example, Beattie & Fearnley (1995) indicated that the second main reason for a sample of UK companies to consider changing auditors is the dissatisfaction with audit quality.

The audit quality attributes occupied advanced position in prior research in accounting and auditing. In Australia, Kilgore *et al.* (2011) asked respondents to identify the most important audit quality attributes. The authors’ findings indicated that the first three important attributes were the size of audit firm, manager attention to audit and manager knowledge about client industry, while the last three important attributes were audit quality review, partner tenure and non-audit services. In USA, findings by Carcello *et al.* (1992) indicated that audit team and firm experience with client, audit team experience in industry, responsiveness and compliance with auditing standards were the main four determinants of audit quality.

However, there are a broad set of indicators to measure audit quality (Bedard *et al.* 2010), which forms some difficulty in selecting the most appropriate one. The number and nature of proxies used in measuring audit quality is almost varied from one study to another. For example, audit quality was measured using the auditor’s tendency to issue a going-concern opinion for distressed companies, the amount of abnormal working capital accruals and the extent to which key earnings targets are missed in Australia by Carey & Simnett (2006), estimated discretionary accruals and audit partner tenure with a specific client in USA by Manry *et al.* (2008), size of audit firm in Malaysia by Abdullah *et al.* (2008), abnormal accruals in Taiwan by Chi *et al.* (2009), accrual quality again in USA by Lim & Tan (2010), going-concern opinions by the independent auditors in China by Hao *et al.* (2011), auditor industry expertise and the presence of a Big N audit firm and audit fees also in USA by Chi *et al.* (2011), size of audit firm, auditor’s reputation, auditor’s experience, auditor’s specialization and usage of technology in audit process in Tunis by Makni *et al.* (2012); educational level of auditors, work experience of auditors, professionalism and continuing professional education of auditors in Taiwan by Chen *et al.* (2013). Other researchers (e.g. Carcello *et al.* 1992; Behn *et al.* 1997; Saxby *et al.* 2004; Iskandar *et al.* 2010) used a broad set of attributes to capture the perception of respondents toward the audit quality attributes.

### **3.2 Audit Quality Attributes and Client Satisfaction**

The association between client satisfaction and audit quality attributes has been given little emphasis in previous research. Of these, Carcello *et al.* (1992) focused on the perception of auditors, preparers and users toward the various audit quality attributes. The authors selected 41 attributes to measure the audit quality in USA audit business environment. Application of factor analysis on the 41 attributes gave 12 factors. Authors’ results indicated that those factors that related mainly to audit team members were more important to the audit quality than those of audit firm. In particular, Carcello *et al.* (1992) found that experience with client, industry expertise, responsiveness to client needs and compliance with audit standards are the main important factors to the audit quality. Behn *et al.* (1997) examined the relationship among client satisfaction in terms of audit team and audit firm, 12 attributes of audit quality, auditor change, and controller work experience. The authors’ results indicated a significant, positive relationship between some important audit quality attributes (i.e. responsiveness to client needs, executive involvement, effective and ongoing interaction with the audit committee, conduct of field work, industry expertise, and prior experience) and client satisfaction. On the other hand, five factors (i.e. technical competence, independence, due care, quality commitments, and ethical standards) had no significant relationship with client satisfaction. The authors justified the failure of these five factors in contributing to client satisfaction in that clients expect that all audit firms have already worked along these five factors and need no evidence to prove their contribution to audit satisfaction. Saxby *et al.* (2004) examined the relationship between financial services quality (i.e. audit, consulting, tax and financial statement preparation) and client satisfaction. The authors focused mainly on those services provided by CPA firms. Among the five dimensions of service quality (i.e. tangibles, reliability, responsiveness, assurance and empathy), only two dimensions (i.e. reliability and assurance) were found to be positively associated with clients’ satisfaction.

Samelson *et al.* (2006) focused on the auditing profession in public sector to identify the main audit quality attributes that may associate with client satisfaction. Findings of authors indicated that auditor expertise, responsiveness, executive involvement and fieldwork conducting are the main quality attributes that significantly contribute to client satisfaction. More important, authors’ findings proved that the effectiveness of these attributes not different between public and private sector.

Back to private sector, Iskandar *et al.* (2010) asked the financial controllers to rate the work of audit firms and audit team of those companies listed on Bursa Malaysia along fifteen attributes of audit quality. The authors also measured the client satisfactions through two questions. A comparison in the satisfactions of clients with audit services is also conducted between Big 4 and non-Big 4 and no difference is found. The results indicated that the audit quality attributes is rooted in audit firms rather than in audit team. Iskandar *et al.* (2010) results also identified those audit quality attributes that related to client

satisfaction for both audit firm and audit team. In respect to audit firm, audit firm experience with the client, responsiveness to the client needs, firm independence, and commitment of audit firm to quality are the main audit quality attributes that significantly support the client satisfaction. In respect to audit team, audit team experience with the client, team independence, executive involvement in the engagement, the team conduct of field works, and the team ethical standards and knowledge of accounting and auditing were the main audit quality attributes that support the client satisfaction.

As a criticism to some previous studies (e.g. Behn *et al.* 1997; Iskandar *et al.* 2010), the partition of audit quality attributes for both audit firm and audit team is unacceptable, instead these attributes should be rooted in both parties and be taken as a whole. Accordingly, the current study investigates these attributes on the audit service as a whole.

Lately, Butcher *et al.* (2013) performed a study to assess the relationship between the audit quality attributes and the auditor retention. Focused on Australian state of New South Wales as there was prior research evidence on the satisfaction with audit service quality, the authors used 48 audit attributes to measure the audit quality. The 48 attributes were distributed over 7 categories include reputation, capability, assurance, independence, expertise, experience and responsiveness. Authors' findings indicated that only expertise and responsiveness to client needs are significantly associated with auditor retention.

Despite that the results of the above mentioned studies are different from one country to another in terms of the relationship between audit quality attributes and client satisfaction; there is some consensus on the role of audit quality attribute in enhancing the client satisfaction. Thus, based on the above discussion and the results of factor analysis reported in Tables 3 and 4 below it can be hypothesised that:

*H1: There is a significant relationship between "field work conduct and technical competence" and client satisfaction with audit service.*

*H2: There is a significant relationship between "experience and responsiveness" and client satisfaction with audit service.*

*H3: There is a significant relationship between "independence and executive involvement" and client satisfaction with audit service.*

*H4: There is a difference in client evaluation of audit quality attributes due to the client's sector.*

*H5: There is a difference in client satisfaction with audit services due to the client's sector.*

#### 4. Research Method

##### 4.1 Sample Selection and Data Collection

The sample of the current study represents all the listed Jordanian companies along various sectors in Jordan. The questionnaire was directed to clients who defined by Newton (2008, p.1) as "the person, company, board of directors, agency or group that retains the auditor to complete the auditing process, often called an "engagement," and pays the fee for the auditor's services". Thus, the potential respondents include, for example, Chief Executive Officers (CEO), vice presidents, general managers, financial managers, heads of accounting departments, accountants and internal auditors. These potential respondents are all in positions enable them to represent the company and to effectively answer the study instrument.

The study instrument includes a questionnaire with four main sections. The development of questionnaire passed through several stages started by investigating the previous research in the field. Thus, most of the study sections have adapted from well-known studies in the field. This procedure supported the reliability of scales used in the current study. In addition, a pilot study to ensure the reliability and validity of the questionnaire has been conducted. In particular, four respondents have given the opportunity to give their comments on the contents of the questionnaire. In addition, two methodological experts were also contributed in the development of the questionnaire. All the possible relevant amendments have been incorporated to reach the final version of the questionnaire.

The questionnaire was handed to 80 respondents. 55 questionnaires were collected including 48 useable questionnaires with a response rate of 60%. Table 1 summarizes the main characteristics of the study respondents. It looks that most of respondents are males, having a bachelor degree and are specialized in accounting. 47.9% of the respondents are financial managers. These characteristics are very important to decide that the collected data of the current study are reliable. It also looks that the respondents are distributed over the different sectors in Jordan.

Table 1. Background Information of Participants

	Frequency	%
<b>Gender</b>		
Male	38	79.2
Female	10	20.8
Total	48	100
<b>Age group</b>		
Less than 30	9	18.8
30-40	15	31.3
41-50	14	29.2

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More than 50	10	20.8
Total	48	100
<b><i>Qualification</i></b>		
PhD	0	0
Master	3	6.3
Bachelor	42	87.5
Diploma	2	4.2
Others	1	2.1
Total	48	100
<b><i>Specialization</i></b>		
Accounting	21	43.8
Business Administration	6	12.5
Economy	15	31.3
Finance	3	6.3
Others	3	6.3
Total	48	100.0
<b><i>Experience</i></b>		
Less than 5 years	9	18.8
5-9	15	31.3
10-15	12	25.0
16-20	4	8.3
21-30	5	10.4
More than 30 years	3	6.3
Total	48	100.0
<b><i>Working position</i></b>		
General manager	1	2.1
President/CEO	0	0
Vice president	0	0
Financial manager	23	47.9
Financial manager assistant	6	12.5
Internal auditor	4	8.3
Others (e.g. Accountants, financial analysts ...etc)	14	29.2
Total	48	100
<b><i>Sector</i></b>		
Banking	4	8.3
Insurance	6	12.5
Manufacturing	11	22.9
Trading	9	18.8
Service (e.g. Transport, Education...etc)	15	31.3
Others	3	6.3
Total	48	100.0

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#### 4.2 Measurement of Variables

According to Lim & Tan (2010), empirical measures for audit quality can be noisy and there is little consensus among researchers on what is the most appropriate proxy. Thus, previous studies in audit quality have used a broad set of audit quality attributes to measure it. These include, for example, industry expertise, responsiveness to client needs, adherence to general standards of generally accepted auditing standards (GAAS), independence, skills, client experience, ethical standards and technical competence. However, it can be argued that the selection of the appropriate attributes depend on the audit market environment of each country.

Accordingly, a decision has been taken to develop a new scale for audit quality relevant, to a considerable extent, to Jordan environment. This scale, however, depends on the previous research in the field and the legal requirements of the different legislations that govern the auditing profession in Jordan. As shown in Table 2 below, 23 attributes were used to measure the audit quality in this study. 19 attributes were taken from the audit quality instruments developed and used in previous studies (e.g. Parasuraman *et al.* 1988; Carcello *et al.* 1992; Behn *et al.* 1997; Saxby *et al.* 2004; Richardson & Louwers, 2010), and four attributes were taken from Article No. 193 of Jordanian Companies Law No. 22 of 1997. Respondents were asked to evaluate the audit service based on each attribute of audit quality using a five-point Likert-scale (see Carcello *et al.* 1992; Behn *et al.* 1997; Saxby *et al.* 2004; Iskandar *et al.* 2010). However, Table 2 shows the selected audit quality attributes along their sources. An initial look at these attributes gives an indicator that they can be grouped along six categories (see, for example, Carcello *et al.* 1992; Butcher *et al.* 2013) including experiences, expertise, responsiveness, independence, field work conducting, capability and commitment to quality.

Table 2. Quality attributes used in the study and their sources

Quality attributes	Source
B1. Audit company had an appropriate amount of prior experience in auditing my company.	Behn <i>et al.</i> (1997)
B2. Audit company members had an appropriate amount of prior experience in auditing my company.	Behn <i>et al.</i> (1997)
B3. Audit company had the necessary industry expertise to effectively audit my company.	Behn <i>et al.</i> (1997)
B4. Audit company members were very knowledgeable about our company's industry.	Carcello <i>et al.</i> (1992); Behn <i>et al.</i> (1997)
B5. Audit company was responsive to my company's needs.	Behn <i>et al.</i> (1997)
B6. Audit company finished audit by a date management has set.	Carcello <i>et al.</i> (1992)
B7. Audit company was technically competent in its application of generally accepted accounting standards and generally accepted auditing standards.	Behn <i>et al.</i> (1997)
B8. Most of the audit members have CPA certificate.	Carcello <i>et al.</i> (1992)
B9. Audit company provided no consulting services to my company.	Carcello <i>et al.</i> (1992)
B10. Audit company members as a group always exercised due care throughout the engagement.	Behn <i>et al.</i> (1997)
B11. Executives from an audit company were actively involved in the engagement.	Behn <i>et al.</i> (1997)
B12. Frequent communication between the audit team and management.	Carcello <i>et al.</i> (1992); Behn <i>et al.</i> (1997)
B13. Audit company members conducted the audit field work in an appropriate manner	Behn <i>et al.</i> (1997)
B14. Firm makes extensive use of statistical techniques in conducting the audit.	Carcello <i>et al.</i> (1992)
B15. Audit company members revised the financial and administrative by-laws of the Company and its internal financial controls.	Jordanian Companies Law No. 22 of 1997
B16. Audit company members had big ethical standards.	Carcello <i>et al.</i> (1992); Behn <i>et al.</i> (1997)
B17. Audit company members were very knowledgeable about accounting and auditing.	Carcello <i>et al.</i> (1992); Behn <i>et al.</i> (1997)
B18. Audit company members had up-to-date equipment.	Parasuraman <i>et al.</i> (1988) ; Saxby <i>et al.</i> (2004)
B19. Audit company members had the necessary audit computer software packages.	Richardson & Louwers (2010)
B20. Audit company members used to monitor the company operations.	Jordanian Companies Law No. 22 of 1997
B21. Audit company members verified of the company assets and its ownership thereof.	Jordanian Companies Law No. 22 of 1997

B22. Audit company members ascertained the legality and correctness of the company obligations.	Jordanian Companies Law No. 22 of 1997
B23. Audit company has a strong commitment to quality.	Behn <i>et al.</i> (1997)

In respect to the client satisfaction, five questions were adapted from Saxby *et al.* (2004) to measure the client satisfaction. Respondents were asked to rank their overall level of satisfaction about their auditors' performance using a five-point Likert-scale (see also Behn *et al.* 1997; Iskandar *et al.* 2010).

The study also developed a new scale consisted of 8 questions to measure the perceptions of clients toward the possible future actions that may improve the audit quality. In particular, 4 questions were adapted from Behn *et al.* (1997) and 4 questions were self-formulated by the author depending on the auditing legislative body in Jordan.

#### 4.3 Factor Analysis and Reliability for Audit Quality Attributes

Consistent with previous research in the field (e.g. Carcello *et al.* 1992; Behn *et al.* 1997; Saxby *et al.* 2004; Butcher *et al.* 2013; Anis 2014), factor analysis was performed "to reduce a large number of attributes to a smaller set of composite components" (Carcello *et al.* 1992, p.5). Using principal components analysis extraction method (i.e. Varimax with Kaiser Normalization) for the 23 audit quality attributes, 3 factors with eigenvalues greater than 1 were extracted. The three factors explain 68.90% of the variance in the audit quality attributes, which exceeds that of Behn *et al.* (1997). For the three factors, all loadings are higher than 0.50 (Butcher *et al.*, 2013). The Bartlett's test of Sphericity is significant ( $p = 0.000$ ) and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.785 (Hair *et al.* 2006). However, item 18 and item 19 were deleted from further analysis due to their cross-loading (Loadings  $\geq 0.50$ ) (see, Butcher *et al.*, 2013) on factor 1 and 3 as shown in Table 3.

Table 3 also shows the test of reliability using Cronbach alpha. The Cronbach alphas for the three factors are 0.943, 0.914 and 0.862 respectively. This indicates satisfactory internal reliability for the three factors.

After deleting the two attributes, the 21 attributes were grouped based on factor analysis results under three main categories. Factor one is called "field work conduct and technical competence" and includes 9 items (B13, B14, B15, B16, B17, B20, B21, B22 and B23). Factor 2 is called "experience and responsiveness" and includes 7 items (B1, B2, B3, B4, B5, B6 and B7). Factor 3 is called "independence and executive involvement" and includes 5 items (B8, B9, B10, B11 and B12).

Table 3. Descriptive statistics and factor analysis for audit quality attributes

Quality attributes	Mean	Loadings Factor1	Loadings Factor 2	Loadings Factor3
B1.Audit company had an appropriate amount of prior experience in auditing my company.	4.1458		.815	
B2. Audit company members had an appropriate amount of prior experience in auditing my company.	3.9583		.849	
B3.Audit company had the necessary industry expertise to effectively audit my company.	4.0417		.858	
B4. Audit company members were very knowledgeable about our company's industry.	4.1250		.769	
B5.Audit company was responsive to my company's needs.	4.0833		.552	
B6. Audit company finished audit by a date management has set.	4.1458		.801	
B7.Audit company was technically competent in its application of generally accepted accounting standards and generally accepted auditing standards.	4.0833		.575	
B8. Most of the audit members have CPA certificate.	3.6042			.780
B9.Audit company provided no consulting services to my company.	3.5000			.816
B10.Audit company members as a group always exercised due care throughout the engagement.	3.9375			.581
B11.Executives from audit company were actively involved in the engagement.	3.6250			.708
B12.Frequent communication between the audit team and management.	3.8750			.768
B13.Audit company members conducted the audit field work in an appropriate manner.	3.9167	.715		
B14.Firm makes extensive use of statistical techniques in conducting the audit.	3.8958	.775		
B15.Audit company members revised the financial and administrative by-laws of the Company and its internal financial controls.	4.1250	.653		
B16.Audit company members had big ethical standards.	4.3333	.760		
B17. Audit company members were very knowledgeable about	4.5417	.672		

accounting and auditing.			
B18.Audit company members had up-to-date equipment.	4.2708	.625	.596
B19. Audit company members had the necessary audit computer software packages.	4.2500	.645	.528
B20.Audit company members used to monitor the company operations.	4.0000	.770	
B21.Audit company members verified of the company assets and its ownership thereof.	4.1250	.784	
B22.Audit company members ascertained the legality and correctness of the company obligations.	4.1667	.861	
B23.Audit company has a strong commitment to quality.	4.1458	.842	
<b>Explained variance</b>		30.155	21.362 17.379
<b>Cronbach's Alpha</b>		0.943	0.914 0.862
<b>Kaiser- Meyer- Olkin = 0.785 , p = 0.000</b>			
<b>Bartlett's test of Sphericity: Approx Chi-square = 1005.116 (Sig = 0.000)</b>			

## 5. Results and Discussion

### 5.1 Audit Quality Attributes Evaluation

The first question of the study seeks to show how clients evaluate the different audit quality attributes in Jordan. Table 4 shows the descriptive statistics for the three factors. In particular, it looks that factor 1, "field work conduct and technical competence" is the dominant factor with a mean of 4.14. This indicates that external auditors have the necessary technical competence to conduct their field work effectively. This is, for example, clear in Table 3 above where the results show that auditors give much emphasis to the internal control system, ownership of the assets and legality of obligations. The results show also that auditors give some emphasis to the using of different statistical techniques to conduct their work, are very knowledgeable about accounting and auditing with a mean of 4.54 and have big ethical standard with a mean of 4.33. Other attributes of factor 1 also gained high means as shown in Table 3. This result is consistent with that of Boon *et al.* (2008) who found that technical competence was one of important audit quality attributes in evaluating audit service.

Factor 2 "experience and responsiveness" comes second with an overall mean of 4.08 as shown in Table 4. Table 3 above shows that most of factor 2 attributes gives an indicator that audit members have the necessary experience with agents and industry that enable them to effectively audit and response to the different clients' needs. Consistent with Behn *et al.* (1997) and away from the audit quality attributes of factor three, most of audit quality attributes mean values are higher than 4.

Finally, factor 3 "independence and executive involvement" comes third with a mean of 3.71. As shown in Table 3 above, all the mean values of the factor 3 attributes are ranged between 3.5 and 3.94 (see, Iskandar *et al.* 2010). In general, the descriptive statistics of factor 3 indicate that the independence of auditors and the involvement of audit managements in the auditing work are not as required. For example, it looks that external auditors provide consulting services to their agents, as this attribute come at the end of list with a mean of 3.50 as shown in Table 3 above. This behaviour affects the independence of auditor negatively. In addition, it looks that some auditors have not professional certificates such as Certified Public Accountant (CPA) or Jordanian Certified Public Accountant (JCPA). Accordingly, more attention should be given to such attributes.

Table 4. Descriptive statistics of audit quality factors

Factor	No. of items	Mean	S.D
Factor1: Field work conduct and technical competence	9	4.1389	.65132
Factor2: Experience and responsiveness	7	4.0833	.65288
Factor3: Independence and executive involvement	5	3.7083	.75620

### 5.2 Client Satisfaction

The first part of second question of study asks for the overall level of client satisfaction with audit services in Jordan. The overall average score (4.0333) indicates that clients are satisfied with audit service in Jordan to a considerable extent and accordingly most of clients want to retain their current audit firms as shown in Table 5. However, 4 of 6 items have a mean value over 4. This is an indicator that clients in Jordan are satisfied with their audit firms. However, the average mean value of client satisfaction was 4.28 in Behn *et al.* (1997) which exceeded that of current study. This is because Behn *et al.* (1997) study focused only on the perceptions of client toward the performance of pig 6 firms, which have their roots in international auditing markets comparison with most of audit firms of Jordanian audit market. On the other hand, the current study overall mean value is exceeded that of Iskandar *et al.* (2010) and that of Carcello *et al.* (1992).



Table 5. Descriptive statistics for client satisfaction

Item	Mean	S.D
C1.In general, I am pretty satisfied with the audit company	3.9167	.94155
C2.Overall, the audit company is a good company to do business with	4.1458	.79866
C3.I want to retain the audit company	4.1042	.88100
C4.Overall, the audit company's policies and programs benefit my company	3.9792	.88701
C5.Overall, the audit company is very fair	4.0208	.88701
<b>Average</b>	4.0333	.75663
<b>Cronbach's Alpha = 0.912</b>		

### 5.3 Actions Necessary to Improve the Quality of Audit Services

The second part of the second question asks about the main actions necessary to improve the quality of audit services in Jordan (see Behn *et al.* 1997). Table 6 shows that perceptions of clients toward the different procedures to improve audit quality. Consistent with Mansouri *et al.* (2009) argument, providing better training for auditors and compliance with corporate governance code for auditing are the most important two actions to improve service quality in Jordan with a mean of 4.4583 for each of them. Notably that Jordan has its own corporate governance code, which audit firms can easily adopt. Developing our own auditing standards comes second with a mean of 4.3125. This followed by the necessity of amending the Interim Law of Jordanian Association of Certified Public Accountants (JACPA) No. 73 of 2003 (i.e. of Accountancy Profession Law) with a mean of 4.2500. These two results indicate that audit profession in Jordan is suffering from some limitation in the regulations that govern the profession. In the short-run, it is very easy to make all the necessary amendments to the Accountancy Profession Law and it is possible in the long-run to develop our own auditing standard in auditing to replace the international ones.

Respondents are also emphasizing the importance of using new tools in evaluating internal control system and reinforcing the usage of EDP audit issues.

Table 6. Descriptive statistics and reliability test for potential future improvements in audit quality

Item	Mean	S.D
D1.Greater use of risk analysis	3.9375	.83555
D2. Suggest alternative effective tools to evaluate the internal control system	4.1042	.83129
D3.Impose more control on audit fee	3.9583	.92157
D4.Reinforce the usage of Electronic Data Process (EDP) audit issues	4.0833	.84635
D5.Amend the Interim Law of Jordanian Association of Certified Public Accountants (JACPA) No. 73 of 2003	4.2500	.69954
D6.Provide better training for auditors	4.4583	.58194
B7.Develop our own auditing standards	4.3125	.77614
B8.Compliance with corporate governance code for auditing	4.4583	.54415
<b>Cronbach's Alpha = 0.864</b>		

### 5.4 Audit Quality Attributes and Client Satisfaction

The third question of the current study seeks to identify if there is a relationship between the different audit quality attributes and client satisfaction. An initial test using Pearson's correlation analysis was performed to identify the strength and direction of relationship between the dependent variable (i.e. client satisfactions) and independent variables (i.e. field work conduct and technical competence, experience and responsiveness and independence and executive involvement).

Table 7 shows that "field work conduct and technical competence" factor is significantly correlated ( $r = 0.624, p < 0.01$ ) with client satisfaction. This strong positive relationship between the two factors is an indicator that field work conduct and technical competence attributes are important indicators in determining client satisfaction in Jordanian audit market. A positive and significant association also found between "experience and responsiveness" factor and client satisfaction ( $r = 0.378, p < 0.01$ ). Similarly, a positive correlation value ( $r = 0.434, p < 0.01$ ) also found between "independence and executive involvement" and client satisfaction.

Table 7. Correlation Matrix (Pearson's) (N=48).

Variables	1	2	3	4
1. Field work conduct and technical competence	1			
2. Experience and responsiveness	.591**	1		
3. Independence and executive involvement	.507**	.527**	1	
4. Client satisfaction	.624**	.378**	.434**	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

The above correlation matrix results come at the acceptable range ( $r < 0.90$ ) (Hair *et al.* 2006) and accordingly the problem of multicollinearity is not found among the different variables of study. Thus, it is easy to go further to test the following multiple regression equation:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where:

$\alpha_0$  = constant;

$Y$  = client satisfaction;

$X_1$  = field work conduct and technical competence;

$X_2$  = experience and responsiveness;

$X_3$  = independence and executive involvement;

$e$  = error term.

Table 8. Result of regression analysis (N=48).

Independent variables	Unstandardized coefficients		Standardized coefficients	t-value	Sig.	Tol	VIF
	B	Std. E	Beta				
(Constant)	0.902	0.632		1.426	0.161		
1. Field work conduct and technical competence.	0.654	0.174	0.563	3.755	0.001	0.598	1.673
2. Experience and responsiveness.	-0.052	0.176	-0.045	-0.296	0.768	0.581	1.720
3. Independence and executive involvement.	0.172	0.142	0.172	1.208	0.234	0.663	1.507
R <sup>2</sup>	0.409						
Adjusted R <sup>2</sup>	0.368						
F	10.136						
Sig	0.000						
Durbin-Watson	2.203						

To check for outliers, Centered Leverage and Cook's Distance were used (Hair *et al.* 2006). The Centered Leverage mean is 0.063, which is closer to 0 and the Cook's Distance mean is 0.027, which is less than 1. These two results indicate that the regression has not affected by any outliers. In addition, the Durbin-Watson value (2.203) comes in its acceptable range.

In addition to the Correlation matrix results, the values of VIF and tolerance are also within the acceptable range as shown in Table 8, which indicates that the problem of multicollinearity is not of concern (Hair *et al.* 2006).

The first three hypotheses of the current study are interested in testing the relationship between the three factors that derived from principle component analysis and client satisfaction with audit services. As shown in Table 8, the model is significant ( $F = 10.136, p = 0.000$ ). In addition, the model explains about 40.9% of the variance in client satisfaction, which is less than that of Behn *et al.* (1997). This is because the number of factors that used in Behn *et al.* (1997) is more (i.e. 12 factors) than those of the current study (i.e. 3 factors).

The first hypothesis of the current study tests the relationship between "field work conduct and technical competence" (the first factor) and the client satisfaction. The result shows a significant positive relationship (Beta = 0.563, t-value = 3.755,  $p = 0.001$ ) between "field work conduct and technical competence" factor and the client satisfaction. It looks that this factor is the only factor that contributes toward the client satisfaction with audit service among Jordanian companies. This factor includes 9 attributes of 21, which forms the biggest in the current study and most of the attributes are necessary to gain the client satisfaction. For example, the audit firms have the necessary infrastructures to perform its mission in an effective way using different procedures and have big ethical standards in conducting their works. All of these attributes gained high rank from clients as shown in Table 3 above, which indicates that client gives much weight to such attributes. Accordingly, H1 is supported at the 0.05 significance level. This result is consistent with that of Carcello *et al.* (1992) who found that conduct of audit work attributes are very important to audit quality. However, Carcello *et al.* (1992) evaluated the importance of different audit quality attributes in audit quality without taking client satisfaction in the account. The result is also consistent partially with that of Behn *et al.* (1997) who found that field work conduct is positively associated with client satisfaction, while it is not the case for technical competence. Iskandar *et al.* (2010) result also supported the current study result in respect to audit team in conducting field work.

The second hypothesis tests the relationship between “experience and responsiveness” (the second factor) and the client satisfaction. The result shows insignificant (Beta = -0.045, t-value = -0.296,  $p = 0.768$ ) relationship between “experience and responsiveness” factor and client satisfaction. This result is not consistent with prior research results (e.g. Iskandar *et al.* 2010; Carcello *et al.* 1992; Behn *et al.* 1997), while is consistent with that of Saxby *et al.* (2004) in respect to responsiveness. The possible justification for such result based on the idea that clients in Jordan give no emphasis to the experience factor. This is because their companies are -to a considerable extent- fall within the small and medium size. This size of companies not needs big and expensive audit firms to audit. Accordingly, H2 is rejected, which means that there is no relationship between “experience and responsiveness” factor and the client satisfaction.

In addition, it looks that the relationship between “independence and executive involvement” (the third factor) and the client satisfaction is also insignificant (Beta = 0.172, t-value = 1.208,  $p = 0.234$ ). This result is supported that of H2 in that clients in Jordan are also do not care in the responsiveness and independence of auditors. This is because the relationship between the two parties is controlled by the friendly cultural values in Jordan. This result is also supported by the mean values of “independence and executive involvement” attributes reported in Table 3 above, as all of them less than 4 on a five-point-likert scale. This result contradicts that of Behn *et al.* (1997). Thus, it can be concluded that H3 is rejected at the 0.05 significance level, and accordingly there is no relationship between “independence and executive involvement” factor and the client satisfaction.

### 5.5 Sectoral Effect

Questions 4 above seeks to find if there is a difference in clients evaluation of audit quality attributes due to client’s sector. Hypothesis 4 was developed to test such difference. New factor (i.e. audit quality attributes evaluation) was computed based on the three factors of audit quality attributes (i.e. field work conduct and technical competence, experience and responsiveness and independence and executive involvement). Table 9 shows the descriptive statistics for client sectors. That is, the 48 respondents distributed along 6 sectors. Using client sector as independent variable, the result of One-way ANOVA test that shown in Table 10 indicates that no significant difference ( $F = 1.562$ ,  $P = 0.192$ ) in client evaluation of audit quality attributes due to client sector. Therefore, H4 is rejected, which means that there is no significant difference in client evaluation of audit quality attributes due to client’s sector.

Table 9. Descriptive statistics for client’s sector

Variable	Groups	N	Mean	S.D.
Client’s sector	banks	4	3.8500	.91469
	Insurance	6	4.2000	.84853
	industrial	11	4.2727	.56761
	trading	9	3.8889	.91165
	service	15	3.9733	.82762
	others	3	3.8000	.00000
	Total	48	4.0333	.75663

Table 10. One-way ANOVA test for client sector and audit quality attributes evaluation factor

Variable	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Client’s sector	Between groups	2.412	5	.482	1.562	.192
	Within groups	12.966	42	.309		
	Total	15.378	47			

The test was repeated using each of the three factors as shown in Table 11. The results supported that reported at Table 10. No significant difference in client evaluation of audit quality attributes due to the client’s sector is found for any of the three factors.

Table 11. One-way ANOVA test for client sector and audit quality attributes evaluation factors

Variable	Factor	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Client's sector	Field work conduct and technical competence	Between groups	3.483	5	.697	1.778	.138
		Within groups	16.455	42	.392		
		Total	19.938	47			
	Experience and responsiveness	Between groups	4.011	5	.802	2.103	.084
		Within groups	16.023	42	.381		
		Total	20.034	47			
	Independence and executive involvement	Between groups	1.908	5	.382	.642	.669
		Within groups	24.969	42	.595		
		Total	26.877	47			

Finally, hypothesis 5 comes to test if there is a difference in client satisfaction with audit services due to the client's sector. The result of One-way ANOVA test that shown in Table 12 indicates that no significant difference ( $F= 0.439$ ,  $P = 0.819$ ) in client satisfaction with audit services due to client's sector. Therefore, H5 is rejected, which means that there is no significant difference in in client satisfaction with audit services due to client's sector.

Table 12. One-way ANOVA test for client sector and client satisfaction with audit services

Variable	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Client's sector	Between groups	1.337	5	.267	.439	.819
	Within groups	25.570	42	.609		
	Total	26.907	47			

Thus it can be concluded that the perception of clients in different Jordanian sector is not difference toward the evaluation of audit quality attributes and the satisfaction with audit services.

## 6. Conclusions, Implications and Limitations

This study investigates the client satisfaction with audit service as a whole in Jordan through a set of audit quality attributes. In particular, 23 attributes were used to measure the audit quality in this study. Using principle component analysis procedure, the 23 attributes were reduced to 21 attributes categorized in three factors including field work conduct and technical competence, experience and responsiveness and independence and executive involvement.

The results of study revealed that "field work conduct and technical competence" is the dominant factor. That is; clients see that external auditors have the necessary technical competence to conduct their field work effectively in that seven of nine attributes have gained a mean values over 4. The other two factors (i.e. experience and responsiveness and independence and executive involvement) were ranked second and third respectively by clients. An important implication is that more emphasis should be given to independence and executive involvement in the auditing profession in Jordan. The auditing legislative body along with other related parties in Jordan has the authority and capability to promote such attributes in audit service.

The results of study also indicated that clients are satisfied with audit service in Jordan to a considerable extent and this satisfaction is not difference due to the client's sector. That is, a consensus is found among different sectors in respect to client satisfaction with audit service. Again, external auditors should give more emphasis to responsiveness, independence and executive involvement attributes to enhance the overall value of client satisfaction with audit service in Jordan. In the meantime, the study investigates the perception of clients toward the actions that may improve the audit quality in Jordan and consequently the client satisfaction with the service. Findings revealed that providing better training for auditors and compliance with corporate governance code for auditing are the main two necessary procedures to improve audit quality in Jordan.

The study test empirically the relationship between the three audit quality factors and client satisfaction and found that only "field work conduct and technical competence" factor does contribute to client satisfaction with audit service in Jordan. No significant relationship has been found between the other two factors (i.e. experience and responsiveness and independence and executive involvement) and client satisfaction with audit service in Jordan. Again, audit firms must give more emphasis to responsiveness, independence and executive involvement to enhance client satisfaction away from any friendly values with them. Clients also should select the qualified auditors regardless of the cost or the size of their company.

Finally, findings of study revealed that there is no difference among clients in evaluation the different audit quality attributes due to sector. Thus, a consensus has been found again among different sectors in evolution the different audit quality attributes.

Accordingly, the current study gives the interested parties a comprehensive investigation on audit service in Jordan and is listed the necessary actions to enhance the quality of audit service in an emerging market. Thus, Academics and practitioners in Jordan and other developing countries are required to build on the results of the current study. Despite that, the current study has some limitations need to be addressed in the future research. Firstly, the analysis of audit quality based only on 23 attributes. Thus, more attributes should be included in future research to effectively capture the audit quality and the client's satisfaction with audit service. Secondly, testing the relationship between audit quality attributes and client satisfaction ignored many control variables such as audit firm size, client size and audit opinion type (Behn *et al.* 1997). Future research may incorporate such control variables. Thirdly, the study sample is small, which may affect the study results. Future studies may expand the sample and may incorporate the qualitative approach to identify the reasons behind failure of two factors (i.e. experience and responsiveness and independence and executive involvement) in explaining client satisfaction.

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