QUALITATIVE FACTORS OF MATERIALITY - A REVIEW OF EMPIRICAL RESEARCH

Popa Irimie Emil[1]
Şpan Georgeta Ancuța[2]
Fulop Melinda Timea[3]

ABSTRACT: Determination of materiality is a crucial step in an audit mission because it affects the entire audit process. The incorrect application of materiality can have serious negative repercussions on both the audited entity and the auditor (Enron-Anderson). Researches conducted over time revealed the complexity of this element in an audit mission and the need to emergence some generally accepted rules and regulations to provide support in defining and substantiating the professional judgment applied in this stage of the audit.

Key words: materiality, quantitative factors, professional judgment, reviews of research.

JEL Code: M41, M42, M48.

Introduction

The importance of materiality in auditing has been much debated by researchers worldwide in the latest decades. Understanding the reasoning that auditors must apply at different stages of their mission represents nowadays a big question mark. The negative consequences of an incorrect determination of threshold can be observed from the recent financial scandals that have shaken the economic and social world (Enron, WorldCom, etc). As a result, specialists in the field have tried to outline the qualitative and quantitative factors (SAB 99) which affect the materiality level the auditor applies in his mission.

Our material aims to provide a temporal evolution of the undertaken researches in the field of the factors that influence materiality and to highlight the need for regulations that provide professional support to auditors in order to realize a more accurate calculation of materiality.

In the last decade, various international organizations demonstrated a strong concern to the way in which the incorrect application of materiality contributes significantly to the deterioration of the financial information published by companies. They responded by issuing more complete and accurate guidelines to support auditors in their work.

Security and Exchange Commission (SEC) issued Staff Accounting Bulletin (SAB) no. 99, after the chairman of the committee criticized the misuse of the permissive law in materiality, interpreted as an effective mean of manipulating accounting earnings. American Institute of Certified Public Accountants (AICPA) adopted the Statement on Auditing Standards (SAS) no. 107, which replaced SAS no. 47.

International Federation of Accountants (IFAC) conducted, in 2002, a review of International Standard on Auditing (ISA) no. 320, which led to the proposal of two separate standards. On one hand, *ISA 320 "Materiality in planning and performing an audit" (revised and redrafted)* and on the other hand, *ISA 450 "Evaluation of misstatements identified during the*

[1] "Babeş-Bolyai" University, Faculty of Economic Sciences and Business Administration, Cluj-Napoca, irimie.popa@econ.ubbcluj.ro;
[2] "Babeş-Bolyai" University, Faculty of Economic Sciences and Business Administration, Cluj-Napoca, georgeta.span@econ.ubbcluj.ro;
[3] "Babeş-Bolyai" University, Faculty of Economic Sciences and Business Administration, Cluj-Napoca, melinda.fulop@econ.ubbcluj.ro;

audit". ISA 450 presents in an explicit way the qualitative factors connected with materiality and helps auditors to adequately assess the significance of their findings that are under the threshold level.

Materiality consideration is presented throughout the audit process and involves both qualitative and quantitative factors. Quantification of materiality is an inherent aspect of the audit practice and previous literature suggests that auditors traditionally used quantitative rules in their judgments on materiality *(eg Holstrum and Messier, 1982; Chewning, Pany and Chan, 1989; Chewning, Wheeler and Chan, 1998, Messier, Martinovic-Bennie and Eilifsen, 2005).* Moreover, the most previous studies show that the most important factor which is used to determine materiality is a percentage of 5% of net income, method known in literature as "the rule of thumb". However, this method can cause the situation in which auditor does not take into account the differences (distortion) quantitatively insignificant, but which may be qualitatively significant and thus undermine the quality of the audited financial reports.

Such concerns led to the issuance of clearer guidance on materiality (SAB no. 99 issued by the SEC, SAS no. 107 issued by the AICPA, No. ISA No. 450 and ISA 320 issued by IFAC 2009). Their main objective is to highlight those qualitative factors that in most cases can be ignored. Generally, these factors are financial (accounting) factors.

In literature we can find four articles covering a broad review of research of those factors influencing materiality, especially the qualitative factors. These items are: *Holstrum and Messier (1982), Iskandar and Iselin (1999), Messier, Bennie and Eilifsen (2005) and Montoya, Martinez and Fernandez (2008).*

Holstrum and Messier (1982) classified studies depending on the kind of applied research method, as follows: archival studies, surveys, questionnaires and judgments experiments, in order to analyze the materiality from different angles and in different contexts (circumstances). The results obtained were grouped according the nature of the studied item, the structure of the decision-making model, the relative importance of factors used in determining the materiality and the materiality level.

Iskandar and Iselin (1999) studies were grouped according to major categories of qualitative factors, namely: the percentage effect of a factor on net income, the effect of other financial or non-financial variables, the effect of personal characteristics, the effect of audit firm structure and other items related to processed samples (judgments of auditors compared with other groups, the consensus of the group of auditors). This classification was used to ensure a high degree of visibility for interested specialists interested.

Messier, Bennie and Eilifsen (2005) resumed the work performed by *Holstrum and Messier (1982).* They reviewed the researches conducted since 1982, using the same classification, to highlight the major changes that occurred or not in the two decades and to highlight issues that might be subject to further research.

The most recent review research, *Montoya, Martinez and Fernandez (2008),* classified the studied items, according to the century in which they were published, the main stakeholder groups and the individual factors track. Financial factors, the characteristics of the audited companies (the customer), the characteristics of the audit firm and the characteristics of the auditor (individually) are the criterias according to which they made their research.

The concept of materiality has been studied on many occasions and resulted in a large number of detailed researches. Empirical studies in this area began in the '50s. Researches conducted since that time indicates that the main determinant of materiality is the percentage effect (distortion) on net profit, as a financial qualitative factor. The oldest research was the study conducted by *Woolsey (1954),* an analysis by questionnaire.

In addition, early research findings indicate that the practical application of the concept of materiality is varied *(Bernsetin 1967).* This variance resulted from the absence of clear guidelines that can be used by auditors or by other special people. They also stressed the need of more precise guidelines to help auditors express their decisions, because there is a constant danger when individuals take decisions based on information reviewed by the auditors (those that had access) their needs won't be satisfied.

In early researches, the studies focused on identifying possible factors that influence the determination of materiality. Factors were, generally, financial (quantitative) ones. Since the '70s the influence of non-financial (qualitative) factors was suggested in some researches *(Pattillo and Siebel 1973, Siebel Pattillo and 1974, and Pattillo 1976)*, researches that explored these aspects started up only in the 80s.

Studies later conducted tend to focus more on both factors, financial and non-financial (qualitative and quantitative) *(eg Krogstad et al. 1984 Steinbart 1987 and Dirsmith Carpenter 1992, Carpenter et al. 1994)*. Both types of variables are important in determining materiality.

Another "observable" evolution is the methodological nature. In the first studies, many researches on materiality used the questionnaire survey and archival data as their method of investigation. Recently, in the second half of the twentieth century, the trend shifted to experimental approaches. Researchers become more concerned with understanding the complexity of the process involved in decisions on materiality. Many studies examined cognitive aspects of judgment and concluded that an experimental situation would be more appropriate to achieve the objective.

More recent researches in the field of materiality recognized the importance of the context (the circumstances) in which the decisions were taken. The materiality of an element, of a transaction or situation is established, usually, under different circumstances, such as a simple vs. a complex environment involving structured tasks vs. less structured, conducted by individuals with different levels of experience (expert) or in different organizational situations.

More recent researches incorporated these environmental differences in experimental projects. Their objective was to provide a more realistic decision-making process.

Lately, researchers look materiality, not only in terms of cognitive, but also in terms of a social phenomenon, cultural and political *(Dirsmith Carpenter 1992, Carpenter et al. 1994)*. The focus is now more on the contextualization (incorporation) of non-financial information tasks to capture the individuals' judgment.

Researches showed that the nature of the item and the context play an influential role in making decisions on materiality *(Jennings et al. 1987, Chewning et al. 1989, Carpenter and Dirsmith 1992)*, leading to different values.

The effect of percentage of net income

If we look closely at the four basic articles, we can deduce that the effect of percentage on net profit is the main factor influencing the decisions of users and auditors related to materiality. Studies conducted since the 1950s showed them same aspect.

The earliest study on this issue is a questionnaire survey conducted by *Woolsey (1954 a, b)*. *JL Dyer (1975)* found that, even after 20 years, the percentage relationship of the size of distortion on current net income (after tax) remained the most important variable in determining materiality. Dyer used the same research method as Woolsey to observe changes over time. The main change was the decrease of the level of materiality related to changes in the environment, legal implications and differences in the calculation base value.

These results were confirmed by:

- *Woolsey (1973), Patillo and Siebel (1976), Nelson et al. (2002)*, studies conducted by questionnaire;
- *Frishkoff Paul (1970), Bernstein, A. (1974), Robinson and Fertuck (1985), Chewning et al. (1989), Freidberg et al. (1989), Icerman şi Hillison (1991), Costigan şi Simon (1995), Iskandar şi Iselin (1996), Wright şi Wright (1997) and Hillison Icerman (1991), Costigan and Simon (1995), Gleason şi Mills (2002)* analyzing historical data;

- *Boatsman and Robertson (1974), Moriarity and Barron (1976), Hofstedt and Hughes (1977), M. Firth (1979) Moriarity and Barron (1979), Emery et al. (1981), Krogstad et al. (1981), Krogstad et al. (1981), William Messier (1981), Bates et al. (1981), William Messier (1981), Bates et al. (1982), William Messier (1983), Krogstad et al. (1982), William Messier (1983), Krogstad et al. (1984), Jennings et al. (1984), Jennings et al. (1987), Carpenter şi Dirsmith (1992), Carpenter et al. (1987), Carpenter and Dirsmith (1992), Carpenter et al. (1994), Karen W. Braun (2001), Nelson et al. (1994), Karen W. Braun (2001), Nelson et al. (2005)* using experiment method.

The effect of other financial and non-financial factors

Early studies on materiality focused on financial factors (quantitative) regarded as the main determinants of decisions on materiality. Studies agreed that the size of an item (distortion) as a percentage of the net profit of the current year is the most important factor influencing decisions on materiality. However, early researches in this field recognized *(Patillo and Siebel in 1973, 1974 and Patillo, 1976)*, explicitly, the possible effect of non-financial variables on materiality. Some examples of non-financial factors suggested in the studies are: business or industry characteristics, organizational or operational characteristics, industry practice, unusual features of elements, management practices and managers' plans.

Effects of non-financial information on materiality decisions were empirically analyzed in the recent studies *(Krogstad et al. 1984, Paul Steinbart 1987 and Dirsmith Carpenter 1992, Carpenter et al. 1994)*. These studies confirmed that in addition to financial information (quantitative) in decision making process are taken into account non-financial information also.

We will stop at the main categories of non-financial variables investigated over time, namely: the characteristics of the audited entity, the audit firm's characteristics and the auditor's individual characteristics.

Characteristics of the audited entity

Various studies investigated the influence of certain characteristics of the audited companies in forming judgments on materiality, in the stage of issuing the reports. Next, we analyzed the main results regarding the company size and the sector in which the entity operates (the characteristics more often studied are: the firm size, the sector, the financial situation, the accounting policies, management features, the audit committee and the internal control). In terms of size, there are studies showing that some auditors are more permissive with larger firms, because they have fewer restrictions *(Frishkoff, 1970)* and are not required to perform many audit adjustments *(Wright and Wright, 1997)*. This is associated, primarily, with the income generated by the client and secondly, with the effectiveness of its internal control system.

Other studies showed the contrary, the higher the firm is the more restrictions has, associated with an increased risk of litigation, undertaken by the auditors of large companies in order to be exposed to a more rigorous scrutiny from regulators, analysts and financial press *(Costigan and Simon, 1995)*. Other studies produced inconclusive results, for example the one obtained by *Saucher (2001)* and other researchers *(Chewning et al., 1989)* results were not significant for this variable.

Regarding the type of industry, this item was analyzed from different angles. *Krogstad et al. (1984)* considered that the auditors, regardless of their level of experience, took into account in forming their judgments on materiality if the company participates in the stock market or not. *Iskandar and Iselin (2000)* showed that those auditors specialized in the financial sector used lower levels of materiality than those specialized in the retail sector, adopting a more conservative position for those firms belonging to a high risk sector. A similar result was obtained by *Sanchez (2001)*, showing that auditors used lower levels of materiality for the financial sector listed companies. On the opposite, the insurance companies or those from the services sector received lower levels of materiality.

Industry, one of the non-financial elements considered by the auditors, was taken into account not only in the financial reporting stage, but also in the planning stage of the audit *(Steinbart 1987)*. However, the effect of industry over materiality was not fully established.

Reffering to the same aspect, *Gleason and Mills (2002)* showed that the auditors of those companies belonging to sectors more "contentious" are more likely to ask the customers to report in their financial statements the fiscal contingent liabilities above the threshold level (quantitatively). However, making a difference between services and production companies, *Chewning et al. (1989)* noted that the sector is not a significant factor which could contribute to the explanation of the presence of minor or major restrictions in the audit reports.

Characteristics of the audit firm

Other studies have examined the influence of certain characteristics associated with the audit firm, regarding the way in which their auditors make decisions on materiality.

Regarding the audit firm size, although there are studies showing that during the planning stage, materiality level of large international firms are lower than those established by auditors of smaller companies, which are associated with more extensive review and of a higher quality *(Blokdijk et al., 2003)*, other studies showed that auditors of large companies work with a higher level of materiality in the final report stage *(1954 Woolsey, b. 1973, Messier 1983, Chewning et al., 1989)*. In connection with this last stage, other investigations produced more balanced results, including contrary opinions *(Dyer, 1975)* or insignificant results between the firms' size and the materiality levels *(Frishkoff, 1970, Costigan and Simon, 1995)*.

There are works that show that although the threshold determination is not affected by the size of firms, the auditors of large international firms reach to a greater consensus, considering as the most important factor the effect on net profit and having a greater ability to understand and implement their own decision-making processes *(Messier, 1983)*.

Some researchers concluded that the auditors of more structured firms reach to a higher degree of consensus on the introduction of exceptions in the final reports *(Morris and Nichols, 1988)*, they are more likely to request their clients to correct the incidents detected *(Icerman and Hillison, 1991)* and they often issue reports containing a qualified opinion *(Costigan and Simon, 1995)*.

Other researches carried out on this theme, proved that the company's structure combined with the experience of the auditors affect the information considered in determining materiality. Thus, in the organic firms (less structured) auditors with more experience use only the effect on net profit to form their decisions on materiality. On the contrary, in the mechanistic firms (highly structured) the experienced auditors use a bigger number of factors in forming their materiality judgment *(Carpenter et al. 1994)*. The study found that a number of indicators used by auditors of different ranks, differ significantly between the organic entities, intermediates and the mechanistic firms. Finally, there are other works that showed that company's structure is not an important factor that contributes to the presence of restrictions in the final reports *(Chewning et al. 1989)*.

Individual characteristics of the auditor

The first work that studied the influence of the personal characteristics of the auditors *(Ward, 1976)* showed that the perception of materiality is different between partners and managers when assign importance to different factors. Later, *Messier (1983)* proved that the experience of partners does not affect decisions or their ability to understand and implement, for themselves, the judgment on materiality. However, the more experienced auditors reach to a greater consensus, considering more important the effect on net profit.

On the other hand, *Krogstad et al. (1984)* showed that the degree of uniformity and consensus between partners is greater than between seniors, as well as between auditors and inexperienced students (beginners). In addition, professionals used similar factors, while students used different itmes, incorporating more contextual information in their judgment regardin materiality.

Soon after, *Estes and Reames (1988)* found that experience in external audit does not affect decisions on materiality, but it does affect confidence in the decisions, which is higher when the auditors are more experienced. *Carpenter and Dirsmith (1992)* and *Carpenter et al. (1994)* argued that more experienced auditors are stricter in assessing complex transactions and that the auditors' level of experience combined with the firm's structure or culture influence the level of materiality.

As regards the planning phase, *Sierra and Santa Maria (2002)* achieved that, except the level of knowledge of the department of administration, which is directly relationed, there is no association between the level of experience and the importance attributed to various factors that can be taken into consideration in forming the decision on materiality.

Finally, *Nelson et al. (2005)* demonstrated that is more likely for partners not to require their customers to apply the audit adjustments, especially when the distortions are vaguely defined, compared to managers who consider it important.

Conclusion

Following the review of the literature in the period 1954-2009 on the influence of qualitative factors in determining materiality, we can outline the following conclusions:

- **research methods** evolved from the studies of archives and research data through questionnaires to analysis by experiments and the main categories of factors from the financial to the non-financial;
- studying the **characteristics of the audited companies,** the most important determinants are: the characteristics of leadership, the financial situation and the internal control quality, the size and the sector (industry) in which the companies operate, changes in the accounting policies and audit committee characteristics;
- **characteristics of the audit firm** performing the audit, highlights the following factors of influence: the structure and the size of the audit firm, company's culture and its relationship with customers;
- regarding **the auditor's individual characteristics,** we can observe that among the factors of influence are: the auditor's professional characteristics (eg: knowledge, dependence on fees etc.), professional experience, other personal characteristics (eg: age, innate ability, mood, sex etc.).

The literature also highlights the need for the emergence of rules or regulations to provide support for auditors in forming their professional judgment during the entire audit engagement. Permissiveness of the current law can lead to unprofessional missions conducted by auditors, whereas most of the times, the decisions taken by the auditors are more subjective and personal rather than professional.

References

1. Abdolmohammadi, M., Wright, A., 1987. An Examination of the Effects of Experience and Task Complexity on Audit Judgments, The Accounting Review, vol. 62, no. 1: 1-13;
2. American Institute of Certified Public Accountants (AICPA), 2006. Statement on Auditing Standards 107: Audit risk and materiality in conducting an audit, ASB, Available on: http://www.aicpa.org;
3. Arnold, D.F. Sr., Bernardi, R.A., Neidermeyer P.E., 1999. The Effect of Independence on Decisions concerning Additional Audit Work: A European perspective, A Joumal of Practice & Theory, vol. 18, Supplement: 45-67;
4. Asare, S.K., Wright A.M., 2004. The Effectiveness of Alternative Risk Assessment and Program Planning Tools in a Fraud Setting, Conlemporary Accounling Research, vol. 21, no. 2: 325-352.

5. Asare, S.K., Haynes C.M., Jenkins J.G., 2007. The Effects of Client and Preparer Risk Factors on Workpaper Review Effectiveness, Behavioral Research in Accounting, vol. 19: 1–17.
6. Asare, S.K., Wright A.M., 2008. The Effect of a Justification Memo and Hypothesis Set Quality on the Review Process, Behavioral Research in Accounting, vol. 20, no. 1: 1–12.
7. Blokdijk, H., Drieenhuizen F., Simunic D. A., Stein M. T., 2003. Factors affecting auditors' assessments of planning materiality, Auditing: A Journal of Practice & Theory, vol. 22, no. 2: 297–307;
8. Braun, K. W., 2001. The disposition of audit-detected misstatements: An examination of risk and reward factors and aggregation effects, Contemporary Accounting Research, vol. 18, no. 1: 71–99;
9. Chow, C.W., Ho J.L., Lan Mo P.L., 2006. Toward Understanding Chinese Auditors' Structuring of Audit Approaches, Client Acceptance Decisions, Risk Assessment, and Stringency of Imposed Reporting Standards, Journal of International Accounting Research, vol. 5, no. 1: 1–23;
10. Chung, J.O.Y., Cohen J.R., Monroe G.S., 2008. The Effect of Moods on Auditors' Inventory Valuation Decisions, Auditing: A Journal of Practice &Theory, vol. 27, no. 2: 137–159;
11. Francis, J.R., Yu M.D., 2009. Big 4 Office Size and Audit Quality, The Accounting Review, vol. 84, no. 5: 1521–1552;
12. Holstrum, G.L., Messier W.F. Jr., 1982. A Review and Integration of Empirical Research on Materiality, Auditing: A Journal of Practice & Theory, vol. 2, no. 1: 45-63;
13. International Federation of Accountants (IFAC), 2009. International Standard on Auditing 320 "Materiality in planning and performing an audit", Available on: http://www.ifac.org;
14. International Federation of Accountants (IFAC), 2009. International Standard on Auditing 450 "Evaluation of misstatements identified during the audit", Available on: http://www.ifac.org.
15. Iskandar, T.M., Iselin E.R., 1999. A review of materiality research, Accounting Forum, vol. 23, no. 3: 209-239;
16. Libby, R., Nelson M.W., Hunton J.E., 2006. Recognition v. Disclosure, Auditor Tolerance for Misstatement, and the Reliability of Stock-Compensation and Lease Information, Journal of Accounting Research, vol. 44, no. 3: 533-557;
17. Messier, W.F., Jr., Bennie N. M., Eilifsen A., 2005. A Review and Integration of Empirical Research on Materiality: Two Decades Later, Auditing: A Journal of Practice & Theory, vol. 24, no. 2: 153-187;
18. Montoya del Corte, J., Martinez F.J.G., Fernandez-Laviada A., 2008, La Utilization Efectiva de los Factores Cualitivos de la Materialidad: un Analisis Empirirco Para los Auditores de Cuentas Ejercientes en Espana – The Effective Use of Qualitive Materiality Factors: An Empirical Analysis for the Practicing Auditors in Spain, RC-SAR, vol. 11, no. 1, pp. 99-124;
19. Pattilo, J. W., 1976. The Concept of Materiality in Finacial Reporting, Finacial Executive Research Foundation;
20. Securities and Exchange Commission (SEC), 1999. Staff Accounting Bulletin No. 99: Materiality, Available on: http://www.sec.gov.
21. Trotman, Ken T., 2005. Discussion of Judgment and Decision Making Research in Auditing: A Task, Person, and Interpersonal Interaction Perspective, Auditing: a Journal of Practice &Theory, 73–87;
22. Woolsey, S. M., 1973. Approach to Solving the Materiality Problem, Journal of Accountancy, vol. 136, no. 3: 47-50