Determinants of Audit Fees for Firms Listed at the Nairobi Securities Exchange

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Abstract
The objective of the study was to find out the determinants of audit fees for firms listed in the NSE. The analysis revealed that the audit market for listed firms is dominated by the Big 4 firms and most companies (72.9%) financial years end at December 31. The multiple linear regression results revealed that auditor experience; auditor reputation; client size; and client complexity had positive and significant relationships with audit fees for Kenyan firms. On the other hand, a negative relationship was documented with size of the audit firm and client profitability. The results, however, did not support any relationship between audit fees; client risk and the reporting season.

Keywords: Audit fees; Auditor characteristics; Auditee characteristics; Big 4

1. Introduction
According to Gray and Manson (2008), an audit is an investigation or search for evidence to enable an opinion to be formed on truth and fairness of financial and other information by a person or persons independent of the preparer and persons likely to gain directly from the use of the information, and the issue of a report on that information with the intention of increasing its credibility and therefore its usefulness.

The development of modern auditing profession was stimulated by the Industrial Revolution in the 18th century, the emergence of the limited liability corporation that separated ownership and management, by globalization and by the proliferation of free market enterprise in the world commerce and business (Hayes et al., 2005).

Audit fees refer to the remuneration payable to an auditor for audit services rendered. When entering negotiations regarding professional services, a professional accountant in public practice may quote whatever fee deemed to be appropriate. However, International standards of auditing (ISA) 200 paragraph A23, requires that the audit engagement letter must provide the basis of charging fees by the auditor (IFAC, 2012).

Audit fees is affected by audit company attributes (like size, reputation, experience, competition, industry specialization and whether it is a big four) or by the client’s company characteristics (auditee attributes like size, complexity, risk, and profitability) (Joshi and Al-Bastaki, 2000; Hay et al., 2006; Bedard and Johnstone, 2010). The auditing market and audit fees is a subject studied mainly in developed economies, while the audit services market in emerging economies has been given limited attention. Hay et al., (2006) meta-study examining possible determinants of the amount of audit fees in the last 25 years (1977-2002), only 6 of 88 studies were related to emerging market countries. Hay et al., (2006) conclude that the significance of certain attributes changes according with each country’s characteristics and period of analysis and recommended that models be revised periodically.

The current study analysed financial reports of listed companies in the NSE to determine the factors affecting audit fees in Kenya. The study therefore sought to answer the following questions: (i) what are the audit firm’s and clients’ factors affecting audit fees de termination in Kenya? and (ii) what is the correlation between audit fees and the different factors determining audit fees?

2. Literature Review
Hayes et al., 2005 identified four theories of Auditing, which explain the existence of auditing; Policeman theory; Lending Credibility Theory; Inspired Confidence theory and Agency theory. Empirical testing has resulted in categorizing audit fee determinants into two groups, namely auditor attributes and auditee characteristics.

2.1 Client Attributes Affecting Audit Fees
Client attributes include the characteristics of size, complexity, risk, and profitability of the firm being audited. Consistent with the theory on audit effort and litigation, audit fees tend to increase with an increase in the client’s size (Simunic 1980), risk (Stice 1991), complexity (Hackenbrack and Knechel, 1997), and profitability (Hay et al., 2006).

The auditee size was found to be the most important factor that influences audit fees; it is usually measured by total assets, revenues, sales and number of employees of the Client Firm. The size of auditee has a direct impact on the auditors’ work, and the time spent in the auditing process. Larger clients require more audit services than smaller clients, therefore more audit time is needed; hence we would expect that these large clients pay higher fees per dollar of size relative to smaller clients in the industry (Palmrose, 1986; Simon and Taylor,
 Complexity of the auditee can be measured by the number of branches and subsidiaries of the firm locally and internationally. It is argued that the more complex the client firm is, the greater the number and the more diversified the subsidiaries and operations are; which necessitate more audit work; therefore, audit firms charge higher audit fees. Sandra and Patrick (1996) showed that auditors of highly complex firms often charge high audit fees in examining and evaluating the firm’s financial statements. According to them, foreign subsidiaries must abide by a variety of legislative and proficient requirements for disclosure, which necessitates further audit testing, requiring more time and additional manpower to complete the audit process. This implies that the companies must bear additional charges for audit work. Therefore, auditee complexity has a positive correlation with the audit fees (Simunic, 1980; Low et al., 1990; Chan et al., 1993; Firth, 1997; Butterworth and Houghton, 1995; Carson et al., 2004).

Client risk is considered an important factor in determining the audit fees. Client risk measures the odds of an auditor issuing an unqualified judgment on materially misstated financial statements (AICPA, 1983). Sandra and Patrick (1996) used gearing (clients’ debt ratio) and liquidity ratios to determine the client’s risk. The client risk can be calculated by the following factors or ratios: current assets / total assets, long-term debt / total assets, income before tax / total assets (Carson et al., 2004; Joshi and Al-Bastaki, 2000). The most preferred risk measure is the Debt ratio. It is defined as the percentage of long-term debt to total assets. It measures the company’s ability to pay off its incurred debt. If Debt Ratio is relatively high, the long-term financial structure of the client’s firm will be unstable, and the firm may not be able to pay off its debt in a proper behaviour which may lead to a lower credit rating. In general, risk (debt ratio) is higher for companies that have endured financial losses, leading to higher possibility of bankruptcy or decline in stock price, and therefore larger probability of legal actions against both the client and auditor. Auditors need to do more work to reduce any potential litigation against them. Therefore, Audit fees are positively associated with the clients’ risk (Francis and Simon, 1987, Craswell and Francis, 1999).

Client’s firm profitability is considered as an important indicator of management performance also its efficiency in allocating available resources. The auditee profitability can be known by finding the income or loss figure shown in the income statement (Firth, 1985; Simon et al., 1986; Chung and Lindsay, 1988; Low et al., 1990; Waresul Karim and Moizer, 1996). Profitability ratios can be used as a measure of auditee profitability these include: return on assets (ROA), return on equity (ROE), return on capital employed (ROCE), return on investment (ROI). Companies reporting high levels of profits will be subject to precise audit testing of their revenues and expenses and this will result in higher audit fees (Joshi and Al-Bastaki, 2000). Most of the prior research done indicate that the amount of audit fees is significantly influenced by the profitability level of the client firm (Sandra and Patrick, 1996).

2.2 Audit Firm Attributes Affecting Audit Fees
Audit fees increase with the Audit firm’s Size (Francis, 1984; Palmrose, 1986), reputation (Larcker and Richardson, 2004, Gonthier and Schatt, 2007), experience, industry specialization (Pearson and Trompeter, 1994; Craswell et al., 1995; Cullinan, 1998) and whether it’s one of the Big Four (Palmrose, 1986; Francis and Simon, 1987; Butterworth and Houghton, 1995). However, Audit fees decreases with the increase in competition, the greater the number of competitors the lower the audit fees are charged (Maher, et al., 1992; Hay et al. 2006).

Audit firm size is an important aspect of the audit firm that determines the audit fee. The Auditor Size is frequently measured based on the company’s assets, market share and the number of employees. Choi, et al., (2010) investigated the relationship between office size, audit quality and audit pricing, and determined that office size is positively associated with audit quality, and that large offices charge higher audit fees and provide higher quality audits. Similarly, Francis and Stokes (1984) and Palmrose (1986) explained the strong relationship between auditor fees and audit company size.

The experience of the audit firm is considered an important attribute that influence determining the amount of audit fees. A study by Ferguson, et al. (2003) reveal that years of professional experience of the audit firm would increase the audit fees charged by the audit firm (Ferguson, et al., 2003).

Reputation of the audit office is the perception that some audit firms can provide higher quality auditing than others, which is one of the most important factors affecting the audit service pricing (Larcker and Richardson, 2004; Gonthier and Schatt, 2007). Firms which have invested in reputation capital (employee training programs and advertising) suggests a much higher success rate of the audit firm (Che-Ahmad and Houghton, 1996), and therefore it may be able to obtain a return on its investment through placing higher audit fees for their services. So this means that, the better the reputation of the audit firm the more is the demand on its audit services and the higher audit fees are.

Competition among audit firms can be considered as one of the factors affecting the audit service pricing,
this is consistent with the study of Maher et al. (1992), their study found that an increase in the number of Audit firms between 1977 and 1981 lead to a significant decrease in real audit fees. The results of this study were consistent with those of Hay et al. (2006) study which stated that the degree of competition between audit firms for market share is an important determinant of audit fees and is inversely proportional to audit fees.

Studies on the effect of auditor industry specialization (expertise) on audit fees have found that an audit premium is received by auditors with a specialization in an industry (Pearson and Trompeter, 1994; Craswell et al., 1995; Cullinan, 1998). Also, researchers have examined other audit markets that are less dominated by the Big 6. Cullinan (1998) studied the effect of industry expertise on audit fees in a market in which the Big 6 firms have a relatively small market share, the US multi-employer pension plan market. The results of the study revealed that non-Big 6 firms with industry expertise received a fee premium over non-specialist firms, whereas Big 6 firms with larger market shares did not.

Clients would pay more to the international big firms due to their Brand name and the higher audit quality provided. Simon et al., 1992 found that the Big Eight or Big Five, now the Big Four audit firms receive premium fees in many countries compared to non-Big Four (Palmrose, 1986; Francis and Simon, 1987; Butterworth and Houghton, 1995). The Big Four are the biggest audit firms in the world and due to their financial strength and expertise that they have are able to provide higher quality audit. Studies comprising the United States of America audit market supported the idea that big international auditing companies (Big-Four) made audits of higher quality than the other (DeAngelo, 1981). Hence, based upon research findings for USA and other countries, such as the UK (Chan et al., 1993) and Australia (Butterworth and Houghton, 1995; Craswell et al., 1995), this factor is expected to have a positive relationship with the audit fees.

3. Research Methodology

The study adopted the deductive approach as advocated by Saunders et al (2007) that a study begins with developing theory and hypotheses then the author collects data and test the hypotheses. The population of the study was made up of 60 firms listed at the Nairobi Securities Exchange from 2008 to 2012 financial years. Data for the study was collected from secondary sources which included the published annual reports of the listed firms that were obtained from their respective websites and the Capital Markets Authority. Information about the audit firms was obtained from their respective websites and where applicable telephone interviews were made where necessary. The collected data was categorized, ordered, manipulated and summarized using descriptive statistics like frequency tables, the mean and standard deviation. The study also used the Spearman correlation to measure the degree and strength of the relationship between each two variables and regression analysis was used to link the relationship between audit fees and their determinants.

The regression model was specified as follows

\[ \ln(ADFEE) = \beta_0 + \beta_1(\text{Size}) + \beta_2(\text{EXP}) + \beta_3(\text{Disc}) + \beta_4(\text{TAST}) + \beta_5(\text{SUB}) + \beta_6(\text{CRisk}) + \beta_7(\text{ROE}) + \beta_8(\text{SSN}) + \epsilon_i \]

Where

- \( \beta_0 \) represent the constant for audit fees regression equation (Fixed audit costs component)
- \( \beta_1 - \beta_8 \) represent the respective correlation coefficients of the independent variables.
- \( \epsilon_i \) – represents the error term of the model.

3.1 Dependent Variable

The dependent variable is natural log of audit fees paid for auditing annual accounts of parent companies and consolidated accounts. Audit fees do not include fees for auditing annual reports of branches and subsidiaries (\( \ln(ADFEE) \)).

3.2 Independent Variables

a) Auditor Size

In this study the auditor size was measured by the number of partners in the audit firm (Size). Large audit firms are expected to charge high audit fees. The study assumed a constant number of partners in the audit firms for the entire period of the study. The assumption was due to unavailability of the data on a year-year basis.

b) Auditor Experience

In this study, Auditor experience was measured by the number of years in professional practice by the audit firm (Exp). I expected auditor experience to have a positive coefficient in relation to audit fees.

c) Auditor Reputation

This was measured by disciplinary cases against an audit firm in the last 5 years (2008 to 2012). In this study this was a dummy variable measured by 1 for a firm with no disciplinary cases and 0 for a firm with one or more disciplinary cases (Disc). I expected auditors with high reputation to charge high audit fees.

d) Client Size

It is expected large clients to pay higher fees relative to smaller clients, in line with prior studies (Palmrose, 1986;
Simon and Taylor, 2002). In this study client size was measured by the natural log of total assets of the audited company (Ln (TAST)).

f) Client Complexity
The more complex the client firm is, the more the audit work; therefore, the researcher expected higher audit fees for complex companies. In this study complexity was measured by the number of subsidiaries in a firm (SUB).

g) Client Risk
Client risk measures the odds of an auditor issuing an unqualified judgment on materially misstated financial statements. In this study the client risk was measured by the ratio of Profit before tax to Total Assets (EBT/Total assets). Denoted by (CRisk) I expected a positive relation between audit fees and client risk.

h) Client Profitability
In this study the Return on Equity (ROE) was used to measure profitability. I expected client profitability to have a positive relation with audit fees. ROE is the ratio of net income to shareholders equity.

i) Season
This was a dummy variable; a value of one was assigned for the busy season and a value of zero for the non-busy season. I adopted financial year end of December to March as the busy season (SSN). Companies with accounting periods ending during the busy season were expected to pay high audit fees.

4. Data Analysis, Results and Discussion

4.1 Descriptive Statistics
The study population targeted all the 60 listed firms, out of which 48 firms were responsive representing a response rate of 80%.

Table 1: Descriptive statistics of study variables

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>STD DEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit Fees (Sh)</td>
<td>240</td>
<td>240</td>
<td>223,000,000</td>
<td>37,000,000</td>
<td>8,803,270</td>
</tr>
<tr>
<td>Auditor Size (Number partners)</td>
<td>240</td>
<td>2</td>
<td>12</td>
<td>9.4833</td>
<td>2.80013</td>
</tr>
<tr>
<td>Auditor Experience</td>
<td>240</td>
<td>12.00</td>
<td>105.00</td>
<td>63,2750</td>
<td>32.10312</td>
</tr>
<tr>
<td>Client size (Assets)</td>
<td>240</td>
<td>57,775,000</td>
<td>367,379,285,000</td>
<td>42,231,464,805</td>
<td>61,507,184,153.83</td>
</tr>
<tr>
<td>Client complexity</td>
<td>240</td>
<td>0.00</td>
<td>17.00</td>
<td>4.4958</td>
<td>3.83771</td>
</tr>
<tr>
<td>Client risk</td>
<td>240</td>
<td>-27.43</td>
<td>65.90</td>
<td>10.08</td>
<td>10.00</td>
</tr>
<tr>
<td>Client profitability</td>
<td>240</td>
<td>-233.04</td>
<td>60.64</td>
<td>15.32</td>
<td>21.59</td>
</tr>
<tr>
<td>Time lag</td>
<td>240</td>
<td>39.00</td>
<td>162.00</td>
<td>83.25</td>
<td>24.36</td>
</tr>
</tbody>
</table>

4.1.1 Audit Fees
In the five years under review by the study audit firms earned a total of Sh. 2,112,785,000.00 in audit fees. The maximum audit fee charged was Sh. 37,000,000.00 while minimum was Sh. 223,000.00 for Equity bank in 2012 and Limuru Tea in 2012 respectively. The standard deviation of audit fees is Sh. 7,213,477.44 indicating high variation in audit fees charged. This is illustrated by Table 1.

4.1.2 Auditor Size
This was measured by the number of partners in a firm as indicated in the ICPAK CPA Directory. The smallest audit firm had 2 partners while the largest firm had 12 partners. This is illustrated in Table 1.

4.1.3 Auditor Experience
Auditor Experience was measured by the number of years in professional practice in Kenya. The most experienced auditor was Deloitte and Touche with 105 years in 2012 while the least was 12 years for DCDM as the year 2008. The data can be summarized in Table 1.

4.1.4 Client Size
Client size was measured by the Natural log of total assets. Out of the 48 listed firms analysed, the minimum total assets were 57,775,000.00 and maximum was Sh. 367,379,285,000. Table 6 below indicates that the average total assets for the 48 listed firms was Sh. 42,231,464,805.83 worth of assets with a standard deviation of Sh. 61,507,184,153.63 indicating huge differences in sizes of the listed firms in the NSE.

4.1.5 Client Complexity
Client complexity was measured by the number of subsidiaries for a company. The maximum number of subsidiaries was 17 for Scangroup in 2012 and 2011 while the minimum was zero subsidiaries. The average number of subsidiaries for listed firms over the period of study is 4, with a standard deviation of 4, indicating differing company structures across the listed firms. This is illustrated by Table 1.

4.1.6 Client Risk
This was measured by the ratio of Profit before tax to Total Assets expressed as a percentage, the minimum
value was -27.43% and a maximum is 65.9%. The mean was 10.08% and standard deviation of 10. This indicates differences in client risk profiles for the 48 listed firms analysed. This is summarized in Table 1.

4.1.9 Client Profitability
Client profitability was measured by the return on equity. The minimum value is -233.04 for Uchumi in 2009 while maximum is 60.64 for Limuru Tea in 2009. During the period under the study the average ROE was 15.32% while its standard deviation was 21.59 indicating varying profitability levels for NSE listed firms. This is summarized in Table 1.

4.1.10 Time Lag
This measured the number of days from the financial year-end date to the time of signing of the annual report by the auditors. The minimum was 35 days for East African Cables in 2010, maximum was 162 days for Uchumi in 2010. The average days in signing of the audit report for the listed firms is 83 days. This is illustrated in Table 1.

4.2 Regression Analysis
A multiple linear regression model was used to predict the relationship between audit fees and the hypothesized factors determining it for listed firms in Kenya. Table 2 gives a summary of regression. In the model adopted for the study the coefficient of correlation (R) is 0.857 which indicates that audit fees are positively related to the variables under study.

The co-efficient of determination (R^2) is 0.735 and the adjusted (R^2) value of 0.723, meaning that 73.5% of audit fees for listed firms is explained by the model’s independent variables while 26.5% of audit fees is explained by the error term and other independent variables.

Table 2: Regression Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std Error of Estimate</th>
<th>Change Statistics R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.857a</td>
<td>.735</td>
<td>.723</td>
<td>46235</td>
<td>735</td>
<td>63.354</td>
<td>10</td>
<td>229</td>
<td>.000</td>
</tr>
</tbody>
</table>

The F statistic value is 63.354 this is greater than the F value, at α 0.05 at n=10 and 229 degrees of freedom, which gives F value of 1.8799. Therefore, it can be concluded that the relationship between audit fees and the independent variables in this model is significant. This is illustrated by the ANOVA results in Table 3 below.

Table 3: ANOVA Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig. F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>135.431</td>
<td>10</td>
<td>13.543</td>
<td>63.354</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>48.953</td>
<td>229</td>
<td>214</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>184.384</td>
<td>239</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Regression Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>95.0% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td></td>
<td>(Constant)</td>
<td>5.778</td>
<td>617</td>
<td>.000</td>
<td>4.563</td>
</tr>
<tr>
<td></td>
<td>Size of Audit Firm</td>
<td>-.128</td>
<td>029</td>
<td>-.409</td>
<td>-4.363</td>
</tr>
<tr>
<td></td>
<td>Auditor experience</td>
<td>.013</td>
<td>004</td>
<td>.482</td>
<td>3.267</td>
</tr>
<tr>
<td></td>
<td>Auditor reputation</td>
<td>.648</td>
<td>196</td>
<td>.354</td>
<td>3.309</td>
</tr>
<tr>
<td></td>
<td>Client size</td>
<td>.344</td>
<td>024</td>
<td>.662</td>
<td>14.604</td>
</tr>
<tr>
<td></td>
<td>Client complexity</td>
<td>.082</td>
<td>008</td>
<td>.358</td>
<td>10.086</td>
</tr>
<tr>
<td></td>
<td>Client risk</td>
<td>.000</td>
<td>004</td>
<td>-.002</td>
<td>-.037</td>
</tr>
<tr>
<td></td>
<td>Client profitability</td>
<td>-.004</td>
<td>002</td>
<td>-.102</td>
<td>-2.480</td>
</tr>
<tr>
<td></td>
<td>Time Lag</td>
<td>.006</td>
<td>001</td>
<td>.163</td>
<td>4.118</td>
</tr>
</tbody>
</table>

From the regression coefficients in Table 4 above, the constant for the audit fee model 5.778 given that all other factors are held constant. The variables of audit firm size, client risk and client profitability have negative coefficients of -.409, -.02 and -.102 respectively. This means that the variables are inversely correlated to audit fees for the listed NSE firms, as a result, any increase in any of the variables leads to a reduction in the audit fees charged and vice versa.

The other research variables of auditor experience, auditor reputation, client size, client complexity, and Time Lag are positively correlated to audit fees for NSE listed firms. This means that an increase in any of these variables causes an increase in audit fees charged and vice versa.
5. Conclusions
The multiple linear regression model’s coefficient of correlation (R) was 0.857 and coefficient of determination (R²) is 0.735 implying that 73.5% of the variation in audit fees can be explained by the variables in the study. The results indicate existence of a positive relationship between audit fees and the following variables: auditor experience; auditor reputation; client size; client complexity and time lag. A negative relationship was found between audit fees and size of the audit firm and client profitability. The results did not support any relationship between audit fees and client risk. Based on the results of the study we conclude; client complexity; client size; Big 4 status; Auditor experience and auditor reputation are the important factors determining audit fees for NSE listed firms.

References


