



# EXAMINING THE CRITERIA FOR SELECTING EXTERNAL AUDITORS

Paul Hammond <sup>1</sup>, Edmond Amissah <sup>2</sup>

<sup>1 2</sup> Department of Entrepreneurship & Business Sciences, School of Management Sciences & Law, University of Energy & Natural Resources, Sunyani, Ghana

## Abstract

*The role of auditing in preparing, recording, maintaining and presenting high-quality financial reports is very crucial. This study employed the best-worst multi-criteria method to identify and prioritize the key drivers of external auditor's selection. Nine factors were identified as the key influencers in determining auditor's selection. Ten experts were carefully selected to participate in the study. They were provided with an online questionnaire to complete by indicating their preferred criteria over others. A linear BWM solver was used to determine the optimal weights of each category. Audit quality emerged as a top-ranked factor that decision-makers consider in choosing external auditors. On the flip side, the least important criterion from the set of criteria was determined as audit firm size.*

**Keywords:** Auditors, Audit Quality, Best-Worst Method, Selection, Ranking

---

## Introduction

The auditing process is one of the multi-faceted tropical issues that receive a great deal of focus from public and private firms. The important role of auditing in maintaining and presenting high-quality financial statements cannot be understated (Newman et al., 2005). A well-structured auditing process has positive bearings on the decisions of the users of financial statements (Nelson & Tan, 2005). According to Alali and Cao (2010), external auditors contribute to credibility in financial reporting. They provide an independent review of financial accounts to ensure that the outcomes of operations, financial conditions, and cash flows from business activities are accurate and fair. Again, high-quality auditing and reporting result in improvement in the quality of information disclosure to users of such information to enable them to make an informed decision (Piot & Janin, 2007; Quick et al., 2018).

Theoretically, one of the main purposes for companies to hire auditors and to accept the additional monitoring by an external party is consequential from the agency theory (Schlosser et al., 2012). Organisations decide to engage auditors to reduce agency costs caused by several information asymmetries arising in a company's environment. The choice for a specific auditor is linked with the agency costs (Schlosser et al., 2012). Therefore, the companies need to consider the choice of auditors so that they can reap the maximum benefits from the engagement.

The practice of hiring auditors is considered as one of the corporate governance mechanisms available to owners to monitor the activities of the management of an entity. The owners through boards appoint auditors to examine their accounts. The auditor choice is a managerial decision process involving the assessment of marginal benefits and marginal costs of hiring a specific auditor might bring. Elaborate research has been performed on which qualifiers are used by the decision-makers when selecting an auditor (Chen et al., 2021; Habib, Wu et al., 2019). However, the debate concerning the factors influencing this company's decision is a never-ending contention.

Given the latitude to select from several audit firms available coupled with the fact that there are accompanying benefits and even costs of this decision, this decision is of particular interest to stakeholders. Since there are no clear cut unanimous factors that drive auditor selection (Eniola, 2018), the choice of a firm's auditor is considered as one of the most important decisions taken by any firm (Knechel et al., 2008). This is due to the vital benefits resulting from having the financial statements audited by a reputable auditor. The benefits are numerous including a reduction in information risk; as argued by the agency theory; firms with higher agency costs are motivated to choose a high-quality auditor to strengthen their corporate governance and thus lessen potential agency conflicts (Lozano et al., 2020; Vanstraelen & Schelleman, 2017) especially in complex organizations where management interests could be at variance with the shareholder interests. Other benefits are improvement in the efficiency of the company as a result of auditor examination of internal controls, prevention of management malfeasance and increased compliance with legal provisions (Ngari, 2017). It has been observed that companies that

are not mandated to produce audited report usually opt for financial statement auditing because of its economic value. Empirical evidence has shown that auditing has helped to reduce agency costs and conflicts of interest among parties to the firm and not because of legal requirements (Coffee, 2019; Jeppesen, 2019; Schäuble, 2019).

There is a repertoire of extant literature on the determinants of auditor choice but with varied factors (Eniola, 2018; Knechel et al., 2008; Naser & Nuseibeh, 2007; Xu, 2011). The dominant variables are quite diverse and cannot be pinned down completely to a particular set and order. The relative importance of these identified factors is not in existence. This study, therefore, aims at identifying key drivers of external auditor selection and ranking the factors identified by previous studies by employing the best-worst multi-criteria method to accelerate decision-making. This paper will contribute to the literature on the selection of external auditors by engaging experts in identifying the important determinants and prioritizing them in order of importance.

## Literature Review

The agency demand and information demand are among the principal theories that influence auditor selection (Abbott & Parker, 2000, 2002; Beattie & Fearnley, 1995). Agency demand arises from the separation of ownership and control, which then leads to agency costs that may adversely affect the credibility of financial statements (Jensen & Meckling, 1976). Agency theory believes that an independent audit helps to lessen the agency costs emanating from self-centered behaviour by agents (managers). The level of such costs differs across entities, depending on factors such as company size, management structure, gearing and share ownership. It is widely acknowledged that the credibility of the financial statements can be significantly enhanced by auditing services. A lot of prior studies have been done from the agency demand perspective focused on auditor selection (Nasrudin et al., 2017; Qomariyah, 2019; Revier & Schroe, 2010; Thu & Khanh, 2022)

As the agency theory is seen as more conservative, it is normally complemented with signaling theory. Signalling theory is employed to explain how managers try to convey the quality of their financial statements through their chosen auditors to the public or stakeholders (Thu & Khanh, 2022). The selection of a reliable auditor sends a signal to market participants who require an audit report to make a better investment decision of the credibility and reliability of the information contained in the financial reports (Menon & Williams, 1991). It is used to signal management's honesty (Bayou et al., 2011). Information demand is heightened by the presence of information asymmetry between the management and market participants, especially when management has to seek external funds (Cormier et al., 2010; Huddart & Ke, 2007). Information asymmetry theory originate from one side having more information relative to the other, which stifles decision making especially by stakeholders (Cormier et al., 2010). Therefore, either from the viewpoint of agency demand or information demand for auditor quality and reliability, the selection of an audit firm will be influenced by a client's characteristics, such as firm size, leverage and management ownership (Chow, 1982; Shan et al., 2019).

## Factors influencing Auditor Selection

Auditor selection generally focuses on how auditor characteristics impact the likelihood of selection (Almer et al., 2014; Cahan & Sun, 2015). There are several factors influencing company management to choose their auditors. First, from the internal factors, auditor choice is influenced by the accounting standard used by a company; the number of affiliations that a company has; type of company ownership, including public/private shareholders and local/foreign owner; and company characteristics such as agency cost, opportunistic behaviour, risk and complexity, financial situation of the company, company size, investment risk, premium growth, assets, industry segments, and foreign sales activity (Qomariyah, 2019; Seol & Sarkis, 2005; Tiwari & Debnath, 2021). Meanwhile, the external factors affecting auditor choice are the reputation of audit firms, audit fees, and prior history with potential clients, as well as environmental contexts, such as political issues and cultural values (Qomariyah, 2019).

The determinants of auditor choice can be company characteristics, agency cost, opportunistic behaviour, risk, and complexity (Hsu et al., 2015). Agency cost is related to ownership structure which further talks about incentive conflicts. Opportunistic behaviour is related to earning management which reflects attempts by management to manipulate reported earnings using creative accounting methods, recognizing one-time non-recurring items, deferring, or accelerating expense or revenue transactions, or using other methods designed to influence short-term earnings (Ayunitha et al., 2020; Shouxi, 2007). The absence of quality audit may lead to earning management, it will choose to have auditors. Hsu et al., (2015) also explained how company characteristics and industries influence auditor choice, especially the company's risk characteristics. A company's financial situation, size, investment risk, and premium growth can also be classified as the internal factors influencing auditor choice. Gerakos and Syverson (2015) and Qomariyah (2019) assert that company characteristics, such as assets, industry segments, and foreign sales activity, affect the company's auditor choice.

In addition, new acquisitions and new funds received from external sources (Chow, 1982; Legoria et al., 2017; Menon & Williams, 1991) may influence this selection.

As discussed by Eniola (2018) predictions about the selection of an auditor based on auditor-client compatibility requires two conditions: dissimilarity in client taste regarding the audit and auditor; and variation across auditors concerning their capacity to meet the client's expectations. In a situation where there is auditor homogeneity and all auditors are analogous one to another, the selection is not necessarily an issue. However, in real competitive environment where there are heterogeneities in the quality of auditors, but clients possess similar preferences, then all the clients would prefer a specific type of auditor (Dekeyser et al., 2021).

This study examines selection variables such as firm complexity (Knechel et al., 2008); audit quality (Rija, 2018); audit fee (Frankel et al., 2002); audit firm size (Pham et al., 2017); audit reputation (Suwarno, Anggraini, & Puspawati, 2020); audit experience (Contessotto et al., 2021); auditor's industry specialization (Guo et al., 2020); audit technology (Dias & Marques, 2018) and provision of non-audit services (Tiwari & Debnath, 2021).

### ***Firm Complexity***

The complexity of a firm is reflected in the number of branches and subsidiaries as well as the diversity and intricacy of operations of the company. Generally, the more complex the firm is, the higher the number of branches and the extent of diversification, hence the more the audit work that is required (Eniola, 2018). It has been found that high-quality auditors provide services to the very complex firm and charge commensurate audit fees for the workloads (Eniola, 2018; Knechel et al., 2020; Momodu et al., 2018). According to them, foreign subsidiaries need to comply with the diverse procedures and laws with regards to financial reporting in their host country which gives rise to a lot of audit work, and most times needing more time and manpower to deliver on the audits. Consequently, complex organizations tend to favour a high-quality auditor. Hence the decision of what auditor to hire will be affected by the degree of the complexity of the engagement.

### ***Audit Quality***

There are various definitions of audit quality in the literature that are based on various approaches (Rija, 2018). Traditionally, audit quality is defined as the probability that an existing problem is discovered and reported by the auditor (DeAngelo, 1981). The audit quality can be construed as the probability that auditors detect and report misstatements, and the level of compliance with auditing standards (DeFond & Zhang, 2014; Francis, 2004; Knechel et al., 2013). Thus, audit quality denotes the ability of auditors to uncover accounting irregularities and frauds that may occur in the financial statements. Audit quality is often associated with overall financial reporting quality. Several studies evidence that institutional owners actively encourage management to improve reporting quality by employing auditors that are perceived as providing a higher audit quality (Aghaei, 2011; Hosseiniakani et al., 2014; Kilgore et al., 2011). Thus, audit quality influences the choice of the audit firm.

### ***Audit Fee***

Previous studies have examined the audit pricing mechanism of firms, predominantly based on empirical evidence obtained from the developed markets (Hassan & Naser, 2013; Naser & Nuseibeh, 2007; Xu, 2011). The audit fee is the amount of cost incurred by external auditor services clients (DeAngelo, 1981; Frankel et al., 2002). In other words, an audit fee refers to such payments made to the auditor that relates directly to the audit function; a non-audit fee is concerned with payments for other non-audit services rendered by the auditor. The amount of fee charged depends on how complex and broad the scope of the audit is and the reputation of the audit firm in the community, government and investors (Mohammed & Saeed, 2018). Generally, the audit fee should cover audit costs and provide a reasonable profit. Therefore, the audit fee can be seen as a combination of two items, audit cost and profit of auditor's reward. The intuitive pricing of expenses is calculated through a simple equation between the estimated number of hours (cost) and the hourly rate to be applied (Dekeyser et al., 2019). In a competitive audit market, determinants of audit fees may be dependent on client attributes, auditor attributes, and characteristics specific to the audit engagement (Sun et al., 2020).

### ***Industry Specialization***

Industry knowledge and specialization are among the key attributes that affect audit quality (Boubaker et al., 2018; Garcia-Blandon & Argiles-Bosch, 2018). Auditors specializing in any particular industry are able to provide better auditing services to the auditee and increase the economic value thereof (Fossung & La Fortune, 2019; Guo et al., 2020). For this reason, the specialist auditors tend to hire more employees with industry-specific expertise and provide additional training facilities relative to the non-specialist auditors. Such industry specialization allows the auditors to strategically attract new clients by offering industry-specific auditing services (Garcia-Blandon & Argiles-Bosch, 2018; Guo et al., 2020). For example, audit firms with an established reputation as industry specialists are better able to signal their superior knowledge about industry-specific business, accounting or taxation-related issues. Therefore, the choice of auditors is partially influenced by the audit firm's knowledge of the would-be client industry.

### ***Non-Audit Services***

The prime role of an auditor is to examine the accounts and express opinion that assures the outside investors that the financial accounts of an organization are appropriate. However, the audit firms also advise their clients on various non-auditing issues (Tiwari & Debnath, 2021), such as taxation, reorganization, branding, corporate law and other business matters. The combined offering of auditing and extra non-auditing services is a contentious issue in the auditing fraternity as well as academic literature (Khasharmeh & Desoky, 2018). The proponents of joint audit services tend to argue that economies of scope exist because of the information spillovers across the auditing and non-auditing services jointly provided by an auditor, which can cause a substantial improvement in the audit quality (Bhattacharya & Banerjee, 2019). Nonetheless, an alternative view holds that jointly provided non-audit service may weaken auditor independence, thereby adversely affecting the quality of the audited financial statements (Khasharmeh & Desoky, 2018). Legoria et al. (2017) investigate the effects of the joint provision of non-audit service on audit quality and concluded that auditors are more inclined to give favourable unqualified audit opinions to those clients who solicit both audit and non-audit service from them. The benefits of an auditor providing extra services in terms of economy of scale as against its effects on independence are crucial factors to be assessed (Knechel et al., 2020). The services provide by audit firm invariably affect its competitiveness when decision has to be made in selecting auditors for engagement.

### ***Audit Reputation***

The auditor's reputation is demonstrated by public confidence in the auditor through performance (Suwarno et al., 2020). The auditors are responsible for keeping public trust and bound in honour of the auditors themselves and public accountant firms where they work by giving opinions that are appropriate to the company's state (Verdiana & Utama, 2013). Reputable auditing firms have both brand names and industry specialization; thus, they are expected to provide high-quality financial reporting and better (Pham et al., 2017; Suwarno et al., 2020). A company that has a concern about the quality of its financial reporting, tends to select reputable accounting firms regardless of its costly audit fees.

### ***Audit Experience***

Companies seek auditors with certain experience in order to audit their companies (Contessotto et al., 2021). The number of years the firm had been in existence and the profile of past assignments is an important ingredient in the auditor selection process. The track record of the firm is very essential to engaging parties (Libby & Frederick, 1990). A public company requires an auditor to have auditing experience in public sectors; while a private company chooses an auditor experienced in auditing the same industry (Cahan & Sun, 2015). Therefore, audit experience also influences company management on choosing its auditor.

### ***Audit Firm Size***

The consideration of audit firm size can be explained by several points of view. First, as quality is one of the determinants company managers take into account and audit firm size is considered a proxy for audit quality, the size of an audit firm is also a determinant of the auditor choice. Secondly, (DeAngelo, 1981) stated that the stock markets are in favour of bigger audit companies, therefore, suggesting that the market has greater confidence in larger audit firms. Thirdly, larger audit companies are considered to be more insured when a damage claim has been filled by their clients (Kanakriyah, 2020). According to Mohammed and Saeed (2018), audit size can be determined by the assets held by the audit firm, market share of the audit firm and the total employees of the audit firm. The choice of external auditors is influenced by the size of the audit firm.

### ***Audit Technology***

The progress of computer technology has changed the way businesses operate (Salijeni, Samsonova-Taddei, & Turley, 2019). Many enterprises have developed a new model of complex information management, therefore, auditing them manually has been tedious work. The steps of traditional accounting audits are complex. It requires the ability of manual repetition. The firm needs to employ a lot of accountants to complete the audit work. There is no doubt that this mode of work wastes a lot of human and financial resources (Li, 2021). Financial experts believe that the development of computer audit software has effectively alleviated these problems. The theory was quickly responded to by computer experts (Abreu et al., 2018). The emergence of computer audit software has been valued by many enterprises. They believe that the information-based audit mode improves the efficiency of audit work. It can not only save manpower, but it can also save a lot of labour costs (Dias & Marques, 2018). Compared with the traditional audit method, the accuracy of computer audits is very high. Hence, the state of technology of the audit firm has become one of the selection criteria.

## Methodology

This study applies a two-phase multi-case methodology to identify factors that determine an auditor's choice by an entity. The first phase entails the use of an extensive literature review to identify drivers that influence the selection of external auditors. The second phase involves the application of the Best Worst Method (BWM) to evaluate and rank the factors that influence the selection of external auditors. The key selection factors are ranked based on their weights. BWM developed by (Rezaei, 2015, 2016) is one of the most popular and efficient multi-criteria decision analysis (MCDA) techniques used for obtaining criteria weights. BWM has the advantage over other mostly used MCDA techniques such as AHP and that it requires a relatively lesser number of pairwise comparisons for the same number of criteria with a more consistent result. BWM has seen successful applications in various fields in recent times including Accounting (Muscettola, 2015). The procedure for BWM as outlined by (Rezaei, 2015, 2016) are reproduced below (the decision-makers perform the first 4 steps):

**Step 1:** Identify a relevant list of criteria. In this step, we consider the criteria  $\{C_1, C_2, \dots, C_n\}$  that should be used to arrive at a decision. In this case the decision to select an external auditor.

**Step 2:** Choose best (B) (the most important, most desirable) and worst (W) (least important, least desirable) criteria from the set of criteria.

**Step 3:** Using a scale of 1 to 9, every expert determines the preference of the best criterion over all the other criteria to form a pairwise comparison between best criteria (B) over all the other criteria. This will result in vector

$$A_B = (a_{B1}, a_{B2}, \dots, a_{Bn}),$$

where  $a_{Bj}$  represents the preference of B over criteria  $C_j$ ,  $j = 1, 2, \dots, n$ .

**Step 4:** Similar to the above, each of the decision-makers produces pairwise comparison ratings of all the other criteria with the worst criterion (W). This will also result in vector

$$A_W = (a_{1W}, a_{2W}, \dots, a_{nW})^T.$$

where  $a_{jW}$  represents the preference criteria  $C_j$  over W,  $j = 1, 2, \dots, n$ .

**Step 5:** Next is to obtain the optimized weights  $(w_1^*, w_2^*, \dots, w_n^*)$  for all the criteria.

That is the weights of criteria are ascertained so that the maximum absolute differences for all  $j$  can be minimized for  $\{|w_B - a_{Bj}w_j|, |w_j - a_{jW}w_W|\}$ . The following minimax model will be obtained:

$$\min \max \left\{ \left| \frac{w_B}{w_j} - a_{Bj} \right|, \left| \frac{w_j}{w_W} - a_{jW} \right| \right\} \quad \text{s.t.} \\ \sum_{j=1}^n w_j = 1, w_j \geq 0, \text{ for all } j \quad (1)$$

Model (1) is transformed to a linear model and is indicated as:

$$\begin{aligned} \min \quad & \xi^L \\ & \frac{w_B}{w_j} - a_{Bj} \leq \xi \text{ for all } j \\ & \frac{w_j}{w_W} - a_{jW} \leq \xi, \text{ for all } j \\ & \sum_j w_j = 1 \\ & w_j \geq 0 \text{ for all } j \end{aligned} \quad (2)$$

Model (2) can be solved to obtain optimal weights  $(w_1^*, w_2^*, \dots, w_n^*)$  and optimal value  $\xi^{L*}$ . The consistency increases as  $(\xi^{L*})$  approaches zero, comparisons become more reliable (Rezaei, 2016).

The global weights of each criterion is obtained by multiplying the local weights of both main- and sub-criteria. The next step is to compute the overall score of alternatives using the additive value function (Bell, Keeney, & Raiffa, 1977)

$$V_1 = \sum_j = 1 w_j u_{ij} \quad (3)$$

where  $i$  is the index of any alternative,  $u_{ij}$  is the normalized score of alternative  $i$  with respect to criterion  $j$ . The value of  $u_{ij}$  can be obtained using expressions (4) and (5), where expression (4) is used for positive criteria (for benefit criteria/ whose criteria values we want to increase) and expression (5) is used for negative criteria (for cost criteria/whose criteria values we want to decrease).

$$u_{ij} = \frac{x_{ij}}{\sum_i x_{ij}} \text{ for all } j \quad (4)$$

Or

$$u_{ij} = \frac{\frac{1}{x_{ij}}}{\sum_i \frac{1}{x_{ij}}} \text{ for all } j \quad (5)$$

Where,  $x_{ij}$  is the actual score of alternative  $i$  with respect to criterion  $j$ .

## Results

### Background information

To achieve the objectives of the study, ten experts from ten different organizations were selected. The experts chosen for the study have expertise in Accounting, Finance, Auditing, and Corporate Governance. They have different levels of experience with at least eight years working experience. They were purposely selected from diverse backgrounds in order to get divergent views to ensure that the results can be generalized.

### Key Factors for Selecting External Auditors

This phase involved the finalization and categorization of determinants identified through the literature review. After an extensive literature review, a list of nine potential factors was identified and tabulated.

Category/Determinants	Description	Supporting Literature
Firm Complexity (FC)	The number of branches and subsidiaries of the company and how complex are the operations.	(Knechel et al., 2008)
Audit Quality (AQ)	The ability to detect errors in financial statements and report them to users of financial statements.	(Rija, 2018)
Audit Fee (AF)	Payment relating directly to audit service.	(Frankel et al., 2002)
Industry Specialization (IS)	Knowledge in a specific industry.	(Guo et al., 2020)
Non-Audit Services (NS)	Provision of non-audit services such as taxation, corporate law and other business matters	(Tiwari & Debnath, 2021)
Audit Reputation (AR)	Public confidence in the auditor through the performance.	(Suwarno et al., 2020)
Audit Experience (AE)	The number of working years and track records of the audit firm.	(Contessotto et al., 2021)
Audit Firm Size (AS)	The number of staff and office space.	(Pham et al., 2017)
Audit Technology (AT)	The use of computer-aided audit technologies.	(Dias & Marques, 2018)

**Table 1: Determinants of External Auditors**

After the ratios are identified and finalized through a literature review and a series of discussions with experts, the next step is to rank the ratios. Following the BWM methodology, each of the experts was asked to individually identify the best and worst factors among the determinants. The experts were further asked to rate best-to-others and others-to-worst for all the factors respectively using 1–9 scale. The pairwise comparison for main category determining factors for all ten experts is presented in Table 2.

Experts	Best Criterion	Best to Other criteria								
		FC	AQ	AF	IS	NS	AR	AE	AS	AT
Expert 1	Audit Quality	4	1	5	3	6	8	2	9	5
Expert 2	Audit Reputation	7	8	9	6	5	1	2	3	4
Expert 3	Audit Quality	5	1	2	5	7	8	3	9	5
Expert 4	Audit Quality	5	1	3	4	6	7	5	9	7
Expert 5	Audit Quality	2	1	5	2	8	4	3	5	9
Expert 6	Audit Quality	5	1	5	8	4	3	6	9	5
Expert 7	Firm Complexity	1	6	7	8	9	6	5	7	4
Expert 8	Audit Experience	6	4	5	4	9	4	1	7	2
Expert 9	Audit Reputation	8	2	7	9	6	1	3	6	3
Expert 10	Audit Experience	2	6	7	3	9	6	1	5	4

**Table 2: Pairwise comparison for category – Best to Others**

Experts	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Expert 9	Expert 10
Worst Criterion	AS	AF	NS	AS	AT	AS	NS	AR	IS	NS
FC	5	3	2	6	7	5	9	5	5	5
AQ	9	8	8	9	8	9	7	8	7	7
AF	4	1	7	4	3	7	7	2	7	6
IS	6	4	6	3	5	8	8	5	1	5
NS	2	7	1	8	2	6	1	2	8	1
AR	8	9	2	5	3	8	7	1	9	5
AE	7	8	5	2	4	7	5	2	2	8
AS	1	3	2	1	3	1	3	4	6	7
AT	3	2	4	7	1	8	8	4	3	6

**Table 3: Pairwise comparison for category – Others to Worst**

Next, using Eq. (2) and pairwise ratings obtained for all the categories of determinants of external auditor selection, the weights of each of the factors are calculated using a linear Chebyshev BWM solver. The detailed weights of each respondent as well as the consistency ( $\xi^L$ ) is provided below.

Experts	FC	AQ	AF	IS	NS	AR	AE	AS	AT	$\xi^L$
Expert 1	0.098	0.284	0.078	0.131	0.065	0.049	0.196	0.02	0.078	<b>0.108</b>
Expert 2	0.057	0.05	0.02	0.067	0.08	0.291	0.201	0.134	0.1	<b>0.11</b>
Expert 3	0.08	0.303	0.2	0.08	0.029	0.05	0.133	0.044	0.08	<b>0.097</b>
Expert 4	0.09	0.332	0.15	0.112	0.075	0.064	0.09	0.024	0.064	<b>0.117</b>
Expert 5	0.163	0.282	0.065	0.163	0.041	0.082	0.109	0.065	0.03	<b>0.045</b>
Expert 6	0.089	0.322	0.089	0.056	0.111	0.148	0.074	0.022	0.089	<b>0.122</b>
Expert 7	0.368	0.085	0.073	0.063	0.025	0.085	0.102	0.073	0.127	<b>0.14</b>
Expert 8	0.073	0.109	0.087	0.109	0.049	0.036	0.255	0.062	0.219	<b>0.182</b>
Expert 9	0.049	0.195	0.056	0.021	0.065	0.289	0.13	0.065	0.13	<b>0.102</b>
Expert 10	0.049	0.195	0.056	0.021	0.065	0.289	0.13	0.065	0.13	<b>0.102</b>
<b>Mean</b>	<b>0.112</b>	<b>0.216</b>	<b>0.087</b>	<b>0.082</b>	<b>0.061</b>	<b>0.138</b>	<b>0.142</b>	<b>0.057</b>	<b>0.105</b>	<b>0.112</b>

Table 4: Optimal weights

As indicated in Table 4, the consistency rate ( $\xi^{L*}$ ) for all decision-makers were close to zero with the average also close to zero ( $\xi = 0.112$ ) which indicates a desirable and reliable model. The final weights and ranking of the determinants for selecting external auditors are presented in Table 5 and graphically depicted in Figure 1 below.

Main Criteria	Criteria weights	Ranks
Firm Complexity (FC)	0.112	4 <sup>th</sup>
Audit Quality (AQ)	0.216	1 <sup>st</sup>
Audit Fee (AF)	0.087	6 <sup>th</sup>
Industry Specialization (IS)	0.082	7 <sup>th</sup>
Non-Audit Services (NS)	0.061	8 <sup>th</sup>
Audit Reputation (AR)	0.138	3 <sup>rd</sup>
Audit Experience (AE)	0.142	2 <sup>nd</sup>
Audit Firm Size (AS)	0.057	9 <sup>th</sup>
Audit Technology (AT)	0.105	5 <sup>th</sup>

Table 5: Criteria weights and ranking

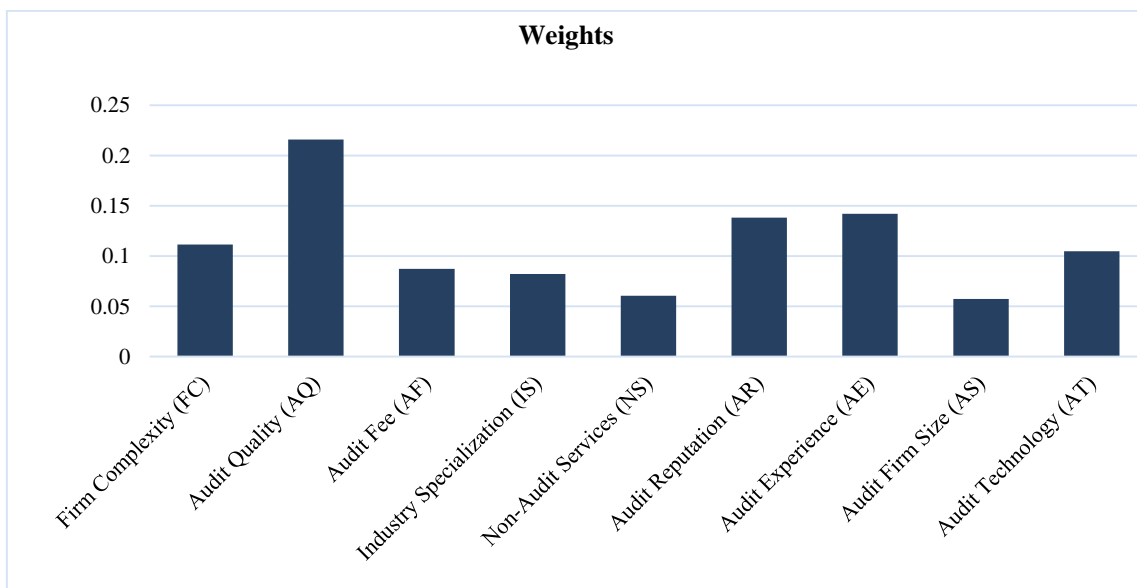


Figure 1: Weights of Determinants

## Discussion

This study was set out to identify and rank factors that determine the selection of external auditors for organisations. Through the literature review, nine determinants were identified. Ten experts with diverse backgrounds were sampled to select the best criteria they would consider in appointing external auditors for their organisations. They also chose the least important criteria from the list provided and again to ranked the determinants in order of preference to best and worst criteria.

According to Table 5, the mean consistency rate ( $\xi$ ) is close to zero. The fact that the consistency indicator is approximately zero indicates that the comparisons made have high consistency and are reliable (Rezaei, 2016).

The ranking of determinants according to weights as depicted in Table 6, audit quality was found to be the most important criteria for selecting external auditors. This agrees with the assertion that audit quality is linked to overall financial reporting quality (Kao et al., 2021). Auditors are engaged to give assurance to the financial statements. Therefore, the auditor's ability to detect and report misstatements and the level of compliance with auditing standards (DeFond & Zhang, 2014; Francis, 2004; Knechel et al., 2013) is paramount to the appointing authorities. Audit experience and audit reputation followed in the second and third places respectively. The track records of the audit firm (Libby & Frederick, 1990), as well as public confidence, are equally important in choosing auditors (Pham et al., 2017; Suwarno et al., 2020).

Conversely, audit firm size was adjudged to be the least influential factor to be considered in appointing auditors. Audit firm size which is usually defined by the number of employees, office space and assets of the firm, emerged as the last criterion among the list provided. The result did not support the fact that audit firm size is a proxy for audit quality. It also rejects the assertion that the market has greater confidence in larger audit firms (DeAngelo, 1981). This is followed closely by the provision of non-audit service and industrial specialization in the reverse order. The result supports the argument that when auditors concurrently provided non-audit service may weaken auditor independence, thereby adversely affecting the quality of the audited financial statements (Khasharmeh & Desoky, 2018). It is a fact that industry specialization allows the auditors to strategically attract new clients by offering industry-specific auditing services (Garcia-Blandon & Argiles-Bosch, 2018; Guo et al., 2020), the result did not single it out as the most important determinant.

## Conclusion and future research

Auditing which entails examining financial records to ascertain the truthfulness and fairness of financial reports presented to stakeholders plays an important role in ensuring transparency and accountability. The appointing of an auditor to audit the books of a firm demands management decision-making. The costs to be incurred and benefits to be accrued from the auditing engagement should be evaluated before choosing a specific auditor. Auditor's selection involves taking into consideration varieties of factors that will result in value-added to the financial reporting of the entity.

In this direction, determinants of auditor's selection were identified. Accordingly, nine criteria for selection external auditors were identified and ten experts were engaged to prioritize these factors. With the help of a linear BWM solver, the determinants were ranked. At the end of the study, the most influential criterion was determined as audit quality, while audit firm size emerged as the determinant with the least significance level. Furthermore, it was ascertained that the mean consistency ratio was closer to 0 than to 1. This gave indications that the pairwise comparisons among criteria were reliable.

Future studies can concentrate on adding more constraints such as determining the selections factors through the lifecycle of the business, the scale of operations and financial deposition of the entity. Moreover, future studies can look at the composition of board directors, shareholders and corporate governance mechanisms in selecting external auditors. Finally, other methods such as non-linear BWM, Fuzzy BWM and Bayesian BWM can be employed to bring different perspectives to the study.



## Works Cited

- Abbott, L. J., & Parker, S. (2000). Auditor selection and audit committee characteristics. *Auditing: A journal of practice & theory*, 19(2), 47-66.
- Abbott, L. J., & Parker, S. (2002). Audit committee characteristics and auditor switches. *Research in Accounting Regulation*, 15, 151-166.
- Abreu, P. W., Aparicio, M., & Costa, C. J. (2018). *Blockchain technology in the auditing environment*. Paper presented at the 2018 13th Iberian Conference on Information Systems and Technologies (CISTI).
- Aghaei Chadegani, A. (2011). Review of studies on audit quality. Available at SSRN 2227359.
- Alali, F., & Cao, L. (2010). International financial reporting standards—credible and reliable? An overview. *Advances in Accounting*, 26(1), 79-86.
- Almer, E. D., Philbrick, D. R., & Rupley, K. H. (2014). What drives auditor selection? *Current Issues in Auditing*, 8(1), A26-A42.
- Ayunitha, A., Sulastri, H. W., Fauzi, M. I., Sakti, M. A. P., & Nugraha, N. M. (2020). Does the Good Corporate Governance Approach Affect Agency Cost. *Solid State Technology*, 63(4), 3760-3770.
- Bayou, M. E., Reinstein, A., & Williams, P. F. (2011). To tell the truth: A discussion of issues concerning truth and ethics in accounting. *Accounting, Organizations and Society*, 36(2), 109-124.
- Beattie, V., & Fearnley, S. (1995). The importance of audit firm characteristics and the drivers of auditor change in UK listed companies. *Accounting and business research*, 25(100), 227-239.
- Bell, D. E., Keeney, R. L., & Raiffa, H. (1977). *Conflicting objectives in decisions*: John Wiley & Sons.
- Bhattacharya, A., & Banerjee, P. (2019). An empirical analysis of audit pricing and auditor selection: evidence from India. *Managerial Auditing Journal*.
- Boubaker, S., Houcine, A., Ftiti, Z., & Masri, H. (2018). Does audit quality affect firms' investment efficiency? *Journal of the Operational Research Society*, 69(10), 1688-1699.
- Cahan, S. F., & Sun, J. (2015). The effect of audit experience on audit fees and audit quality. *Journal of Accounting, auditing & finance*, 30(1), 78-100.
- Chen, J. Z., Hope, O.-K., Elemes, A., & Yoon, A. (2021). Determinants of Audit-Firm Profitability and Implications for Key Audit Matter Reporting. Available at SSRN.
- Chow, C. W. (1982). The demand for external auditing: Size, debt and ownership influences. *Accounting Review*, 272-291.
- Coffee, J. C. (2019). Why do auditors fail? What might work? What won't? *Accounting and business research*, 49(5), 540-561.
- Contessotto, C., Knechel, W. R., & Moroney, R. (2021). How do audit team industry and client-specific experience impact audit effort and audit fees? *International Journal of Auditing*, 25(1), 249-268.
- Cormier, D., Ledoux, M. J., Magnan, M., & Aerts, W. (2010). Corporate governance and information asymmetry between managers and investors. *Corporate Governance: The International Journal of Business in Society*.
- DeAngelo, L. E. (1981). Auditor size and audit quality. *Journal of accounting and economics*, 3(3), 183-199.
- DeFond, M., & Zhang, J. (2014). A review of archival auditing research. *Journal of accounting and economics*, 58(2-3), 275-326.
- Dekeyser, S., Gaeremynck, A., Knechel, W. R., & Willekens, M. (2021). Multimarket Contact and Mutual Forbearance in Audit Markets. *Journal of accounting research*.
- Dekeyser, S., Gaeremynck, A., & Willekens, M. (2019). Evidence of industry scale effects on audit hours, billing rates, and pricing. *Contemporary Accounting Research*, 36(2), 666-693.
- Dias, C., & Marques, R. P. (2018). *The use of computer-assisted audit tools and techniques by Portuguese internal auditors*. Paper presented at the 2018 13th Iberian Conference on Information Systems and Technologies (CISTI).
- Eniola, J. (2018). Determinants of auditor choice in manufacturing firms in Nigeria.
- Fossung, M. F., & La Fortune, M. W. S. (2019). External audit and quality of accounting and financial information in Cameroonian companies. *European Journal of Accounting, Auditing and Finance Research*, 7(3), 55-72.
- Francis, J. R. (2004). What do we know about audit quality? *The British Accounting Review*, 36(4), 345-368.
- Frankel, R. M., Johnson, M. F., & Nelson, K. K. (2002). The relation between auditors' fees for nonaudit services and earnings management. *The accounting review*, 77(s-1), 71-105.
- Garcia-Blandon, J., & Argiles-Bosch, J. M. (2018). Audit partner industry specialization and audit quality: Evidence from Spain. *International Journal of Auditing*, 22(1), 98-108.
- Gerakos, J., & Syverson, C. (2015). Competition in the audit market: Policy implications. *Journal of accounting research*, 53(4), 725-775.
- Guo, Q., Koch, C., & Zhu, A. (2020). The Value of Auditor Industry Specialization-Evidence from a Structural Model. Available at SSRN 3673987.
- Habib, A., Wu, J., Bhuiyan, M. B. U., & Sun, X. (2019). Determinants of auditor choice: Review of the empirical literature. *International Journal of Auditing*, 23(2), 308-335.

- Hassan, Y., & Naser, K. (2013). Determinants of audit fees: Evidence from an emerging economy.
- Hosseinnikani, S. M., Inacio, H., & Mota, R. (2014). A review on audit quality factors. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(2), 243-254.
- Hsu, W.-Y., Troy, C., & Huang, Y. R. (2015). The determinants of auditor choice and audit pricing among property-liability insurers. *Journal of Accounting and Public Policy*, 34(1), 95-124.
- Huddart, S. J., & Ke, B. (2007). Information asymmetry and cross-sectional variation in insider trading. *Contemporary Accounting Research*, 24(1), 195-232.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.
- Jeppesen, K. K. (2019). The role of auditing in the fight against corruption. *The British Accounting Review*, 51(5), 100798.
- Kanakriyah, R. (2020). Model to determine main factors used to measure audit fees. *Academy of Accounting and Financial Studies Journal*, 24(2), 1-13.
- Kao, M.-F., Shiue, M.-J., & Tseng, C.-H. (2021). Voluntary audit committees, auditor selection and audit quality: evidence from Taiwan. *Managerial Auditing Journal*.
- Khasharmeh, H., & Desoky, A. M. (2018). Does the Provision of Non-Audit Services Affect Auditor Independence and Audit Quality? Evidence from Bahrain. *Asian Academy of Management Journal of Accounting & Finance*, 14(1).
- Kilgore, A., Radich, R., & Harrison, G. (2011). The relative importance of audit quality attributes. *Australian Accounting Review*, 21(3), 253-265.
- Knechel, W. R., Krishnan, G. V., Pevzner, M., Shefchik, L. B., & Velury, U. K. (2013). Audit quality: Insights from the academic literature. *Auditing: A journal of practice & theory*, 32(Supplement 1), 385-421.
- Knechel, W. R., Niemi, L., & Sundgren, S. (2008). Determinants of auditor choice: Evidence from a small client market. *International Journal of Auditing*, 12(1), 65-88.
- Knechel, W. R., Thomas, E., & Driskill, M. (2020). Understanding financial auditing from a service perspective. *Accounting, Organizations and Society*, 81, 101080.
- Legoria, J., Rosa, G., & Soileau, J. S. (2017). Audit quality across non-audit service fee benchmarks: Evidence from material weakness opinions. *Research in Accounting Regulation*, 29(2), 97-108.
- Li, J. (2021). *Application of Computer Software Development Technology in Accounting Audit Work*. Paper presented at the Journal of Physics: Conference Series.
- Libby, R., & Frederick, D. M. (1990). Experience and the ability to explain audit findings. *Journal of accounting research*, 28(2), 348-367.
- Lozano Montero, E., Godínez López, R., & Albor Guzmán, S. M. (2020). Financial auditing benefits: Perspective of the SME in Celaya, Guanajuato. *Acta universitaria*, 30.
- Menon, K., & Williams, D. D. (1991). Auditor credibility and initial public offerings. *Accounting Review*, 313-332.
- Mohammed, N. H., & Saeed, A. (2018). Determinants of Audit Fees: Evidence from UK Alternative Investment Market. *Academic Journal of Nawroz University*, 7(3), 34-47.
- Momodu, A., Joshua, O., & Nma, M. (2018). Audit fees and audit quality: A study of listed companies in the downstream Sector of Nigerian petroleum industry. *Humanities*, 6(2), 59-73.
- Muscettola, M. (2015). Predictive ability of accounting ratio for bankruptcy. *Journal of Applied Finance and Banking*, 5(1), 13.
- Naser, K., & Nuseibeh, R. (2007). Determinants of audit fees: empirical evidence from an emerging economy. *International Journal of Commerce and Management*.
- Nasrudin, W. A. W., Mohamed, N., & Shafie, N. A. (2017). *Corporate Governance & Auditor Choice in Malaysia*. Paper presented at the SHS Web of Conferences.
- Nelson, M., & Tan, H. T. (2005). Judgment and decision making research in auditing: A task, person, and interpersonal interaction perspective. *Auditing: A journal of practice & theory*, 24(s-1), 41-71.
- Newman, D. P., Patterson, E. R., & Smith, J. R. (2005). The role of auditing in investor protection. *The Accounting Review*, 80(1), 289-313.
- Ngari, G. (2017). The effect of internal controls on financial performance of microfinance institutions in Kenya. *International Academic Journal of Economics and Finance*, 2(3), 112-140.
- Pham, N. K., Duong, H. N., Pham, T., & Ho, N. (2017). Audit firm size, audit fee, audit reputation and audit quality: The case of listed companies in Vietnam. *Asian Journal of Finance & Accounting*, 9(1), 429-447.
- Piot, C., & Janin, R. (2007). External auditors, audit committees and earnings management in France. *European accounting review*, 16(2), 429-454.
- Qomariyah, A. (2019). The influences of internal and external factors in auditor choice: a literature study. *Asia-Pacific Journal of Accounting & Economics*, 26(1-2), 124-130.
- Quick, R., Schenk, N., Schmidt, F., & Towara, T. (2018). The impact of corporate governance on auditor choice: evidence from Germany. *Journal of Management and Governance*, 22(2), 251-283.

- Revier, E., & Schroe, R. (2010). Determinants of auditor choice. *A Master Thesis Submitted to the Faculty of Economics, Ghent University*.
- Rezaei, J. (2015). Best-worst multi-criteria decision-making method. *Omega*, 53, 49-57.
- Rezaei, J. (2016). Best-worst multi-criteria decision-making method: Some properties and a linear model. *Omega*, 64, 126-130.
- Rija, M. (2018). Auditing quality: some empirical Studies *Eurasian Business Perspectives* (pp. 3-20): Springer.
- Salijeni, G., Samsonova-Taddei, A., & Turley, S. (2019). Big Data and changes in audit technology: contemplating a research agenda. *Accounting and business research*, 49(1), 95-119.
- Schäuble, J. (2019). The impact of external and internal corporate governance mechanisms on agency costs. *Corporate Governance: The International Journal of Business in Society*.
- Schlosser, L. Z., Dewey, J. J. H., & Hill, C. E. (2012). Auditing.
- Seol, I., & Sarkis, J. (2005). A multi-attribute model for internal auditor selection. *Managerial Auditing Journal*.
- Shan, Y. G., Troshani, I., & Tarca, A. (2019). Managerial ownership, audit firm size, and audit fees: Australian evidence. *Journal of International Accounting, Auditing and Taxation*, 35, 18-36.
- Shouxi, L. (2007). Ownership, Agency Cost and Agency Efficiency [J]. *Economic Research Journal*, 1, 102-113.
- Sun, X. S., Habib, A., & Bhuiyan, M. B. U. (2020). Workforce environment and audit fees: International evidence. *Journal of Contemporary Accounting & Economics*, 16(1), 100182.
- Suwarno, A. E., Anggraini, Y. B., & Puspawati, D. (2020). Audit Fee, Audit Tenure, Auditor's Reputation, and Audit Rotation on Audit Quality. *Riset Akuntansi dan Keuangan Indonesia*, 5(1), 61-70.
- Thu, P. A., & Khanh, T. H. T. (2022). Determinants of Auditor Choice in Non-Financial Listed Firms on the Vietnamese Stock Market. *International Journal of Asian Business and Information Management (IJABIM)*, 13(2), 1-17.
- Tiwari, R. K., & Debnath, J. (2021). Joint Provision of Non-audit Services to Audit Clients: Empirical Evidences from India. *Vikalpa*, 46(3), 153-165.
- Vanstraelen, A., & Schelleman, C. (2017). Auditing private companies: what do we know? *Accounting and business research*, 47(5), 565-584.
- Verdiana, K. A., & Utama, I. M. K. (2013). Pengaruh Reputasi Auditor, Disclosure, Audit Client Tenure Pada Kemungkinan Pengungkapan Opini Audit Going Concern. *E-Jurnal Akuntansi Universitas Udayana*, 5(3), 530-543.
- Xu, Y. (2011). The Determinants of Audit Fees: An Empirical Study of China s listed companies.