Construction of The Measurement Scale of the Audit Committee Diligence: The Perception of Tunisian Internal Auditors

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Abstract

This paper aims at measuring scales of the audit committee diligence for audit committees or for other governance organ concerned with the audit committee diligence. The conception and the validation of this measurement scales were done on the Tunisian ground. To construct a measure of audit committee diligence, we adopted the Churchill’s approach [18]. That is based on data collected from qualitative and quantitative surveys. The principal component analysis (PCA) on each of the audit committee diligence emerges many axes among the diligence items revealed by Tunisian internal auditors. After that, a confirmatory analysis (CFA) aimed at helping us to validate the proposed model.
Accordingly this approach developed a scale of 11 diligence indicators distributed on two factors.

**Keywords:** Audit committee diligence; audit committee meetings; audit committee self-assessment; measuring scale; Churchill’s approach.

1. Introduction

There has been an increasing recognition of the importance of audit committees. In fact, audit committees are not only considered as an important mechanism for strengthening the corporate governance of companies, which primary objective is to increase the credibility of financial statements but also for assisting directors in meeting their responsibilities and enhancing audit independence [38]. Indeed, an effective audit committee maintains and establishes lines of communication between the board and the company’s independent auditors, internal auditors, and financial management. The audit committee expect internal auditing to examine and evaluate the adequacy and effectiveness of the organization’s system of internal control and the quality of performance in carrying out assigned responsibilities.

The audit committee effectiveness depends on the diligence and skill of its members ([6,21,47]). Audit committee diligence is crucial in determining the ability of audit committee in carrying out its responsibilities effectively [25]. Reference [17] Asserts that diligence is the process factor that is needed to achieve audit committee effectiveness

Reference [19] suggested that the power needs the will to act. Perception of the diligence of the Audit Committee is derived from the will of the members of the audit committee to act and perform their monitoring function. Prior U.S. research finds that the more active audit committees have the more effective controls on earnings management and restatements [3,29]. For their part, Reference [33] reported that the diligence of the Audit Committee is a major component of its effectiveness. Moreover, Reference [47: 102] explained the diligence with the phrase "I want to be effective."

Several researchers have also employed the number of annual audit committee meetings as a proxy for audit committee diligence [25,9,44,28,17,37]. Reference [17] argued that audit committee diligence as appreciated by the number of annual meetings is reflected in the effort invested by the committee in its oversight duties. Audit committees that meet more frequently are more likely to become aware of financial reporting issues that may ultimately affect the quality of reported earnings [34].

The frequency of audit committee meetings constitutes a potential indicator of audit committee effectiveness [25]. But it is not the only indicator. The focus of this study is to carry an examination of the audit committee diligence and to refine the traditionally used audit committee diligence measures [38]. Measuring audit committee diligence is a difficult task for researchers and regulators [52]. Called meeting frequency cannot be expected to adequately capture the time and effort expended by audit committee members. It is suggested that by replacing the proxy for audit committee member’s diligence, the measurement of audit committee diligence can be improved. Our study is unique, in that we build and validate measurement scales of the audit committee diligence on the Tunisian ground. We were inspired of paradigm of Churchill [18] in purpose to design this
measurement scales. This measuring instrument would be of a particular utility to the boards which try to estimate audit committee diligence.

The remainder of the paper is structured as follows. Section two provides literature review on audit committee diligence. Followed by a section explaining the empirical step of the search. Section IV discusses the empirical results and the final section provides conclusions of the study.

2. Audit committee diligence measurement indicators

Over the last decades, few studies were interested to measure audit committee diligence [25,9,44,50,31,17,46,3]. The majority of these previous studies evaluated the audit committee diligence on the basis of the number of annual meetings. We consider that the audit committee diligence can be approached by several indicators such as:

- The Meeting Frequency and duration
- The planning of the works and the quality of the returned reports
- The audit committee self-assessment
- The risk of "overload"

2.1. Meeting Frequency and duration

Researchers have generally used the number of annual audit committee meetings as a tool for diligence of audit committee [30,29,1,22,39,23,53]. Reference [17] attributed this trend to the absence of the other quantitative metrics of the diligence. Reference [26,11] showed that the number of audit committee meetings is the only available quantitative signal about the diligence of audit committees. Some regulators have emphasised the need for frequent meetings of the audit committee. Reference [1] argued that audit committee diligence used the number of annual meetings is reflected in the effort invested by the committee in its oversight duties.

Such focus on audit committee meetings is due to the concept that frequent audit meetings potentially allow better communication between directors and auditors, and enable the audit committee to be more effective [4]. One can notice that the Audit committees who meet more frequently are more likely to become aware of financial reporting issues that may ultimately affect the quality of reported earnings. Also, prior research indicates that when audit committee frequently few financial reporting problems and fraud can exist [9,37,29,6].

Correspondingly, Reference [25] stated that frequent meeting is signal of both audit committee director liability concern and audit committee diligence. They note that the number of audit committee meetings is a rough tool for diligence because, “It does not provide any indication of the work accomplished during these meetings ....” They also added, however, that audit committees who do not meet, or meet only a small number of times are unlikely to be effective monitors. Reference [25] found that more meetings are positively associated with the presence of outside directors.
Reference [31] investigated the association between the number of audit committee meetings and the likelihood of financial reporting problems. They concluded that firms with financial reporting problems had less frequent audit committee meetings. Reference 50] examined the relationship between the audit committee diligence, measured by the number of meetings, and the performance of the firm. He found that the relation remains vague; everything depends on costs associated to guarantee the meetings of audit committees. In addition, Archambeault and DeZoort [13] found a significant and positive association between the number of audit committee meetings and the audit quality (more likely to use a specialist auditor and less likely to commit a suspicious auditor switch).

More recently, Reference [34] examined the characteristics of diligent Audit committees. We attempt to capture audit committee diligence by measuring the incremental meeting activity of audit committees. They compute diligence by dividing the number of annual audit committee meetings on the four meetings recommended by the BRC.

The BRC [4,48], recommend a frequency of at least four audit committee meetings per year. In this perspective here in Tunisia, the Audit committee meets, on summons of his president, at least four times per year and it meet sufficiently often to monitor important issues.

2.2. The planning of the works and the quality of the returned reports

The BRC [4,28,14,15,40,41,16] underline that the process of the audit committee is divided into three phases: a preparatory phase of the audit committee meetings, a phase of meeting and a phase of conclusion of the audit committee meetings.

During the first phase, the audit committee and the participants in the meetings (internal auditors, external auditors and financial management) are going to prepare and to complete documentation (agenda, minutes and information’s supplied to audit committee members) [52]. This documentation must be enough clear and synthetic to facilitate their understanding and their apprehension by the administrators. Reference [50] showed that meetings of audit committee can be effective if a right amount of quality documentation is distributed in advance in a timely manner. Hence each member can review before the meetings. On the bases of all these information’s they will elaborate a detailed agenda containing the most important issue. Reference [32: 243] stated that « a very crowded agenda may impose pressures on the audit committee that limited full debate and his constraint may be used to the advantage of particular participants ». In Tunisia, the secretary to the audit committee (usually internal auditors) formally prepares the agenda and minutes of meeting (The circular of the Tunisian Central Bank No. 06/2011 [7]. Generally, during this first phase, they exist informal contacts between the administrators and the internal, external auditors or even the members of the financial management ([51,45]).

According to Reference [46], during the meetings of the audit committee, the financial director, manager, internal auditor and the external auditor make presentation. On the basis of the examined documentation and the oral presentations, the audit committee raise questions and draw conclusions. Reference [42] recommended that
time allocation should be sufficient enough to allow the committee to accomplish its agenda. As Reference [33:247] observed « The structure and timing of meetings form part of the ceremonial of audit committee meetings and are set by participants. They may inhibit spontaneity despite the insistence of interviewees on the atmosphere of open discussion with the opportunity for members to ask question, such questioning is only enabled within specific constraints. »

Finally, the president of the audit committee proposed a report of the works to the board of directors. This report must be synthetic and transparent. Section 61 of the circular in credit institutions n° 2006 – 19 states that « The audit committee reports regularly to the Board of directors or to the Supervisory board of the exercise of its mission. it puts back to the Board of directors or to the Supervisory board before the meeting dedicated to the approval of the annual financial statements, an annual report. A copy of this report is sent to the Central Bank of Tunisia … »

It should be noted that The French Institute of the Administrators [20] studied the relation board of directors - audit committee, and he recommended in his report of July 22nd, 2010, that:

- The reports deals with the activities, key issues and major recommendations to the board of directors;
- The reports are formalized on the agenda of board of directors meetings;
- Meetings of board of directors have adequate time to allow the committee to present its activities ;
- The audit committee informs the board of directors of the possible dysfunctions of the internal controls systems and risk management and the significant weaknesses of internal controls.

To be effective, the audit committee has to report regularly, to the board of directors, the goals of its missions and to inform it immediately about any coming up difficulties.

2.3. The audit committee self-assessment

The Audit committee self-assessment is a method of obtaining an assessment from all the parties involved in the audit committee. It is important to obtain inputs from all the members, the chief audit executive, accounting officer, chief financial officer and external audit [12: 216]. According to Reference [27] " a regular Audit committee self-assessment allows us make sure that audit committee respect the charter and its adequacy in relation to the evolution of the company. This self-assessment can concern its efficiency, the relevance of the charter contents, its working programs and its communication policy. De Samblanx [36] asserted that «The Audit committee self-assessment can be made on the basis of a questionnaire prepared by the audit committee or confided to an external specialist. The results of this evaluation will be discussed by the board of directors ». The questionnaire measured the effectiveness of the audit committee and the performance of its duties in terms of legislation and best practice [12].

The weight given to certain elements, at the time of the self-assessment, will be influenced in particular by:

- The audit committee charter;
- The entity strategy as well as its risk assessment system;
• The environment of control;
• The results of the previous self-assessments;
• The maturity degree of the audit committee;
• The opinion of the shareholders and the rating agencies as for the entity performances of regarding corporate governance;
• The current operational and economic factors.

According to [27], the results of the self-assessment and any new action plan must be communicated with the board of directors. The board of directors will have to estimate the audit committee performance and its efficiency, every year.

2.4. The risk of "overload"

Audit committees risk to face an overload of tasks. This overload tasks is due to the increase of responsibilities of the audit committee, this could harm their efficiency [2]. Indeed, spots made by audit committees require a considerable work volume (preparation, meeting, reports). Besides, Reference [24] asserted that the risk of overload can lead to three negative effects:

• The efforts and the energy of the audit committee can be dissipated in so many directions, what could return the audit committee more and more occupied, but less and less effective;
• Competent administrators can refuse to be a member in the audit committee;
• The disciplinary or penal risk increases with the increase of the number and the importance of the responsibilities.

The effective audit committee has to concentrate on high-risk areas and must not be buried in reams of reports and detailed examination of documents.

3. The construction of the measurement scale of the audit committee diligence

The literature study is supplemented by an empirical study where by a questionnaire was compiled by internal auditors in Tunisia. A questionnaire was developed and directly distributed during 2014. Our study used the methodology developed by Churchill [18].

In front of the absence of the researches initiators on the subject, we went deeper into our approach by realizing:

• A thorough review of the academic and professional literature examining audit committees diligence. This review integrates the codes of the good governance, the reports, the texts and the laws.
• An interview with internal auditors and administrators. This Interview allowed us to obtain more information susceptible to describe the audit committee diligence. This technique of interview is often recommended by the professionals to define the constructed domain and the purification of items. [18,43].
We realized six interviews with four internal auditors and two members of an audit committee. With this group, we established a list of items measuring the audit committee diligence. On the basis of this list of items, a questionnaire was elaborated for the internal auditors of companies listed on the Tunisian stock exchange in order to focus on their appreciation of the importance of the items. We selected a Likert 5 point scale. The use of internal auditor’s population is justified by the good experience that he has with the audit committee. From their work and meeting with audit committees, the internal auditor can have a good knowledge of audit committee process.

The exploratory and confirmatory Factor Analysis are designed from two quantitative studies respectively with 15 internal auditors and 71 internal auditors. In the first study we identified the factorial structure of the measurement scales of the audit committee diligence. The second has for objective to test the stability of this structure on an internal auditor’s second sample. We so subjected the measurement scales to the reliability test (Alpha de Cronbach and test Rho de Dillon-Goldstein) and in the exploratory factor analysis (test of Kaiser, Meyer and Olkin « KMO »).

To obtain reliable and valid measurement scales for the audit committee diligence, we applied Confirmatory Factor Analysis with Partial Least Squares. Factorial validity in PLS is divided into convergent validity and discriminant validity [18,49]. Both of them are constituents of a larger scientific measurement concept known as construct validity [10].

Gefen and Straub [8:93] specified that « Convergent validity is shown when each measurement item correlates strongly with its assumed theoretical construct. ». This validity is shown when two things happen:

- The correlation between the items and its latent variable is greater than 0,7 [5].
- The average variance extracted (AVE) is greater than 0,5 [8]. The AVE measures the variance captured by a latent construct.

Gefen and Straub [8] defined also Discriminant validity could be shown when each measurement item correlates weakly with all other constructs except for the one to which it is theoretically associated. This validity is shown when the square root of every AVE is much larger than any correlation among any pair of latent constructs.

4. The results and discussion

4.1. The results of the exploratory phase

The results of the exploratory phase show that the audit committee diligence is multidimensional (KMO= 0,746). The measurement scales present a satisfactory reliability with Cronbach Alpha greater than 0, 5 [5]. Also, the different items present high “loading” with their related factorial focuses.

The factorial analysis shows that measurement standards, that we initially proposed, can be represented by two factorial axes. The specific values associated with the dimensions identified explain 72,467% of the total variance.
So, we can identify two main factors:

* Audit committee Functioning (57.721%)

* Evaluation of the audit committee Functioning (14.747%)

The table 1 summarise the results of the exploratory analysis.

**Table 1**: Factorial structure of the measurement scales of the audit committee diligence

<table>
<thead>
<tr>
<th>ITEMS</th>
<th>COMPONENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The frequency of formal meetings of the Audit Committee is sufficient to fulfill its responsibilities.</td>
<td>0,765</td>
</tr>
<tr>
<td>The audit committee organizes several meeting with the internal, the external auditors and financial management in private</td>
<td>0,933</td>
</tr>
<tr>
<td>Meetings’ lengths allow the committee to accomplish its agenda.</td>
<td>0,834</td>
</tr>
<tr>
<td>The audit committee leans on a detailed agenda and supporting materials</td>
<td>0,930</td>
</tr>
<tr>
<td>The deadline is sufficient between the transmission of the material to the audit committee members and the meetings.</td>
<td>0,856</td>
</tr>
<tr>
<td>The material given to the audit committee members are enough clear and synthetic.</td>
<td>0,873</td>
</tr>
<tr>
<td>All the members can express their opinions freely and in a autonomous way in the meetings</td>
<td>0,716</td>
</tr>
<tr>
<td>Audit committee reports regularly on its activities, key issues and major recommendations to the board of directors;</td>
<td>0,859</td>
</tr>
<tr>
<td>The audit committee is in front of an overload tasks</td>
<td>-0,596</td>
</tr>
<tr>
<td>A regular Audit committee self-assessment</td>
<td>0,812</td>
</tr>
<tr>
<td>The results of the self-assessment must be communicated with the board of directors. The board of directors will have to estimate the audit committee performance, every year.</td>
<td>0,756</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific values (λ)</th>
<th>Evaluation of audit committee functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,349</td>
<td>1,622</td>
</tr>
<tr>
<td>Explained variance</td>
<td></td>
</tr>
<tr>
<td>57.721%</td>
<td>14.747%</td>
</tr>
<tr>
<td>Cronbach α</td>
<td></td>
</tr>
<tr>
<td>0,886</td>
<td>0,863</td>
</tr>
</tbody>
</table>
4.2. The results of the confirmative phase

4.2.1. Reliability of the Constructs

The measurement scales present a satisfactory reliability with Rho de Dillon-Goldstein test greater than 0.7 [48]. See table 2.

Table 2: Reliability of the measurement scales of the audit committee diligence

<table>
<thead>
<tr>
<th>Components</th>
<th>Rho de Dillon-Goldstein test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion of validity</td>
<td></td>
</tr>
<tr>
<td>Audit committee Functioning</td>
<td>Reliability if Rho de Dillon-Goldstein test &gt; 0.7</td>
</tr>
<tr>
<td>evaluation of the audit committee functioning</td>
<td>0.908</td>
</tr>
<tr>
<td></td>
<td>0.936</td>
</tr>
</tbody>
</table>

4.2.2. Convergent validity after Bootstrap procedure

The convergent validity after Bootstrap procedure is admitted because VME is greater than 0.5.

These results are supported by those of the tests of the correlation between the items and its latent variable presented in the table 3.

4.2.3. Discriminant validity

The AVE is represented as the bold and underlined diagonal elements. The off diagonal elements in Table 4 represent the correlations in squared between the constructs.

To establish discriminant validity further, the diagonal elements must be greater than the off diagonal elements for the same row and columns, not the AVE value itself.

The AVE analysis showed very strong discriminant validity for all sub constructs, further confirming. See table 4.

5. Conclusion

This paper has demonstrated that audit committee literature provides little clarity about audit committee activity, and in consequence, discussion of their diligence is limited and inclusive. This paper complements the audit committee diligence literature by the conception and the validation of the measurement scales of the audit committee diligence.
Table 3: Convergent validity after Bootstrap procedure

<table>
<thead>
<tr>
<th>Criterion of validity</th>
<th>Audit committee functioning</th>
<th>Evaluation of the audit committee functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>The frequency of formal meetings of the Audit Committee is sufficient to fulfill its responsibilities.</td>
<td>0.829</td>
<td></td>
</tr>
<tr>
<td>The audit committee organizes several meetings with the internal, the external auditors and financial management in private</td>
<td>0.892</td>
<td></td>
</tr>
<tr>
<td>Meetings’ lengths allow the committee to accomplish its agenda.</td>
<td>0.821</td>
<td></td>
</tr>
<tr>
<td>The audit committee leans on a detailed agenda and supporting materials</td>
<td>0.880</td>
<td></td>
</tr>
<tr>
<td>The deadline is sufficient between the transmission of the material to the audit committee members and the meetings.</td>
<td>0.800</td>
<td></td>
</tr>
<tr>
<td>The material given to the audit committee members are enough clear and synthetic.</td>
<td>0.834</td>
<td></td>
</tr>
<tr>
<td>All the members can express their opinions freely and in a autonomous way in the meetings</td>
<td>0.706</td>
<td></td>
</tr>
<tr>
<td>Audit committee reports regularly on its activities, key issues and major recommendations to the board of directors;</td>
<td>0.846</td>
<td></td>
</tr>
<tr>
<td>The audit committee is in front of an overload tasks</td>
<td>-0.758</td>
<td></td>
</tr>
<tr>
<td>A regular Audit committee self-assessment</td>
<td>0.916</td>
<td></td>
</tr>
<tr>
<td>The results of the self-assessment must be communicated with the board of directors. The board of directors will have to estimate the audit committee performance, every year.</td>
<td>0.944</td>
<td></td>
</tr>
</tbody>
</table>

Criterion of validity

VME > 0.5

VME

0.682  0.878

Table 4: Discriminant validity “Test of Fornell and Larcker [5]”

<table>
<thead>
<tr>
<th>Components</th>
<th>Audit committee functioning</th>
<th>Evaluation of the audit committee functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion of validity</td>
<td>AVE &gt; Cor²</td>
<td></td>
</tr>
<tr>
<td>Audit committee functioning</td>
<td>0.682*</td>
<td></td>
</tr>
<tr>
<td>Evaluation of the audit committee functioning</td>
<td>0.150</td>
<td>0.878*</td>
</tr>
</tbody>
</table>

*The diagonal of the table indicates the AVE for every factor. Other values concern the squares of the correlations enter both factors.
From a rigorous process for the development of measurement scales of the audit committee diligence, we realized several factorial analyses (exploratory and confirmatory) via too samples of the internal auditors. The results of qualitative and quantitative studies allowed us to identify 11 indicators of the audit committee diligence grouped into two dimensions: The Audit committee functioning and the evaluation of the audit committee functioning.

After having analysed and discussed the main finding of the measurement scale that can be used to evaluate the audit committee diligence of the Tunisian companies. We can conclude that the measurement scales of the audit committee diligence will be of a considerable utility for the researches concerning the good governance and particularly those who aim at examining the audit global process.

References


[40] PriceWaterHouseCoopers (2003a), Audit committees: Good practices for Meeting market expectations. www.pwc.com


[51] Y. Gendron, and J. Bédard. “On the construction of audit committee effectiveness”, Accounting,
