audit FINANCIAR

Anul XVII, nr. 154 - 2/2019

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audit FINANCIAR
2/2019

Revistă editată de
Camera Auditorilor Financiari din România
Str. Sirenelor nr. 67-69, sector 5, Bucureşti, OP 5, CP 83

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Colegiul editorial ştiinţific şi colectivul redacţional nu îşi asumă responsabilitatea pentru conţinutul articolelor publicate în revistă.

Indexare în B.D.I.:
Academic Keys;
Cabell's;
Deutsche Zentralbibliothek für Wirtschaftswissenschaften;
DOAJ;
Ebsco;
ERIH PLUS;
Global Impact Factor;
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Research Papers in Economics (RePEc);
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Ulrich's

Marcă înregistrată la OSIM, sub nr. M2010 07387

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E-mail: audit.financiar@cafr.ro;
revista@cafr.ro; http: revista.cafr.ro;
facebook.com/revistaauditfinanciar
ISSN: 1583-5812,
ISSN on-line: 1844-8801

Tipar: SC Print Group Serv SRL
Str. Baicului nr. 82, sector 2, Bucureşti
e-mail: office@printgroup.ro

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- the article must mention the title, the research methodology used, authors' contributions, the imperfect on the accounting profession and the references;
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audit FINANCIAR
2/2019

Journal published by the
Chamber of Financial Auditors of Romania
67-69 Sirenelor Street, District 5, zip code 050855, Bucharest, OP 5, CP 83
Scientific Director:
Professor **Pavel NĂSTASE**, Ph.D.
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E-mail: audit.financiar@cafr.ro; revista@cafr.ro; http: revista.cafr.ro;
facebook.com/revistaauditfinanciar
ISSN: 1583-5812,
ISSN on-line: 1844-8801

Printing:
SC Print Group Serv SRL
Str. Baicului nr. 82, sector 2, Bucureşti
e-mail: office@printgroup.ro

Audit financiar, XVII, Nr. 2(154)/**2019**, *247-260*
ISSN: 1583-5812; ISSN on-line: 1844-8801

Aspects Regarding the Auditor-Auditee Relationship in the Context of Negotiation

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Abstract

This paper aims to examine how the relationship between the auditor and the auditee influences the negotiation strategies and also the study of the link between variables related to the relationship between the auditor and the auditee in the negotiation process during the audit engagement. Based on the literature and the working tool (questionnaire), it was possible to demonstrate that the auditor-auditee relationship is a key factor in establishing negotiation strategies between auditors and clients.

The bivariate analysis performed in the paper consolidate the research of the specialized literature and confirm the existence of a link between the auditor-auditee relationship/familiarity in the implementation of all the negotiation strategies during the audit mission.

***Keywords**: auditor-auditee negotiation, auditor-auditee relationship, familiarity, audit mission, mutual interest.*

***JEL Classification**: M42*

To cite this article:

Bunget, O.C., Tiron Tudor, A., Sumănaru, A.D. (2019), Aspects Regarding the Auditor-Auditee Relationship in the Context of Negotiation, *Audit Financiar*, vol. XVII, no. 2(154)/2019, pp.247-260, DOI: 10.20869/AUDITF/2019/154/008

To link this article:
http://dx.doi.org/10.20869/AUDITF/2019/154/008
Received: 4.12.2018
Revised: 28.02.2019
Accepted: 19.03.2019

1. Introduction

The subject of this research is the application of a questionnaire containing elements related to the auditor-auditee relationship / familiarity and the negotiation in the financial audit. On the basis of the obtained answers, we carried out univariate and bivariate analysis of the data in order to identify a possible link between the relationship, implicit auditor-auditee familiarity and negotiation between these parties.

In order to present the current state of this research, first of all it is necessary to present the concepts of auditor-auditee relationship and negotiation.

The auditor-client relationship and how auditors interact with clients is presented and exposed by the IAASB, "Audit Quality Framework." The framework also demonstrates the importance of appropriate stakeholder interactions and the importance of different contextual factors.
The way in which the parties interact and the degree of proximity between them is of major importance in the conduct of the audit engagement in the opinion of the auditors, since this appropriation / familiarity between the parties influences how the choice of negotiation and decision-making strategies by auditors. According to the Ethical Code of Professional Accountants, edition 2013, developed by the International Accounting Standards Board (IESBA) of the International Federation of Accountants (IFAC), applicable by Romanian financial auditors, members of the Chamber of Financial Auditors in Romania, the term 'familiarity' is the threat that, owing to a too long or too tight relationship with a client or an employer, a financial auditor may be too lenient with their interests or acceptance of their activity.
An open and constructive relationship between the auditor and management should be different from an overly familiarity that may arise between auditors who spend extended periods throughout the year at the same audit client.

It is essential for the quality of the audit that auditors remain skeptical and objective and be prepared to question the reliability of the information they receive. According to IAASB, threats to the independence of the auditor may include, in most cases, the financial interests between the auditor and the audited entity, the business relationship between the auditor and the audited entity and the provision of non-audit services to audit clients.

Murnighan and Bazerman (1990) consider that negotiation is "any context in which two or more parties with different preferences together take decisions that affect the well-being of both parties." Moreover, according to Pruitt and Carnevale (1993), negotiation is mainly an interaction between two or more actors wishing to resolve disagreements due to conflicts of interest.
Despite the variety of negotiation definitions, researchers share common concepts around negotiations, especially all theories emphasize that actors believe negotiation allows them to achieve better results.

This paper analyzes the auditor-client relationship in the context of negotiations initiated by the auditors during the financial audit mission.

The aim of this research is to study how the negotiation-specific approach is influenced by the relationship, i.e. the familiarity between the auditor and the client.

Throughout the paper, the phrase "auditor-audited relationship" is used under the connotations of familiarity.

This "familiarity" is often encountered in practice. This is why we want an analysis of how this familiarity influences how the parties are negotiating.

The relationship between auditors and auditees and negotiating power have been recognized by both the researchers and the practitioners as important elements for bargaining strategies. However, to date there has been little effort to study empirically or theoretically the effect of these factors in the context of auditors' negotiation with customers.

This paper focuses on the auditor-auditee relationship in the context of negotiations that auditors can follow when solving accounting problems. In essence, the aim of this research was to study how the negotiation-specific approach is influenced by the relationship, implicitly the familiarity between the auditor and the auditee.

2. Literature review

Auditors often find themselves in situations where they need to negotiate with their clients on controversial accounting items for which the accounting standards are vague (Peecher, 1996). Customers could use this vague interpretation of standards to justify aggressive accounting alternatives (Nelson et al., 2002). In general,

auditors express reluctance with such managerial strategies and this attitude constrains their actions for fear of receiving unsatisfactory opinions. For example, auditors sometimes approve the auditee's alternative to maintain their auditor-auditee relationship, though this will more likely increase their exposure to litigation. This controversial situation suggests that both the auditor and the auditee have a mutual interest in negotiating and can choose from several acceptable reporting options (Antle and Nalebuff, 1991; Gibbins et al., 2001).

The auditor's report and the financial statements are therefore considered to be common auditor and management products (Antle and Nalebuff, 1991), although the final responsibility for the financial statements and the related disclosures remain at the head of the reporting company. When an accounting adjustment is required, it will be "reserved" or the disclosure will only be made if the auditor successfully convinces the management to approve the proposed adjustment or disclosure. Thus, the auditor-auditee relationship is described as a "broad bargaining system" (Murnighan and Bazerman, 1990).

Negotiating adjustments may harm investors or any other interested party that relies on the potentially distorted financial reports for decision-making, which could lead to public conflicts.

When auditor negotiation strategies fail to convince a difficult client and no mutually acceptable position is reached, the auditors are confronted with the potential loss of a client if they retain their land or increase their reputational risk if they meet the client's requirements. Research has shown that choosing the negotiation strategy, given the different audit circumstances, has an effect on the outcome of the negotiations. In this respect, choosing the auditor's negotiating strategy becomes very important in view of its potential impact on the financial statements, the auditor's reputation and professional survival (Gibbins et al., 2001; Johnstone and Muzatko, 2002).

3. Research methodology

This study is based on the elaboration of a questionnaire consisting of 11 questions in which there are quantitative and qualitative factors associated to the auditor-auditee relationship. The first part of the questionnaire includes general information on gender, age, profession and experience in the profession of financial auditor.

The second part of the questionnaire includes aspects of the auditor-auditee relationship.

This paper aims to analyze the link between the variables regarding the relationship between the auditor and the auditee based on respondents' answers. Familiarity between the auditor and the client influences:

- The terms of the audit contract in the interest of both parties.
- The auditor's choice of the type of procedures used during the audit engagement.
- The auditor's professional judgment regarding the materiality threshold calculation.
- Conflict of interest, when, the auditor sometimes approves the client's alternative to maintain the contract, although this will increase his exposure to public conflicts and litigation.
- Mutual interest of both the auditor and the client in negotiating from several acceptable reporting options.

The questions from the questionnaire are closed questions, thus ensuring the timely completion of the questionnaire and the possibility of creating a database with a limited number of clearly defined variables.

4. Results of the study

4.1. Sample Description

On the basis of the questionnaire, there were obtained answers from 51 respondents, having the quality of either students who studying master in accounting / auditing, or active financial auditors, members of the Chamber of Financial Auditors of Romania, Cluj County, or having both qualities with a varied experience in the field.

The responses of the 51 validated questionnaires were entered into a database of SPSS Statistics 17.0, each of the factors included in the questionnaire representing a variable of the prepared database. We opted for the SPSS statistical program, as we considered it to be superior to other statistical programs in such research (Intercooled State, E-VIEWS, etc.).

In the following it is presented the analysis of the socio-cultural factors, namely gender, age, profession and experience in the profession (**Tables no. 1, 2, 3 & 4**).

Table no. 1. Sex Representation		
Sex	**Absolute Frequency**	**Relative Frequency (%)**
Female	39	76,5
Male	12	23,5
Total	**51**	**100**

Source: Own projection

Of the respondents, the female sex is representing 76.5% and the male - 23.5%.

Table no. 2. Age representation		
Age	**Absolute Frequency**	**Relative Frequency (%)**
younger than 25 years old	31	60,78
25-35 years old	14	27,45
35-45 years old	1	1,96
45-55 years old	3	5,88
55-65 years old	2	3,92
Total	**51**	**100**

Source: Own projection

Respondents are under the age of 25, respectively between 25-65 years old.

Table no. 3. Representation of the profession		
Profession	**Absolute Frequency**	**Relative Frequency (%)**
Student	1	1,96
Student mastering in accounting / audit	29	56,86
Financial auditor	21	41,18
Total	**51**	**100**

Source: Own projection

Regarding the profession, most of the respondents are master students in accounting / auditing. These account for 56.86%, and financial auditors account for 41.18% of the total sample analyzed. Also, among the respondents there is also a bachelor student.

Table no. 4. Representation of experience in the profession		
Experience as a financial auditor	**Absolute Frequency**	**Relative Frequency (%)**
No experience	26	52
1-5 years old	18	36
5-10 years old	3	6
10-15 years old	2	4
Over 15 years old	1	2
Total	**50**	**100**

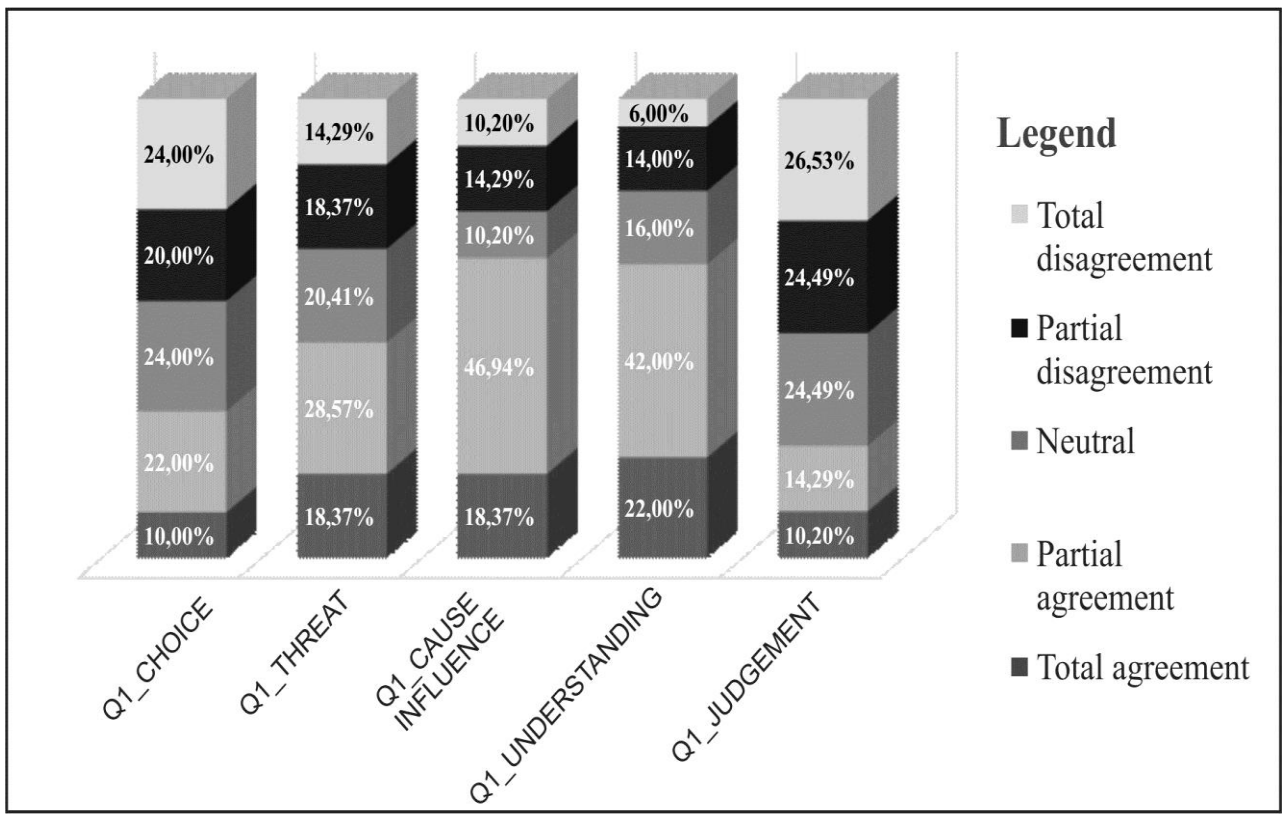
Source: Own projection

Of the total respondents, the inexperienced ones account for 52%, and the experienced ones for 48%.

4.2. Univariate analysis

The univariate data analysis aims to apply statistical and mathematical techniques for studying the population under investigation, depending on a single variable. The univariate analysis process refers, in particular, to the calculation of frequency (absolute and relative).

Figure no. 1. Familiarity between the auditor and the auditee

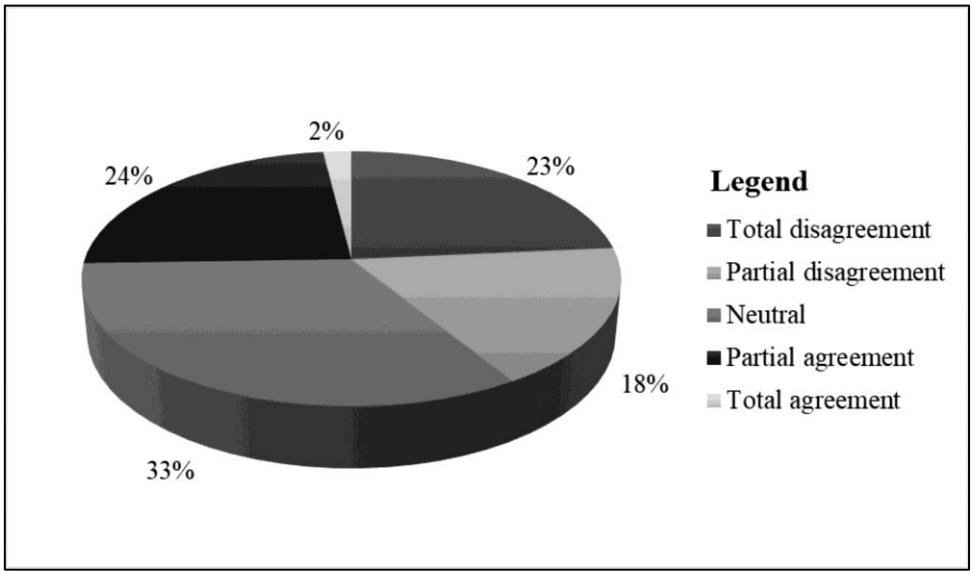


Source: Own processing

Based on the responses received, from **Figure no. 1** we infer that the familiarity between the auditor and the auditee influences the terms of the audit contract in the interests of both parties (65.31% of the respondents expressed their agreement – in whole or in part – with this statement). On the other hand, the familiarity between the auditor and the auditee is necessary for the auditor to understand the auditee well enough to plan and perform an effective audit (62% of the respondents expressed their agreement – wholly or partly – about this statement).

I. The auditor sometimes approves the auditee's option to maintain the auditor-auditee relationship, although this will increase his exposure to public conflicts and litigation (**Figure no. 2**).

Figure no. 2. Auditee's Alternative

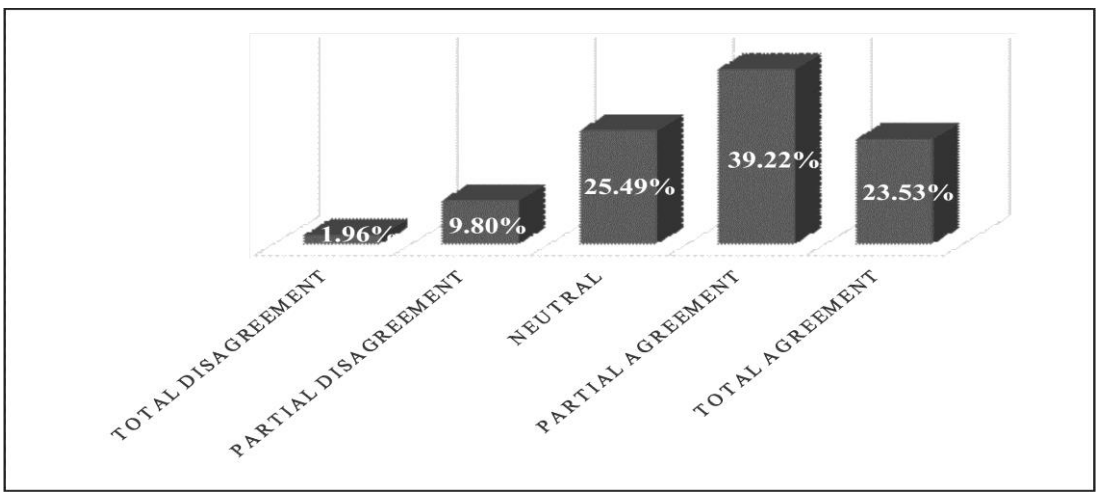


Source: Own processing

In this case, among respondents, opinions are divided. Using the Hi-square test to study the uniformity of the sample, it is found that the sample has the same structure in relation to the analyzed variable (the significance level being 0.009 <0.005, the null hypothesis that the distribution of the sample follows the uniform probability law is accepted).

II. The more audacious the audited financial statements, the less exposure to litigation or public conflicts. Conservatism reflects the application of the prudence principle, namely, assets and income are not overvalued and liabilities and expenses are not underestimated (**Figure no. 3**).

Figure no. 3. Conservatism of Financial Statements

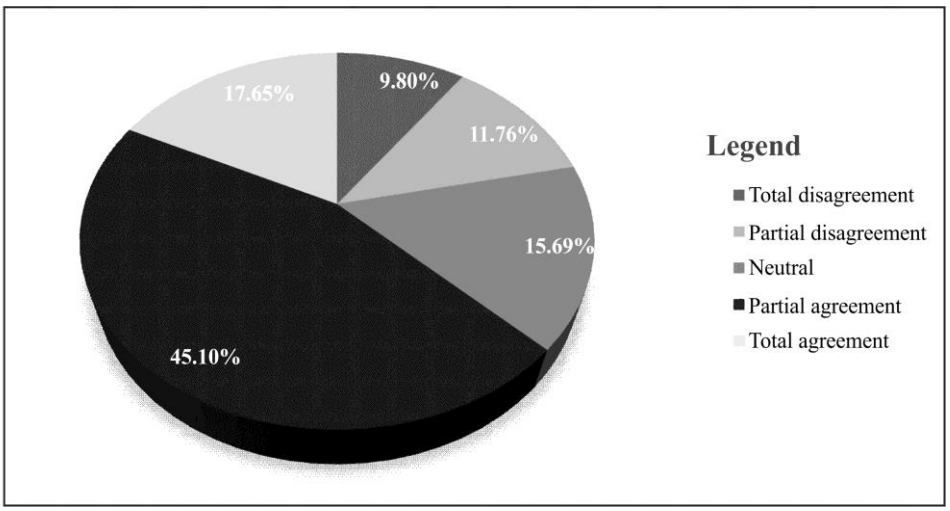


Source: Own processing

A total of 62.75% of respondents agree with this statement. *The principle of prudence* applies in accounting conservatism.

III. Both the auditor and the auditee have a mutual interest in negotiating and can choose from several acceptable reporting options.

Figure no. 4. Mutual interest for negotiation

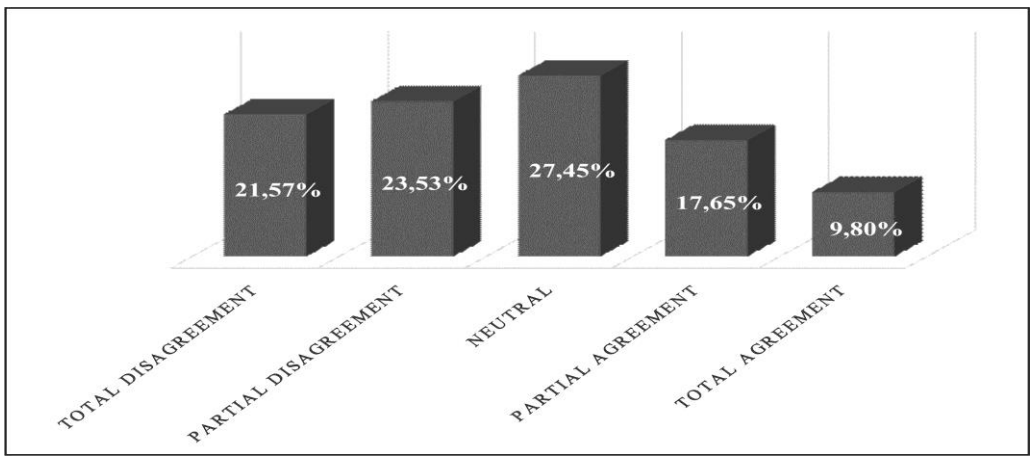


Source: Own processing

From the **Figure no. 4**, we find out that most of the respondents also agree with this statement, the rest having different opinions.

IV. When an accounting adjustment is required, disclosure shall be made only if the auditor is satisfied with the management's approval of the proposed adjustment (**Figure no. 5**).

Figure no. 5. Need for accounting adjustments



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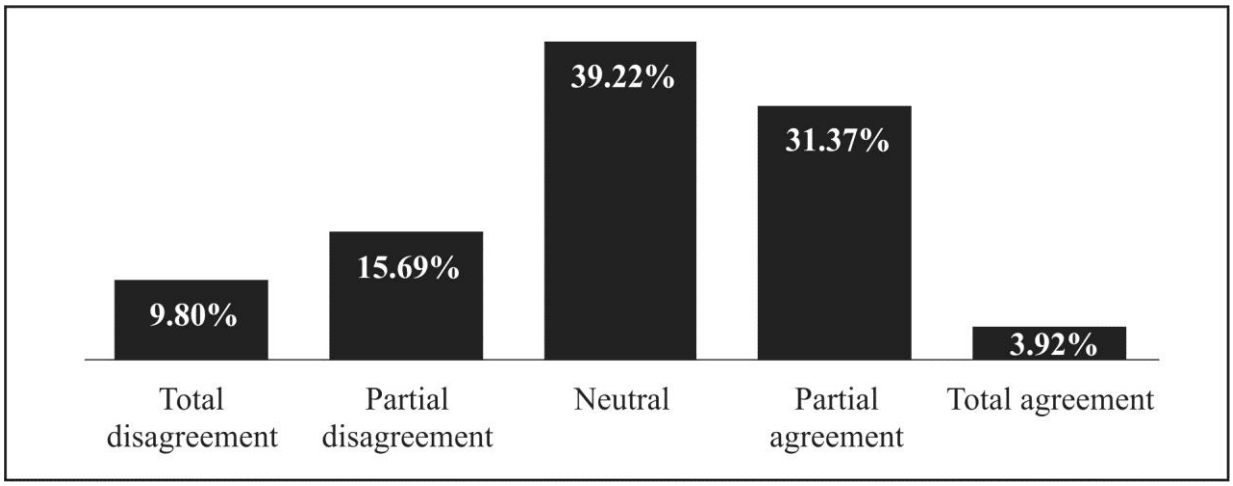
In this case, a 45% percentage of the respondents express their disagreement, while only 27.45% of respondents remain neutral.

V. Accounting problems under negotiation (unaudited accounts balances' and analysts' forecasts) affect the negotiation process (**Figure no. 6**).

Figure no. 6 - Accounting issues under negotiation

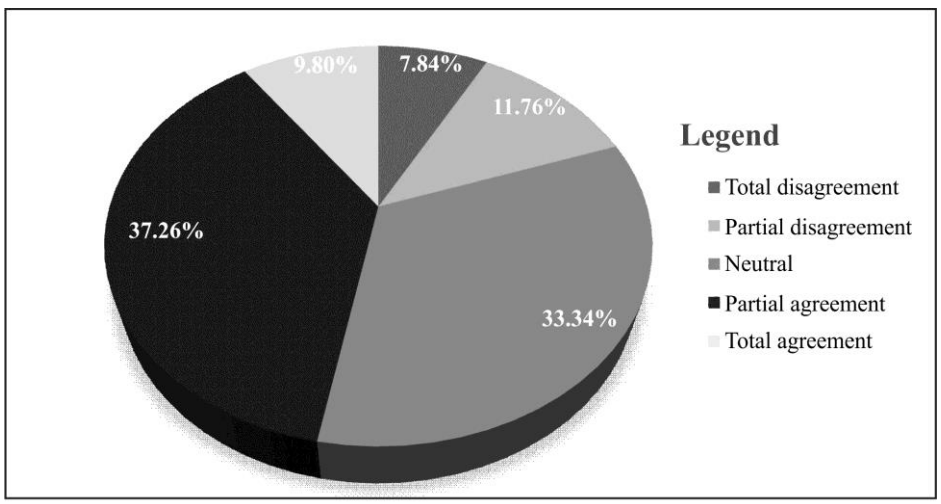


Source: Own processing

Most respondents (39.22%) declare themselves neutral in agreeing to this statement.

VI. The auditor is in a position to negotiate with their auditees on controversial accounting items for which Accounting Standards are vague because customers use this situation (the ambiguity of standards) to justify aggressive accounting treatments applied (**Figure no. 7**).

Figure no. 7. Ambiguity of Standards

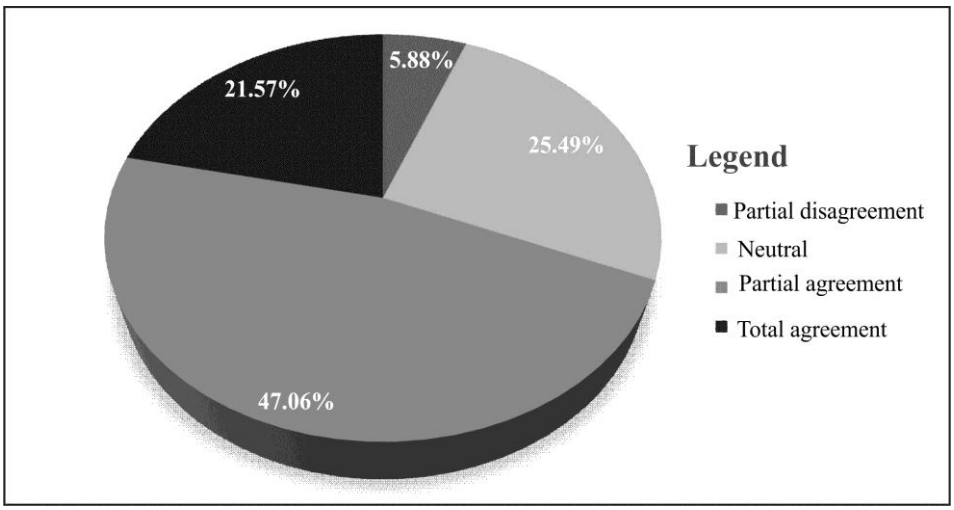


Source: Own processing

47% of the respondents expressed their total or partial agreement with this statement. One third of those surveyed remained neutral.

VII. In negotiating with the auditee in respect of the accounting items, the auditor considers the Accounting Standards rationally and reasonably, rather than interposing them for the application of accounting treatment in preparing the financial statements (**Figure no. 8**).

Figure no. 8. Negotiation - Accounting Standards

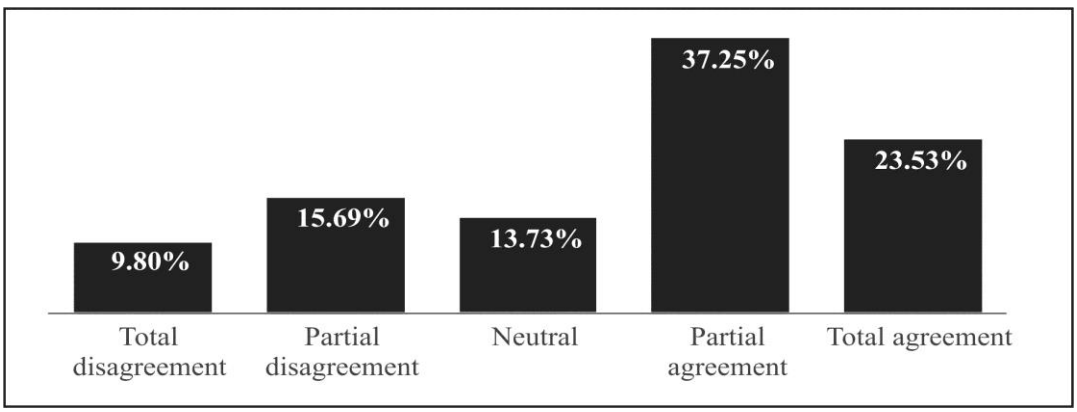


Source: Own processing

Respondents expressed their total or partial agreement on this claim in a proportion of 68% of the sample.

VIII. The lack of negotiating experience of the auditor adversely affects his ability to persuade the auditee to record and recognize the adjustments identified during the audit engagement (**Figure no. 9**).

Figure no. 9. Lack of auditor experience

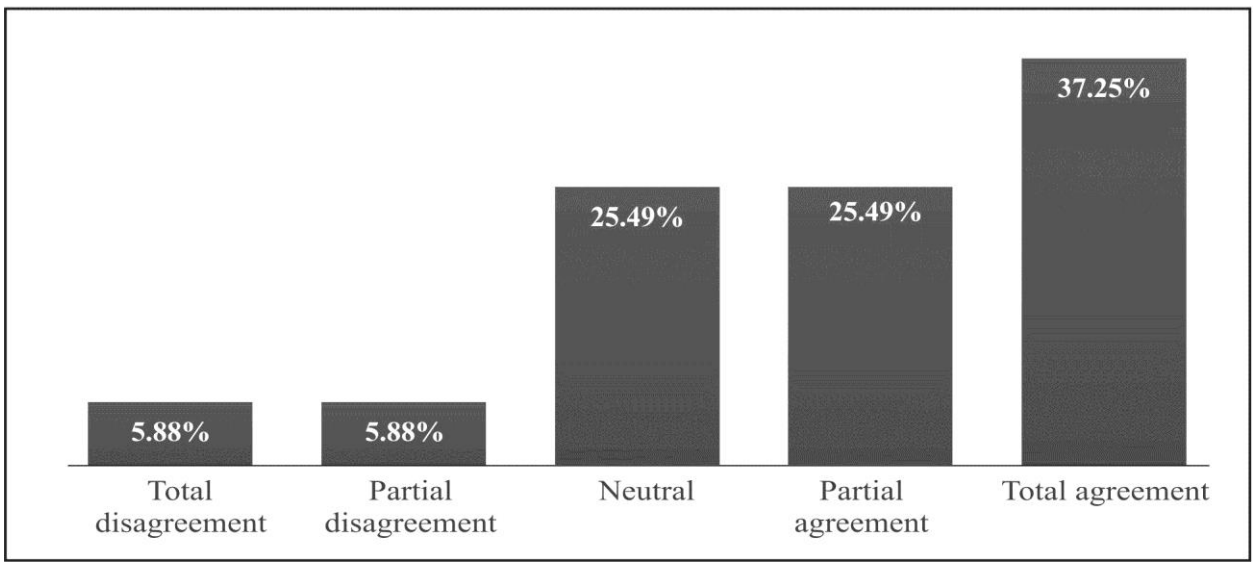


Source: Own processing

Respondents agree with this assertion in a proportion of 60.78% of the analyzed sample. Therefore, the lack of experience in negotiation negatively influences the negotiation process.

IX. The lack of knowledge and experience of the auditor adversely affects the performance and results of the negotiation (**Figure no. 10**).

Figure no. 10. Lack of knowledge and experience in the field

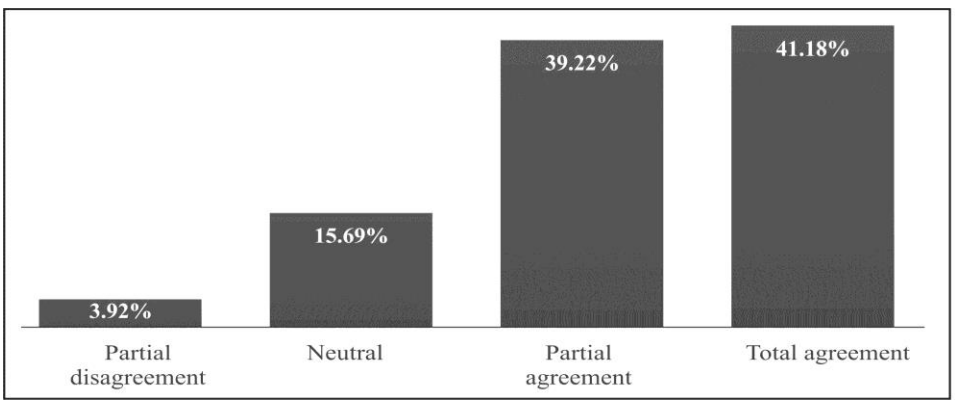


Source: Own processing

Approximately 63% of respondents agree with this statement, while 25.49% remain neutral. The more the auditor has more knowledge in the field and a wealth of experience, the more the results of the negotiations will be more satisfactory.

X. The integrity and power of corporate governance mechanisms are considered essential in the context of auditing-auditee negotiations (**Figure no. 11**).

Figure no. 11. Integrity and Power of Governance Mechanisms



Source: Own processing

In this assertion, the respondents expressed their agreement in the proportion of 80.4% of the sample.

4.3. Bivariate analysis

The bivariate analysis consists in the simultaneous processing of data relating to two variables and aims at highlighting possible "relationships" that might exist between these variables.

The assumed hypothesis: Familiarity between the auditor and the auditee influences the relationship between the two.

To validate this hypothesis, we analyze the links between the familiarity between the auditor and the auditee.

Analysis of the link between variables:

- familiarity between the auditor and the auditee influences the terms of the audit contract in the interest of both parties.
- familiarity between the auditor and the auditee influences the choice of the type of procedures used by the auditor during the audit engagement.

We formulate the statistical assumptions:

- the null hypothesis H0: "There is no link between the two variables"
- alternative hypothesis H1: "There is a link between variables"

We apply Kendall's correlation test and get the result represented in **Table no. 5**.

Table no. 5. Correlation 1

			1) Influences the terms of the audit contract in the interest of both parties	2) Influences the choice of the auditor regarding the type of the procedures used on the audit mission
Kendall's tau_b	1) Influences the terms of the audit contract in the interest of both parties	Correlation Coefficient Sig. (2-tailed) N	1.000 - 49	.302* .011 49
	2) Influences the choice by the auditor of the type of procedures used during the audit engagement	Correlation Coefficient Sig. (2-tailed) N	.302* .011 49	1.000 - 49

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Own processing, SPSS Statistics 17.0

- Because the probability of accepting the null hypothesis is below 5% (Sig=0.011), we reject the null hypothesis and accept the alternative hypothesis. Therefore, there is a link between the two variables analyzed.
- On the other hand, because the correlation coefficient of Kendall (K=0,302) is positive, we deduce that the link is direct between the two variables, namely the respondents who agree that the familiarity between the auditor and the auditee influences in the interest of both parties the clauses related to the audit agreement, have the same level of agreement that the familiarity between the auditor and the auditee influences the auditor's choice of the type of procedures used during the audit engagement.

Analysis of the link between the variables:

- familiarity between the auditor and the auditee influences the terms of the audit contract in the interest of both parties.
- familiarity between the auditor and the auditee influences the auditor's professional judgment regarding the materiality threshold calculation.

We formulate the statistical assumptions:

- null hypothesis H0: "There is no relationship between the two variables"
- alternative hypothesis H1: "There is a link between variables"

We apply Kendall's correlation test and get the result represented in **Table no. 6.**

Table no. 6. Correlation 2

			3) Influences the terms of the audit contract in the interest of both parties	4) Influences the auditor's professional judgment regarding the calculation of the materiality threshold
Kendall's tau_b	3) Influences the terms of the audit contract in the interest of both parties	Correlation Coefficient Sig. (2-tailed) N	1.000 - 49	.367** .002 49
	4) Influences the auditor's professional judgment regarding the calculation of the materiality threshold	Correlation Coefficient Sig. (2-tailed) N	.367** .002 49	1.000 - 49

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

Source: Own processing, SPSS Statistics 17.0

- Because the probability of accepting the null hypothesis is below 5% (Sig=0.02), we reject the null hypothesis and accept the alternative hypothesis. Therefore, there is a link between the two variables analyzed.
- On the other hand, because Kendall's correlation coefficient (K=0,367) is positive, we deduce that the link is direct between the two variables, namely the respondents who agree that the familiarity between the auditor and the auditee influences in the interest of both parts the audit contract terms, have the same level of agreement that familiarity between the auditor and the auditee influences the auditor's professional judgment regarding the materiality threshold calculation.

Analysis of the link between the variables:

- The auditor sometimes approves the auditee's alternative to maintain the auditor-auditee relationship, although this will increase their exposure to public conflicts and litigation.
- Both the auditor and the auditee have a mutual interest in negotiating and can choose from several acceptable reporting options.

We formulate the statistical assumptions:

- null hypothesis H0: "There is no link between the two variables"
- alternative hypothesis H1: "There is a link between variables"

We apply Kendall's correlation test and get the result represented in **Table no. 7**.

Table no. 7. Correlation 3

			5) The auditor sometimes approves the auditee's alternative to maintain the auditor-auditee -client relationship, although this will increase their exposure to public conflicts and litigation	6) Both the auditor and the auditee have a mutual interest in negotiating and can choose from several acceptable reporting options
Kendall's tau_b	5) The auditor sometimes approves the client's alternative to maintain the auditor-auditee relationship, although this will increase their exposure to public conflicts and litigation	Correlation Coefficient Sig. (2-tailed) N	1.000 - 51	.373** .002 51
	6) Both the auditor and the auditee have a mutual interest in negotiating and can choose from several acceptable reporting options	Correlation Coefficient Sig. (2-tailed) N	.373** .002 51	1.000 - 51

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

Source: Own processing, SPSS Statistics 17.0

- Because the probability of accepting the null hypothesis is below 5% (Sig=0.02), we reject the null hypothesis and accept the alternative hypothesis. Therefore, there is a link between the two variables analyzed.
- On the other hand, because the correlation coefficient of Kendall (K=0,373) is positive, we deduce that the link is direct between the two variables, namely the respondents who agree that the auditor sometimes approves the auditee's alternative to maintain the relationship auditor-auditee, although this will increase their exposure to public conflicts and litigation, have the same level of agreement on the fact that both the auditor and the auditee have a mutual interest in negotiating and can choose from several acceptable reporting options.

5. Conclusions

This study aimed to study the link between the variables on the relationship between the auditor and the auditee in the negotiation process throughout the audit engagement, from accepting the mission and signing the contract to expressing the opinion based on respondents' responses.

Thus, based on the literature and the working tool (questionnaire), it was possible to demonstrate that the auditor-auditee relationship is a key factor in establishing negotiation strategies between these two parties. Researchers share common concepts around negotiations, especially all theories emphasize that actors believe negotiation allows them to achieve better results.

Familiarity between the auditor and the auditee is defined by audit standards as a threat to the audit engagement. According to the answers obtained and the analysis made of this, familiarity affects the clauses of the audit contract in the interest of both parties, but it is also necessary for the auditor to understand the client sufficiently well to plan and perform an effective audit.

Both the auditor and the auditee have a mutual interest in negotiating. They can choose from several acceptable reporting options, but accounting conservatism, namely the prudence principle, applies. The compliance with the accounting rules, transparency and veracity of the financial statements are a key factor in the start of the audit engagement.

Auditors also disclose the need to record accounting adjustments when appropriate, regardless of management's view to accept or not the proposed adjustment.

In negotiating with the auditee in respect of accounting matters, the auditor takes into account the rational observance and application of the Accounting Standards, rather than their interpretation for the application of the accounting treatments in the preparation of the financial statements. Also, the respondents of the questionnaire strengthen the assertions of the specialized literature.

Also, according to the literature and the present study, the lack of experience in negotiation and the lack of experience and knowledge in the field negatively influence the performance and results of the negotiation, corporate governance being essential in the context of the negotiations.

Bivariate analysis reinforces specialized literature research, which confirms the existence of a relationship between auditor-auditee relationship in the implementation of all negotiation strategies during the audit engagement.

6. Limitations and future research

This research presents some limitations, namely the reluctance of respondents to the subject. Another limitation is that some of the respondents are students who have used their theoretical knowledge to answer my questionnaire without being influenced by the practical experience in the profession of financial auditor.

Gibbins et al. (2005) reported that managers and audit partners have different negotiation results and negotiation strategies. Therefore, it is expected that our participants' responses to be different from those of the audit partners; a future research could duplicate this study of audit partners and compare it to the results of the current study.

As research perspectives, the paper proposes to develop this study on a larger population at national level as well as the introduction of other factors addressing the relationship between the auditor and the auditee in establishing negotiation strategies for choosing the best alternatives.

BIBLIOGRAPHY

1. Antle, R. & Nalebuff, B. (1991), Conservatism and auditor-client negotiations. *Journal of Accounting Research*, No. 31-54.
2. Gibbins, M., McCracken, S. A. & Salterio, S. E. (2005), Negotiations over accounting issues: The congruency of audit partner and chief financial officer recalls. *Auditing: A Journal of Practice & Theory*, Vol. 24, No.s-1: pp. 171-193.
3. Gibbins, M., McCracken, S. A. & Salterio, S. E. (2007), The Chief Financial Officer's Perspective on Auditor-Client Negotiations. *Contemporary Accounting Research*, Vol. 24, No.2: pp. 387-422.
4. Gibbins, M., Salterio, S. & Webb, A. (2001), Evidence about auditor–client management negotiation concerning client's financial reporting. *Journal of Accounting Research*, Vol. 39, No.3: pp. 535-563.
5. Johnstone, K. M. & Muzatko, S. R. (2002), Resolving difficult accounting issues: A case study in client-auditor interaction. *Issues in Accounting Education Teaching Notes*, Vol. 17, No.1: pp. 1-16.
6. Murnighan, J. K. & Bazerman, M. H. (1990), A perspective on negotiation research in accounting and auditing. *Accounting Review*, No.642-657.
7. Neale, M. A. & Bazerman, M. H. (1991), Cognition and rationality in negotiation. *Free press* New York.
8. Nelson, M. W. (2009), A model and literature review of professional skepticism in auditing. *Auditing: A Journal of Practice & Theory*, Vol. 28, No.2: pp. 1-34.
9. Peecher, M. E. (1996), The influence of auditors' justification processes on their decisions: A cognitive model and experimental evidence. *Journal of Accounting Research*, Vol. 34, No.125-140.
10. Pruitt, D. G. & Carnevale, P. J. (1993), Negotiation in social conflict. *Thomson Brooks/Cole Publishing Co.*
11. Raiffa, H. (1982), The art and science of negotiation. *Harvard University Press*.
12. Raiffa, H., Richardson, J. & Metcalfe, D. (2002), Negotiation analysis: the science and art of collaborative decision making. *Harvard University Press*.
13. *** The International Ethics Standards Board for Accountants (IESBA) of the International Federation of Accountants, "Ethical Code of Professional Accountants"
14. *** International Auditing and Assurance Standards Board (IAASB), "Audit quality framework: Key elements that make up the quality of the audit".
15. *** International Auditing and Assurance Standards Board (IAASB), "International Quality Control, Audit, Review, Other Insurance and Related Services".

Audit financiar, XVII, Nr. 2(154)/**2019**, *261-273*
ISSN: 1583-5812; ISSN on-line: 1844-8801

Insights on the New Coordinates in Internal Audit

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Abstract

In a continuous changing world, internal audit registers its own dynamic. The present paper emphasizes the priorities and trends in internal audit reflected by international surveys as well as the empirical study performed by the authors in regard with the use of IT tools by the Romanian internal auditors. Starting from these coordinates, the authors investigate means of enlarging the use of IT focusing on data analysis and IT security issues. The authors' investigation continues on coordinates less approached in the academic field, regarding the behavior dimensions and its impact on the internal auditors' work. The study's conclusions could represent important benchmarks in the practitioners' work and offer a large field for debate in the academic and research field.

Keywords: *internal audit, trends, IT tools, behavior dimensions, skills, communication*

JEL Classification*: M42, M480*

To cite this article:
Stanciu, V., Seria, C. (2019), Insights on the New Coordinates in Internal Audit, *Audit Financiar*, vol. XVII, no. 2(154)/2019, pp. 261-273, DOI: 10.20869/AUDITF/2019/154/009

To link this article:
http://dx.doi.org/10.20869/AUDITF/2019/154/009
Received: 28.01.2019
Revised: 7.02.2019
Accepted: 25.03.2019

1. Introduction

There is an unanimity in recognizing the importance of internal audit (IA). The debates in regard with the place, role and importance of IA provide multiple perspectives approaches, underlying elements that sometimes remain less visible but with lot of significance, not just theoretical, that prove to be extremely relevant. The authors' research aims at emphasize some essential elements for the internal audit in the effort of ensure its role as it is defined in the best practice guidelines, IA charts issued by each IA department and corporate governance requirements.

The link between the place, role and importance of IA represents an important topic providing the space for a generous debate in the theoretical and professional practice filed. The debate can start from the place, role and importance of IA, established by the international standards and best practice guidelines but it should approach also more sensitive aspects of the effective role and place acquired by IA and, based on these, the IA's importance recognized inside of the organization.

The research aimed at underlying some aspects driving towards the increasing IA quality and, as a result, to its role fulfillment and importance in the organization. Even if there is a correct implementation of the IA function (through allocated resources, the establishment of correct reporting lines etc.), based on the organization's culture and the experience of the management, just the IA's quality proved by the delivered results maintains and consolidates the role and importance of the function. As long as IA, through the results of its missions, is not responding to the shareholders' expectations, IA will not succeed to fulfill its role and the perception in regard of its role and importance inside of the organization will be affected.

CAE (Chief Audit Executive) is essential for ensuring the activities' alignment to the standards, ensuring the communication inside and outside of the organization, the strategy for the evolution of the IA function through the increase of the internal auditors' quality of work and, implicitly, the more robust support provided to the management and all organizational structures. Aiming at fulfilling their role, internal auditors should improve and consolidate the communication lines inside the organization, understand the major concerns and to anticipate the shareholders' expectations. The elements that could bring the new value expected to be created by IA are the anticipation (of the expectations) and innovation. These elements impose a long-term proactive thinking with direct implications in the implementation of the new IT techniques in the internal auditors' work and the imperative need to develop the internal auditors' computing and data analysis skills. The audit (not just the internal audit) is considered one of the professions facing in the future a massive impact of the automation determining major changes in the profession and in the professional profile (Zitting, 2017:9).

The aim of this study is to emphasize some aspects of internal audit less approached by the researches, but having major importance in the professional field. We refer to the professional profile of the internal auditor, more and more complex, the IT impact on IA and the behavior dimensions of the internal auditors.

The present paper wishes to initiate an ample discussion in the professional field on the approached topics aiming at strengthening the Romanian IA and consolidating its place in the companies.

2. Methodology

The research purpose was to identify the trends and significant changes in the internal audit at the global scale. The investigation has been conducted on the following coordinates: critical areas on which IA is focusing, new risks raising interest, IT impact over IA. Aiming at covering the paper's objective, a qualitative research has been performed consisting in the literature review and documents issued by IIA, mainly working guidelines on different aspects of the technologies and working tools in a computerized environment. There were studied the analysis issued at global scale by the international professional organizations in regard with the IA's evolution and trends.

The qualitative research was continued with an empirical research, the authors aiming at investigate insights of the Romanian internal audit departments focusing on the use of IT. Data has been collected using the online platform *http://isondaje.ro/*, based on a questionnaire with 20 issues. The data processing has been realised accessing the information in the analysis section of the platform. The questionnaire addressed public institutions and private companies. There were collected 44 responses: 61.4% from private companies and 38.6% from public institutions.

The research's conclusions can represent important coordinates in IA strategy design in the Romanian organizations ensuring the increase of IA's effectiveness and efficiency.

3. New priorities in internal audit

The dynamic of the organizations' significant business models and processes determine the focus of the IA's missions towards critical areas as for example risk management – with higher focus on strategic risks, corporate governance, organizational culture, cyber security (Chambers, 2017). The organizational culture can significantly impact the company's evolution and business processes, the company's values and the perception of important aspects, like risks and the need of innovation, the behavior and inter-departmental relations etc.

Negative elements in the organizational culture are reflected not only in the company's business processes but implicitly in its results and the IA missions' achievements. From this perspective, organizational culture and corporate governance are in focus of IAs.

The international surveys emphasize that the most respondents understand the need to analyze the risk induced by the organizational culture but just 53% of them understand how to perform the internal audit mission in this area. The number of respondents performing this kind of missions is rather low (28% of the respondents), which emphasizes the need for a specific training of the internal auditors (Chambers, 2017). The cyber security became a stringent problem for all the entities no matter of their size or industry. Even if the international studies state the risk of information security on the first place in the last years, the progress in enlarging IA missions in this area is not at the expected level. The IA specialists recognize the risks induced by information technology and, as a result, the assurance need on cyber security (Chambers, 2017). This fact is determined by the specific expertise required by the investigated domain and the limited number of specialists in the field joining the IA departments. At the international scale, the expertise in IT (information security inclusively) is one of the most demanded but it is registered a significant deficit of specialists, restriction that impacts IT departments also.

If we analyze the international surveys' results investigating the audit committee members' perception it can be retained as a first concern the effectiveness of the risk management process followed by the compliance issues and the management of the cyber risks. Maybe it is not less relevant that on the fifth place is placed the *tone at the top* message and organizational culture (KPMG, 2017).

The increased expectations in regard with internal audit, the diversity and complexity of the audit universe, as well as the need to deepen some aspects aiming at providing the risk assurance impose a much coherent and articulated cooperation with the second line of defense, represented by the risk management, conformity, legal, IT security, control departments etc.

Another trend, based on innovation issues, requires IA to focus on providing advising and predictive approach. The predictive approach will enable to signal, to the management, transactions that were not finalized yet and mismatching the template defined in time as a result of the business processes performed. Nowadays, the IA's "classic" procedures and approaches can emphasize suspicious transactions just after their finalization. In regard with the advisory role of IA, the international analysis emphasizes, from CAEs' point of view (47%), that the shareholders are not considering the advisory role of IA. In the same time, it is underlined that the organizational culture is not supporting the strategic role of IA (PWC, 2017).

The diverse problems and the need of deepening some complex areas implying modern information technologies in IA missions, diversifies the requirements on the internal auditors' professional training. The knowledge and skills required focus on: general knowledge on IT, information security, data mining techniques and data analysis, knowledge in the industry the company is operating in, analytical and critical thinking (Chambers, 2017). A lot of these skills are difficult to be found at the aspiring internal auditors.

4. New approaches as a result of IT integration

Internal audit registers a significant dynamic imposed by the diverse requirements it has to cover, the continuously changing environment in which IA operates exposing the companies to an extended set of risks etc. The evolving technologies, the markets' globalization and the increased importance of the corporate reputation induce unforeseen risks (IIA, 2018). IA is asked to provide, to those in charge with governance and executive management, the assurance that organization can face those risks effectively. This risk approach of IA should be performed from the perspective of the strategic objectives of the company. The risks exposing the company have their dynamic, registering changes in the business's and, implicitly, on the objectives' fulfillment. The international studies emphasize changes in the CEOs' perception in regard with the most important risks confronting the companies. More and more the concern is focusing on the geopolitical instability, terrorism and climate changes (IIA, 2018). Next to those risks, which are impacting the entire society, there are other risks like cyber-attacks (we already mentioned them), regulatory changes, the difficulty to attract professionals with certain skills and expertise etc.

This extended set of risks exposing any organization, imposes an increased responsibility in their identification and assessment. This determines the need of an extended collaboration with the first line of defense (the operational management) aiming at understanding the true threats induced by the specific processes and activities performed in the company but also with the second line of defense too, aiming at determine the efficacy of the risk management processes and control (departments of financial control, IT security, risk management, compliance, controlling, legal etc.). This collaboration should be performed from the IIA's no. 2050 standard' perspective emphasizing the need of sharing information and coordination with other internal and external entities providing assurance in their expertise field. These requirements are imposing not just a qualitative increase in the professional training standard on the awareness of risks, but also on the techniques used in IA. The usage of the information technology in its most evolved areas – artificial intelligence, data analysis etc. – becomes imperative. This way, a new phase in IT integration (in the IA's processes) is followed. Practically, it is performed the switch from the processes' efficacy towards their transformation, imposing a new perception over the data. IIA has always signaled on these aspects in regard with IT use, issuing a guide on the IT usage's evolution in IA. CAE has the responsibility to think and implement a multiannual strategy on IT implementation in the department's processes and activities. CAE will focus on: the electronic management of the missions, electronic working papers, sample and collected information storage, collaborative platforms' usage providing collaboration means for the internal auditors, no matter of the location they are etc. The usage of the advanced data analysis techniques and data mining should be implemented with the appropriate attention provided to the internal auditors' training and review of the methodologies and working procedures.

The switch to the continuous audit, and use of the advanced data analysis techniques (in the context of an explosive increase of the data volume) are essential for the internal auditors. The „classic" techniques of testing emphasize if the implemented controls ensure the business processes' performance as established. Data analysis with the new available analytical techniques will allow IA to have a higher contribution to the processes' improvement, based on its recommendations and the increase of its performance (IIA, 2018:5).

The recent studies emphasize the new audit generation of techniques and technologies creating new value (Zitting, 2017:14):

1. Data analysis
2. Mobile devises – essential audit tools
3. Continuous audit
4. Real time assurance through automation.

The stringent need to use the huge volume of data available inside and outside the company imposes, from the internal auditors' part, good knowledge on the regression, classification and clustering techniques, the foundation for advanced statistical analysis providing valuable information regarding the processes performed (in the company, the evolution

– forecast data inclusively – of risks and their impact, market trends etc.). It is not insignificant the fact that the universities' accounting studies are not focused on statistic techniques or patterns' recognition skills and anomalies' analysis, which are essential for data analysis as it is required nowadays (Earley, 2015).

CAE should attract in its team data analysis specialists or to strength the cooperation with IT department aiming at ensure the needed data analysis. The skills on data analysis will allow internal auditors to make the step forward from the sample working (small sets of data) to the full data analysis. Data analysis is applied in audit planning and analytical procedures as well. Through data analysis are identified transactions' patterns or anomalies that need more attentive investigations. The anomalies could be transactions, as for example, the ones not corresponding to the internal auditor's expectations based on his knowledge on the analyzed processes.

Data analysis can be realized in relation with two factors for identifying variations comparing with a certain model (AICPA, 2014). There can be selected sets of key indicators that can be put in correlation aiming at emphasize potential values for other key indicators, significant variations comparing with a potential trend justifying detailed analysis. Using powerful applications for data analysis the auditor could examine whole volume of transactions (being not limited at samples) providing another understanding over the analyzed data. The global studies emphasize the following activities already performed based on data analysis: testing the whole population of transactions, samples' establishment, testing the individual controls, determining the scope of audit, development of the continuous auditing tools, risk assessment etc. (Protiviti, 2017).

The use of mobile devices like tablets, smart phone, laptops etc. together with other devices (for communication use inclusively) provide mobility, rapid access to the data, computing performances, extended connectivity etc. Remote working, data and knowledge sharing in the working team or different teams having their own missions already became common, increasing the quality of the professional work. In the same time, the auditors are asked to audit activities/processes implying the use of new generation devices. In this context, knowledge on the particularities and means of use of mobile devices as well as the potential risks they induce became essential. Between the emergent risks IA is asked to analyze, can be included those related to the information technology specific for the 21st century, with focus on cloud computing, IoT (*Internet of Thinks*) and mobile devices.

The continuous audit, already assimilated in the professional practice provides abilities in the "monitor and evaluation of the effectiveness of automated controlled operations" (AICPA, 214). In the same time, it provides alert flags in case of unusual transactions needing detailed analysis.

An aspect linked to the IT integration, inside the organization, raises for IA the responsibility in regard with cyber security. This responsibility comes to deepen IA's relation with IT department (it was already mentioned the collaboration in regard with data analysis), this collaboration providing a solid understanding of the organizational risks induced by IT use. Aiming at perform missions on cyber security domain, internal auditors should improve and extend their IT knowledge and skills or they should have access at persons with expertise in systems configuration and administration and software development (Janison et al, 2018). Using external expertise on IT security is not excluding the need of improving internal auditors' knowledge and skills in the field.

5. Empirical study on the use of IT tools in the Romanian internal audit field. Data analysis and study findings

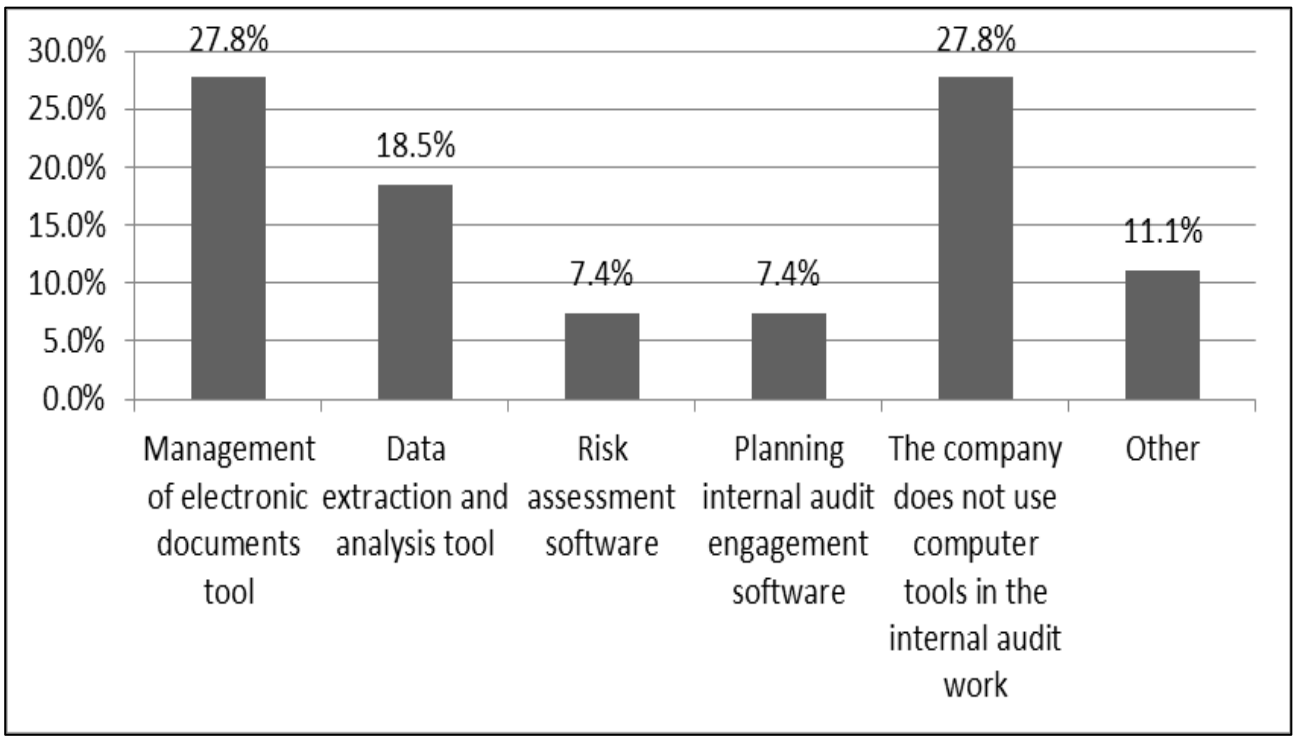
This study aims to highlight the main categories of IT tools used by Romanian internal auditors as well as to analyze some qualitative aspects related to the IA functions implemented within organizations.

According to the positions occupied within organizations, the structure of the respondents is as follows: 43.2% of the respondents are internal auditors, 20.5% head of the internal audit departments, 34.1% managers and 2.3% members of the audit committee. 16.7% of the respondents hold the certification for internal auditors granted by the Institute of Internal Auditors, while 32.5% are

members of the Romanian Chamber of Financial Auditors. As already mentioned, 61.4% of responses pertain to private companies while 38.6% to public institutions. The sample targeting private companies includes: large companies - 37.1%, medium-sized companies - 25.9%, small companies and micro enterprises - 18,5%. The breakdown by enterprise category was based on two indicators: the number of employees and annual turnover.

The analysis highlighted the fact that computer tools are used mostly in the management of electronic documents (27.8%), and for data extraction and analysis (18.5%) (**Figure no. 1**). Only 15% of the respondents declared they use dedicated tools for risk assessment or audit planning. It is worrying that 27.8% of the respondents declared they do not use any IT tools in the internal audit work.

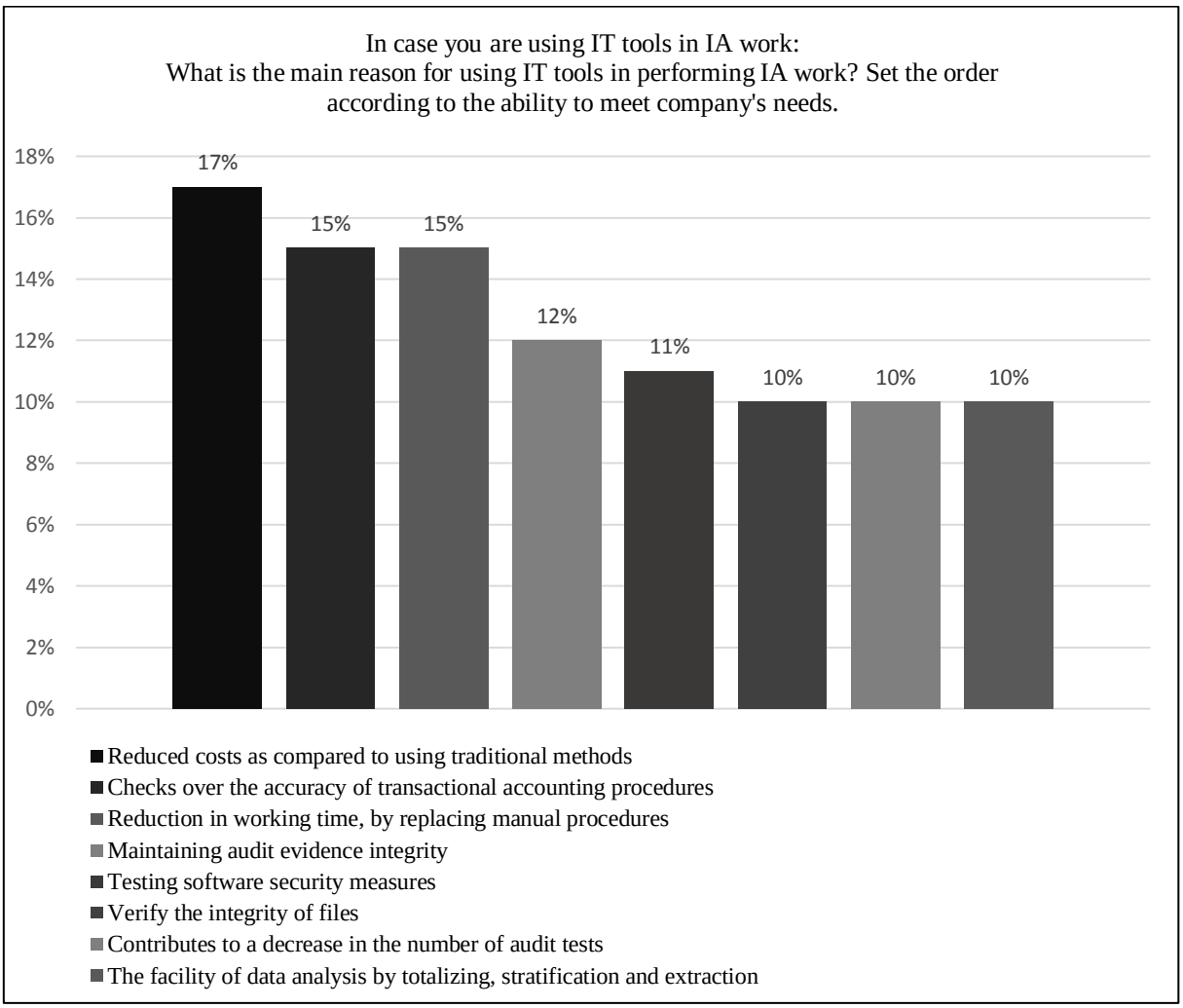
Figure no.1. Types of IT tools used in the internal audit field



Source: Authors' findings, based on isondaje.ro internet platform

The respondents identified as benefits of utilizing IT tools the reduced costs as compared to using traditional methods (17%), the checks over the accuracy of transactional accounting procedures (15%) and the reduction in working time by replacing manual procedures (15%). Maintaining the integrity of audit evidence and the feature of IT tools to test security measures are highlighted as IT-specific advantages by 12% and 11% of respondents, respectively. The survey reveals that the ability to verify the integrity of files, the decrease in the number of audit tests and the data analysis' features on summarizing, stratification and extraction have all the same perceived importance (10%). These results reveal the user's awareness over the efficiency that characterizes the use of IT tools, since the information technology is being increasingly integrated in the internal audit work (**Figure no. 2**).

Figure no.2. The benefits of using IT tools in the internal audit field



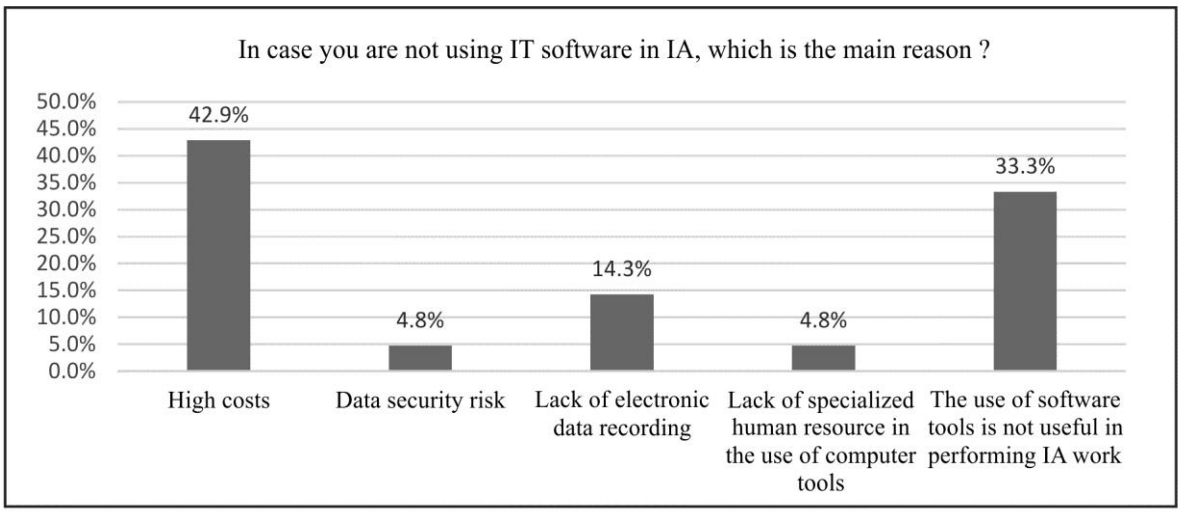
Source: Authors' findings, based on isondaje.ro internet platform

The survey results show that 36.4% of the total number of respondents did not attend annual training sessions related to IT tools, 27.3% of respondents attended less than 10 hours of IT training, while 36.4% devoted to training more than 10 hours.

The authors appreciate that IT tools ways of use remain poorly known and for this reason ongoing training programs on this subject are extremely necessary.

The study also investigated the reasons and obstacles internal auditors encounter in the use of IT tools (**Figure no. 3**). The most invoked argument is the high cost of IT tools (42.9%). One third of respondents believe that the use of these software tools is not needed in performing internal audit work. The missing of electronic data recording (14.3%) and data security risks (4.8%) are other justifications with a low weight in the total of respondents. Another reason is the missing of specialized human resources in the use of computer tools (4.8%).

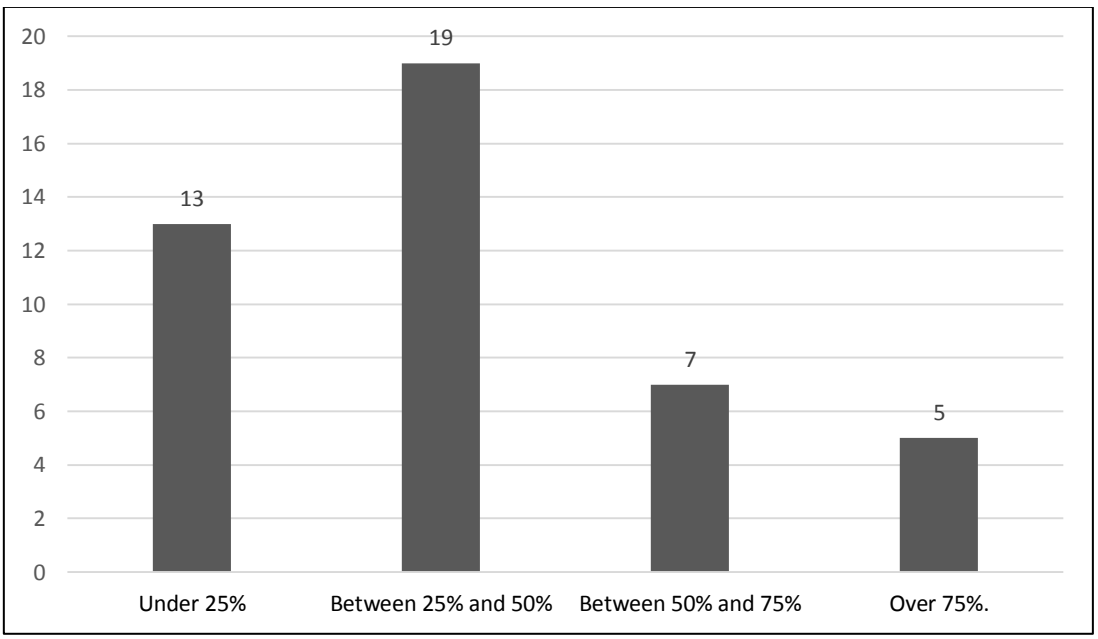
Figure no. 3. Obstacles in the use of computer tools in the internal audit work



Source: Authors' findings, based on isondaje.ro internet platform

The study's findings highlight the low use of computer assisted auditing techniques (CAATs) (**Figure no. 4**). 43.2% of respondents declare that computer-assisted activities cover between 25% and 50% of the total activities. Only 27% of respondents benefit from the advantages of IT tools while performing most of their activities.

Figure no. 4. The share of the activities carried out by using the IT tools in the internal audit engagements



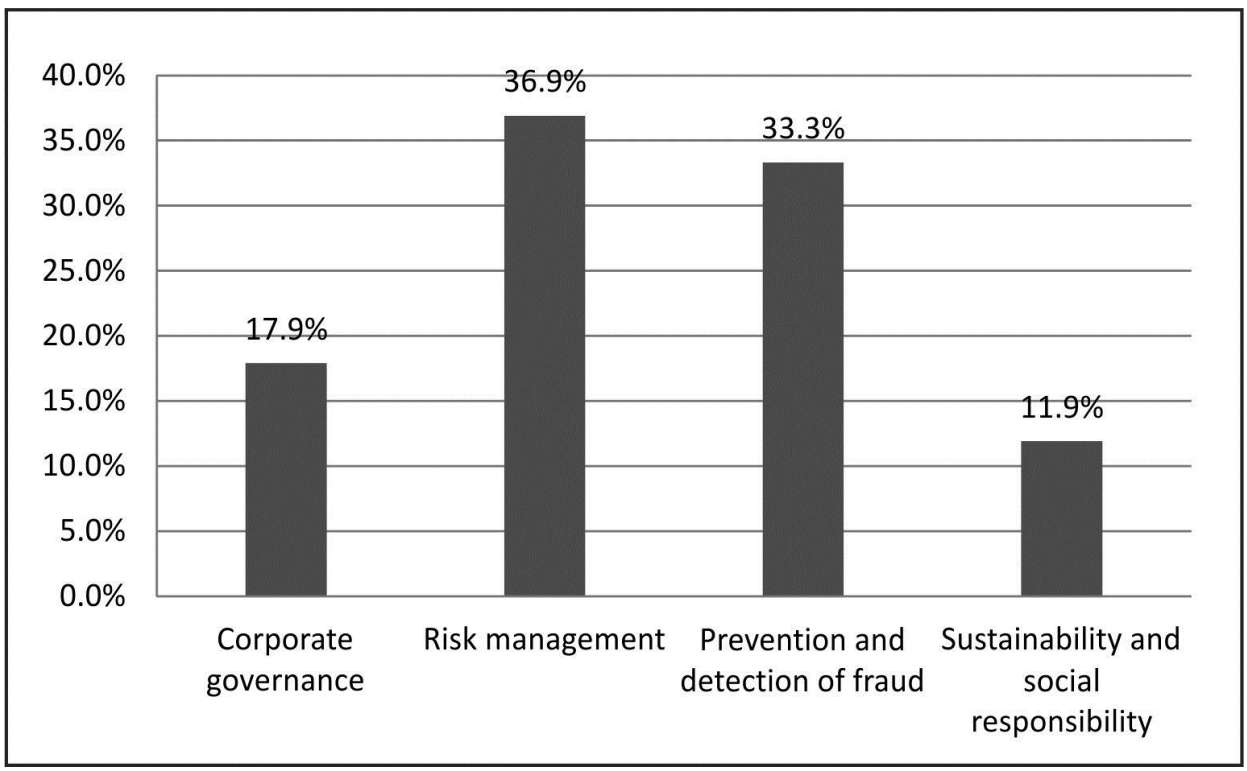
Source: Authors' findings, based on isondaje.ro internet platform

54.5% of the respondents stated that the risk-based approach was applied in the internal audit missions, followed by the classical approach (34.1%). The least used method is the continuous audit approach (only 11.4%).

We considered relevant to identify the extent of internal audit universe (at the level of the surveyed organizations) and to identify the way in which internal audit aims to support the company in achieving its objectives by assessing and enhancing the effectiveness of governance and risk management processes. The study highlight that the main area internal auditors focus on is the risk management (RM), and for this reason RM is the subject of internal audit missions in 36.9% of the analyzed cases. This is due to the role of internal auditors in assisting audit committee and the company's management by examining the existing risk management processes, as well as making recommendations for their improvement.

An important role of internal auditors acknowledged by companies' management is the prevention and detection of fraud; for this purpose, a third of the respondents reported dedicated missions. Corporate governance is the third area of interest in audit engagements among respondents (17.9%). 11.9% of respondents declared that the IA plan included social sustainability and accountability engagements (**Figure no. 5**).

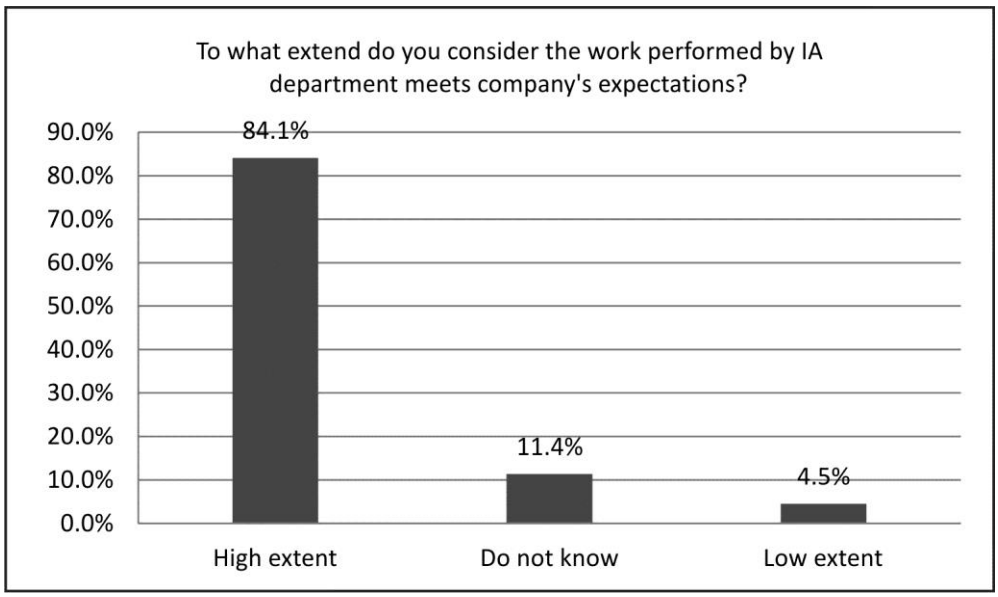
Figure no. 5. Areas of interest in audit engagements



Source: Authors' findings based on isondaje.ro internet platform

84% of respondents remark that the IA's activities are, to a large extent, in line with the organization's expectations. This is the result that internal audit function developed sufficiently enough to reach a more mature stage and also to IA's efforts to support the company in achieving its objectives (**Figure no. 6**).

Figure no. 6. The degree internal auditors' work meets the company's expectations



Source: Authors' findings, based on isondaje.ro internet platform

The respondents' answers can be justified by the difficulty of highlighting the added value created through IA activities and the inappropriate perception of company's management over the role and responsibilities of IA. The aforementioned aspects must be correlated with the resources mobilized in carrying out the internal audit activity reflected by the available budget. Most respondents considered as satisfactory the budget of the internal audit function, while only 27.3% of respondents considered that the allocated budget was insufficient.

6. Behavioral dimensions and their implications in internal audit

Certainly, the majority of specialists will agree that mastering "communication skills, often called *soft skills* are among the most important skills that successful internal audit professionals need" (Dittenfofer, 2011: 12). Communication skills should be cultivated, developed both in the verbal and written communication. They prove to be essential to the development of personal relationships within the organization, allowing internal auditors to know the sensitive issues within the organization and the expectations of stakeholders, to collect the necessary data and information during the course of their engagement, to draft reports and recommendations, discuss them and resolve conflicts or antagonistic points of view that inevitably occur.

The soft skills we have already mentioned refer to good relationship within the organization at all hierarchical levels, but also with external auditors and supervisors, without harming the independence and objectivity of internal auditors; of particular importance is the communication with the members of the audit committee and top management. Soft skills also imply information sharing, essential in terms of inter-organizational collaboration, but also due to internal audit responsibilities in relation to organizational entities involved in the second line of defense. We refer here to the organizational entities responsible with risk management, compliance, money laundering prevention, cyber security, controlling etc. Soft skills also imply the ability to argue, in a strong manner, the identified irregularities and their impact, risk ratings, as well as the ability to convince the auditee of the need for the recommendations' implementation and proposed deadlines. Balance, measure and solid arguments based on the collected evidence provide the power of

persuasion, efficient communication and problem solving, avoiding tense situations and contradictory discussions, "neutralizing" the resistance to accepting the internal auditors' points of view and change following the recommendations made. We must admit that internal auditors sometimes experience hostility, either openly expressed or masked, to the internal audit activity itself.

The global study conducted by IIA highlights that one third of the respondents admitted that they experienced sometimes a negative interpersonal relationship due to their role as internal auditor (IIA, 2017). Obviously, the poor quality of such relationships is impacting the internal auditor's work efficiency and effectiveness. But why do these situations arise? Surely, inadequate communication with the management and the auditee determines this attitude. Another cause may be the negative elements within the organizational culture. The IIA Global Study highlights that 79% of the respondents who said that often deal with negative interpersonal relationships have admitted that organizational culture exerts a negative effect on these relationships (IIA, 2017). The authors appreciate that it cannot be omitted from the analysis of the cognitive process, known in psychology as the *theory of social identity* (IIA, 2017). The *in-group bias* theory highlights the identified delimitation between the group represented by the auditee and internal auditors, as an *out-group*. Overcoming this delimiting vision requires strong communication skills from internal auditors' part. A possible way of mitigating this attitude, as well as accepting the opinion of internal auditors, and implicitly their recommendations, may be the internal auditors' acknowledgement on the expertise of the auditee.

In order to overcome issues and remain objective and focused on the objectives set, the auditors should demonstrate strong communication skills in order to obtain the information they need and contact the key people for the issues addressed by the IA mission, demonstrating an attitude that proves objectivity, professionalism, the desire to help by improving the activities and respect for the auditee. It is essential for the auditors to have negotiation skills as well as to recognize the interlocutors' personality traits. The discussions engaged on the audit report can be, for instance, directed accordingly with the interlocutors' personality (rational persons, people with a strong ego, choleric personality).

Managing tense moments, such as hostility towards the content of the internal audit report, is essential. The preparation of the discussion session of the IA report should take into account, next to the elements related to the personality of the interlocutors, other aspects such as the timing of the discussion, finding a strategy in conducting the discussion allowing the auditee to express its position and to early identify the common points of view. The internal auditor should put himself in the auditee's shoes in order to understand the possible disagreements over his conclusions (the auditee's points of view on the report are available before the discussion), the factors that determine the report rejection so as to prepare additional arguments.

Open dialogue and objectivity are essential. It is very important to highlight, in the IA report discussion phase, the progress made by the auditee, emphasize to the auditee that his hard work is recognized and valued and a reciprocal collaboration is extremely beneficial to both parties. If the recommendations made involve substantive changes over the assessed processes, the auditor must understand the possible reluctance. The auditee takes into account the costs involved, performance aspects (in relation to which he will be evaluated later) and it is normal to manifest some resistance, since the results to be obtained, after recommendations' implementation, are not being known yet.

Good communication, interpersonal relationships built within the organization (as well as the belief in IA's fairness, professionalism, discretion created between company's employees, regardless of the hierarchical level) and the perception that internal audit is a partner in solving problems and achieving goals (opposed to the perception of being a "policeman" in the search for mistakes) ensure that IA is requested to solve any arisen issues. This is one of the measures that indicate there is confidence in the internal audit and the IA ensured its visibility and the desired position within the organization.

All above mentioned aspects determine the specialists to believe that internal auditors must have a high level of "emotional and social intelligence" (Dittenhofer, M. et al., 2011). Naturally, the authors raise the question: In how many organizations does the auditor's continuous training program include the development of communication skills and emotional and social intelligence?

Internal auditors' self-trust in their power to carry out their tasks is of utmost importance. This self-confidence comes from solid professional training, the experience acquired over the years, a deep understanding of the company's processes and activities, industry-specific knowledge, as well as mastering their communication skills. IA's strong professional training and experience will induce the auditee's confidence in his partner (the internal auditor) and in the value/relevance of its assessments. Under these circumstances, the auditee may require the assessment of particular issues related to the audit area, unless these were already included in the mission's objectives set by audit team.

The authors believe that the quality of internal audit function can be improved in the context of understanding the way it is perceived by different entities and persons within organizations. A fundamental role is played by the questionnaire filled in by the head of the audited entities, the annual assessment required by the executive management, the evaluations and the discussions with the members of the audit committee and the board of directors. The number and nature of management's requests to initiate internal audit missions indicates the level of trust and recognition of the IA department's role.

CAE plays a fundamental role in reducing the risks associated with the dynamics of interpersonal relationships. Firstly, the internal audit department should be perceived as a partner that assists the organization to achieve its objectives. Another important aspect is related to developing and strengthening the soft skills for the entire internal audit staff and understanding the impact that organizational culture has on interpersonal interactions. It should not be forgotten that internal auditors' recommendations can improve organizational cultural issues. But how many internal audit departments included organizational culture in the audit universe? This is an extremely wide subject of analysis. It is quite probably that the result of such an analysis for Romanian organizations would not be very satisfactory.

Conclusions

The importance, place and visibility of the internal audit function within the organization are not a given but the result of dedicated, professional and objective work done year after year. The diverse issues that internal auditors have to answer impose a complex professional profile, aligned with the changing business environment and its requirements. The IT impact on the profession and the professional profile is important. A good mastering of IT techniques and technologies bring efficiency, superior quality of internal auditors' work and consequently, well-documented opinions and sound recommendations. This determines the need for a step-by-step long-term strategy, developed by the CAE, aiming at implementing the IT dedicated applications until extensive data analysis solutions are implemented.

The dynamics and increased risks complexity require extensive data statistical analysis and revision of annual IA's plans in relation to the identified changes in risk exposure. CAE is the specialist who has the ability and the duty to inform and advise the management on key risks, being the one who reaches the best understanding of business processes and risk exposure issues. At the same time, CAE is the one who has to promote innovation and the strategic steps of integrating new information technologies aiming at increase in internal auditors' work quality and efficiency.

Communication is essential in internal audit work. Identifying key organizational issues, stakeholders' expectations and the necessary information to carry out IA's missions can only be achieved through ongoing dialogue and open communication. Discussing on IA's reports and recommendations requires from the internal auditors' part a good understanding of their interlocutors and master the art of dialogue and negotiation that enables them to clearly express and successfully defend their key points of view in the event of contradictory discussions.

This empirical study highlighted important aspects of internal audit work in some Romanian entities and the IT tools use in the internal audit missions in the era defined by the progress of information technology. Among the benefits of implementing and using IT tools in IA missions it can be added the improvement of audit quality by facilitating effective tests. Thus, the precision of the analytical procedures is increased and the samples' preparation and the processing of large volumes of data are more rapid. Moreover, the strategy of using information technology needs to be correlated with the ability to better cover the risks faced by the organization, the improvement of performed processes and activities, minimization of costs etc.

REFERENCES

1. AICPA (2014) White paper. Reimagining Auditing in a Wired World. Available at www.aicpa.org
2. Chambers, R. (2017) Internal Auditing Global Outlook 2017, IIA, 2017. Available at www.theiia.org
3. Dittenhofer, M. et al. (2011) Behavioral Dimensions of Internal Auditing: An Exploratory survey of Internal Auditors. *IIA*, 2011. Available at www.globaliia.org
4. Earley, C. (2015) Data analytics in auditing: Opportunities and challenges. *Business Horizons* (2015), 58, pp. 493-500.
5. IIA (2017) North American Pulse of Internal Audit. Courageous leadership: Installing confidence from within. Available at https://dl.theiia.org/AECPublic/2017-NA-Pulse-of-Internal-Audit-Courageous-Leadership-Instilling-Confidence-from-Within.pdf
6. IIA (2018) Global perspectives and insights. Agility and innovation. Available at www.globaliia.org
7. KPMG (2017) Is everything under control? Audit committee challenges and priorities. 2017 Global Audit Committee Pulse Survey. *KPMG's Audit Committee Institute*. Available at https://home.kpmg/content/dam/kpmg/bh/pdf/2017-global-audit-committee-pulse-survey.pdf
8. Jarison, J., Morris, L., Wilkinson, C. (2018) The future of cyber security in internal audit. Available at www.crowe.com/-/media/Crowe/LLP/folio-pdf/The-Future-of-Cybersecurity-in-IA-Risk-18000-002A-update.ashx
9. Protiviti (2017) Embracing analytics in auditing. Available at www.protiviti.com/sites/default/files/2018-internal-audit-capabilities-and-needs-survey-protivity.pdf
10. PWC (2017) 2017 The state of IA profession. Staying the course toward True North: Navigating disruption. Available at preview.thenewsmarket.com/Previews/PWC/DocumentAssets/467538.pdf
11. Zitting, D. (2017) Death of the tick mark. Birth of the sought-after internal audit. How to overcome the obsolesce of the traditional internal auditor. *IIA*. Available at la www.acl.com/pdfs/ebook-death-of-the-tickmark.pdf

Audit financiar, XVII, Nr. 2(154)/**2019**, *274-282*
ISSN: 1583-5812; ISSN on-line: 1844-8801

The Influence of Free Float Shares and Audit Quality on Company Performance:

Evidence from Indonesia

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Abstract

This study aimed to examine the effect of the free float of shares and audit quality on company performance in public manufacturing companies listed on the Indonesia Stock Exchange (IDX) during 2013-2016. The sample comprised 80 companies with 320 years-observation and the hypothesis and the relationship between variables were tested with the 3.0. version of Smart-PLS statistical program. The results show that the free float of shares has no significant impact on company performance, while audit quality has a significant positive effect. The results are relevant for regulators, shareholders and other stakeholders, especially in countries with emerging capital markets, such as Indonesia.

Keywords: *free float of shares, company performance, audit quality, capital markets*

JEL Classification: *M42, E22, E23*

To cite this article:
Sailendra, S., Murwaningsari, E., Mayangsari, S. (2019), The Influence of Free Float Shares and Audit Quality on Company Performance: Evidence from Indonesia, *Audit Financiar*, vol. XVII, no. 2(154)/2019, pp. 274-282,
DOI: 10.20869/AUDITF/2019/154/010

To link this article:
http://dx.doi.org/10.20869/AUDITF/2019/154/010
Received: 24.01.2019
Revised: 05.02.2019
Accepted: 12.03.2019

1. Introduction

Several studies related to finance and law indicated that in countries that have developed stock markets, company shareholders get efficient protection from the legal systems. In general, in common law countries, the characteristics of corporations with dispersed ownership structures tend to lead to "agency problems" between owners and managers. Whereas countries that have civil law systems tend to feature concentrated ownership characteristics in companies, that can lead to "expropriation problems" (Ararat and Ugur, 2003) between controlling owners and minority shareholders (Bostanci and Kilic, 2010).

Indonesia is a country that embraces civil law. Specific local characteristics and regulations are the right place to study the impact of ownership structure in emerging capital markets. One aspect of the capital market in Indonesia is the fact that it is dominated by the ownership structure of family companies or business groups that offer relatively weak levels of protection for investors. Initially, the company owners were reluctant to offer more shares that they had to the public in order to avoid losing control of the company. It is the reason of the lack of free float in the capital market. The low free float of equity in public companies listed on the stock exchange in civil law countries can be seen as a symptom of the little protection offered to weak investors (Bostanci and Kilic, 2010), and concentrated ownership has a negative effect on company performance (Yurtoglu, 2000).

For this reason, the Indonesia Stock Exchange (IDX), as the authority that regulates and supervises public companies registered in the Indonesian capital market, issued regulation No. Kep-00001 / BEI / 01-2014, which required that public companies comply with the provisions for the ownership of public shares (free float) of at least 7.5% of the total paid-up shares. The minimum free float set is expected to improve company performance, issuer's stock price and investor confidence in the issuer. Furthermore, the IDX confirmed that companies that cannot meet the threshold of the free float are threatened to be subject to sanctions (InvestorDaily, 2019). The enforcement of the IDX regulation is an effort to increase liquidity and stock prices in the capital market, as well as to protect weak investors, as minority shareholders. According to Farnia (2015) and Cueto (2009), one of the basic parameters for evaluating capital markets is the amount of free float of shares, which is an indication of the level of liquidity, risk and company value and the level of protection for investors.

2. Literature review and hypothesis

Research on the structure of ownership and company performance has been carried out in the literature focused on company performance, and it is generally related to stock liquidity (Rezaei and Tahernia, 2013), liquidity risk (Afkhami, Hashemi, and Hashemi, 2012), accounting profit and ratios based on company financial statements (Bostanci and Kilic, 2010; Ozer and Yamak, 2001; Zraiq, 2018). Although there are studies addressing the influence of ownership structure on company performance, the existing results are mixed. Moreover, there are many studies observing the influence of audit quality on company performance (Farouk and Hassan, 2014; Johnson, Khurana, and Reynolds, 2002; Matoke and Omwenga, 2016; Moutinho, Cerquera, and Brandao, 2012; Sayyar, Basiruddin, Elhabib, and Abdul Rasid, 2015), which also produce contrasting results. This research focused on exploring the impact of free float shares and audit quality on the company performance in Indonesia, an emerging stock market country.

2.1. Free float share and company performance

Public share ownership represents the number of shares held by the public, expressed in shares or percentage owned by the public through the capital market. Salmon (1989) defines free float as the share of the total capital of a company that is available for trading in stocks without limitation. The higher the public ownership of the company shares, the more professional, accountable and transparent a company is required to be, as it is overseen by more stakeholders, which ultimately reduces investment risk, and increases demand (Afkhami et al., 2012; Ding and Zhong, 2016; Rezaei and Tahernia, 2013; Venkatesh, 2000) and company value.

Free float equity is the number of minority shares with ownership under 5% outstanding and available for transaction in the capital market. The higher the free

float in the issuer's company, the more it can be considered that the share price movement is a reflection of market activity. Furthermore, Bostanci and Kilic (2010) state that the size of the portion of free float shares is an indicator of the extent of legal protection for the weak share ownership. Consequently, as stated by Nokambe and Garkaz (2015), there is a significant relationship between ownership variables and stock prices which has implications for the value of the company and performance.

Bostanci and Kilic (2010) examined the relationship between the free float ratio and market performance of stocks in Turkey. The data contained 199 companies listed on the Istanbul Stock Exchange (ISE) for the year 2007. The results of the empirical study show that trading activity is significantly higher for a stock with a higher free float ratio.

Within the same research setting (ISE), the study conducted by Ozer and Yamak (2001) indicated that ownership characteristics significantly influence company performance (return on assets: ROA, return on equity: ROE, and total assets turnover: TATO), the identity of the controlling shareholder playing a major role. Whereas the research conducted by Yurtoglu (2000) on the same market (i.e. Istanbul Stock Exchange, characterized by concentrated ownership with predominantly family owned companies) proves that concentrated ownership has a negative effect on company performance (ROA, market to book value: MBV, and Dividend payments). Ozer and Yamak (2001) also showed that ownership characteristics only have a significant effect on some dimensions of company performance (e.g. ROA, ROE, and TATO) In general, the performance of stocks in the capital market is influenced by the performance of the company (Sailendra and Suratno, 2014).

Research conducted by Fang et al. (2013) regarding stock liquidity and pricing of earnings within the context of stock reforms aimed at converting non-floating shares to floating in China, obtained empirical evidence that prices of non-floating shares incorporate less earnings information, compared to floating ones, the difference being maintained after the reform, as regards restricted versus free floating shares. The transformation from non-floating shares to floating shares can increase the motivation of managers to improve company value and company performance. The conflict of interests between non-tradable shareholders and tradable shareholders is a severe agency problem (Huang and Fung, 2005), which subsides after the transfers from non-floating to floating shares (Tseng, 2012). Consequently, the Chinese regulator requires that the transfer price from non-floating to floating shares to be based on the company's fundamentals; *i.e.* net book value per share (BVPS), ROE, return on investment (ROI), recent market price and reasonable price-to-earnings ratio (PER) (Fang et al., 2013).

The study conducted by Rezaei and Tahernia (2013) examined the relationship between free floats of shares and the liquidity of stocks for public companies in the Teheran Stock Exchange (TSE). The sample consisted of 63 companies listed on the TSE market for the period 2005-2009. The empirical results show that there is a positive relationship between the free float of shares and the liquidity of stocks. This study concludes that a higher percentage of free float shares will increase the liquidity of the stock, which can enhance the company performance through better funding.

Ding et al., (2016) conducted a study on the relationship between free float and stock market liquidity using a sample of 55 countries from 2003-2011. The research results prove that the higher the percentages of the free float, the higher the level of liquidity of the stock. Overall, the results of this study indicate that liquidity can be increased by a free float that can affect stock returns and company performance. A high free float converts into low liquidity risk, which can increase transaction volume and expected returns on investments (Afkhami et al., 2012).

2.2. Audit quality and company performance

Audit quality is the probability for an auditor to find and report violations in the client's accounting system, as a level of certainty or guarantee for users of financial statements that financial audit was carried out professionally and independently (Deangelo, 1981). Moreover, other definitions for audit quality, according to Ardelean (2015), take into account the audit's ability to improve financial reporting, a low probability for unqualified audit opinions given on financial statements containing inadvertencies, as well as the accuracy of information reported by auditors. The auditors are a representation of the public trust in the profession, as they are professionally engaged in the public interest.

Duska and Duska (2003) state that trust is a quality inherent in the profession and services provided by the

auditor, and, consequently, financial statements lose their value if the auditor has lost the public trust. Accordingly, improving the quality, integrity, and reliability of financial statements is linked with the increase in the quality, credibility, and effectiveness of auditor functions (Ezzell, 2002). The results of the research conducted by Slaheddine (2015) show that investors better appreciate financial reports audited by a Big n company, which allow for an increased predictability of earnings, and therefore for a better assessment of company's value and future prospects. Moreover, financial statements submitted by a company were found to be more trustworthy if the company benefited from high quality auditing services (Gul, Kim and Qiu, 2010), as audit quality has an effect on firm value (Houmes, Forley and Cebula, 2013), increasing the company performance reporting quality. Within the same lines, Kothari (2001) shows that shareholders still pay attention to audited financial statements because they contain reliable information to assess company performance.

According to previous studies, there are different proxies used for audit quality: *e.g.* audit fees (Bala et al., 2018; Moutinho et al., 2012; Sayyar et al., 2015), audit tenure (Azizkhani et al., 2018; Sayyar et al., 2015), industry specialist auditor (Clinch et al., 2012; Mukhlasin, 2018) and auditor size (Deangelo, 1981; Farouk and Hassan, 2014; Hua et al., 2016). Audit fees are chosen as a proxy for audit quality as large fees can suggest the effort to improve audit quality, although the reverse is also possible, as they can reflect monopoly circumstances and client dependency.

The results of the research conducted by Moutinho et al. (2012) on audit fees and firm performance on a sample of public companies in the United States of America from 2000-2008, obtained empirical evidence that audit quality has a negative effect on firm performance in line with the research results obtained by Johnson et al. (2002). However, research conducted by Sayyar et al. (2015) on audit quality (audit fees and auditor rotation) in Malaysian public companies, from 2002-2012, found evidence that audit quality has a significant positive impact on company performance, but only when measured by Tobin-Q, and not by ROA.

Azizkhani et al. (2018) examined the association between audit tenure and audit quality of financial reporting. The sample consisted of 343 companies from traded Iranian companies that were audited by private-sector auditors operating on the Iranian audit market for 2010. The results show that audit tenure (frequent rotations) appear to improve company performance.

Robu, Grosu and Istrate (2016) examine the effect of the auditors' rotation on the accounting quality in the case of Romanian listed companies transitioning to IFRS. The study was carried out on 64 Romanian companies listed on the Bucharest Stock Exchange, for the period between 2006 and 2014. The research results show that audit tenure (auditor rotation) significantly contributes to the change in value relevance of company performance.

According to Mukhlasin (2018), audit industry specialization shows audit competencies in specific industries, so that industry specialized auditors have more ability to detect material misstatements as a result of fraudulent financial reporting, which is an indicator that audit quality can increase company performance. These results are in-line with the research conducted by Clinch et al. (2012) in the context-US public companies, which proxied audit quality through the appointment big *n* audit firms and industry specialized auditor, and employed a sample of 4062 years-observation from 2002 to 2005. This study concluded that audit quality is playing a role in the quality of financial reporting and, through the allocation of information among traders, can increase company performance.

Hua et al. (2016) examine the association between audit quality (using auditor size as a proxy for audit quality) and corporate performance (ROA, ROE and ROI). Data was collected from the public companies listed on the Malaysian stock exchange for the period 2010-2013, the results indicating that audit quality has a significantly positive impact on company performance.

Sulong et al. (2013) examined the impact of managerial ownership, leverage and audit quality on firm performance for companies traded on the Malaysian Access, Certainty, and Efficiency (ACE) market. The sample consisted of 82 companies listed on the ACE market for the period 2007 to 2009, the results showing that audit quality has a statistically significant negative impact on firm performance.

However, research conducted by Martinez and Moraes (2014) on the relationship between audit quality and company performance, for Brazilian public companies from 2009-2010, obtained empirical evidence showing that audit quality has a significant positive effect on company performance, in line with the findings reported

by Ani and Mohammed (2015), Chen et al., (2011), Farouk and Hassan (2014), and Matoke and Omwenga (2016).

3. Data collection, sample size, and research method

3.1. Data collection and sample size

This study uses a quantitative method based on a sample of manufacturing public companies listed on the Indonesia Stock Exchange from 2013-2015, totaling 80 companies or as many as 320 years-observation. The companies' financial data comes from the Thomson Reuters Eikon database, while the audit quality data comes from the Centre of finance and profession development, the Ministry of Finance of the Republic of Indonesia. Public share ownership data originates from the database of the Indonesia stock exchange (BEI).

Research variables, both dependent, independent and control variables, are measured from each "i" company sampled, in the year "t", during the observation period (**Table no. 1**).

Table no. 1. Summary of variables measurement

No.	Variables	Operationalisation
	Dependent variables	
1	MBV	Market capitalization divided by net book value
2	ROA	Earnings before tax divided by total assets
3	ROE	Net income after tax divided by total equity
4	ROCE	Earnings before tax and interest cost divided by total assets minus current liabilities
5	TATO	Net sales divided by total assets
6	Tobin-Q	Market capitalization plus total debt divided by total assets
	Independent variables	
7	Free float share	The total nominal of traded stocks divided by total nominal of shares
	Audit Quality	
8	Audit fee	Natural logarithm of audit fees per year paid by the company to the auditor
9	Audit Tenure	The total length of auditor's tenure with the company
10	Auditor Ind. Specialist	Percentage of total auditor market share by industry
11	Auditor size	Total number of auditor's clients
	Control Variables	
12	Company Age	Total number of years since the company was established
13	Company Size	Natural logarithm of total asset at the end of the year

Source: Own projection

3.2. Methodology

The hypothesis and relationships between variables of this study were tested using the Structural Equation Modeling-Partial Least Square under the Smart-PLS statistical program, version 3.0, based on the following research model:

$CP = \beta_0 + \beta_1 FF + \beta_2 AQ + \beta_3 CA + \beta_4 CS + \varepsilon$

Notes:

CP = Company performance; FF = Free float; AQ = Audit quality; CA = Company age; CS = Company size; ε = Error

4. Statistical summary, analysis and results

4.1. Descriptive Statistics

We display descriptive statistics in **Table no. 2**.

Table no. 2. Descriptive Statistics

Variable	N	Min.	Max.	Median	Mean	SD
Dependent Variables						
MBV	320	-14.78	165.30	1.05	4.50	14.40
ROA	320	-0.21	0.66	0.03	0.05	0.09
ROE	320	-7.48	1.76	0.07	0.06	0.54
ROCE	320	-0.39	1.68	0.06	0.11	0.24
TATO	320	-0.06	1.28	0.14	0.20	0.22
Tobin-Q	320	-0.59	120.86	0.51	2.07	9.04
Independent Variables						
Free float share	320	0.23	66.78	22.76	25.78	15.24
Audit fee	320	7.81	10.60	8.84	8.86	0.52
Audit tenure	320	1.00	7.00	3.00	2.93	1.62
Audit Ind. Specialist	320	1.00	2.00	1.00	1.33	0.47
Auditor size	320	1.26	3.34	2.96	2.93	0.32
Control Variables						
Company size	320	10.99	14.42	12.34	12.42	0.70
Company age	320	4.00	87.00	36.00	36.44	13.49

Source: Authors' processing, following the Smart-PLS 3.0 output.

4.2. Analysis and results

The results of the analysis and the statistical testing of the relationships between variables are described in **Table no. 3**.

Table no. 3. Statistical Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistic (|O/STDE|)	P Values
AQ→CP	0.318	0.328	0.048	6.618	0.000***
FF→CP	-0.028	-0.024	0.042	0.663	0.254
CS→CP	-0.267	-0.275	0.056	4.793	0.000***
CA→CP	0.481	0.481	0.067	7.233	0.000***

The symbols ***, ** and * denote significance level at the 1%, 5% and 10%, respectively.
Source: Authors' processing, following the Smart-PLS 3.0 output.

As presented in **Table no. 3**, results show that Audit Quality (AQ), as defined by audit fees, audit tenure, auditor industry specialization and auditor size, has a significant, positive impact on company performance (CP), as defined by MBV, ROA, ROE, ROCE, TATO and Tobin-Q, indicated by the p-value 0.000. Overall, the results indicate that audit quality plays an essential role in the success of a company measured in terms of performance. The optimal quality of auditing services provided by an auditor can provide additional value to the auditee and improve its performance (Azizkhani et al., 2018; Clinch et al., 2012; Hua et al., 2016; Martinez and Moraes, 2014; Mukhlasin, 2018; Robu et al., 2016).

However, free float of share (FF) has no significant impact on company performance (CP), as shown by the statistical p-value 0.254 (**Table no. 3**). This result could be explained by the fact that, in a country with an emerging stock market, such as Indonesia, the ownership of shares is still concentrated within a group of companies or a private conglomerate. Moreover, many companies still have a low percentage of free float share indicated by the minimum free float value 0.23 (**Table no. 3**), which could explain why the free float of share does not significantly influence company performance.

Among the control variables, company size (CS) is negatively correlated with company performance (CP); which indicates that bigger companies, with higher concentrated ownership structure and less free float share percentage, will perform less compared to the rest of the companies. Company age (CA), however, exhibits a significant positive association with company performance (CP); which suggests that the older the company is, the more experience it has in order to survive and compete on the market, with a bigger free float of share percentage owned by the public. Moreover, the positive impact of company age on company performance could be explained by the longer experience the firm has in dealing with auditors, managing capital markets and stakeholders.

5. Conclusion

This study empirically examines the effect of free float of shares and audit quality (audit fees, audit tenure, auditor industry specialist and auditor size) on company performance (MBV, ROA, ROE, ROCE, TATO and Tobin-Q), for 80 public manufacturing companies listed, from 2013 to 2016, on the Indonesian Stock Exchange (IDX), an emerging stock market with concentrated share ownership characteristics.

The results of our analysis provide empirical evidence that free float shares have no influence on company performance, which can be explained by the concentration of capital ownership in public Indonesian companies operating in the manufacturing sector during the chosen time frame. The results of this study are in line with the research conducted by Ding and Zhong (2016), who observed no significant correlation between free float of shares and share liquidity, especially for countries such as Indonesia, with emerging stock markets, due to concentrated share ownership and small percentage of free float, which has usually a negative effect on company performance (Yurtoglu, 2000). For this reason, the implications of these results for regulators are to encourage public companies to increase free float shares, so that ownership is not concentrated in a single group, which could improve company performance. Our results also show that audit quality has a significant positive effect on company performance.

The results of this study cannot be, however generalized to all types of industries, for which future research is needed that could also include others proxies for company performance, such as corporate governance, marketing aspects or social and environmental responsibility. Based on previous research, the results of this study contribute to the literature and could constitute a reference for future research on the impact of free float share and audit quality on company performance, especially in the emerging stock markets, such as Indonesia.

REFERENCES

1. Afkhami, A., Hashemi, M. H., & Hashemi, M. H. (2012). The Role of Stock Free Float in Investment Decisions in Iran (Tehran) Stock Exchange. *IPEDR*, *54*(15), 75–79. https://doi.org/10.7763/IPEDR
2. Ani, M. K. A., & Mohammed, Z. O. (2015). Auditor Quality and Firm Performance: Omani Experience, *European Journal of Economics, Finance and Administrative Sciences* (74), 13–23.
3. Ararat, M., & Ugur, M. (2003). Corporate governance in Turkey: An overview and some policy recommendations. *Corporate Governance: The International Journal of Business in Society*, *3*(1), 58–75. https://doi.org/10.1108/14720700310459863
4. Ardelean, A. (2015). Perceptions on Audit Quality Based on the Ethical Behavior of Auditors. *Audit Financiar*, *XIII.Nr.3* (123), 61–67.
5. Azizkhani, M., Daghani, R., & Shailer, G. (2018). Audit Firm Tenure and Audit Quality in a Constrained Market. *The International Journal of Accounting*, *53*(3), 167–182. https://doi.org/10.1016/j.intacc.2018.07.002
6. Bala, H., Amran, N. A., & Shaari, H. (2018). Audit Fees and Financial Reporting Quality: A Study of Listed Companies in Nigeria. *International Review of Management and Business Research*, *7*(2), 483–490. https://doi.org/10.30543/7-2(2018)-17
7. Bostanci, F., & Kilic, S. (2010). The Effects of Free Float Ratios on Market Performance: an Empirical

Study on the Istanbul Stock Exchange. *The ISE Review*, *12*(45), 1301–1604.

8. Chen, H., Chen, J. Z., Lobo, G. J., & Wang, Y. (2011). Effects of audit quality on earnings management and cost of equity capital: Evidence from China. *Contemporary Accounting Research*, *28*(3), 892–925. https://doi.org/10.1111/j.1911-3846.2011.01088.x
9. Clinch, G., Stokes, D., & Zhu, T. (2012). Audit quality and information asymmetry between traders. *Accounting and Finance*, *52*(3), 743–765. https://doi.org/10.1111/j.1467-629X.2011.00411.x
10. Cueto, D. C. (2009). Market Liquidity and Ownership Structure with Weak Protection for Minority Shareholders: Evidence from Brazil and Chile. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1410197
11. Deangelo, L. E. (1981). Auditor Size and Audit Quality. *Journal of Accounting and Economics*, *3*(May), 183–199. https://doi.org/10.1016/0165-4101(81)90002-1
12. Ding, X. S., Ni, Y., & Zhong, L. (2016). Free float and market liquidity around the world. *Journal of Empirical Finance*, *38*(71303155), 236–257. https://doi.org/10.1016/j.jempfin.2016.07.002
13. Duska, R. F., & Duska, B. S. (2003). *Accounting Ethics: Foundation of Business Ethics*. Oxford, U.K.: Blackwell Publishing Ltd.
14. Ezzell, W. F. (2002). "Chair's corner," The CPA Letter, November. *American Institute of Certified Public Accountants*, *4*, 4.
15. Fang, L., Wang, J., & Yuan, H. (2013). Stock Liquidity and the Pricing of Earnings: A Comparison of China's Floating and Non-floating Shares. *Emerging Markets Finance and Trade*, *50*(3), 140–157.
16. Farnia, P., & Janani, M. H. (2015). Study the relationship between the percentages of free float exchange with PE ratio in the firm listed in Tehran Stock Exchange. *Journal of Science and Today's World*, *4*(2), 53–57.
17. Farouk, M. A., & Hassan, U. (2014). Impact of Audit Quality and Financial Performance of Quoted Cement Firms in Nigeria. *International Journal of Accounting and Taxation*, *2*(2), 1–22.
18. Gul, F. A., Kim, J. B., & Qiu, A. A. (2010). Ownership concentration, foreign shareholding, audit quality, and stock price synchronicity: Evidence from China. *Journal of Financial Economics*, *95*(3), 425–442. https://doi.org/10.1016/j.jfineco.2009.11.005
19. Houmes, R., Forley, M., & Cebula, R. J. (2013). Audit Quality and overvalued equity. *Accounting Research Journal*, *26*(1), 56–74.
20. Hua, S. C., Hla, D. T., & Isa, A. H. M. (2016). Malaysia Financial Reporting Practices and Audit Quality Promote Financial Success: The Case of Malaysian Construction sector, *UNIMAS Review of Accounting and Finance 1*(1), 15.
21. Huang, A. G., & Fung, H. G. (2005). Floating the non-floatables in China's stock market: Theory and Design. *Emerging Market Finance and Trade*, *41*(5), 6–26.
22. InvestorDaily. (2019). Aturan Free Float Efektif Januari 2016. Retrieved from https://id.beritasatu.com/home/aturan-free-float-efektif-januari-2016/136486
23. Johnson, V. E., Khurana, I. K., & Reynolds, J. K. (2002). Audit-Firm Tenure and the Quality of Financial Reports. *Contemporary Accounting Research*, *19*(4), 637–660.
24. Kothari, S. P. (2001). Capital market research in accounting. *Journal of Accounting and Economics*, *31*, 105–231. https://doi.org/10.1016/S0165-4101(01)00030-1
25. Martinez, A. L., & Moraes, A. J. (2014). Association between independent auditor fees and firm value: A study of Brazilian public companies. *Journal of Modern Accounting and Auditing*, *10*(4), 442–450. https://doi.org/10.1177/0269216313489367
26. Matoke, V. N., & Omwenga, J. (2016). Audit Quality and Financial Performance of Companies Listed in Nairobi Securities Exchange. *International Journal of Scientific and Research Publications*, *6*(11), 372–381.
27. Moutinho, V., Cerquera, A., & Brandao, E. (2012). Audit Fees and Firm Performance. *SSRN Electronic Journal*. DOI.10.2139/ssrn.2180020.
28. Mukhlasin, M. (2018). Auditor Tenure and Auditor Industry Specialization as a Signal to Detect Fraudulent Financial Reporting, *Academy of Accounting and Financial Studies Journal 22*(5), 1–10.

29. Nokambe, M. N., & Garkaz, M. (2015). The effect of corporate governance features on stock price in the companies of Tehran stock exchange. *Indian Journal of Fundamental and Applied Life Sciences*, *5*(3), 219–225.

30. Ozer, B., & Yamak, S. (2001). The Role of Market Control on the Relation between Ownership and Performance: Evidence from Turkish Market. *SSRN Electronic Journal*, 1–16.

31. Rezaei, E., & Tahernia, A. (2013). The relationship between the percentages of free float shares and liquidity of shares in the companies accepted in Tehran Stock Exchange. *African Journal of Business Management*, *7*(37), 3790–3798. https://doi.org/10.5897/AJBM12.373

32. Robu, I. B., Grosu, M., & Istrate, C. (2016). The Effect of the Auditors' Rotation on the Accounting Quality in the Case of Romanian Listed Companies under the Transition to IFRS. *Audit Financiar*, *XIV.Nr.1* (133), 65–77.

33. Sailendra, S., & Suratno, S. (2014). Faktor-Faktor Fundamental, Kondisi Makro Ekonomi dan Return Saham Perusahaan Pertambangan di Bursa Efek Indonesia. *Jurnal Riset Akuntansi Dan Perpajakan*, *1*(1), 1–14.

34. Salmon, W. (1989). Four Decades of Scientific Explanation*. University of Minnesota Press, Minneapolis*.

35. Sayyar, H., Basiruddin, R., Elhabib, M. A., & Abdul Rasid, S. Z. (2015). The Impact of Audit Quality on Firm Performance: Evidence from Malaysia. *Journal of Advanced Review on Scientific Research*, *10*(1), 1–19.

36. Slaheddine, T. (2015). Relationship between Earning Quality and External Audit Quality. *Arabian Journal of Business and Management Review*, *5*(2), 1–7.

37. Sulong, Z., Gardner, J. C., Hussin, A. H., Sanusi, Z. M., & McGowan, C. B. (2013). Managerial Ownership, Leverage and Audit Quality Impact on Firm Performance: Evidence from the Malaysian Ace Market. *Accounting & Taxation*, *5*(1), 59–70.

38. Tseng, T. Y. (2012). Impact on Agency Problem of China's Reform of the Split-Share Structure. *Emerging Markets Finance and Trade*, *48*(3), 35–44.

39. Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation and emotion into the technology acceptance model. *Information System Res.*, *11*(4), 342–365.

40. Yurtoglu, B. (2000). Ownership, control, and performance of Turkish listed firms. *Emprica*, *27*, 193–222.

41. Zraiq, M. A. A., Fadzil, F. H. (2018). The Impact of Ownership Structure on Firm Performance: Evidence from Jordan. *International Journal of Accounting, Finance and Risk Management*, *3*(1), 1–4.

Audit financiar, XVII, Nr. 2(154)/**2019**, *283-297*
ISSN: 1583-5812; ISSN on-line: 1844-8801

Perceptions Regarding the Impact of IFRS 15 - Illustrative Examples Step by Step

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Abstract

As users' needs become larger, entities need to adapt their provided information. Thus, financial reporting suffers permanent changes. One of the recent changes that occurred at entities that report in line with the International Financial Reporting Standards, applicable from 2018, highlights the IFRS 15 revenue recognition approach, which amends IAS 18 and is based rather on a related approach transfer of control than on the commonly used risk transfer and benefit approach.
The areas that best reflect these changes are telecommunications, software development, real estate investment and construction.
In this paper it is emphasized the impact of the new IFRS 15 standard on income recognition, highlighting various illustrative examples.

***Keywords**: IFRS 15, income recognition, customer contracts*
***JEL Classification:** M41*

To cite this article:
Farcane, N., Blidişel, R. G., Bunget, O.C., Dumitrescu, A. (2019), Perceptions Regarding the Impact of IFRS 15 - Illustrative Examples Step by Step, *Audit Financiar*, vol. XVII, no. 2(154)/2019, pp.283-297,
DOI: 10.20869/AUDITF/2019/154/011

To link this article:
http://dx.doi.org/10.20869/AUDITF/2019/154/011
Received: 4.02.2019
Revised: 14.03.2019
Accepted: 27.03.2019

1. Introduction

Changes, such as the evolution of global markets, the rapid development and dissemination of technology, customer requirements related to product differentiation, affect the organizational environment. At present the ability to adapt to change is one of the most useful features in the recipe of success.

The need to have financial statements that contain comparable information at international level has increased in Romania, especially in the public interest entities, but also in order to assess the performance in the whole business environment. One of the reporting frameworks that provide an important benchmark for this comparability is the International Financial Reporting Standards (IFRS).

Once with the economic changes, financial reporting has been in trend, so the technique underlying the accounting logic was a resource that has been continually modified according to user requirements.

In Romania, convergence towards compliance with IFRS has taken place over the last few years, the Romanian regulations being very close to international standards, but there are a number of differences that lead to different profit / loss results. Additionally, IFRSs have been amended, and are reflected in the amendments to national law that are mandatory for those entities that apply IFRSs.

The paper contains three significant parts, highlighting some of the latest changes to IFRS, namely IFRS 15, addressing the conceptual and legal framework, perceiving the impact of the new IFRS 15 on income recognition with illustrative examples, and benchmarking IFRS 15 against IAS 18.

2. Literature review

In recent decades, both in the international and national contexts, revenues accounting was intensely debated (eg Wüstemann J. & Kierzek S., 2005, Nobes CW, 2006, Gîrbina M., 2014, Grigoroi L., 2017), it was investigated the notion of revenue, being recommended new criteria for classifying them according to the purposes of the use of the information and examining problems of their recognition.

IFRS 15 "Revenue from contracts with customers" comes with a comprehensive approach, currently invalidating IAS 11 "Construction Contracts", IAS 18 "Revenue", IFRIC 13 "Customer Loyalty Programs", IFRIC 15 "Agreements for the Construction of Real Estate", IFRIC 18 "Transfers of Assets from Customers" and SIC-31 "Revenue - Barter Transactions Involving Advertising Services".

IFRS 15 "Revenue from contracts with customers" has combined all the recommendations regarding the recognition of revenues, which previously existed within different standards and changed conceptually the approach of their recognition (Grigoroi L., 2017).

IFRS 15 responds to different business models and reflects the real consequences of modern and complex economic transactions, important issues that radically distinguish it from the standards it replaces, avoiding the favouring of the short-term perspectives and of the volatility as regards the revenue recognition (Grigoroi L., 2017).

In Romania, officially, the mandatory application of IFRS for the economic and financial operations, carried out with emphasis in the individual annual financial statements, started on January 1st, 2013 for entities listed on a regulated market, according to OMFP no. 881/2012, respectively OMFP no. 1286/2012.

Moreover, some entities, especially those owned by foreign shareholders, apply both Romanian regulations and IFRSs, especially in reporting to the mother company.

Accounting regulations in line with International Financial Reporting Standards (IFRS) have recently been amended through OMFP no. 3189/2017, bringing substantial changes, among which we mention the replacement of IAS 18 by IFRS 15. The initial regulation was given by OMFP no. 2844/2016. We can consider the equally applying of IFRS 15 policies to the entities, being substantially identical to ASC 606 of the US GAAP, thereby ensuring thus a comparability across Europe and the United States of America.

IFRS 15 "Revenue from contracts with customers", applicable in Romania since 2018, although referring to the recognition of revenues from contracts with customers, is also a guide to the costs incurred in obtaining and fulfilling the terms of contracts with customers as well as current rules on receivables, contractual rights and obligations. Therefore, besides the significant impact on the financial performance and

financial position situation, IFRS 15 also has an economic and legal impact at entity level.

IFRS 15 leads to a change in revenue recognition in general, with greater impact on telecommunications, software development, real estate investment and construction. The new revenue recognition model under IFRS 15 is based on a transfer control approach rather than the commonly used risk transfer and benefit approach in accordance with IAS 18 (Buhăescu O., 2019).

At national level, the accounting regulations (OMFP no. 3189/2017) complying with IFRS have brought to the fore the responsibility of the administrator or another person who is required to manage the entity including for the estimates made which form the basis of the accounting records and for determining the nature of economic and financial operations, depending on their economic reality.

According to OMFP no. 3189/2017 the expenses representing marginal costs of obtaining a contract, namely costs of fulfillment of a contract and which, according to IFRS 15, meet the criteria for recognition as assets, are recorded by nature, with the simultaneous reflecting of the related asset as follows:

474	=	713
"Deferred amounts related to obtaining and performing a contract"		*Revenue related to the cost of obtaining and fulfilling a contract "*

Amounts are to be staggered, according to the contractual provisions, being recognized as expenses of the period (account 6588 "Other operating expenses" / analytically distinct).
The main objective of this paper is to explore the provisions of IFRS 15 "Revenue from contracts with customers", highlighting the novelty of its content that results in changes in the way in which income is recognized and reported for entities that apply mandatory or voluntary IFRSs in Romania.

3. Research methodology

This paper analyzes the new approaches to IFRS 15, proposing solutions and practical applications and helping to improve accounting and financial reporting of revenues with a direct impact on the decisions taking.

In the paper, we used qualitative research methods, pursuing the broad interpretation of policies and options for financial recognition and reporting of revenue under the new IFRS 15 "Revenue from Contracts with Customers".

Using critical and empirical arguments, this paper is part of fundamental research, aiming at acquiring new knowledge on new approaches to financial revenue recognition and reporting and, on the other hand, in applied research, in support of practitioners and for educational purposes through numerous practical examples. Our reasoning also takes into account the comparative analysis of IFRS 15 versus IAS 18, highlighting the elements that add value to the quality of financial reporting of revenues. The contribution of this paper is to interpret how the new requirements will cause entities to recognize and present their income, followed by practical examples.

The results of the research can be used both in practice for entities that apply mandatory or voluntary IFRS and for didactic purposes.

4. Step by step in perceiving the impact of the new IFRS 15 regarding the revenues' recognition: illustrative examples

When identifying the contract with a client, one of the five conditions that must be met to assess whether we are in the presence of a contract is *the probability that the entity will recover the equivalent to which it is entitled.*

What does it mean and how does this condition is applied?

The requirement for recoverability is to integrate the customer's credit risk assessment into determining the validity of a contract (i.e. the probability that the entity will recover the equivalent to which it is entitled in exchange for goods or services).

It should be noted that according to IFRS an event is "probable" if it is "more likely than unlikely to occur" and the introduction of such a threshold obliges entities to determine whether the contract is valid and is a genuine transaction. Although this conclusion is subjective and

based on judgment or reasoning, IFRS 15 provides guidance and asserts that this assessment takes into account the "ability and intent" of the customer to pay the consideration for which the entity is entitled (in reality, no contracts with entities with high credit risk).

When determining the equivalent of the performance (even if it is variable due to a price concession), it has to be assessed according to the customer's ability and willingness to pay.

Determining the probability of recovery is very important in accordance with IFRS 15. If the recovery condition is not met, then it is not possible to recognize the revenues of ordinary activity (and hence the cash accounting method will be used) and any equivalent received is recorded as a liability (i.e. as deferred income) to one of the following situations:

- the parties have approved the contract and have committed themselves to fulfilling their obligations,
- the entity can identify the rights of each party with respect to the goods or services to be provided,
- the entity may identify the terms of payment for the goods or services to be provided,
- the contract has a commercial substance and
- it is probable that the entity will recover the fee to which it is entitled in the future in the exchange. [IFRS 15.9].

In order to identify the performance obligations of the contract, the obligations regarding the promised goods or services will be identified.

In accordance with IFRS 15, a "performance obligation" refers to a promised separate good or service (that is, according to a promise in a contract).

A contract includes goods or services promised explicitly but also implicitly. An implicit promise stems from the standard business practices. Identifying the promised good or service involves the exercise of judgment or professional judgment. For example, if an item or activity provides an asset to the client, even a less significant one, is it a "promised good or service" to determine whether there is a performance or execution obligation?

Based on the conclusions of IFRS 15, "... all goods or services promised to a client under a contract give rise to an execution obligation because the promises were made in the context of the negotiated agreement between the entity and its client."

Also, in line with the Basis of conclusions of IFRS 15, entities "are not exempt from accounting or recognition of service obligations that the entity may consider unimportant or implemented only in accordance with the form. The entity shall only determine whether those performance obligations are insignificant in relation to its financial statements."

When all goods or services are identified as explicitly or implicitly promised in the contract, it will be necessary to assess whether those goods or services are execution obligations.

In order to assess what constitutes a performance obligation (performance), it must be determined whether:

- the good or service is distinct [IFRS 15.22 (a)];
- the good or service is part of a series of separate goods or services that are essentially the same and are provided to the customer at the same pace [IFRS 15.22 (b)].

Of course, the identification of the performance obligations requires once again the exercise of reasoning.

4.1. Identifying a distinct service or asset

In accordance with IFRS 15, in order for a good or service to be considered distinct or separate, two very precise conditions must be met:

- the client must be able to benefit (obtain economic benefits) in respect of the good or service in question in isolation or in combination with other available resources (i.e. the good or service may exist separately) [IFRS 15.27 (a)];
- the good or service can be identified separately from other goods or services under the contract (i.e. it is presented separately under the contract) [IFRS 15.27 (b)].

Factors indicating that a customer is in a position to seize or obtain economic benefits related to a good or service either in isolation or in combination with other readily available resources includes that the service or asset may be:

- used, consumed or sold for an amount greater than its residual value;
- held in another way that produces economic benefits.

An easily available resource is a resource that is usually sold separately. When a good or service is generally sold separately, it indicates that the customer can benefit from goods or services, taken separately or in combination with other readily available resources.

In particular, the following factors indicate that the promise of an entity to provide a good or service to a customer can be identified separately from other promises contained in the contract, namely:

- the entity does not carry out significant work integrating the good or service with the other goods or services promised in the contract to make it represent the group of goods or services that are the subject of the customer's contract. In other words, the entity does not use the asset or service as input to produce or deliver the results specified in the contract (IFRS 15.29 (a));
- the good or service does not substantially change or fails to adapt another client's good or service and has been promised in the contract (IFRS 15.29 (b));
- the good or service does not necessarily depend on other goods or services promised in the contract and is not closely related to it (IFRS 15.29 (c)).

EXAMPLES

a) Identify distinct (separate) goods

A truck manufacturer also sells full trucks and truck spare parts. When a customer purchases a complete truck, the truck consists of several inputs (such as engine, tires, bodywork etc.);

However, the customer does not receive these entries in isolation (such as only the engine, or just the tires). Entries are used to produce the outputs that are provided in the contract, in this case the truck.

Although the engine may be sold separately as a spare part and therefore the first condition relating to a separate good is fulfilled under a contract for the production of a complete truck, the engine is not considered a separate asset because it is an entry and the fact that the entity provides a significant service consisting of assembling the engine with the other goods and services provided in the contract, i.e. the engine does not exist separately under the contract.

Therefore, for this type of contract, the engine is not considered to be a separate asset or service and does not constitute a separate obligation of performance or execution.

This requirement is intended to simplify the application of the five-step model in the situations where an entity essentially provides the same good or service consecutively over a given period of time.

b) Separate or distinct series of goods

A manufacturer concludes a contract with a customer to supply a single set of similar personalized goods in a significant quantity that will be delivered consecutively and progressively. Under the contract, the customer acquires a right over ongoing production and gains control over it as the production process progresses.

The manufacturer has established an average cost estimate for the manufacture of the products and has also determined that the use of an input-based costing methodology for this specific contract is a good description of his benefit relating to the transfer of ownership control.

This contract refers to a series of distinct or separate goods which in fact constitute a single performance or obligation justified by the following aspects:

- the goods are similar and are delivered consecutively (i.e. for a period of N years);
- the contract is executed gradually and the client acquires a right to current production and gains control over it as production advances and therefore satisfies the condition of progressive recognition or accounting;
- the entity uses the same method (i.e. the cost of ownership method) to measure the extent to which the performance obligation related to the supply of each product is met.

Since the condition for a range of goods or services is met, the series must be accounted for as a single performance obligation. This treatment is not optional.

4.2. Separate service or good provided in the contract

What is the impact of outsourcing (sub-contracting) on the identification of performance or service obligations? For example, suppose a supplier offers a certain number of goods or services in a contract and these are offered to the client together. However, certain individual goods

or services required to deliver the whole may be subcontracted by the supplier.

Outsourcing should not affect the question whether the good or service is distinct. However, considering each good or service as a promise, we could not represent a true image (it would not accurately reflect) the nature of the entity's promise to the client or the benefit of the entity.

Subcontracting services

A builder signs a contract with a customer to build a home. Different goods and services are needed throughout the year and the construction process.

In a construction project, goods and services are usually integrated so that the customer obtains only one output and the contract as a whole is considered as a single obligation of performance.

For example, if the builder does not perform all the services required to produce the results stipulated in the contract. For example, he subcontracted electrical and sanitary works to an independent third-party contractor. Outsourcing or subcontracting some services changes the valuation so that the contract is no longer a single execution obligation? Does the outsourcing ability mean that services are distinct performance obligations?

In this example, even if the electricity and sanitary services are provided by a subcontractor (and therefore may exist separately), the producer does, however, an integration work because the nature of the promise is the delivery of the results stipulated in the contract (i.e. house).

We can say that outsourcing should not affect the question whether the good or service is distinct.

Since the two conditions relating to a distinct good or service (i.e. which may exist separately and which are distinct in the contract) are not fulfilled, the entire contract is a single performance obligation.

These subcontracting arrangements should, however, be taken into account in the light of the principal-agent relationship (i.e. the subcontractor acts as an agent). Considerations should also be given to entities acting on their own behalf or as agents listed in Annex B to IFRS 15.

At determining the transaction price, we are looking at issues that relate to the paytable value that may be variable, meaning it includes any amount that may vary within a contract, including, for example, performance bonuses, penalties, discounts, concessions on to price incentives and the right of the customer to return a product. This is considered as a component of the transaction price and is part of the equivalent that the entity expects to obtain in exchange for the supply of the promised goods or services; therefore, it must be estimated and included in the transaction price for the purpose of revenue recognition.

When this is variable, the entity shall estimate it using ***the estimated value method*** (i.e. an amount weighted with the probability of occurrence) or ***the most probable quantum method***, i.e. the method that most accurately calculates the amounts to be taken into account.

Note:

In all subcontracting relationships, the entity continues to act in its own name. The facts and circumstances of the relationship and the conditions involved must always be evaluated.

The entity must include in the transaction price all or part of the estimated value of the variable to be recovered, but only to the extent that it is highly probable that the subsequent cancellation of the uncertainty of the variable to be paid does not result in an adjustment to the significant decrease in value accumulated earnings.

EXAMPLE

On January 1, 20XX, an entity enters into a contract with a customer to sell a product with a total value of **100 M.U.** per unit, for one year.

If the customer *buys more than 180 units/year*, the total value will be 90 M.U. per unit (this discount will be applied retrospectively, so the price of the units purchased will be 90 M.U. per unit). Initially, the entity does not believe that the customer will buy more than 150 units.

However, on May 15, 20XX, taking into account the customer's acquisition rhythm, the entity declares that the client will achieve that objective. Let's assume that the purchasing pace is as follows: January - 30 units, February - 20 units, March - 25 units, and during May, until May 15, other 30 units.

Because the total 100 M.U. includes a fixed component (e.g. 90 M.U. per unit) and a variable

component (e.g. 10 M.U. per unit), an estimate of the variable amount should be made and determining if this estimate is subject a limitation.

Let's consider the following:

• **When signing the contract**

Based on past experience with this product and with this customer, the entity does not believe that the customer will achieve the desired target for the amount to be recovered to reach 90 M.U. The entity considers that there is a high probability that there will be no significant revenue adjustment as the expected purchases will not exceed 180 units and that the entity expects to be entitled to an estimate of 100 M.U. per unit rather than 90 M.U. per unit. The entity recognizes the total amount of the consideration, or the amount to be recovered, which is 100 M.U. per unit.

• **Issues related to the draws given**

- On March 31, 20XX

If the conclusions at the time the contract is concluded are still relevant, earnings for the period ended March 31, 20XX will be reported at 100 M.U. per unit.

- On May 15, 20XX

Currently, the entity estimates that, as a result of increased purchases, the customer will exceed 180 units. It is now very likely that there will be a significant downward adjustment.

As a result, earnings will need to be adjusted retrospectively to 90 M.U. per unit. This adjustment will be recognized in the current period, May 20 (i.e. in the second quarter).

Between January and March, the amount of revenue to be accounted will be **75,000 M.U.**, that is:

(30+20+25) units × 100 M.U./unit = **75,000 M.U.**

and in the April-May period will be of only **1,950 M.U.**,

i.e.:

(30 units × 90 M.U./unit – (100-90) M.U./unit ×
× (30+20+25) = 2,700 M.U. - 750 M.U. = **1.950 U.M.**

4.3. The impact of the significant funding component

IFRS 15 sets out the specific requirements for the "significant funding component".

The adjustment of the estimated value to be recovered in order to take into account the significant funding component aims to recognize income in an amount that reflects the "cash sale price or on-site payment" of the asset or service provided in the transaction at the time of which good or service is provided.

Contracts for which the payment by the client as well as the performance or performance of the entity is made at very different times are to be assessed to determine whether the contract has a significant financing component. In accordance with IFRS 15, to determine whether the contract has a significant financing component, the relevant facts and circumstances should be assessed.

To do this, you need to consider the following two factors:

a. the difference, if any, between the amount receivable and the cash sale price of the promised goods or services [IFRS 15.61 (a)];

b. the combined effect of the following two elements [IFRS 15.61 (b)]:

- the expected interval between the time the entity provides the goods or services promised to the customer and the moment when he pays them,
- existence of significant interest rates on the market.

EXAMPLE

Payment made in advance and estimated discount rate

This example accompanies IFRS 15 but is not an integral part of it. It is intended to illustrate aspects of this standard and not to provide interpretative guidance.

An entity enters into a contract with a customer to sell an asset. Asset control will be transferred to the customer within two years (delivery will be completed at some point).

The contract provides for two possible payment methods:

- payment of 8,000 monetary units (MU) in two years in which the client obtains control of the asset,

or

- 7,000 UM at the time of signing the contract.

The customer chooses to pay 7,000 MU upon signing the contract. The entity concludes that the contract includes an important funding component due to the period that elapses between the time the client pays the asset and the moment the entity transfers the customer's asset, as well as taking into account prevailing market interest rates.

The default interest rate on that transaction is 11%, i.e. the interest rate required for the two payment methods to be equivalent at the economic level. However, the entity determines, in accordance with paragraph 64 of IFRS 15, that the interest rate at which the adjustment of the value of the promised consideration should be used is 6%, which corresponds to the entity's marginal debt ratio.

Accounting treatment of the significant funding component:

a. Recognition of a contractual obligation in respect of UM payment of 7.000 received at the time of award of the contract:

5xx	=	4xx	7,000
Bank		Debt for contract	

b. In the two years following the conclusion of the contract and until the asset is transferred, the entity adjusts the amount of the promised amount to be recovered (in accordance with paragraph 65 of IFRS 15) and recognizes the contractual obligations by recognizing an interest at 7,000 MU, of 6% for two years.

66x	=	4xx	900
Interest expense		Debt for contract	

c. Recognition of revenue in respect of the assets transfer:

4xx	=	7xx	4,900
Debt for contract		Ordinary revenues	

As a simplification, the entity is not required to adjust the transaction price in a contract to take into account the effects of an important component of financing if it is expected to receive the payment no later than twelve months after the supply of the good or service.

ANOTHER EXAMPLE

An engineering consultancy firm signs a 2-year contract to provide a consultancy service to a builder for electricity works in a new multi-billion trading complex.

Under the contract, the builder will make payments to the consultant at certain dates specified in the contract. Let's assume that the engineering firm has determined that this contract is a single execution / performance obligation that will be met progressively. The staggered payment amounts have been programmed to coincide with the benefit.

An amount representing 10% of each payment will be retained by the manufacturer and these deductions will be paid if the consultancy activity is complete and all complex electrical installations will be put into operation.

The engineering firm concludes that even if there is actually a delay between delivery and payment (that is a warranty retention), this delay is not a significant component of financing, since payments coincide with the provision of the entity and the retention of the guarantee only serves to protect the manufacturer against the possibility that the engineering firm will fail to fulfill its obligations under the contract. The reason for postponing the payment is therefore not related to funding, and the difference between the amounts is proportionate in relation to the reason for this difference.

However, if the contract provided for the manufacturer to make a payment equal to 50% of the total amount, at the time the contract was awarded, then there would be an important financing component. As the services will be provided for the entire duration of the two-year contract and not when the contract is signed, then the payment will no longer coincide with the benefit. This means that the entity will have to determine whether there is a significant funding component.

4.4. Returns or sales with returns right

Returns are a variable compensation form. IFRS 15 provides specific guidance for this type of variable. Entities in many sectors (for example, retail, industrial

products, consumer goods etc.) often offer customers the right to return for the purchase of certain goods, which may lead to:

- a full or partial reimbursement of the paid counterparty;
- a credit note applicable to amounts that are or will be owed to the entity;
- another product offered in return.

In accordance with IFRS 15, revenue is accounted for as follows:

a. **Recognizing revenue** for an amount equal to the one the entity expects to be entitled to. In making its assessment, the entity should apply the variable counterparty guidance, including the limitation of estimates. Consequently, for the assets for which it expects to return, the entity does not recognize income (since it is highly probable that a significant adjustment will occur),

b. Write **a debt** for the amount the entity expects to repay (that is, for the goods it is expected to return).

c. Write **an asset** with an appropriate entry in the cost of sales as a right to recover the goods when the refund is paid (i.e. this will be at the cost of the original stock without estimated costs for the recovery of the goods).

EXAMPLE OF MERCHANDISING RETURNS ACCOUNTING

A retailer has a stated policy that any product can be returned within 30 days, subject to a 20% limit (i.e. with a maximum return of 20% of the total purchases within 30 days).

On January 1st, 20XX, the retailer launched a new product at a stock value of 40 M.U. Returns were made over three months: January - 5% returns, February - 20% returns, March - 10% returns.

On April 1st, 20XX, the retailer concludes a new deal and sells 150 units of the new product at 50 M.U./unit.

Although the product has just been launched, there is a wide variety of possible recoverable or receivable amounts (the example is proven by the percentage of returns in recent months) and the retailer is unable to say that there is a large possibility decreasing adjustment, quite significant for the variable component.

As a result, the variable share – that is, 20% of the transaction price being returned – will not be accounted before May 1st, 20XX, when the period of 30 days given as the deadline will end. We will be able to use the recommended accounts in accordance with the Ministry of Finance Order no. 3189/2017, such as:

474 "Deferred amounts related to obtaining and performing a contract",

713 "Revenue from the cost of obtaining and performing a contract",

4761 "Repayment debts related to return sales",

4762 "Claims related to the right to recover products from customers".

Thus, we will have on **April 1st:**

%	=	371	6,000 (150 pcs.× 40 U.M.)	
4762		Stocks	1,200	
Right of recovery (20%)				
607			4,800	
Cost of sales				

and as the product is sold:

5XX	=	%	7,500 (1,500×50)
Banks		70X	6,000
		Ordinary revenue	
		4761	1,500 (20% ×
		Return debt	7,500 = 1,500)

and at **May 1st, 20XX***:*

4761	=	70x	1,500
Settlement Debt		Ordinary revenue	
607	=	4762	1,200
Cost of sales		Right of recovery	

when it comes to the end of the 30 days (assuming there is no return).

4.5. Loyalty or regular programs

A loyalty program that gives the customer a significant entitlement gives rise to a performance obligation, to

which a part of the total recoverable amount provided in the contract is to be allocated.

An entity has a customer loyalty program based on which the customer obtains 1 loyalty point for every 10 purchased monetary units (MU). Each item can be redeemed for 1 point discount on any future purchase of the entity's products. During a fiscal year, customers buy products worth 100,000 and receive 10,000 points for future purchases.

The amount to be recovered is an amount to be determined and the specific sales price of the purchased products is 100,000. The entity estimates that 8,000 points will be used or exchanged. Given this probability, it is estimated that the specific sales price of a point will be 0.80 (i.e. a total of 8,000) in accordance with paragraph B42 of IFRS 15.

The points give clients a significant right that they would not have granted in the absence of a contract.

The entity concludes that the promise of giving points is a performance or execution obligation. It distributes or allocates the transaction price (100,000) between **Revenue**s and **Points** based on the specific sale price criterion, as follows:

Revenues = 92,592, i.e. 100,000 MU × 0.925 (allotment of Specific Selling Price according to the ratio 100,000 ÷ 108,000)

Points = 7,408, that is 100,000 MU × 0.7408 (allocated Sales Price Specific, according to the ratio 8,000 ÷ 108,000)

or 100,000 – 92,592

At the end of the first year, 4,000 points were exchanged and the entity continued to wait for a total of 8,000 points.

We account for *earnings from ordinary loyalty points* as follows:

4,000 (4,500 points ÷ 8,000 points) = **2,250**

and

a contractual liability of **1,750** = (4,000 – 2,250), as unused or unchanged points at the end of the first year period.

At the end of the second year, an amount of **7,500** points was used.

The entity updates the estimate of the points to be exchanged and expects to now make a total of 8,000 points.

It recognizes revenue from ordinary activities in terms of loyalty of 1,500, which is obtained as the difference between:

3,750 [(total redeemed points 7,500 ÷ total points that should have been exchanged 8,000) × initial allocation of 4,000 MU] and **2,250** (the amount that was recognized in the first financial year).

The debt balance is **500** MU (the initial allocation of 8,000 - the usual cumulative recognized activities of 7,500) or 8,000 – 4,000 – 3,500.

5. Parallel - Recognition of revenues under IFRS 15 versus IAS 18

The current IAS 18 disclosures provide applying the criteria for recognizing identifiable components, separately for a single transaction (for example, the case of S.C. ALFA: phone + monthly subscription). However, IAS 18 does not provide any indication regarding how to identify these components and how to allocate the sale price.

One way was to recognize the revenue from selling full monthly subscriptions as the service was provided and no income for the phone - the cost of the handset being treated as the cost of the customer's purchase.

Some companies have identified these components, but have then limited the revenue assigned to the sale of the phone to the amount received from the customer (more precisely zero), a form of a residual method.

For simplification, we suppose that S.C. ALFA does not recognize revenue from selling the phone because it offers it for free. The cost of the receiver is recognized in the profit or loss account and effectively, S.C. ALFA treats this as a new client's acquisition cost.

Revenue from monthly subscriptions is recognized monthly. The accounting record is to debit the receivables or petty cash /bank and to credit the income by 100 M.U., the cost of the receiver remaining at the expense, and the coverage of the receiver will be made

until the contract is concluded by including proportionally the monthly invoiced revenues based on the subscription.

However, if we wish to recognize the income in accordance with IFRS 15, we can follow the case below:

SC ALFA must initially identify the contract (step 1); in this case it is a 12-month subscription with the client "Ana", paid monthly for 100 M.U., offering free of charge the phone, which can be sold individually with 500 M.U./piece.

SC ALFA must identify all delivery obligations in the Ana's contract (step 2) of the five-step model:

Step 1. Obligation to deliver a receiver

Step 2. Obligation to provide network services for 12 months (1 year)

The transaction price (**step 3**) is 1,800 M.U., representing the equivalent of the monthly subscription of 150 M.U. for 12 months.

SC ALFA must allocate the transaction price of 1,200 M.U. for individual contract obligations based on their relative sales prices (or their estimates) - this being **step 4**.

Obligation / Benefit	Individual selling price	% of total income	Revenue (relative sales price = 1,200*%)
Receiver	500	21.7%	395.60
Network services	1,800 (or 150×12)	78.3%	1,404.40
Total	**2,300**	**100%**	**1,800.00**

Step 5 is the recognition of revenue, when S.C. ALFA has fulfilled its execution obligations or performance.

Thus:

- When S.C. ALFA gives a **receiver** to Ana, it must recognize the income of **395.60 M. U.;**
- When S.C. ALFA provides **network services** for Ana, it must recognize a total revenue of **1,404.40 M.U.** during the 12 months. It's basically to record once a month, when billing takes place.

Description	Amount	Debit	Credit	When recording takes place
Telephone Receiver	**395.60**	**461 -** Settlement Income	**707X** (P/L) - Income from the sale of goods	When the handset is handed over to Ana
Network services	**117** (= monthly invoicing)	**411** Receivables to Ana	%	When network services are provided - monthly, according to the contract with Ana
	84 or (1,404.40/12)		**704X** (P/L) - Revenue from network services	
	33 (or 395.60/12)		**461** Revenues to be settled	

The biggest impact of the new IFRS 15 standard is that companies will report profits in a different way, and profit reporting patterns will change. In our telecommunication example, S.C. ALFA reported losses at the start of the contract and then continued profits under IAS 18 because it recognized revenue as invoiced to customers.

In accordance with IFRS 15, the profits reported by S.C. ALFA are the same in total, but the pattern of their recognition over time is different.

Why is it important to take this distinction into account? It is important due to the fact that some contracts exceed an accounting period (a financial exercise). These long-term contracts, earnings reported in incorrect accounting periods, could result in incorrect taxation, different stock exchange reporting, and other representational consequences.

If we look at the financial situation of S.C. ALFA, and we assume that this contract started on July 1st, 20XX and the end of the financial year of S.C. ALFA is December 31, 20XX, we will see deferred amounts of total revenue recognized in the 20XX financial exercise.

Execution obligation/ Revenues recognized	In accordance with IAS 18	In accordance with IFRS 15
Receiver	0.00	395.60
Network Services	900 (150×6)	702 (117×6)
Total	**900.00**	**1,097.60**

EXAMPLE

Goods production companies and contract changes

SC Beta PC, a computer manufacturer, signs a contract with S.C. Gamma to deliver **400** computers for a total price of 800,000 M.U. (2,000 M.U. per computer).

Because of the necessary arrangements, S.C. Gamma agrees to deliver computers in four separate delivery periods in the next four months (100 computers per period). SC Gamma takes over the computers on delivery.

After the first delivery stage, S.C. Gamma and S.C. Beta PC **changes the contract**.

SC Beta PC will provide 200 additional computers (600 in total).

How should S.C. Beta PC recognize the revenues related to this contract for the year ended at December 31,20X1 if:

- **Option A:** The price for the other 200 computers was set at 380,000 M.U., that is 1,900 M.U. per computer. SC Beta PC has offered a 3% discount for additional delivery, reflecting normal volume reductions provided in contracts similar to other customers.
- **Option B:** The price for 200 additional computers was set at 300,000 M.U., that is 1,500 M.U. for each computer. SC Beta PC has offered a great discount for extra delivery as it hopes for future cooperation with S.C. Gamma (but nothing has been discussed so far).

Until December 31, 20X1, S.C. Beta PC delivered 500 computers (400 as initially agreed and 100 on the basis of the contract amendment).

5.1. Revenue under previous rules (IAS 18)

By defining revenue in accordance with IAS 18, delivery revenue is simply accounted at the time of delivery, for the fair value of the performance made for the computers – which is any sum of the scenarios above.

IAS 18 does not require consideration to be given as to whether this additional delivery reflects or not the stand-by selling price.

Of course, again we are turning away from the "commercial substance", "transfer prices", "dumping prices" - this is just an example.

Income for the year ended at December 31, 20X1:

- For **Option A:** 800,000 M.U. (for the first 400 computers at 2,000 M.U. / piece) + 190,000 M.U. (other 100 computers delivered at 1,900 M.U. / piece) = **990,000 M.U.** (for all 500 computers delivered).
- For **Option B:** 800,000 M.U. (for the first 400 computers at 2,000 M.U. / piece) + 150,000 M.U. (100 additional computers at 1.500 M.U. / piece) = **950,000 M.U.** (for all 500 computers delivered).

5.2. Revenue in accordance with IFRS 15

In this approach, the additional contract is the typical change to the contracts, namely the change in *the number of computers* and *the total change in the transaction price*.

The IFRS 15 standard specifies how to account the changes in the contract, depending on the terms of the change.

There are two basic types of contract modification:

I. Amendment of the contract is considered as a separate contract

The resulting changes can be considered as a separate contract when two criteria are met:

- Additional products and services under the change must be distinct from the products or services in the original contract.
- In both scenarios, this is accomplished, as the additional computers are quite different from the original computers.

- - The anticipated price of the additional goods / services must reflect the individual (independent) selling price of these goods or services.

II. Modification of the contract is not a separate contract

If the above criteria are not met (or one of these is not met), then the change of the contract is not considered a separate contract, and the accounting depends on a further analysis.

For our case, we came to the conclusion that *the additional goods are distinct*, the main question is whether the additional extension reflects their independent sales prices.

Option 1: 3% discount for additional delivery.

The price of additional computers really reflects their sales prices because S.C. Beta PC normally offers a discount to exceed 3% of a buyer's quota.

Therefore, *this contract amendment is counted as a separate contract*, and the revenue for 20X1 (for the 500 delivered computers) is:

- 800,000 M.U. of the initial contract for 400 computers, at 2,000 M.U. / piece;
- 190,000 M.U. of the contract change for the other 100 additional computers delivered.

The total revenue for 20X1 is, therefore, **990,000 M.U.** - exactly as in IAS 18.

Option 2: Significant reduction in additional delivery

Here, it is clear that the price of additional computers *does not reflect their independent selling prices*, as the significant reduction is exceptional and is linked to the general contract with S.C. Gamma.

This means that *the second criterion is not met*.

Accordingly, the contract modification is NOT a separate contract but is associated with the original contract.

In this case, because additional goods are distinct, ***we must take into account, as we complete the original contract, to start the new one***.

We must simply acknowledge the revenue from the delivery made prior to the change of the contract under the initial contract.

For the remaining products of the original contract and for the additional goods, we recognize the total income of:

- That part of the value of the initial contract, which has not yet been recognized as revenue (that is, the price of the goods to be delivered); to which will be added
- the agreed payment in the contract modification.

We need to allocate this amount to individual or individual computers in this case.

In Option B, the contract was modified after *the first delivery*, so that S.C. Beta PC must recognize the revenue for the first 100 computers, according to the original contract:

- 200,000 M.U. for the first **100 computers** x 2.000 M.U. for each computer.

The total price of the transaction to be allocated after the contract is modified is:

- 600,000 M.U., being part of the initial value related to **300 unallocated computers** (400 per contract, less the first 100 delivered, to 2,000 M.U. per unit) related to the contract before the modification;
- 300,000 M.U., being the total for another **200 computers** at 1,500 M.U. / piece;
- **Total: 900,000 M.U.**

According to IFRS 15, we need to allocate this 900,000 M.U. for 500 computers in total (300 were not delivered before the contract modification + 200 additional computers), which means that S.C. Beta PC allocates 1,800 M.U. to a computer (900,000 / 500).

What is the total revenue recognized in 20X1 when the 500 computers were delivered? Let us calculate:

- Income for the 100 computers delivered before the contract modification: **200,000 M.U.**, i.e. (100 computers × 2,000 M.U. / computer)
- Revenues for the 400 computers delivered after the contract modification: **720,000 M.U.** (400 computers × 1,800 M.U. / computer);
- **Total: 920,000 M.U.**

Here we can clearly see that in this second scenario (for additional delivery with significant reduction):

• **In accordance with IAS 18**, the recognized income for the year 20X1 is **950,000 M.U.**

This amount includes 800,000 M.U. (for the first ***400 computers*** at 2,000 M.U. / piece) + 150,000 M.U. (100 additional computers at 1,500 M.U. / piece). We note that it is not take into account the moment when the contract change occurred.

The revenue to be recognized in the next period remains of 100 computers with 1,500 M.U. / computer, i.e. 150,000 M.U.; which leads to a total of **1,100,000 M.U.** for the entire contract.

• **In accordance with IFRS 15**, the income for the year 20X1 is of **920,000 M.U.**

This amount includes ***100 computers delivered before the contract modification***: for 100 computers × 2,000 M.U. / computer, that is 200,000 M.U. and ***400 computers delivered after the contract modification***: 720,000 M.U. (400 computers × 1,800 M.U. / computer).

The revenue to be recognized in the next period remains 100 computers at 1,800 M.U. = 180,000 M.U.; which leads to a total of **1,100,000 M.U.** for the entire contract.

In this situation, it is taken into account the moment when the contract change occurs.

We notice that totals are the same! Of course, the moment of revenue recognition is different. And precisely this moment can affect taxes, dividends, financial reports and everything.

Conclusions

In the last decade, a positive trend in improving the accounting regulations has been noted, being developed in terms of quality according to the economic and legal aspects of the entities in the context of modernization.

The paper addresses this aspect, giving a comprehensive insight into the novelty elements of the entity's current income recognition approach.

IFRS 15 "Revenue from contracts with customers" contains a new revenue recognition model and suggests a significant increase in disclosure requirements, with influences including information systems and internal data collection and reporting processes.

The IFRS 15 approach eliminates the different revenue recognition models, determined by the nature of the transaction (construction contracts, freight, provision of services, etc.), which had different principles and were sometimes difficult to understand and apply to more complex transactions.

Applying the unique model for all industries greatly improves the content and quality of information provided by entities as well as the level of comparability of revenue recognition practices in different areas.

Although the definition of income has not changed and has retained its meaning and content previously, IFRS 15 introduces new concepts such as customer contracts, transaction price, exposures, income recognition for multiple-item commitments, identification of execution obligations in a contract, assignment of transaction price to contract obligations, etc.

Contracts have become a fundamental element in initiating the revenue recognition process, IFRS 15 being applied only to those contracts where the co-contractor is a client.

The moment of income recognition refers to the notion of transferring control over the asset to clients rather than passing on the risks and benefits of the asset to customers, as considered in IAS 18.

IFRS 15 takes into account the principles of an entity for reporting useful information to users of the financial statements about the nature, value, timing, and uncertainty of revenue and cash flows arising from a contract with a client.

The new standard calls for the exercise of professional judgment by introducing the term "contract-related", which represents the entity's right to a consideration in exchange for the goods or services transferred by the entity to a client, where that right is conditional upon anything other than the passage of time. If that right is conditional only on the passage of time, then receivables are recorded.

In this case, it is important to understand the differences between the assets of the contract and the receivables, taking into account the risks associated with the seller's rights on the contra-payment of the contract. Both the asset of the contract and the receivables are subject to the risk of insolvency of the buyer. But, in addition, a contract asset is subject to other risks such as the risk of non-performance by the seller of its obligations (performance risk).

IFRS 15 has made a significant contribution to the harmonization and compatibility of the various revenue recognition and reporting practices, using a common revenue recognition model applicable to customer

contracts, irrespective of the industry in which entities operate, thus creating the premises for ensuring comparability.

REFERENCES

1. Buhăescu, O. (2019), Creşterea utilizării IFRS în România, available at https://www2.deloitte.com/ro/ro/pages/tax/articles/schimbarile-propuse-in-impozitarea-veniturilor-care-ar-fi-impactul-pentru-salarii-si-activitati-independente.html
2. Efremidis, D. (2015), Darstellung des neuen Standards IFRS 15 „Umsatzerlöse aus Verträgen mit Kunden "und dessen Auswirkungen auf die Automobilzulieferindustrie. Accessed at: https://www.grin.com/document/308056
3. Gîrbină, M. (2014), Noi prevederi internaţionale privind recunoaşterea veniturilor (IFRS 15 Venituri din contractele cu clienţii) (I şi II), *Curierul Naţional*, Issues from July 19 and July 31.
4. Grigoroi, L. (2017), Venituri din contractele cu clienţii: aspecte-cheie din perspectiva IFRS 15, *Journal „ECONOMICA"*, no. 4(102), pp. 61-71.
5. Hagemann, T. (2015), IFRS 15–Erfassung von Umsatzerlösen aus Kundenverträgen. *IFRS*, 15, pp. 25-41.
6. Mihalache, S (2016), Conservatorism şi optimism în contabilitate: prudenţă versus valoare justă – partea a II-a, CECCAR Business Magazine, *Expertiza şi auditul afacerilor*, no. 2, 5-11 April 2016.
7. Nobes, Christopher W. (2006), Revenue Recognition and EU Endorsement of IFRS, *Accounting in Europe*, 3:1, pp. 81-89.
8. Ramolla, M. (2016), Die neuen Vorschriften zur Umsatzrealisierung nach IFRS 15 – Eine kritische Analyse der gesetzten Ziele und notwendigen Umsetzungsmaßnahmen. In: *Malms I. (eds) Erfolgreiche Abschlussarbeiten - Internationale Rechnungslegung. Springer Gabler, Wiesbaden*, pp. 205-247, available online at: https://link.springer.com/chapter/10.1007/978-3-658-13005-3_6
9. Wüstemann, J & Kierzek, S (2005), Revenue Recognition under IFRS Revisited: Conceptual Models, Current Proposals and Practical Consequences, *Accounting in Europe*, 2:1, pp. 69-106.
10. Zdebel, R., & Isaac, M. (2017), Umsatzerlöse aus Veträgen mit Kunden nach IFRS 15. Herausforderungen aus der Umstellung für die Automobilindustrie. Accessed at: https://www.grin.com/document/380304
11. IFRS IN PRACTICE 2018 IFRS 15, Revenue from Contracts with Customers, available at https://www.bdo.ch/getmedia/265aaa8c-3a92-4692-bb4f-3010d0f469c6/IFRS-in-practice 2018_IFRS15.pdf.aspx.
12. IFRS 15 Revenue from Contracts with Customers, YOUR QUESTIONS ANSWERED, available at https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/audit/ca-en-your-questions-answered_IFRS%2015_eFINAL%20FINAL-s.pdf.
13. OMFP no. 881/2012 on the application by companies whose securities are admitted to trading on a regulated market of International Financial Reporting Standards, published in the Official Gazette. no. 424/26 June 2012.
14. OMFP no. 1286/2012 for the approval of the Accounting Regulations in compliance with the International Financial Reporting Standards applicable to companies whose securities are admitted to trading on a regulated market, published in the Official Gazette no. 687/4 October 2012.
15. OMFP nr. 2844/2016 for the approval of the Accounting Regulations in accordance with the International Financial Reporting Standards, published in the Official Gazette no. 1020/19 December 2016.
16. OMFP no. 3189/2017 regarding the modification and completion of the accounting regulations in compliance with the International Financial Reporting Standards, approved by the OMFP no. 2844/2016, published in Official Gazette no. 1001/18 December 2017.

Audit financiar, XVII, Nr. 2(154)/**2019**, *298-305*
ISSN: 1583-5812; ISSN on-line: 1844-8801

The Security of Accounting Information – A Perception-Based Analysis of the Practitioners from Romania

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Abstract

The associated risks of the technologies currently used in the accounting field, relating to the difficulty of maintain the security of data, are still significant due to the complexity of the systems used which, in addition to the benefits they bring in accounting processes, generate a number of challenges in maintaining the fundamental characteristics of data. To address the current lack of well-trained practitioners for them to be able to reduce these risks, the international professional bodies support the need of developing a sufficient set of skills for accountants, by raising the awareness level of the impact that security incidents may have. At the same time, there is a gap between the skills that students acquire and the requirements of the business environment, an aspect that favors the increase and the impact of cyber-attacks. The purpose of this paper is to investigate the perception of data security of the practitioners in the field of accounting and auditing and the extent to which they believe that the information they receive is sufficient while examining the different types of actions of the professionals that may affect the security of accounting information. The results of the research show that the professionals are aware of the good practices of maintaining the fundamental characteristics of the data and understand the impact of incorrect information management, but a significant part of the study participants believes that does not receive enough information on data security from companies and professional organizations.

Keywords*: information security, perception of the practitioners, phishing, risks, accountability*

JEL Classification*: M14, M15, M41, M42*

To cite this article:
Rîndaşu, S-M. (2019), The Security of Accounting Information – A Perception-Based Analysis of the Practitioners from Romania, *Audit Financiar*, vol. XVII, no. 2(154)/2019, pp. 298-305, DOI: 10.20869/AUDITF/2019/154/012

To link this article:
http://dx.doi.org/10.20869/AUDITF/2019/154/012
Received: 22.02.2019
Revised: 24.02.2019
Accepted: 11.03.2019

1. Introduction

The security of information has become one of the main challenges of organizations, as a result of the increased digitalization and process automation. Continuous access to information and real-time reporting of accounting data have become over the years the main objectives of companies to prove transparency and increase the level of confidence of investors.

To remain competitive and maintain the normal performance in optimal conditions, in the current context in which the information flow is continuous and grows exponentially, most companies are choosing to use technological solutions for process automation and time reduction, needed by the practitioners to manage information, which has led to an increased risk of exposing confidential and sensitive data, that may result in financial losses.

At the international level, professional bodies have been pursuing in recent years to increase the awareness level of the exposure risks of data by introducing concepts and control methods in the curricula of future practitioners (ACCA, 2018).

In the relevant literature there are studies that deal with the issue of the security of accounting information in terms of IT applications and solutions, but less attention has been paid to the level of understanding the need to secure information and how practitioners contribute to the decrease or increase of the risks generated by the digitalization of the processes. The objective of this paper is to investigate the extent to which accountants and auditors from Romania understand and protect the data and understand the expectations of the companies and professional bodies.

2. Literature review

The changes in the role of practitioners along with the evolution of IT systems and applications used to manage the activities requires a realignment of the practitioner's working skills to efficiently manage the volume of data, both in terms of the content of the financial data and maintaining and improving the characteristics of the data: confidentiality, integrity and availability. The changes in financial reporting and processes have generated different needs of investors and management and ensuring optimal security of systems and working procedures used is not optional (No and Vasarhelyi, 2017).

The relevant literature in the field of accounting information security proposes methods which can be used by practitioners to maintain data confidentiality (Hawker, 2005; Seetharaman et al., 2017; Bawaneh, 2018) by reviewing the user access rights to applications, using cryptographic solutions, implementing effective internal controls to reduce vulnerabilities and creating a set of procedures to maintain the security, but due to the complexity of current and emerging technologies that can be adopted in accounting, these methods do not fully cover the variety of risks.

Due to the fact that future and current professionals develop the skills needed to practice this profession through two sources, training from the professional bodies and the academic environment, one must consider how they both contribute to the continuous development and training of accountants and financial auditors. To prepare future and current practitioners to respond properly to the needs of the business environment, the international professional bodies have begun in the last years to draw attention both to the need to acquire a sufficient set of working skills with current and future technologies and to protect data, by avoiding incorrect manipulation or exposure and creating controls that are sufficient to reduce the information security risks (ACCA, 2016). However, in the ACCA report, we only find little information about how practitioners can cover these risks, so the sphere of knowledge that needs to be developed is not fully defined. In the author's opinion, professional bodies should provide a clear set of tasks that accounting practitioners need to develop in order to reduce the impact of existing vulnerabilities.

ICAEW (2015) urges practitioners to develop their digital skills to understand and use new technologies to manage the increasing amount of information and raise a flag to highlight the risks associated with the incorrect manipulation of data that may end up jeopardizing the confidentiality of it. At the same time, the ICAEW proposes a new representation where the role of the accountant distances from traditional image to a new role based more on financial analysis activities and management forecasts.

Long-term expectations are that more and more emerging technologies will be integrated and used in the

accounting departments to respond to the market competition. Thus, the set of IT skills that current and future accountants need to develop is in a continuous change, but according to the relevant literature, there is currently a gap between the requirements of the business environment and the study programs offered by the universities, due to the lack of an active communication (Blount, 2016). As academic education is the foundation of professional training, it is vital to review the curricula so that universities keep students active and improve their ability to integrate into the workplace. Accounting faculties must therefore respond urgently to changes resulting from the increasing adoption of emerging technologies, otherwise, there is a risk that more and more potential students may choose other study programs that will provide them with a sufficient knowledge base.

In Romania, as per the study conducted by Stanciu and Rîndaşu (2017), the majority of public accounting faculties offers a double specialization, both in the accounting and management information systems fields, but the authors conclude after analyzing the plans studies in master and undergraduate programs, that only in a few cases were included in the syllabus subjects such as management information systems, data security, IT audit and emerging technologies, which are currently among the most demanded competencies by the business environment. This result confirms the gap between the skills that practitioners develop within the academic environment and the expectations of the companies and the non-alignment of the university training to the new requirements will determine in the medium and long term the failure to meet the skills needed by the employers as a result of the review employment requirements and an increase in the number of security incidents due to the diversity and importance of information. However, according to the study by Stanciu and Tinca (2018), the lack of well-trained staff is only a part of the causes of the incidents, the other part being the lack of budgets and the complexity of implementing effective controls.

3. Research methodology

The aim of this paper is to analyze the perception of accountants in the field of information security and to find out whether they consider themselves well prepared enough to cope with the challenges of maintaining the fundamental characteristics of the accounting information. At the same time, the research includes elements to determine whether practitioners are behaving correctly in order to reduce data security risks and whether they have sufficient information to act appropriately in the event of a cyber-attack. To accomplish this goal, we have made a qualitative empirical research in the form of a survey of 20 questions with one or more variants and Likert scale questions.

The questionnaire was addressed solely to accounting practitioners, particularly those in financial accounting and auditing and was sent to potential respondents through professional social networks and online practitioners' groups. The responses were collected between January and February 2019 and 137 responses were received, one response being disregarded as the participant was not part of the target group, therefore having 136 valid answers.

Analyzing the years of experience in the field, the average is of 10 years and this result is one of the first conclusions of this research: the fact that there is a maturity of the participants, who should have sufficient knowledge about the information security and demonstrate correct data protection behaviors. Analyzing participants' responses to affiliation with professional bodies, 73 practitioners, representing 53.67% of the total of respondents to the questionnaire, are members of at least one professional organization.

The big companies adopt new technologies much easier because they have higher budgets for investment, which is why we considered it appropriate to take into account the size of the companies, having in mind the idea that companies with more than 250 employees have more knowledge about data security. Analyzing the results, the majority of respondents (44.8%) works in large companies, 39% in medium-sized companies with less than 250 employees and 16.2% work in organizations with less than 10 employees.

4. Results and discussions

The questionnaire consists of four sections, the first investigating the experience in the field and the affiliation with professional bodies. In the second part of the research, the study focused on analyzing the quality and quantity of knowledge

regarding the security of information that the participants receive both from the companies for which they work and from the professional bodies. The majority of practitioners (88.2%) who responded to the survey believe that organizations should provide training programs to improve data security, but only 63.2% confirmed that they had attended such courses. As a result, organizations may need to pay more attention to this issue, as IT vulnerabilities are not universal, with every IT infrastructure having its own characteristics and challenges.

Due to the fact that the human factor continues to represent a significant element that can diminish or accentuate the risks of exposure or loss of information, companies need to realize the importance that training programs can have in reducing risks that can generate financial losses and a decrease in the investors' level of confidence (Colwill, 2009). Over time, social engineering methods have improved and generated more attacks due to a lack of staff well-trained to recognize them and the most effective solution to combat is through effective training sessions (Greitzer et al., 2014).

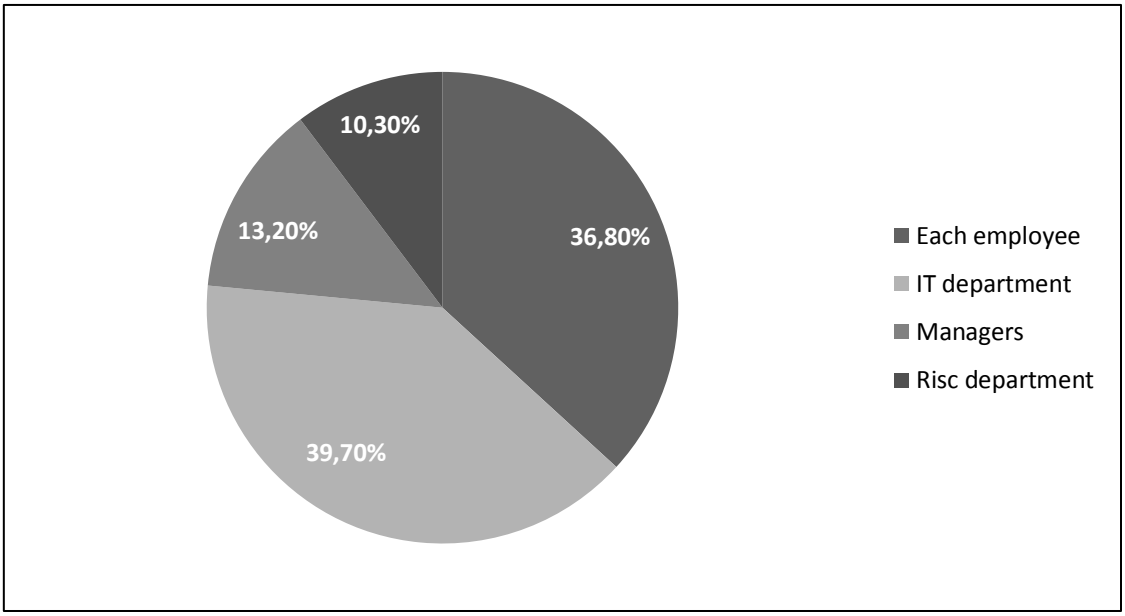
From those 53.7% participants who are members of national and international professional organizations, 54.79% consider that they have enough information on data security, 31.50% says they receive some information, but consider that it is not enough and the rest the participants responded that did not receive any information in this respect. This result indicates a gap between the long-term professional training plans and the business environment expectations. Information security is indeed a complex subject, which requires continuous learning, but in the absence of a sufficient level of skills to protect sensitive and confidential data, the impact and frequency of cyber-attacks will increase significantly.

Since May 25, 2018, across all the countries of the European Union, the General Data Protection Regulation (GDPR) has entered into force and concerns the protection of personal data. Given that a significant part of the data in the accounting field is referring to individuals, this regulation should have led companies to provide training to employees in order not to disregard the principles of the regulation. A study conducted by Stanciu and Rindaşu (2018), two months before the GDPR came into force, made it clear that at that time only a relatively small percentage of practitioners in the Romanian accounting field received training on this matter. To analyze whether changes really took place one year after the regulation started to be applied, the participants from this current study were asked whether they were using personal data and if they had received training sessions from the companies. Analyzing the answers received, 77.9% of respondents use personal data, but only 66.03% of the 103 participants confirm that they have been trained. By comparing this result with that of the above-mentioned study, no significant changes are identified, a fact that should raise a flag, mainly due to the fact that if the companies are not complying with the GDPR can incur significant sanctions fees.

The questions from the third part of the survey aimed to investigate the actions of the practitioners that could affect data security. Thus, the respondents received a set of questions about the responsibility of data security, account management and passwords. After analyzing the answers received, there were identified some actions that increase the risk of incorrect data management: 4.4% of participants said they use the same passwords for accessing personal and professional accounts and 14% confirmed that in the teams they are working, account and application passwords are not individual, which may lead to fraud, if there are no unique means of identifying users. At the same time, after being asked if they shared the credentials within the team, 11% of the respondents answered in the affirmative and 3.7% confirmed that they had been asked for their passwords, but did not offer them. Such actions can have multiple and major consequences, even financial losses and should be addressed urgently by the companies.

In terms of the accountability to maintain the security of data, most respondents believe the IT department is responsible, followed by each employee, managers and risk department (**Figure no. 1**).

Figure no. 1. The perceptions of respondents about the responsibility of maintaining the security of the information



Source: Own processing, based on responses received from the participants

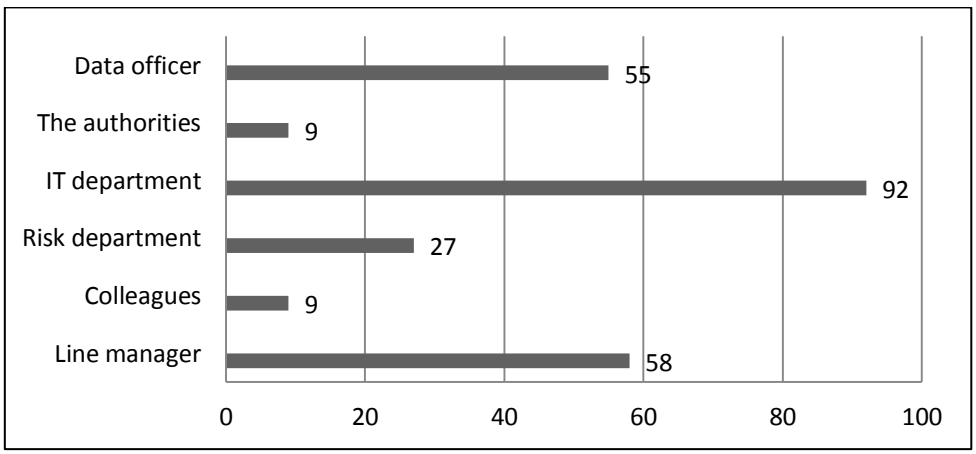
The answers provided show that over 60% of practitioners believe they are not responsible for the data security, aspect which raises concerns about how sensitive and confidential data is managed. IT departments may impose some preventive controls to avoid unauthorized access and data exposure, but these solutions fail to completely avoid such risks, especially when the staff in charge of handling the data does not have enough knowledge and adopts actions that are not following the best practices to avoid data loss.

In the last part of the questionnaire, the goal was to study participants' perceptions about their knowledge of data security. Considering that social engineering techniques continue to be one of the most important vulnerabilities, participants were asked if they had knowledge about phishing attacks and the majority (68.4%) responded affirmatively. This result should not be regarded as positive because of the fact that there is a significant population that does not have enough knowledge to avoid becoming a victim of such an attack. To reduce these risks, companies should initiate training campaigns to draw employees' attention to such dangers, but even in such cases, the relevant literature shows that the avoidance rate is not absolute due to the fact that this kind of attack is improving continuously and manages to pass undetected even by the trained employees (Alsharnouby et al., 2015).

The participants were asked if they thought they had enough knowledge to detect whether the laptop or computer they were using has been the target of a cyber-attack and 39.7% answered affirmatively, 19.1% said they could not detect it and 41.2% have no certainty that they could identify such a situation because they believe to have insufficient knowledge. According to the report by the Ponemon Institute (2018), on average, the existence of an attack is identified in 196 days, enough time for confidential data to be exposed.

Asked who they are addressing when detected that they have been the victim of a cyber-attack, most responded that they will alert the IT department, followed by the hierarchical superior and the data protection department (**Figure no. 2**). Even if employees have enough knowledge to detect a cyber-attack, it's important to know to who they can report to minimize possible losses. Therefore, companies must issue procedures that give clear indications, so that they can act as quickly as possible.

Figure no. 2. Points of contacts addressed by accountants when they suspect they have been the target of a cyber-attack



Source: Own processing, based on responses received from the participants

In the last question of the questionnaire, the participants self-evaluated on a 5-point Likert scale (0 - total disagreement, 5 - total agreement) the degree of awareness of the impact of data security, the level of knowledge, the importance of the data it manages and the impact they have in the risk reduction, the statistical analysis of the answers received from the respondents being detailed in **Table no. 1**.

Table no. 1. Statistical analysis of received responses

	Changes in the awareness level regarding the impact of data security	Having sufficient knowledge to ensure data security	There are activities performed by the practitioners that could affect data security	The managed information does not pose any risk
Average	3.94	3.57	2.85	2.72
Standard deviation	1.24	1.14	1.32	1.33
Minimum	1	1	1	1
No. min.	12	9	31	36
Frequency min.	8.82%	6.62%	22.79%	26.47%
Maximum	5	5	5	5
No. max.	59	30	16	13
Frequency max.	43.38%	22.06%	11.76%	9.56%
Median	4	4	3	3
SKEW	-1.15	-0.63	-0.02	0.09

Source: Own processing, based on responses received from the participants

According to the statistical analysis, most participants consider that they have lately changed their awareness of the impact that incorrect data security may have on organizations and believe they have an average level of knowledge to ensure the maintain of the fundamental features of the data. These results are consistent with the respondents' answers from the previous questions and it can be noted that most practitioners show relatively reasonable behavior, even in the absence of training sessions. Also, regarding the existence of

activities that could affect the security of the managed data, most consider that they do not contribute to the existing risks and are aware of the impact of inappropriate data manipulation, but in the same time it should be taken into account that this output has been achieved as a result of a self-evaluation of the participants on their own skills, the purpose of the work not being to test the real level of knowledge.

Conclusions

In this paper it has been studied the perception of the practitioners from the accounting field regarding data security by focusing on the following aspects: the quantity and quality of the information received from the companies and professional bodies, the responsibility for the preservation of the data quality and the perception of the associated risks.

Although the professional bodies emphasize the importance of information security, a significant percentage of members believe that the information received is not enough or in some cases is completely missing and the companies they are working for do not provide adequate training to create a sufficient knowledge base to address security issues. In order to overcome this gap, both professional organizations and companies need to pay more attention to effectively manage the vulnerabilities of the accounting data and systems used.

In terms of data protection accountability, most practitioners show relatively reasonable behavior, but due to the fact that they do not receive enough information, they do not believe they can fully manage the risks generated by the data used. The practice of shared accounts and access codes is an aspect that significantly increases the risk of data integrity and companies should review their procedures to avoid maintaining these vulnerabilities.

The practitioners consider that they have enough knowledge to manage the data correctly and believe that over the years their awareness level over the impact has increased, result that it is also reflected in their behavior. These opinions should be seen with some skepticism, being merely subjective opinions of the respondents, who are not subject to an assessment of the level of knowledge on data security. There is a significant number of respondents who consider that their activities don't pose any risk, although they manage personal data without the proper training.

The human factor continues to be a significant element in maintaining information security, but in the absence of the adequate support and procedures that can provide sufficient knowledge to effectively manage vulnerabilities, the risks associated with accounting data continue to pose a challenge. After analyzing all of the respondents' answers, it is highlighted the existence of a gap between the needs of companies and the support they provide to practitioners, in order to be able to respond to current needs and act as caretakers of sensitive and confidential data.

REFERENCES

1. Alsharnouby, M., Alaca, F., & Chiasson, S. (2015), Why phishing still works: User strategies for combating phishing attacks, *International Journal of Human-Computer Studies*, 82, pp. 69-82.
2. Bawaneh S. (2018), Securing Information Technology for Banks and Accounting Information Systems, *International Journal of Applied Engineering Research*, Vol.13, 6 (2018), pp. 3291-3300
3. Blount, Y., Abedin, B., Vatanasakdakul, S., & Erfani, S. (2016), Integrating enterprise resource planning (SAP) in the accounting curriculum: a systematic literature review and case study, *Accounting Education*, 25(2), pp. 185-202
4. Colwill, C. (2009), Human factors in information security: The insider threat–Who can you trust these days?, *Information security technical report*, 14(4), pp. 186-196.
5. Greitzer, F. L., Strozer, J. R., Cohen, S., Moore, A. P., Mundie, D., & Cowley, J. (2014), Analysis of unintentional insider threats deriving from social engineering exploits, *IEEE Security and Privacy Workshops*, pp. 236-250
6. Hawker, A. (2005), *Security and control in information systems: A guide for business and accounting*, Routledge
7. ICAEW (2015), *Providing leadership in a digital world*, available at https://www.icaew.com/-

/media/corporate/files/technical/information-technology/technol ogy/providing-leadership-digital-full-report.ashx (accessed on February 17, 2019)

8. No, W. G., & Vasarhelyi, M. A. (2017), Cyber-security and continuous assurance, *Journal of Emerging Technologies in Accounting*, 14(1), 1-12.
9. Ponemon Institute (2018), *2018 Cost of Data Breach Study: Global Overview*, available at https://www.ibm.com/downloads/cas/861MNWN2 (accessed on February 17, 2019)
10. Regulation (EU) 2016/679 (General Data Protection Regulation) of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, which repeals Directive 95/46/EC
11. Seetharaman, A., Patwa, N., & Niranjan, I. (2017), Role of Accountants and Auditors in Mitigating Digital Crimes, *Journal of Applied Economics & Business Research*, 7(1).
12. Stanciu V. & Rîndaşu S. (2017), Emerging information technologies in accounting – are the aspiring professional accountants prepared to face the challenges? A case study of Romanian universities, *Proceedings of the 29th International Business Information Management Association Conference*, 2455-2467
13. Stanciu, V. & Rîndaşu, S., (2018), The Impact of General Data Protection Regulation in The Accounting Profession – Evidences from Romania, *Journal of Information Assurance & Cyber security*, Vol. 2018
14. Stanciu, V., & Tinca, A. (2017), Exploring cybercrime–realities and challenges, *Accounting and Management Information Systems*, 16(4), 610-632
15. The Association of Chartered Certified Accountants (2018), *Strategic Business Leader (SBL) Syllabus and study guide*, available at https://www.accaglobal.com /conte nt/dam/acca/global/PDF-students/acca/SBL/Strategic-Business-Leader-syllabus-and-study-guide-D17.pdf (accessed on February 17, 2019)
16. The Association of Chartered Certified Accountants (2018), *Market change is faster than ever – is your finance function in the race?*, available at https://www.accaglobal.com /content/dam/ACCA_Global/Technical/fin/PI-Market-change-is-faster-than-ever%20-is-your-finance-function-in%20-the-race.pdf (accessed on February 17, 2019)

Audit financiar, XVII, Nr. 2(154)/**2019**, *306-326*
ISSN: 1583-5812; ISSN on-line: 1844-8801

Transparency of Real Estate Markets: Conceptual and Empirical Evidence

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Abstract

The expansion of international real estate investment has also created the need for more transparency on real estate markets. In this context, the paper aims at identifying the dimensions and trends of the transparency of real estate markets in 31 states, mostly European, in correlation with their economic development. Applying the Principal Component Analysis (PCA), t-Student test and regression analysis highlighted the strong and significant associations of transparency quantified by the Global Real Estate Transparency Index with the institutional environment, macroeconomic factors, technology, innovation and the social environment. The results of the research show that the most competitive and robust countries have the most transparent and mature real estate markets. Technology, innovation, infrastructure quality and expanded business networks imply new trends in transparency in developed countries. In emerging and developing countries, the quality of governance and lack of corruption are prerequisites for transparency in real estate markets.

Keywords: *transparency, Global Real Estate Transparency Index, real estate markets, Europe, competitiveness, corruption.*

JEL Classification: *F21, F62, F63, H50, R11*

To cite this article:
Ionaşcu, E., Mironiuc, M., Anghel, I. (2019), Transparency of Real Estate Markets: Conceptual and Empirical Evidence, *Audit Financiar*, vol. XVII, no. 2(154)/2019, pp. 306-326, DOI: 10.20869/AUDITF/2019/154/013

To link this article:
http://dx.doi.org/10.20869/AUDITF/2019/154/013
Received: 5.02.2019
Revised: 10.02.2019
Accepted: 20.03.2019

Introduction

Globalization has boosted the importance of transparency in real estate markets due to the demand from international investors (Razali and Adnan, 2012). According to CBRE - *Commercial Real Estate Services* (2018), low market transparency is one of the major obstacles to real estate investment. The lack of transparency with opaque and secure financial instruments related to real estate was also one of the main causes of the 2008 financial crisis (Gorton, 2008). Thus, transparency becomes a fundamental factor in the efficient functioning of real estate markets, because it facilitates decision-making and coordinates the actions of market participants. To ensure a transparent business environment, regulatory bodies have a considerable role to play in influencing access to information and, at the same time, can reduce market uncertainties (Banerjee, Davis and Gondhi, 2018).

The purpose of this research is to analyse the transparency of real estate markets from 31 states, most of them European countries, taking into account the factors that literature and practice recognize as the determinants of transparency (institutional environment, macroeconomic environment, technology and innovation, the social environment and the environment surrounding). The hierarchy of their actions and the assessment of the level of association between market transparency measured by the Global Real Estate Transparency Index (GRETI) and the factors/variables of interest are made by principal components analysis (PCA), the t-Student test and regression analysis.

The analysis has shown that the most competitive countries, with a robust institutional environment also have the most transparent markets. For these countries, we can talk about new trends in transparency accentuated by the high level of technology, innovation, infrastructure and extensive business networks. In emerging and developing countries, high transparency must be ensured through the quality of governance and lack of corruption.

The paper respects the basic structure of a scientific article. The review of the literature has made it possible to identify the theoretical link between transparency and the functioning of the real estate market. The research methodology explains the approach and the results, related discussions are presented in a distinct section. The main contributions of the paper are presented in the CONCLUSIONS part.

1. Literature review

The review of literature aims to outline the link between transparency and the real estate market by researching the concept of transparency and placement in the context of real estate.

1.1. Information transparency – approaches and views

Transparency is a multidimensional concept; its substance propagates in processes of social, economic, political, etc. Transparency is defined and analysed according to the specific area of use (Drew et al., 2004). In literature, transparency is presented either by addressing the information sender or by addressing the information receiver. Authors oriented towards the sender define transparency through the accessibility, availability and clarity of the transmitted information, while the ones oriented towards the receiver emphasize the understanding and perception of information (Wehmeier and Raaz, 2012). Most authors adopt the first approach to define informational transparency.

Baraibar-Diez, Odriozola and Sánchez (2017) and Hillebrandt (2017) differentiate transparency, by content, as value and transparency as a policy (**Table no. 1**). From the point of view of value, transparency is associated with an ideal state of society, where the rule of law and good governance operate with public decision-making and the free circulation of information. In literature, transparency is correlated with other values such as efficiency, trust, responsibility, autonomy and control, confidentiality, fairness and legitimacy (Heald, 2006, p. 60), accessibility and freedom of information (Birkinshaw, 2006, p. 183). In the context of the European Union, transparency is considered to be the central value of the "democracy cluster" (Hillebrandt, 2017, p. 23). Transparency as a policy is highlighted by the legal rules implemented to facilitate access to information. Information is provided by citizens' access to public documents. These documents, apart from being accessible, must also be reliable, as Lon Fuller (1964) argues in his book "Morality of the Law" (Hood, 2007, p. 194).

Table no. 1. Presentation of transparency as a value and transparency as a policy

	Transparency as a value	Transparency as a policy
Description	Dream	Deed
Nature of claim	Normative: "*as it ought to be*"	Empirical-theoretical: "*as it is*"
Form	Moral, ideal, virtue	Formal rules, practices, informal norms
Examples	"Right to know", "good governance"	"Access to documents", "public register"

Source: Hillebrandt, 2017, p. 21

In addition to the content, transparency needs to be explored contextually also. Baraibar-Diez, Odriozola and Sánchez (2017) think that the most appropriate way to analyse transparency is in the context of elements, such as political means and tools to achieve the objective of transparency. From this perspective, the invoked researchers identify institutional transparency, macro economically analysed, and individual transparency, micro economically analysed.

Transparency derives from the theory of institutionalism (Hood, 2001), which reflects the "sum of constraints" (Pohoață, 2006, p. 4) created by people who "structure political, economic and social interaction" (North, 1991, p.97). These fundamental constraints of the institutions include formal rules, constitution-based, laws, regulations, contracts, property rights, etc. and informal rules, such as conventions, codes of conduct, customs, traditions, etc. with the role of supporting the written ones (North, 1991). In the approach of economic neo-institutionalism, institutional theory "is constructed from a theory of human behavior combined with a theory of the costs of transacting", to which can be added the theory of production for analysing the role of institutions in creating economic performance (North, 1990, p 27). Ronald Coase in the article "The Nature of the Firm" (1937) presents the role of transaction costs in defining the firm and distributing private property rights (Allen, 1999). Transaction costs are costs necessary to inform and reduce uncertainty as a result of the information distributed asymmetrically among market participants (Buitelaar, 2004). At the same time, they generate profit opportunities by harnessing information, engaging creativity and entrepreneurial coordination in the dynamic process of the economy (Huerta de Soto, 2009). Thus, the increase in transaction costs is the result of "institutional innovations", which explains different economic and social development between states (Pohoață, 2006).

Even if there is now increasing interest in transparency, in literature, the concept is more approached as a tool for achieving an objective, and it is difficult to identify a clear definition of transparency. This reflects the "multidimensional nature" of transparency according to the context in which it is used (Baraibar-Diez, Odriozola and Sánchez, 2017, p. 480). Hood (2006, p. 3) states that "transparency is more often preached than practised, more often invoked than defined".

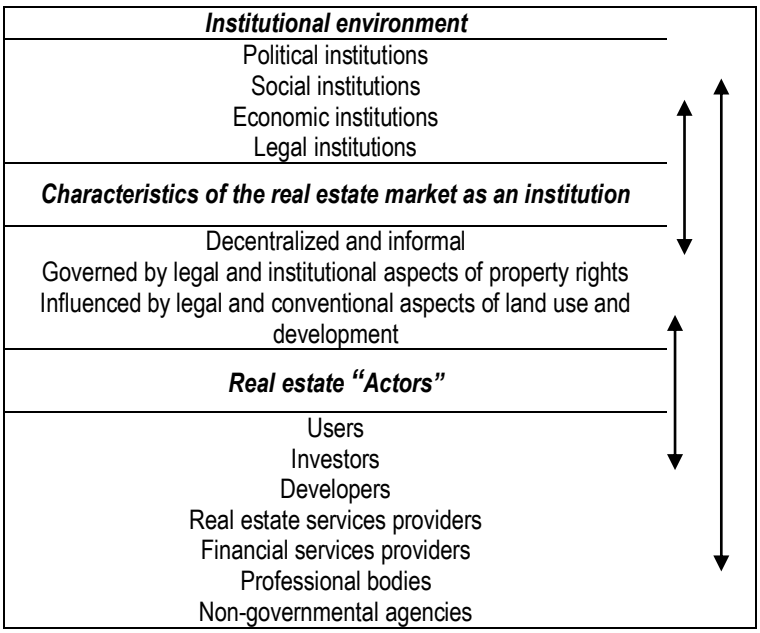
1.2. Transparency in the context of real estate markets

Schulte, Rottke and Pitschke (2005, p. 91) define the real estate market as transparent "when it becomes clear how the market mechanisms and the variables behind these mechanisms work". O'Hara (1995) refers to the ability of market participants to capture transaction process information to define market transparency. Thus, transparency is perceived both by the availability of information on the market and by the reaction of the participants. In the real estate industry, it is considered that a transparent environment can attract more investors to the market (Razali and Adnan, 2012).

Transparency in real estate needs to be addressed in relation to the intrinsic peculiarities of real estate, which determines the different functioning of the real estate market from that of any other market (Arnott, 1987). The general model of market price competitiveness, developed by neoclassical economists, is inappropriate for the real estate market, due to their specificity. The heterogeneity and location of real estate, which requires high search times and costs for potential buyers, imperfect information often available to market participants, decentralization of transactions, pricing through direct negotiations are some of the elements that characterize real estate transactions (Quan and Quigley, 1991).

The theory of institutional economics defines real estate as a good with multiple features of individual value. In this respect, Keogh and D'Arcy (1999) define the real estate market as an individual entity with its own characteristics, which determines its structure, purpose and function. The authors position the real estate market between the institutional environment and the "actors" operating on the real estate market (**Figure no. 1**). These institutional structures, delimited by their own standards, rules, and laws, relate to generating information flows that create the need for transparency in their delivery.

Figure no. 1. Real estate market in an institutional context



Source: Processed by Keogh & D'Arcy, 1999, p. 2407

The process of trading real estate is complex, lasting and with multiple interventions of different entities. The problem of price setting between the seller and the buyer is influenced by the transaction costs. Search costs, legal and administrative costs, adjustment costs, financial costs, and uncertainty costs are reflected in the property transfer process (Quigley, 2003). These costs determine the level of transparency of the real estate market, the higher the costs, the lower the transparency of the real estate market. Thus, the low level of transparency of the real estate market leads to informational asymmetry (Lieser and Groh, 2011). Asymmetric information in the economy is the result of the situation where some partners are better informed than the other participants in the transaction (Akerlof, 1970), leading to distorted results, unlike the efficient Pareto markets promoted by neoclassicals (Marinescu and Marin, 2011). Real estate markets distinguish sellers with superior information about local market conditions and property characteristics (Garmaise and Moskowitz, 2004). This situation leads to a premium type of liquidity for market participants with a large predominance of private information (O'Hara, 2003). Garmaise and Moskowitz (2004) support the importance of asymmetric information on market conditions in the organization of real estate transactions and the choice of financing option.

In the literature, reduced transparency is often associated with corruption, especially from public administration (Ball, 2009), which influences the real estate market mechanism. Ensuring market participants by facilitating access to reliable information by public authorities will thus enhance market efficiency.

Transparency of real estate markets is directly influenced by the maturity of the markets (Newell 2008).

The mature real estate markets are also the most transparent, reflecting the availability of market information (Keogh and D'Arcy, 1994). According to Keogh and D'Arcy (1994, p. 218), the main features of a mature market, closely related to transparency, are: the wide range of investment objectives; flexibility, both in the short and long term; complex professional environment associated with institutions and networking; expanded information flows and research activities; opening up in space, functional and sectoral terms; standardization of property rights and market practices.

Lindqvist (2012) defines transparency in the process of trading residential property in the European Union through: transparency in transaction procedures, accessibility to information and advice, transparency of property law, building permits and urbanization, transparency in funding, transparency of the taxation system and the transparency of transaction costs. Jones Lang LaSalle (JLL) (2004, 2006, 2018) defines the transparency of the real estate market through an open and organized market, based on a consistent legal and regulatory framework, respect for private property rights, lack of corruption and a competent professional environment.
In 2018, JLL adds a new dimension to transparency about reporting for a sustainable environment. Sustainability of real estate includes green building certificates, energy efficiency, carbon emissions reporting, green leases and financial performance of green buildings. Thus, by respecting and fulfilling these dimensions of transparency, it contributes to the sustainable development of real estate markets and, in general, development of the communities.

1.3. Measuring the transparency of real estate markets

Measuring the transparency of the real estate market continues to be elusive (Hollyer, Rosendorff and Vreeland, 2014). The complexity of measurement derives from the multiple dimensions of transparency that have distinct effects. For this reason, transparency must be appreciated from a context perspective, as recommended by the authors Baraibar-Diez, Odriozla and Sánchez (2017).

To measure informational transparency, the literature mentions as a proxy the media market and political institutions, and less, alternative dimensions such as the collection and dissemination of economic data (Hollyer, Rosendorff and Vreeland, 2014). The media market is represented by the freedom of expression (Brunetti and Weder, 2003), appreciated by the Freedom of the Press and the Freedom on the Net, calculated by Freedom House. These indices characterize the legal framework of the press, political pressures, economic factors and online restrictions that affect access to information. Other indicators of transparency are focused on the influence of the media, measured by the average daily circulation of 1.000 inhabitants by the World Bank (Adserá, Boix and Payne, 2003).

Transparency of the institutional environment is often associated with corruption, as measured by Transparency International's Corruption Perception Index (CPI) (Newell, 2008, 2016), the International Country Risk Guide on Corruption in the Political System Country Risk Guide, developed by the PRS Group (Cyan, Martinez-Vazquez and Vulovic, 2014), or the Transparency of Government Policymaking in the Global Competitiveness Report (Brandão-Marques, Gelos and Melgar, 2013).

In the economy, transparency is measured by the availability of economic information to the public, measuring the speed with which governments transmit data to the World Bank and the International Monetary Fund: Islam (2006), Williams (2009), Hollyer, Rosenforff and Raymond (2014). Empirical research on measuring the transparency of real estate markets is very limited (Newell, 2016). In empirical studies, transparency in real estate is perceived by researchers as a determinant of investment, and is usually included in an aggregate index, showing the overall state of the real estate investment environment, such as the Global Real Estate Risk Index (Chen and Hobbs, 2003), the Real Estate Potential Index (Lee, 2005) and the Global Investment Attractiveness Index (Lieser and Groh, 2011). As dimensions of transparency, authors use indicators of the legal framework, the socio-cultural and political environment, such as the Corruption Perceptions Index and the Global Real Estate Transparency Index (GRETI).

GRETI, developed in 1999 by Jones Lang LaSalle and LaSalle Investment Management, remains the most representative tool for assessing transparency in real estate markets. The indexing methodology has allowed comparability of data only since 2004. This index is calculated every two years by combining the quantitative variables collected from the market with the qualitative

ones, obtained through interviews and questionnaires, improving considerably over time (Newell, 2016). In addition, the areas of the assessed markets have been expanded, for example in 2001 the index reflects transparency in only 47 countries, in 2008 out of 81 countries, and in 2018 out of 100 countries. Transparency of real estate markets in 2018 is presented from the perspective of six sub-indices (last added in 2018), based on 186 transparency factors grouped by thematic domains: real estate investment performance (28.5%), availability of market information (16.5%), governance of listed instruments (10%), regulatory (25%), trading (15%) and real estate sustainability (5%) (JLL 2018). According to GRETI, the degree of transparency of real estate markets is appreciated by a five-tier scale, from 1 for high transparency, to 5 for opacity, according to the characteristics in **Table no. 2**.

Table no. 2. Characteristics of the transparency of real estate markets

Characteristics of …	High transparency	Low, opaque transparency	Measuring indicators
Real estate investment performance	High frequency and high information value performance indicators, regularly evaluated and specific across property types	The absence of financial reference indicators, reduced frequency of application and poor credibility of property valuations	Sub-index of performance measurement
The availability of information on the market	High quality and accessible databases that record market dynamics	Lack of statistics on current or historical markets	Sub-index of market fundamentals
Corporate Governance	Strong corporate governance, detailed and available financial statements	Poor corporate governance, undeclared and non-standardized financial statements	Sub-index of governance of listed instruments
Legislative regulations	Strict regulation, robust regulatory framework	Unstable regulatory framework, unpublished procedures and rules	Sub-index of regulatory and legal
Transaction process	A fair and consistent process for transactions, professional activities based on ethical standards and good international practice	Incorrect and inconsistent transaction process, lack of professional standards	Sub-index of the transaction process
Sustainability	Mandatory regulations on energy efficiency of buildings and conservation standards	Absence of regulations on building sustainability	Sub-index of sustainability

Source: Processed by the authors

2. Research methodology

The purpose of this research is to identify the factors that make the transparency of Europe's real estate markets conditional. Taking into account the requirements of international investors in real estate and the perspectives of transparency, documented by the literature, a number of independent variables have been selected, which characterize: the institutional environment, the macroeconomic environment, technology and innovation, the social environment and the surrounding environment, correlated positively with the transparency of the real estate market quantified by *GRETI*.

2.1. Data and variables

The analysis is based on a sample of 31 states, extracted from the 100 countries for which JLL (2018) calculated the transparency index (*GRETI*). 30 are European countries where the authors of the index assimilated the Republic of Kazakhstan on the grounds that a small portion of its territory is located in the eastern extremity of Europe. The analysis horizon is from 2003 to 2017 and data on the variables included in the study comes from the following sources: *JLL, Transparency International, World Economic Forum, Sustainable Society Foundation* and *World Bank*. **Table no. 3** describes the variables used in the research.

Table no. 3. Description of the variables used

Variable		Description	Possible links	Period and source
Dependent	*Real estate markets transparency (GRETI)*	- reflected by the global index of transparency, calculated by JLL; - the composite score ranges from 1 – very transparent to 5 – opaque	-	*JLL, 2003-2017 http://greti.jll.com/greti*
Institutional environment				
Independent	*Corruption (CPI)*	- quantified by the perception of corruption in the public environment; - the composite score ranges from 1 – very corrupt to - 100 – little/not corrupted	Direct	*Transparency International,* 2003-2017 *https://www.transparency.org/research/cpi/*
	Institutions (INST)	- the quality of public and private institutions reflected by the composite score, which ranges from 1 – poor quality to 7 – high quality	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
	Property rights (RDP)	- the level of property rights quantified by the composite score that takes values from 1 – very poorly regulated to 7 – very well regulated	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
	Governance (GOV)	- government accountability and efficiency, political stability, lack of violence, quality of regulation, rule of law and corruption control appreciated by the composite score ranging from 1 – very weak governance to 10 – very strong governance	Direct	*Sustainable Society Foundation – SSF,* 2006-2016 *http://www.ssfindex.com/ssi/*
	Transparency of Government Policies (TPG)	- reflected by the composite score of values from 1 – very little transparent to 7 – very transparent	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
Macroeconomic environment				
Independent	*Macroeconomic environment stability (MACRO)*	- appreciated by a composite score that ranges from 1 – unstable to 7 – very stable, determined by budget surplus/deficit, population savings, inflation, government debt, country rating for external loans	Direct	*World Economic Forum,* 2007-2017 *https://www.weforum.org/*

Variable		Description	Possible links	Period and source
	Competitively (GCI)	- quantified by the global index of competitiveness according to institutions, policies and factors that determine the level of productivity of a country (WEF, 2017); - the composite score ranges from 1 – low competitiveness to 7 – high competitiveness	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
	Real GDP per capita (PIB)	- economic welfare relative to the number of inhabitants (per capita PPP)	Direct	*World Bank,* 2007-2017 *https://data.worldbank.org/*
	Goods market efficiency (EPB)	- measured by the composite score that characterizes competition in domestic and international markets, taking values from 1 – inefficient market to 7 – very efficient market	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
	Efficiency of the labour market (EPM)	- measured by a composite score, which characterizes the efficiency and flexibility of the labour market, taking values from 1 – inefficient market to 7 – very efficient market	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
	Development of financial markets (DPF)	- characterized by a composite score that expresses the degree of efficiency, reliability and confidence in financial services, by values from 1 – poorly developed markets to 7 – highly developed markets	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
	Market size (DP)	- reflected by the composite score that characterizes the trade balance and which takes values from 1 – small size market to 7 – large market	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
	Infrastructure (INFR)	- expressed by the composite score determined by the quality of the infrastructure for transport, electricity and telephony, with values from 1 – very low to 7 – very developed	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/

Variable		Description	Possible links	Period and source
Technology and innovation				
Independent	*Technology usage (TECH)*	- measured by the composite score reflecting the adoption and use of technologies in the industrial sector, with values ranging from 1 for poor use to 7 – high use	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
	Business complexity (CA)	- appreciated by the ability of companies to organize themselves in cluster networks, measured by a composite score with values from 1 – less complex to 7 – very complex	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
	Innovation (INV)	- reflected by innovation capacity and investment in research and development, a composite score with values from 1 – less innovative to 7 – very innovative	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
Social environment				
Independent	*Higher education and training (ISFP)*	- expressed by a composite score that takes into account the consistency between labour market requirements and professional training, taking values from 1 – very low to 7 – very high	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
	Health and primary education (SEP)	- measured by the composite score that highlights the quantity and quality of health services and primary education by values from 1 – low level to 7 – high level	Direct	*World Economic Forum,* 2007-2017 https://www.weforum.org/
Quality of the environment				
Independent	*Emissions of gases (EG)*	- represented by greenhouse gas emissions per inhabitant (metric tons per capita)	Direct	*Global Carbon Atlas,* 2003-2017 *http://www.globalcarbonatlas.org/*
	Renewable energy consumption (CER)	- quantified by the ratio between renewable energy consumption and total energy consumption (%)	Direct	*World Bank,* 2003-2015 *https://data.worldbank.org/*

Source: Processed by the authors

Table no. 4 lists the descriptive statistics of each variable for all 31 states included in the panel, compiled using the STATA *software* package.

Table no. 4. Descriptive statistics

Variables	No of observations	Media	Standard deviation	Min	Max
GRETI	421	2.48	0.76	1.24	4.64
CPI	462	59.95	22.37	20	97
INST	357	4.52	0.98	2.95	6.18
RDP	330	4.82	1.14	2.51	6.61
GOV	372	6.64	1.65	2.89	8.97
TPG	330	4.44	0.88	2.54	6.18
MACRO	357	5.05	0.78	2.42	6.84
GCI	357	4.74	0.56	3.77	5.86
PIB	465	33329.65	17067.39	6201.06	97864.20
EPB	357	4.63	0.53	3.49	5.54
EPM	357	4.47	0.53	3.29	5.95
DPF	357	4.42	0.75	2.49	6.40
DP	357	4.60	0.73	3.04	6.02
INFR	357	4.92	0.98	2.56	6.65
TECH	357	4.95	0.92	2.75	6.46
CA	357	4.63	0.79	3.08	5.99
INV	357	4.09	0.91	2.67	5.82
ISFP	357	5.04	0.60	3.65	6.27
SEP	357	6.14	0.36	5.09	6.94
EG	465	8.19	3.47	3.53	26.32
CER	403	15.31	13.04	0.93	58.59

Source: Processed by authors

At Europe's level, *GRETI* shows an average level of transparency of real estate markets, equal to 2.48. In 2018, when JLL published GRETI's latest figures, 7 European countries were considered transparency leaders (UK, France, the Netherlands, Germany, Ireland, Sweden, Finland) with index values between 1.24 and 1.95. In contrast, Ukraine and Kazakhstan are characterized by low transparency real estate markets (*GRETI* values of 3.82 and 4.03) and Belarus with an opaque real estate market (GRETI values of 4.32) (JLL, 2018). The Central and Eastern Europe region has made the most progress in terms of market transparency and is gradually moving closer to Western Europe (JLL, 2018). These countries have made important changes to the trading process, meaning more fair transactions, more quality and availability for reporting, and more professionalism from real estate agents side. Improvements have also been made in the regulation of real estate markets and cross-border investments.

Institutional environment

The institutional environment favours the transparency of the information flow required for the real estate trading process. A transparent housing market is a corruption free market, where information is accessible to operate consistently and correctly on the basis of legal rules and respect for private property law (JLL, 2006; Triantafyllopoulos, 2006). At European level, according to **Table no. 4**, during the analysed period, a moderate level of corruption was found (the average *CPI* score is 59.95 against 100, which means the absence of corruption). The set of legal rules determines sustainable real estate investments (Sayce, Ellison and Parnell, 2007). Political instability may increase investment risks and diminish operational efficiency (La Porta et al., 2002), and in the case of real estate investments, the effect is much more pronounced due to the low liquidity and the long periods of time needed for the depreciation of investments. **Table no. 3** highlights values of the institutional environment indicators (*INST, RDP, GOV, TPG*) that characterize a European real estate market with slightly above average transparency. Real estate studies claim that international real estate investments are strongly influenced by the transparency of real estate

markets, institutional environment and economic development (Eichholtz, Gugler and Kok, 2011). From this perspective, all indicators of the institutional environment are expected to be directly associated with the transparency of real estate markets.

Macroeconomic environment

The most developed economies are, usually, the most transparent (JLL, 2004). The high GDP per capita (the average sample of $ 33,329.65 per capita) generates a higher demand from residents for real estate, which attracts real estate investment (He, Wang and Cheng, 2009; Rodríguez and Bustillo, 2010) and indicates the size of the market (Falkenbach, 2009). Efficient goods markets are characterized by producing the right quantities of products and services to meet demand and supply on the market. The availability, efficiency and flexibility of the workforce are determinants of the attractiveness of savings for real estate investments. The development of real estate investments also involves large amounts of capital attracted from the financial markets. Therefore, economies require complex financial markets to provide the necessary capital for private sector investors through the development of the banking sector, the regulation of stock exchanges and venture capital funds (WEF, 2017).

The liberalization of capital markets in several countries has increased the economic and political pressure to create the financial instruments needed for foreign investors (Eichholtz, Gugler and Kok, 2011). Studies show that international investors are oriented towards countries whose financial systems provide the necessary capital for low-cost real estate investment (Fereidouni and Masron, 2013). Another important factor for the development of real estate investments is the infrastructure: Lal, Norman and Featherstone (2003), Chin, Dent and Roberts (2006), Ramasamy and Yeung (2010), Renaud (2012). Infrastructure for telecommunications, for example, determines the speed of information flow, thus contributing to increased economic efficiency (WEF, 2017). These elements are defining mature markets, which, in the context of real estate, are related to the dimension of transparency (Keogh and D'Arcy, 1994). According to **Table no. 4**, the indicator average (*MACRO, GCI, PIB, EPB, DPF, DP, INFR*) characterizing European macroeconomics highlights a favourable framework for increasing the transparency of real estate markets. Therefore, macroeconomic environment factors are also expected to correlate positively with the transparency of the real estate market.

Technology and innovation

In the real estate field, technology and innovation are considered as new dimensions of transparency. The use of technology (*TECH*), investment in research and development (INV) and business complexity (*CA*) are the variables used to characterize the technological and innovation environment, which are positively correlated with transparency. The introduction of information and communications technology into day-to-day activities and production processes has revolutionized the business models of many sectors, and at the same time has led companies to become more accountable and more transparent to *stakeholders* (PwC, 2015). Innovation in the real estate sector is driven by the introduction of new *propTech* technology platforms that provide access to and capitalize on a large volume of market data (*big data*) (JLL, 2018). Linking real estate to information technology has generated new industry perspectives: intelligent and sustainable buildings and cities; online platforms for outlets; financing projects using online resources (*crowdfunding*); digital platforms for building management (*conTech*); data analysis and research (Baum, 2017). The composite score of the variables that quantifies the degree of technology and innovation indicates a relatively high level in the European industrial sector (*TECH* equal to 4.95 vs. upper limit 7), a good *cluster* organization capacity (*CA* equal to 4.63 out of 7) and above average innovation (*INV* 4.09).

Social environment

Given the new trends in transparency, communication and consumer education are indispensable for the sustainable development of the economy with a direct impact on the community (Lützkendorf, Fan and Lorenz, 2011). Primary Education and Health Services (SEP) contribute to integrating people into society and provide the basis

for further education and skills development (Porter et al., 2008). Higher education and in-service training provide the need for highly qualified staff capable of performing complex tasks and adapting to changes that have taken place. The rapid expansion of real estate education over the past decade (ISFP of 5.04 and SEP equal to 6.14 versus maximum 7) (D'Arcy and Taltavull, 2009) further contributed to reducing transaction costs and ensuring new requirements information (D'Arcy, 2009). Many of the less transparent markets do not have a history of higher education and training in relevant areas of the real estate industry, which is why they are often oriented towards the more mature real estate professionals in the early stages of real estate market development (Newell, 2008). According to these arguments, the GRETI transparency index is expected to correlate positively with the variables of the social environment.

Environment

Transparency of the real estate sector is directly related to the sustainability of the built environment. Buildings account for one third of total energy consumption worldwide, rising as revenue increases and population urbanization (PNNL, WRI and IPEEC, 2017). JLL (2018) assesses sustainability as a dimension of transparency through green building certification, energy efficiency, carbon emissions reporting, and green lease agreements. The direct relationship between the transparency of real estate markets and environmental variables is given by progress in reporting CO2 emissions (*EG*) and renewable energy consumption (*CER*) in order to achieve sustainability goals. The average CO2 emissions of the analysed sample is 8.19 tons per capita, and the average value of the renewable energy consumption is 15.31% of the energy consumed.

2.2. Econometric specifications

The questions that have led us to reach the research goal are: How intense and statistically significant is the link between the transparency of real estate markets and the institutional environment, the macroeconomic environment, technology and innovation, the social environment and the quality of the surrounding environment? Does the economic development of European countries differentiate the degree of transparency of real estate markets? How far does corruption and competitiveness affect the transparency of real estate markets in the analysed countries?

The principal components analysis (PCA), OLS, t-test are the tools with which the database was processed, organized as an unbalanced panel based on their availability for the 31 states, within 15 years. The analysed countries were divided according to the World Bank's analytical classification according to gross national income per capita in 2017, to the high income group (23) and to the group of middle and low income (8). The group is a precursor stage in studying the differences in transparency according to the level of economic development. The data contained in the sample complies with normality and heteroscedasticity. The PCA analysis was applied with respect to the *Kaiser-Meyer-Ohlin statistics* (KMO> 0.5) and the *t-Student* parameter test was applied to robust Levene (1960) and Brown and Forsythe (BF) (1974) robust statistics.

3. Results and discussions

Given that the application of the PCA is conditioned by the existence of strong correlations between variables (Pearson coefficient, |r| > 0.5), represented in **Annex no. 1**, in **Table no. 5** is summarized the correlations between the transparency of real estate markets and independent variables. This justifies retaining only strongly correlated variables (|r|> 0.5) in the PCA. The relationship between *GRETI*, as an expression of the transparency of real estate markets, and the other variables that determine it is direct, very good transparency is reflected by the low values of *GRETI* (1) and the absence of transparency (opacity) is reflected by high values (5) under the positive influence of the independent variables. The associations' directions are in line with expectations because all independent variables are directly correlated with the transparency of real estate markets.

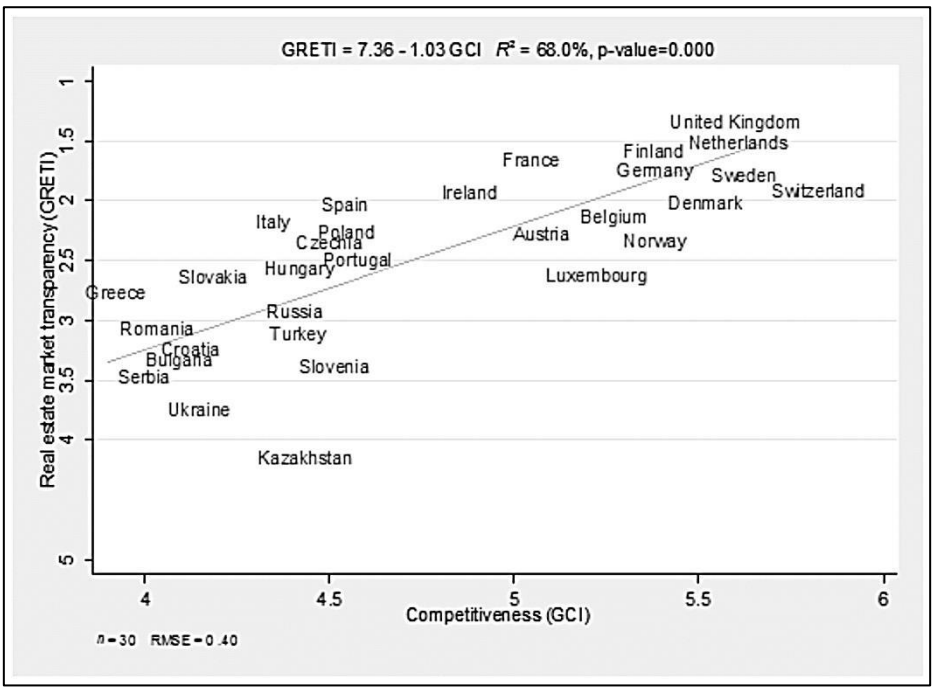
Table no. 5. Correlations between GRETI transparency index and the independent variables	
Total group (31 states)	
Variables	***Pearson coefficient (r)***
GRETI	1
GOV	0.8325*
CPI	0.8030*
CA	0.7958*
GCI	0.7852*
TECH	0.7755*
RDP	0.7664*
INV	0.7605*
INFR	0.7468*
ISFP	0.7380*
EPB	0.7243*
INST	0.7169*
SEP	0.7167*
PIB	0.6766*
DPF	0.6230*
TPG	0.5188*
DP	0.4659*
EPM	0.3784*
MACRO	0.2589*
CER	0.2256*
EG	0.0681
Number of correlations >0.50	15/20 (75%)
Number of significant correlations	19/20 (95%)

Source: Processed by the authors

At the level of the entire sample of the 31 countries, transparency is strongly correlated with 15 indicators and statistically significant, for a *p-value* ≤ 0.05, with 18 of the 20 variables included in the research. The high transparency of real estate markets is associated with good governance (*GOV, r = 0.83*), lack of corruption (*CPI, r = 0.80*), business complexity (*CA, r = 0.80*), high competitiveness (*GCI = 0.79*), rapid adaptation to technology (*TECH, r = 0.78*), well-regulated property rights (*RDP, r = 0.77*), innovation (*INV, r = 0.76),* infrastructure's high quality (*INFR, r = 0.75*), education (*ISFP, r = 0.74*) and also health services (*SEP, r* = 0.72), market efficiency (*EPB, r = 0.72*), effectively organized public and private institutions (*INST, r = 0.72*) and transparency in adopting and implementing public decisions (*TPG, r = 0.52*), economic development (*GDP, r = 0.68)* and the financial sector (*DFM, r = 0.62*).

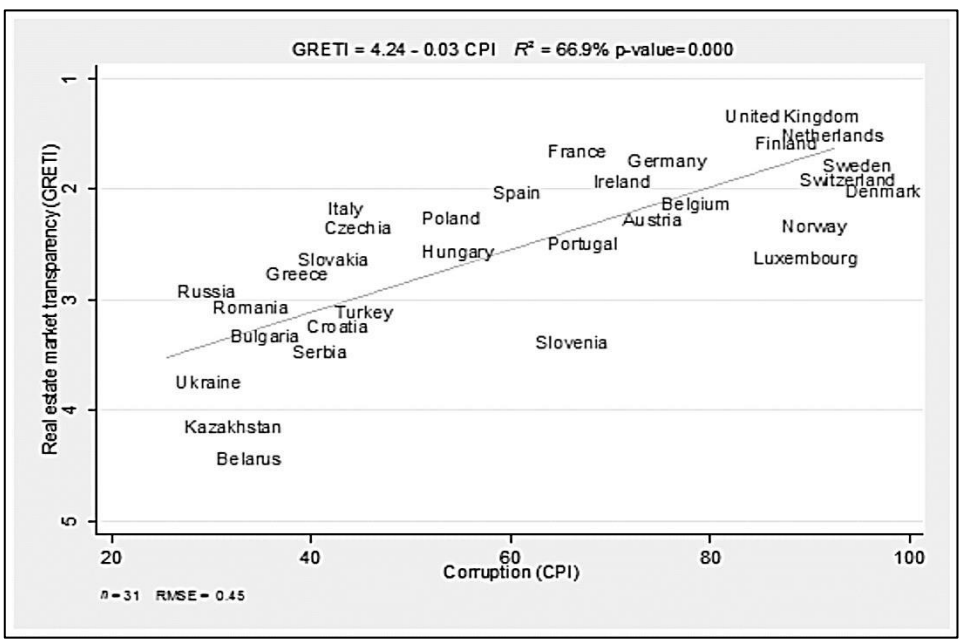
According to the OLS analysis, **Figures 2 and 3** illustrate the linear relationship, for a 95% confidence interval, between the transparency of real estate markets and competitiveness (**Figure no. 2**) and between transparency and corruption (**Figure no. 3**). Reducing corruption by raising the *CPI* index contributes to improving the transparency of real estate markets reflected by lower *GRETI* index values by 0.03 (R^2 = 66.9%). The positive effect of the country's competitiveness on market transparency is much higher, resulting in a fall in the index of 1.03 (R^2 = 68%). The slopes of the least squares highlight that the more competitive the economies and the uncorrupted institutional environment, the more transparent are real estate markets. The macroeconomic environment and the governance system directly influence the functioning of real estate markets.

Figure no. 2. Graphic representation of the relationship between transparency and competitiveness



Source: Processed by the authors

Figure no. 3. Graphic representation of the relationship between transparency and corruption



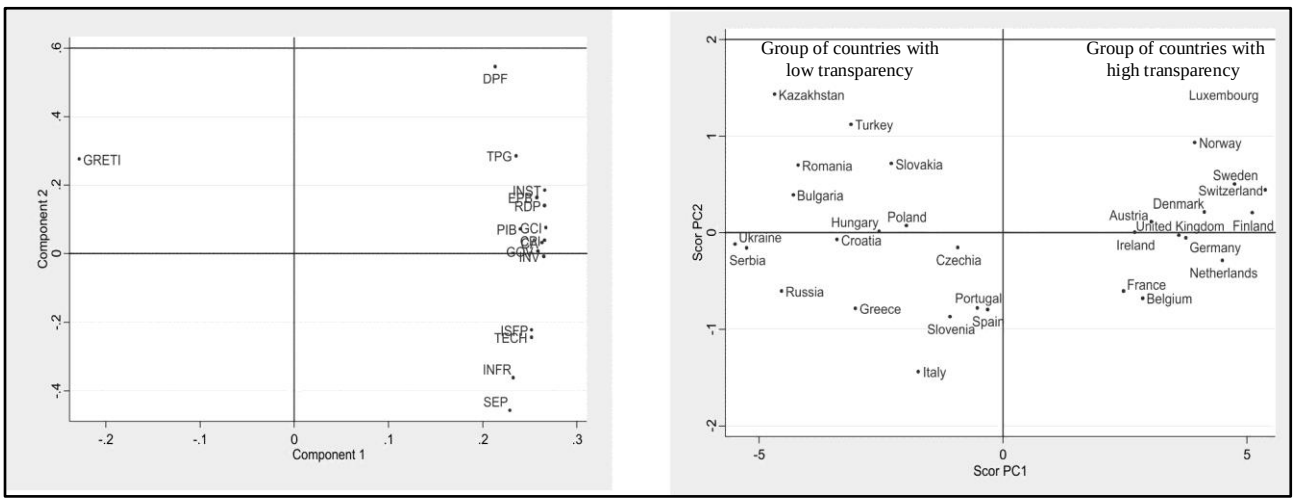
Source: Processed by the authors

The weakest links are recorded between the *GRETI* variable and the variables characterizing the market size (*DP, r = 0.47*), labour market efficiency (*EPM, r = 0.38*), macroeconomic stability (*MACRO, r = 0.26*) and the environment (*CER, r = 0.23, EG, r = 0.07*). In this respect, the authors of Sayce, Ellison and Parnell (2007) argue that real estate investors are more concerned with problems related to the social and economic dimension of sustainability than the environmental component because economic growth is needed to sustain sustainable delivery (Kauko, 2017).

For the analysis of principal components, only variables with strong statistical relationships are retained ($r \geq 0.5$) and significant (p-*value* ≤ 0.05), according to Pearson coefficients and *KMO* statistics (KMO> 0.93). According to the Kaiser and Benzécri criteria, the first factorial axle explains the largest differences between the statistical units, namely 81.7% of the total variance. All variables included in the analysis and represented in the *Component Plot* in **Figure no. 4** contribute to the formation of the first factorial axis, which allows the position of the variables to be visualized in the system of the factorial axes. Highlighting the similarities and differences between the analysed countries according to the studied variables is represented by the projection of the average coordinates of each state in the plane of the two factorial axes (**Figure no. 5**).

Figure no. 4. Variables representation in the system of the first two factorial axes

Figure no. 5. Countries' position on the first two factorial axes



Source: Processed by the authors

Representation of the variables in the first two factorial axes highlights the direct link between the transparency of real estate markets and the variables describing institutions, macroeconomic conditions, technology and innovation and the social environment. These results accentuate the fact that countries, which record high values for the independent variables studied, are distinguished by transparent real estate markets, the *GRETI* index recording low values. Institutional environment variables (institutions - *INST*, property rights - *RDP*, corruption - *CPI* and governance - *GOV*), variables of the macroeconomic environment (market efficiency - *EPB*, competitiveness - *GCI*, *GDP* per capita - *PIB*), technology and innovation variables (business complexity - *CA* and innovation - *INV*) are strongly correlated with the first factorial axis and explain significantly the differences between the analysed countries.

Countries' position on the first factorial axis outlines the differences between countries with transparent real estate markets and those with opaque markets, consisting mainly of two groups of states: the first group consisting of the UK, France, the Netherlands, Germany, Ireland, Sweden, Finland , Switzerland,

Belgium, Denmark, Austria, Norway and Luxembourg and the second group consisting of Kazakhstan, Ukraine, Russia, Serbia, Bulgaria, Romania, Croatia, Hungary, Turkey, Slovakia, Poland and Greece. The first group corresponds to the most developed countries in Europe, which also have the most transparent and mature real estate markets, and the second one includes less developed countries and low-priced real estate markets. Though considered countries with transparent markets, Italy, Slovenia, Spain and Portugal are positioned in the negative values quadrant. The middle positions of these states in the rankings of competitiveness and corruption explain to some extent the results.

The differentiation of the real estate market transparency according to the economic development is also evident from the results of the *t-Student* test. Following the robust Levene and BF tests to test variance equality between developed and emerging countries and developing countries, the results indicated that the standard deviations of the two groups are different, with the null hypothesis being rejected (*p-value* = *0.00*), which makes it impossible to apply the classic *t-test*. The literature recommends the use of the *t-test* proposed by Welch (1947) under unequal standard deviations and samples of different sizes (Derrick, Toher and White, 2016). The results of testing the hypothesis of equal averages of the groups of states are presented in **Table no. 6**.

Table no. 6. Transparency differences between developed and emerging and developing countries. Welch *t-test* for equal means

Countries' group	Media	Standard error of average	Standard deviation	*t*	Welch freedom degrees	*p-value* bilateral	Mean difference
Developed countries	2.140	0.028	0.495	-19.287	176.131	0.000	-1.224
Emerging and developing countries	3.365	0.057	0.612				
Total	2.478	0.037	0.761				

Source: Processed by the authors

According to the JLL calculation methodology (2018), *GRETI*'s average for the developed countries of 2.14 (± 0.028) ranks the group as a transparent real estate market and the *GRETI* average of the 3.365 (± 0.057) emerging countries group includes real estate markets semi-transparent. The difference in *GRETI* averages of 1.224, according to the criterion of economic development determined by the Welch *t-test*, is significant, *t*(176.131) = -18.635, p-value = 0.000.

The high transparency of real estate markets in developed countries is strongly correlated with economic competitiveness, lack of corruption, robustness of public institutions and the regulation of private property rights. Similarly, the quality of business networks and the magnitude of their interactions determine the high level of transparency, which enhances market efficiency and creates opportunities for innovation (WEF, 2017).

As a result of the global financial crisis, a number of regulatory changes have been made in the real estate and collateral sectors over the last decade to increase the financial transparency of real estate and equity investment loans (JLL, 2018). In this respect, regulations are implemented at European Union level to harmonize the different European credit markets. However, each national lending market is conditioned by its own regulations, which do not allow the creation of a single lending market at European level (Aalbers, 2012).

The fast adoption of existing technologies to increase industry productivity, in particular information and communication technology (ICT), infrastructure quality and value-added innovation are factors that drive new trends in the transparency of real estate markets in developed economies. Baum (2017) and JLL (2018) consider that the adoption of *propTech* technology tools for greater transparency is the future of the real estate sector.

Countries with emerging and developing economies are characterized by low values of the analysed variables and reduced transparency in real estate markets, thus being in opposition to developed economies

(**Figure no. 3**). Ukraine, Kazakhstan and Belarus are the most opaque real estate markets due to high levels of corruption (*CPI*) and reduced competitiveness, according to the *GCI*. Addressing the issues of political instability and corruption, specific to these countries, is the primary need for the development of transparent real estate markets. The situation of this group of countries highlights the fact that the development of real estate markets by increasing transparency is conditioned by the quality of the governance system.

Conclusions

The purpose of this research is to conceptually and empirically approach the transparency in the real estate field by identifying the dimensions of transparency based on the analysis of the main components, the *t-Student* test and the regression analysis from 31 European majority states.

Generally, transparency permits a continuous informational flow that requires openness, communication and reaction to public dissemination. The functioning of real estate markets in a transparent environment implies a number of institutional environment factors, macroeconomic conditions, adaptation to technology and innovation, the social environment and the environment.

Research results confirm that the most competitive and robust countries have the most transparent and mature real estate markets. In developed countries, the transparency of real estate markets rises to a higher level, outlining new trends in transparency. Technology, innovation, infrastructure and business expansion at international level are among the most important factors that strongly and statistically correlated with the high level of transparency in real estate markets. In the case of emerging and developing countries, the quality of the governance system and the lack of corruption must be initially ensured in order to create a transparent environment for the development of real estate markets. The high quality of the institutional environment reduces transaction costs and the weak one reduces competitiveness (WEF, 2017).

At European level, the transparency of real estate markets has improved considerably, and has continued to be the most transparent region. Transparency has improved not only under the legislative constraints, but also by increasing the visibility of states, in particular developing and outside the European Union countries, which have been included in researches by world organizations concerned with economic, political and social development.

The importance of the research lies in the addition of knowledge to the issue of transparency of the real estate sector, which is constantly developing through complex, internationalized investment structures and bearing inherent risks. This study is of interest to all stakeholders in the real estate field, from state institutions to investors, because transparency determines the efficient functioning of real estate markets, where the "invisible hand" of the state and investors directly relate and determines the level of demand and supply on the market.

The limits of the research consist in the fact that the empirical analysis does not imply a case-effect analysis, providing only general directions about the factors that influence the transparent functioning of real estate markets. Research into causality remains a future direction of research.

REFERENCES

1. Aalbers, M.B. (2012): Mortgage Market Regulation: Europe. In *International Encyclopedia of Housing and Home,* vol. 4, edited by S.J. Smith, 399-402. Amsterdam: Elsevier.
2. Adserá, A., Boix, C. şi Payne, M. (2003), Are You Being Served? Political Accountability and Quality of Government, *Journal of Law, Economics & Organization, 19(2)*, pp. 445-490.
3. Akerloff, G.A. (1970), The Market for "Lemons": Quality Uncertainty and the Market Mechanism, *The Quarterly Journal of Economics, 84(3)*, pp. 488-500.
4. Allen, D.W. (1999): Transaction Costs. In *Encyclopedia of Law & Economics,* edited by B. Bouckaert şi G. De Geest, 893-926. Cheltenham Glos: Edward Elgar Publishing Ltd.

5. Arnott, R. (1987): Economic Theory and Housing. In *Handbook of Regional and Urban Economics,* edited by E. Mills, 959-988. London: Elsevier.
6. Ball, C. (2009), What is Transparency?, *Public Integrity, 11(4)*, pp. 293-307.
7. Banerjee, S., Davis, J. and Gondhi, N. (2018), When Transparency Improves, must Prices Reflect Fundamentals Better?, *The Review of Financial Studies, 31(6)*, pp. 2377-2414.
8. Baraibar-Diez, E., Odriozola, M.D. and Sánchez, J.L. (2017), A Survey of Transparency: An Intrinsic Aspect of Business Strategy, *Business Strategy and Environment, 26(4)*, pp. 480-489.
9. Baum, A. (2017), *PropTech 3.0: The Future of real estate,* University of Oxford.
10. Birkinshaw, P. (2006), Freedom of Information and Openness: Fundamental Human Rights?, *Administrative Law Review, 58(1)*, pp. 177-218.
11. Brandão-Marques, L., Gelos, G. and Melgar, N. (2013), Transparency Matters, *Finance & Development,* December 2013.
12. Brown, M.B. and Forsythe, A.B. (1974), Robust Tests for the Equality of Variance, *Journal of the American Statistical Association, 69(346)*, pp. 364-367.
13. Brunetti, A. and Weder, B. (2003), A Free Press is Bad News for Corruption, *Journal of Public Economics, 87(7-8)*, pp. 1801-1824.
14. Buitelaar, E. (2004), A Transaction-cost Analysis of the Land Development Process, *Urban Studies, 41(13)*, pp. 2539-2553.
15. Chen, J. and Hobbs, P. (2003), Global Real Estate Risk Index – To Capture Different Levels of Market Risk, *Journal of Portfolio Management, 29(5)*, pp. 66-75.
16. Chen, S. and Webster, C. (2012): Institutional Economics: New. In *International Encyclopedia of Housing and Home*, vol. 4, edited by S.J. Smith, 78-85. Amsterdam: Elsevier.
17. Chin, W., Dent, P. and Roberts, C. (2006), An Exploratory Analysis of Barriers to Investment and Market Maturity in Southeast Asian Cities, *Journal of Real Estate Portfolio Management, 12(1)*, pp. 49-58.
18. CBRE (2018), *EMEA Investor Intentions Survey 2018,* CBRE Research.
19. Coase, R.H. (1937), The Nature of the Firme, *Economica, 4(16)*, pp. 386-405.
20. Cyan, M.R., Martinez-Vazquez, J. and Vulovic, V. (2014): New Approaches to Measuring Tax Effort. In *Taxation and Development: The Weakest Link?,* edited by R.M. Bird and J. Martinez-Vazquez, 27-68. Cheltenham: Edward Elgar.
21. D'Arcy, É. (2009), The Evolution of Institutional Arrangements to Support the Internationalisation of Real Estate Involvements, *Journal of European Real Estate Research, 2(3)*, pp. 280-293.
22. D'Arcy, É. and Tatavull de la Paz, P. (2009), Real Estate Education in Europe: Some Perspectives on a Decade of Rapid Change, *Journal of European Real Estate Research, 2(1)*, pp. 69-78.
23. Derrick, B., Toher, D. and White, P. (2016), Why Welchs Test is Type I Error Robust, *The Quantitative Methods in Psychology, 12(1)*, pp. 30-38.
24. Drew, C.H., Nyerges, T.L. and Leschine, T. (2004), Promoting Transparency of Long-Term Environmental Decisions: The Hanford Decision Mapping, *Risk Analysis, 24(6)*, pp. 1641-1664.
25. Eichholtz, P.M.A., Gugler, N. and Kok, N., Transparency, Integration, and the Cost of International Real Estate Investments, *Journal of Real Estate Finance and Economics, 43(1-2)*, pp. 152-173.
26. Falkenbach, H. (2009), Market Selection for International Real Estate Investments, *International Journal of Strategic Property Management, 13(4)*, pp. 299-308.
27. Fereidouni, H.G. and Masron, T.A., Real Estate Market Factors and Foreign Real Estate Investment, *Journal of Economic Studies, 40(4)*, pp. 448-468.
28. Fuller, L.L. (1964), *The Morality of Law,* Yale: University Press.
29. Garmaise, M.J. and Moskowitz, T.J. (2004), Confronting Information Asymmetries: Evidence from Real Estate Markets, *The Review of Financial Studies, 17(2)*, pp. 405-437.
30. Gorton, G. (2008), The Panic of 2007, *NBER Working Paper Series,* no 14358, Cambridge: National Bureau of Economic Research.
31. He, C., Wang, J. and Cheng, S. (2009), What Attracts Foreign Direct Investment in China's Real

Estate Development?, *Annals of Regional Science, 46(2)*, pp. 267-293.

32. Heald, D. (2006): Transparency as an Instrumental Value. In *Transparency: The Key to Better Governance?*, edited by C. Hood and D. Heald, 59-73. Oxford: Oxford University Press.
33. Hillebrandt, M.Z. (2017), *Living Transparency: The Development of Access to Documents in the Council of the EU and its Democratic Implications*, Amsterdam: IPSKAMP Printing, Enschede.
34. Hollyer, J.R., Rosendorff, B.P. and Vreeland, J.R., Measuring Transparency, *Political Analysis, 22(4)*, pp. 413-434.
35. Hood, C. (2001): Transparency. In *Encyclopedia of Democratic Thought,* edited by P. Clarke and J. Foweraker, 863-868. London: Routledge.
36. Hood, C. (2006): Transparency in Historical Perspective. In *Transparency: The Key to Better Governance?*, edited by C. Hood and D. Heald, 3-23. Oxford: Oxford University Press.
37. Hood, C. (2007), What Happens when Transparency Meets Blame-Avoidance?, *Public Management Review, 9(2)*, pp. 191-210.
38. Huerta de Soto, J. (2009), *The Theory of Dynamic Efficiency,* London: Routledge.
39. Islam, R. (2006), Does more Transparency Go along with Better Governance?, *Economics and Politics, 18(2)*, pp. 121-167.
40. Jaffe, A.J., On the Role of Transaction Costs and Property Rights in Housing Markets, *Housing Studies, 11(3)*, pp. 425-435.
41. JLL (2004), *Global Real Estate Transparency Index 2004,* Chicago: Jones Lang LaSalle.
42. JLL (2006), *Real Estate Transparency Index,* Chicago: Jones Lang LaSalle.
43. JLL (2018), *Transparency: Data, Disclosure and Disruption*, Chicago: Jones Lang LaSalle.
44. Kauko, T. (2017), *Pricing and Sustainability of Urban Real Estate,* Abingdon: Routledge.
45. Kauko, T. (2018), Innovation in Urban Real Estate: The Role of Sustainability, *Property Management,* https://doi.org/10.1108/PM-10-2017-0056.
46. Keogh, G. and D'Arcy, É. (1994), Market Maturity and Property Market Behaviour: A European Comparison of Mature and Emergent Markets, *Journal of Property Research, 11(3)*, pp. 215-235.
47. Keogh, G. and D'Arcy, É. (1999), Property Market Efficiency: An Institutional Economic Perspective, *Urban Studies, 36(13)*, pp. 2401-2414.
48. La Porta, R., Lopez-De-Silanes, F., Shleifer, A. and Vishny, R. (2002), Investor Protection and Corporate Valuation, *The Journal of Finance, 57(3)*, pp. 1147-1170.
49. Lall, P., Norman, D.W. and Featherstone, A.M. (2003), Determinants of US Direct Foreign Investment in the Caribbean, *Applied Economics, 35(13)*, pp. 1485-1496.
50. Lee, S. (2005), Gauging the Investment Potential of International Real Estate Markets, paper presented at the *Annual European Real Estate Society Conference (ERES)*, Dublin, Ireland, June 2005.
51. Levene, H. (1960): Robust Tests for Equality of Variances . In *Contributions to Probability and Statistics: Essays in Honor of Harold Hotelling,* edited by I. Olkin, S.G. Ghurye, W. Hoeffding, W.G. Madow and H.B. Mann, 278-292. Stanford: Stanford University Press.
52. Lieser, K. and Groh, A.P. (2011), The Attractiveness of 66 Countries for Institutional Real Estate Investments, *Journal of Real Estate Portfolio Management, 17(3)*, pp. 191-212.
53. Lindqvist, S. (2012), The Concept of Transparency in the European Union's Residential Housing Market. A theoretical Approach, *International Journal of Law in the Built Environment, 4(2)*, pp. 99-115.
54. Lisec, A., Ferlan, M., Lobnik, F. and Sumrada, R. (2008), Modelling the Rural Land Transaction Procedure, *Land Use Policy, 25(2)*, pp. 286-297.
55. Lürzkendorf, T., Fan, W. and Lorenz, D. (2011), Engaging Financial Stakeholders: Opportunities for a Sustainable Build Environment, *Building Research & Information, 39(59)*, pp. 483-503.
56. Marinescu, D. and Marin, D. (2011), Adverse Selection Models with Three States of Nature, *Theoretical and Applied Economics, 18(2)*, pp. 33-46.
57. Newell, G. (2008), Assessing the Linkages between Economic Competitiveness and Property

Market Transparency, *Pacific Rim Property Research Journal, 14(3)*, pp. 322-333.

58. Newell, G. (2016), The Changing Real Estate Market Transparency in the European Real Estate Markets, *Journal of Property Investment & Finance, 34(4)*, pp. 407-420.
59. Nijhof, A., Graafland, J. and de Kuijer, O. (2009), Exploration of an Agenda for Transparency in the Construction Industry, *Construction Innovation, 9(3)*, pp. 250-267.
60. North, D.C. (1990), *Institutions, Institutional Change and Economic Performance,* Cambridge: Cambridge University Press.
61. North, D.C. (1991), Institutions, *Journal of Economic Perspectives, 5(1)*, pp. 97-112.
62. O'Hara, M. (1995), *Market Microstructure: Theory,* Cambridge: Blackwell Publishers Inc.
63. O'Hara, M. (2003), Liquidity and Price Discovery, *The Journal of Finance, 58(4)*, pp. 1335-1354.
64. Pintilescu, C. (2007), *Analiza statistică multivariată,* Iaşi: Editura Universităţii „Alexandru Ioan Cuza".
65. PNNL, WRI, IPEEC (2017), *Building Energy Efficiency and the Importance of National and Local Coordination.*
66. Pohoaţă, I. (2006), Arguments for the Study of Institutionalism and Institutional Reform in Romania, *Theoretical and Applied Economics, 7(502),* pp. 3-8.
67. Porter, M.E., Delgado, M., Ketels, C. and Stern, S. (2008): Moving to a New Global Competitiveness Index. In *The Global Competitiveness Report 2008-2009,* edited by de K. Schwab and M.E. Porter, 43-63, Geneva: World Economic Forum.
68. PwC (2015), *Make it your Business: Engaging with the Sustainable Development Goals.*
69. Quan, D. and Quigley, J. (1991), Price Formation and the Appraisal Function in Real Estate Markets, *Journal of Real Estate Finance and Economics, 4(2)*, pp. 127-146.
70. Quigley, N. (2003): Transaction Costs and Housing Markets. In *Housing Economics and Public Policy,* edited by T. O'Sullivan and K. Gibb, 56-66. Oxford: Blackwell Science.
71. Ramasamy, B. and Yeung, M. (2010), The Determinants of Foreign Direct Investment in Services, *World Economy, 33(4)*, pp. 573-596.
72. Razali, M.N. and Adnan, Y.M. (2012), Transparency in Malaysian Property Companies, *Property Management, 30(5)*, pp. 398-415.
73. Renaud, B. (2012): Financial Crises and Real Estate Bubbles: Dynamics and Policy Responses in Dubai. In *The Global Economic Crisis and Consequences for Development Strategy in Dubai,* edited by A. T. Al Sadik and I.A. Elbadawi, 87-119. New York: Palgrave Macmillan.
74. Rodríguez, C. and Bustillo, R. (2010), Modelling Foreign Real Estate Investment: the Spanish Case, *Journal of Real Estate Finance and Economics, 41(3)*, pp. 354-367.
75. Sayce, S., Ellison, L. and Parnell, P. (2007), Understanding Investment Drivers for UK Sustainable Property, *Building Research & Information, 35(6)*, pp. 629-643.
76. Schulte, K.-W., Rottke, N. and Pitschke, C. (2005), Transparency in the German Real Estate Market, *Journal of Property Investment & Finance, 23(1)*, pp. 90-108.
77. Stock, J. and Watson, M. (2011), *Introduction to Econometrics,* 2nd edition, Boston: Pearson Addison Wesley.
78. Transparency International (2017), *Corruption Perception Index 2017* [online]. Disposable at: https://www.transparency.org/news/feature/corruption_perceptions_index_2017 (Accessed: 13 November 2018).
79. Triantafyllopoulos, N. (2006), Public Sector Transparency and Tourism Real Estate Investments in Greece, *Regional and Sectoral Economic Studies, 6(2)*, pp. 57-72.
80. WEF (2017), *The Global Competitiveness Report 2017 – 2018,* Geneva: World Economic Forum.
81. Wehmeier, S. and Raaz, O. (2012), Transparency Matters: The Concept of Organizational Transparency in the Academic Discourse, *Public Relations Inquiry, 1(3)*, pp. 337 –366.
82. Welch, B.L. (1947), The Generalization of "Student's" Problem when Several Different Population Variances are Involved, *Biometrika, 34(1-2)*, pp. 28-35.
83. Williams, A. (2009), On the Release of Information by Governments: Causes and Consequences, *Journal of Development Economics, 89(1)*, pp. 124-138.

Annex 1. Matrix correlations

	GRETI	CPI	INST	RDP	GOV	TPG	MACRO	GCI	PIB	EPB	EPM	DPF	DP	INFR	TECH	CA	INV	ISFP	SEP	EG	CER
GRETI	1																				
CPI	0.8030*	1																			
INST	0.7169*	0.9470*	1																		
RDP	0.7664*	0.9369*	0.9699*	1																	
GOV	0.8325*	0.9556*	0.9014*	0.9272*	1																
TPG	0.5188*	0.8112*	0.9056*	0.8538*	0.7510*	1															
MACRO	0.2589*	0.5167*	0.5519*	0.4790*	0.4628*	0.5684*	1														
GCI	0.7852*	0.9115*	0.9405*	0.9203*	0.8604*	0.8462*	0.5920*	1													
PIB	0.6766*	0.7803*	0.7943*	0.7981*	0.7718*	0.7312*	0.5739*	0.7270*	1												
EPB	0.7243*	0.8970*	0.9199*	0.9253*	0.8754*	0.8234*	0.5426*	0.9118*	0.7978*	1											
EPM	0.3784*	0.5844*	0.6779*	0.6115*	0.5305*	0.7024*	0.5775*	0.7120*	0.5238*	0.6460*	1										
DPF	0.6230*	0.7867*	0.8008*	0.7926*	0.7806*	0.7040*	0.6462*	0.7802*	0.6347*	0.7747*	0.5994*	1									
DP	0.4659*	0.0393	0.0639	0.1147*	-0.0089	-0.0273	-0.1048*	0.2664*	0.0854	0.0805	0.0392	0.041	1								
INFR	0.7468*	0.7841*	0.7709*	0.7919*	0.7529*	0.6778*	0.2717*	0.8254*	0.6379*	0.7401*	0.4047*	0.4933*	0.3328*	1							
TECH	0.7755*	0.8726*	0.8278*	0.8419*	0.8562*	0.7403*	0.4285*	0.8605*	0.7485*	0.8204*	0.5489*	0.5663*	0.0848	0.8335*	1						
CA	0.7958*	0.8965*	0.9044*	0.9303*	0.8798*	0.7757*	0.4787*	0.9473*	0.7203*	0.9040*	0.5815*	0.7485*	0.3015*	0.8222*	0.8045*	1					
INV	0.7605*	0.9017*	0.9252*	0.9101*	0.8568*	0.8353*	0.5116*	0.9686*	0.7023*	0.8710*	0.6678*	0.7133*	0.1992*	0.8209*	0.8470*	0.9349*	1				
ISFP	0.7380*	0.8294*	0.8220*	0.7988*	0.7965*	0.7156*	0.3995*	0.8795*	0.5468*	0.7759*	0.5869*	0.5627*	0.2095*	0.7800*	0.8126*	0.8355*	0.8932*	1			
SEP	0.7167*	0.7673*	0.7134*	0.7344*	0.7856*	0.6008*	0.2458*	0.7397*	0.5550*	0.6870*	0.3919*	0.4770*	0.1169*	0.7157*	0.7476*	0.7503*	0.7699*	0.8495*	1		
EG	0.0681	0.2146*	0.2926*	0.2406*	0.1943*	0.3134*	0.3664*	0.2201*	0.5561*	0.3338*	0.2854*	0.2650*	0.1277*	0.1430*	0.1369*	0.1834*	0.1685*	0.0709	0.0656	1	
CER	0.2256*	0.4030*	0.3622*	0.3082*	0.3991*	0.3294*	0.3124*	0.2898*	0.2408*	0.1650*	0.1129	0.2648*	0.2402*	0.1924*	0.3758*	0.2467*	0.3364*	0.3722*	0.3184*	-0.3071*	1

Source: Processed by the authors

Audit financiar, XVII, Nr. 2(154)/**2019**, *327-338*
ISSN: 1583-5812; ISSN on-line: 1844-8801

The Determinants of Cross-Border Acquisitions: Evidence from Romania

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Abstract

The cross-border mergers and acquisitions (M&As) are powerful strategies, used by companies, usually with financial resources, to search and acquire target companies that fulfill specific needs of the acquirers. The characteristics of the target companies and of the environment where they activate compose the determinants that lead to either a domestic or a cross-border M&A, suitable to generate synergy success and efficiency gains for the shareholders of the involved companies. Considering a sample of 60 acquisitions which involved at least one Romanian company in the position of the acquirer or the target, the authors considered the financial information of both companies as predictors for the stake that the acquiring company will buy in the target. Also, they considered the level of relatedness between the activities of the companies and the accounting practice of the target as factors with significant influence in this choice. The research results will show that the deal value paid, the productivity and the relatedness of the two companies significantly influence the stake purchased in the target company, but the accounting practice lead to a significant increase in the capacity of the proposed model to predict the variance of the final stake.

***Keywords**: cross-border acquisitions, deal value, relatedness, target company, productivity*

***JEL Classification**: F63, G34, M16*

To cite this article:
Aevoae, G.M., Georgescu, I. E. (2019), The Determinants of Cross-Border Acquisitions: Evidence from Romania, *Audit Financiar*, vol. XVII, no. 2(154)/2019, pp. 327-338, DOI: 10.20869/AUDITF/2019/154/014

To link this article:
http://dx.doi.org/10.20869/AUDITF/2019/154/014
Received: 23.03.2019
Revised: 26.03.2019
Accepted: 1.04.2019

1. Introduction

Despite the risk and the possibility of failure, the prospect of increasing profitability and market share by business strategies, like an acquisition or a merger, continues to exercise a more immediate and seductive appeal to business leaders than a reliance on growth alone (Cartwright and Cooper, 1993). Generally, the business concentrations and, more precisely, the selection of the target company, look successful and promise financial and strategic gains, but fail to meet their purpose because the culture of partners are incompatible. The most common situation when this happen is in the case of cross-border mergers and acquisitions (M&As). In this specific case, when the acquirers cross the borders of their residence country, looking for target companies, the motives of choosing one specific company are multiple, but so are the reasons for failing.

When searching for a company to be acquired, any managers should take into account two different perspectives on the target company: one related to the financial information of the desired company and one that considers the culture of the two companies and the compatibility of the human capital. As a result, the synergy success and the efficiency gains from M&As (Rozen-Bakher, 2018) are correlated to the psychological synergies. In the case of cross-border M&As, the choice for a particular target company must also take into account the macroeconomic conditions of the residence country, like inflation (Evenett, 2003), gross domestic product (Uddin and Boateng, 2011; Ali-Yrkkö, 2002), financial, fiscal and economic stability (Aevoae *et al.*, 2018; Kiymaz, 2004), as much as the mid-level factors, like the cost of capital, local legislation and the market for a specific product. Other authors, like Boateng *et al.* (2014), consider that the macroeconomic conditions of the acquirer's country of residence have a strong impact in the decision to invest in a cross-border M&A.

2. Literature review

The main reasons that determine two companies to participate in strategic transactions, like M&As, is the fact that, in pre-concentration faze, the acquirer and the target are analyzing their financial, production, environmental and employee-related aspects and draw the conclusion that together are more efficient than if they would work alone. These positive estimations take the form of synergistic gains. For instance, contracting costs can be lower within than across firms, creating production efficiencies in combining firms. M&As can further lower the combined tax liability of the two firms if they allow one firm to use tax shields that another firm possesses but cannot use. Finally, agency considerations can lead managers to make value-decreasing acquisitions that nonetheless increase managers' individual utilities.

2.1. Acquirer vs target: macroeconomic determinants of M&As at both national and international level

The liberalization of national financial and capital markets, coupled with the rapid advancements in information technology and the increasing integration of national economies have spurred the growth of cross-border M&As (Uddin and Boateng, 2011). Given the fact that they involve at least two companies, located in different economies, leads to the assumption that both home country and host country, through their specific economic conditions, influence this type of international transactions. Thus, the choice for a specific target company is the result of a number of factors, considered at macroeconomic level (the host countries conditions) and at microeconomic level (the financial and non-financial information which characterize the target company).

According to the Institute of Mergers, Acquisitions and Alliances (IMAA, 2019), the number and value of the M&As at international level has increased exponentially since 1988 (**Table no. 1**).

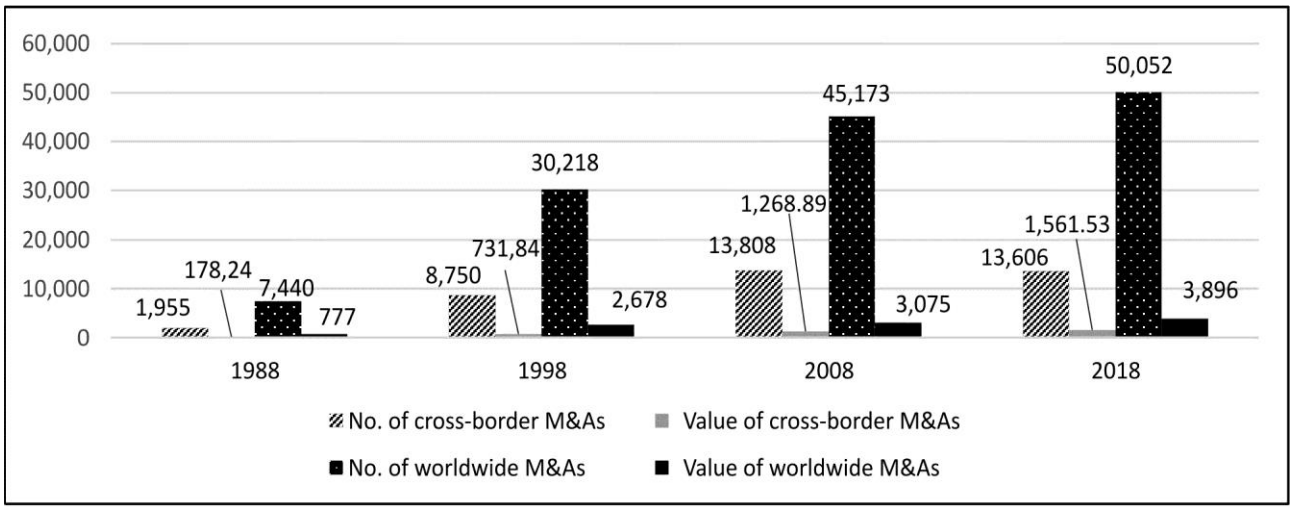
Table no. 1. Number and value of cross-border and worldwide M&As

	U.M.	1988	1998	2008	2018
No. of cross-border M&As	Number	1,955	8,750	13,808	13,606
Value of cross-border M&As	Bil. EUR	178.24	731.84	1,268.89	1,561.53
No. of worldwide M&As	Number	7,440	30,218	45,173	50,052
Value of worldwide M&As	Bil. EUR	777	2,678	3,075	3,896
% (no. CBM&As/no. WWM&As)	**%**	**26.28%**	**28.96%**	**30.67%**	**27.18%**
% (val. CBM&As/val. WWM&As)	**%**	**22.94%**	**27.33%**	**41.26%**	**40.08%**

Source: Authors' own processing after IMAA (2019)

The graphical representation on the information presented in **Table no. 1** is presented in **Figure no. 1**.

Figure no. 1. Number and value of cross-border and worldwide M&As



Source: Authors' own processing after IMAA (2019)

This can be attributed to the dynamic nature of international trade. The consolidations of industries and regions have also contributed to the overall number and value of M&As worldwide to continuously increase.

When analyzing the macroeconomic determinants of M&As, three perspectives should be taken into account: the macroeconomic conditions of the acquirer and those of the target (for cross-border M&As) and the economic climate that conducts to an increase or a decrease in the volume and value of domestic M&As, as a result of a specific economic context.

According to Boateng *et al*. (2014), home country macroeconomic factors, namely interest rates and inflation rates, have an important role, both with negative influence on the number and value of the cross-border M&As. On the other hand, GDP, broad money supply, stock prices and real effective exchange rate exert a positive and significant influence in explaining the cross-border M&A outflows, by creating competitive advantages for the acquirers. Kalotay and Sulstarova (2010) analyze the macroeconomic conditions of the home country in a M&A (acquirer's country), by considering the example of Russian Federation. As a result, they draw the conclusion that GDP and the political climate have a positive influence on the volume of foreign direct investments and, implicitly, in cross-border M&As (as the main component of FDI) (UNCTAD, 2000). If the macroeconomic conditions of the home countries look like prerequisites for entering M&As, the conditions in the host countries are more related to the productivity of the newly form entity and how the target company's country could positively influence the business concentration: the market size in host countries, their natural resources and technological assets, all of them tempered with geographical distance between the involved companies.

Vasconcellos and Kish (1998) divide the home country macroeconomic conditions in favorable and adverse. Favorable cyclical conditions in the home country facilitate cross-border M&As as a means for increasing demand and levels of diversification. On the other hand, adverse economic conditions, such as a slump, recession, or capital market constraints, may cause prospective acquiring firms to concentrate on domestic M&As, while postponing any international strategic moves. Regarding domestic M&As, Kiymaz (2004) discuss the influence of macroeconomic conditions on these national transactions, like changes in government policy and specific regulations. To these, we add the existence of economic rationales for restructuring, the

increase in the general level of economic integration, and the existence of strong financial markets where these M&As activities can be financed. We have to keep in mind that the companies which enter strategic transactions like M&As have to choose between domestic and cross-border M&As, each with its own advantages, disadvantages and determinants.

2.2. The cross-border M&As and the factors that influence them

The international perspectives on M&As are multiple. Starting from the opinions of Simizu *et al*. (2004), who divide the motives of the companies to involve in such transactions as being related to market, culture and value creation, the main determinants of cross-border M&As can be identified, as follows:

a) Cross-border M&As - a mode of entry in a foreign market. Technological development and globalization have vastly contributed to the popularity of domestic and cross-border M&As. Mergers can create market power since it is legal for post-merger combined firms to charge profit-maximizing prices, but not for the premerger separate firms to collude to do so collectively (Simizu *et al*., 2004). On the same note, Kalotay and Sulstarova (2010) appreciate that the size of the host country market is a very important factor in choosing a target company. As market size increases, so do opportunities for the efficient utilization of resources and the exploitation of economies of scale and scope via FDI (UNCTAD, 1998). A parallel literature to that on cross-border M&As concerns the flows known as FDI. According to Erel *et al*. (2012), FDI includes cross-border M&As plus other investments in a particular country (including "green field" investments), as well as retained earnings by foreign subsidiaries and loans from parent companies to their foreign subsidiaries.

b) Cross-border M&As - a dynamic learning process from a foreign culture. Pelto (2017) puts an unprecedented problem in the process of value creation to stockholders in M&As: the one of **trust**. In the process of announcing a merger or acquisition, the ad creates a wave of mistrust, rumors and unpredictability for members of indirectly involved organizations (Stahl *et al*., 2012, Hurley, 2006). These include cultural differences, which can be both international (in the case of cross-border mergers) and national (where people are from different areas). In the second case, even the simple integration of human capital from two or more companies with different entropy before merger / acquisition can create a sense of mistrust. Practically, a climate characterized by differences in values, objectives or beliefs in good practice leads to an implicit diminution of the synergistic potential that the combination might have generated (Dauber, 2012; Stahl and Voigt, 2005).

According to Kavanagh and Ashkanasy (2006), the success of any business concentration lies on individual perceptions about the manner in which the process is handled and the direction in which the culture is moved, especially in the case of the human capital from the target company. Communication and a transparent change process are important, in order to the psychological synergies to appear between the employees between the two companies.

c) Cross-border M&As - a value-creating strategy.

How do we measure the success of a merger? There are two distinct approaches in the literature:

- *the classical approach from a financial perspective*: the post-merger value of the post M&As entity exceeds the amount between the amount paid to the target company and the value of the acquirer before the merger / acquisition;
- *financial market approach*: the value of the firm resulting from the concentration exceeds the sum of the values of the two entities before the merger.

The difference between the two approaches may be considerable, because in many cases the price paid by an acquirer to the target company exceeds its value (whether it is the net book value or the market value, depending on the method of valuation chosen). The difference is the premium paid to the shareholders of the acquired company, and its size is a first representation of the expected synergies, being directly proportional to them. The higher the premium paid, the more significant operating and financial synergies, as a result of the M&A, the acquiring entity expects to obtain. Moeller *et al.* (2004) conducted a study of 12,023 acquisitions, which showed that purchasing entities are willing to pay for each share a 40-60% higher price than the exchange rate. Thus, if we redefine the price paid to the target entity as the sum of the company's value and the

premium paid, then a successful merger or acquisition is reflected in the net proceeds of the acquiring company, representing the positive difference between the net present value of the synergy and the value of the premium originally paid to shareholders of the target company (Canina *et al*., 2010).

Managers of the acquiring company use synergy as rational motivation to justify the transaction and the merger premium paid for it (Ficery *et al*., 2007). In fact, they often refer to the expected future cash-flows. In other cases, the expected synergies are not reflected in monetary form, but are described as intangible benefits such as access to new markets, skills of human capital, or even the construction of an organizational culture that allows the integration and motivation of all employees (Vasilaki *et al*., 2016; Aguilera and Dencker, 2007; Kiessling and Harvey, 2007), especially in the case of cross-border M&As. In this case, although the managers of the involved companies must be motivated by such benefits, it is important that they understand that these intangible benefits cannot be included in the calculation of synergy unless they are measurable.

3. Hypotheses development

We propose to test and validate the following hypotheses:

H_1: *The investment decision of an acquirer to purchase a certain amount of stake in a target company is influenced by the industry relatedness, productivity ratio, and deal value ratio*.

The concept of relatedness is very discussed in the M&A literature, being associated to both the assets involved and the core activities of the companies. Hagerdoorn and Duysters (2010) classify M&As in terms of relationship: they believe that horizontal / vertical M&As are made between related companies, while conglomerate M&As are between unrelated companies. Considering a more analytical perspective, the concept of industry relatedness, as Cefis and Rigamonti (2013) argue, does not occur randomly, it is, in fact, one of the main aspects that an acquirer must take into consideration before pursuing an M&A. According to Fan and Lang (2000), two business can be classified as unrelated if they do not share the same two-, three-, or four-digit code of the national classification of economic activities, and vice-versa. Starting from the last approach, the acquisitions from our sample will be classified in related/unrelated M&As. The productivity is also a preoccupation of both practitioners and researchers, given the fact that one of the ways in which the success of a M&A is calculated is by using efficiency gains, as increases in revenues or economies of costs (Devos *et al*., 2009, Rozen-Bakher, 2018).

H_2: *The acquirer's decision to invest into a certain amount of stake in a target company is influenced by the industry relatedness, productivity ratio, deal value ratio and accounting practices of the target*.

We hypothesis that in M&As, another aspect of major importance, when analyzing the acquirer's choice for a company, the amount of stake purchased into a target is strongly influenced by the accounting practices of the target. Acquirers are interested if a target reports according to IFRS or Local GAAP. Nelson-Espeland and Hirsch (1990) justify, in their research, the fact that, since the 1960s, the accounting system of the involved companies is the one that legitimates the new company's forms and practices. Moreover, the proliferation of conglomerate/unrelated M&As brought into attention the fact that, in many cases, the acquirers are considering a target company based on its financial rather than its productive capacities. Based on this idea, the paper analyses the influence of the accounting practice, as a control variable, on cross-border M&As, grouped as related and unrelated.

4. Research methodology and design

To test and to validate the proposed research hypotheses, the study analyses the empirical data related to 60 related/unrelated cross-border M&As, for the 2010-2017 period of time, considering that the study includes only the transaction which refer to only one target and one acquirer in which a Romanian company is participant. To reach the proposed research hypotheses, we use linear regression, ANOVA and crosstabulation.

4.1. Target population and analyzed sample

To confirm the research hypotheses, the data regarding cross-border M&As were gathered from two databases, for the 2010-2017 period of time. The

information regarding the deals representing M&As was collected from the Zephyr database (target country, acquirer country, deal value, primary NACE Rev.2 code for both target and acquiring companies); financial information was collected from Orbis database (shareholders' funds, operating revenues, number of employees, accounting practices of the target).

4.2. Models proposed for analysis and data source

This paper examines a series of factors influencing the stake purchased in a target, considering the acquisitions made by Romanian companies, either in the position of acquirer or target, for the 2010-2017 period of time.

The proposed variables are presented in **Table no. 2**.

Table no. 2. The variables proposed for the analysis

Symbol	Representation	Description	Explanation
Stake (S)	%	Dependent variable	Stake is the percentage purchased in the target companies.
Productivity ratio (Prod_r)	$\frac{\frac{Revenues\_acq_{t-1}}{Employees\_acq_{t-1}}}{\frac{Revenues\_target_{t-1}}{Employees\_target_{t-1}}}$	Independent variable/ numeric	Productivity ratio is calculated considering the operating revenues per employee for the acquirer and for the target company, reported for the year before the M&A.
Deal value (Dv)	$Deal\ value$	Independent variable/ numeric	The price paid for the target company.
Relatedness (R_unr)	1. Related M&As 2. Unrelated M&As	Independent variable/ categorical	Relatedness considers the first two digits of the NACE Rev. 2, primary codes for the target and for the acquirer.
Accounting practices (AccP)	1. Local GAAP 2. IFRS	Independent variable/categorical	The accounting practices of the target company for the year of the M&A.

Source: Authors' own processing

"Stake" (S) is the *dependent variable* of our linear regression model and represents the stake purchased by the acquirer in the target company. Thus, this variable is a percentage of the shares acquired and its range varies between 0.001% (shares in jointly controlled entities) and 100% (acquisition of a controlling interest).

The *independent variable* "Deal value" (Dv) reflects the price paid by the acquirer to the shareholders of the target company.

For the first hypothesis, the model takes into consideration Productivity ratio (Prod_r), Deal value (Dv) and Relatedness (R_unr) as *predictors.* Because we intend to see if the relatedness of the core activities of the two companies has a significant influence in predicting the stake purchased in target company, we consider the model in two steps, as it can be seen in Eq. (1).

$$\ln(S_t) = \alpha + \beta_1 \cdot \ln(Prod_{r_{t-1}}) + \beta_2 \cdot \ln(Dv_t) + \beta_3 \cdot R\_unr + \varepsilon \quad (1)$$

S_t – stake purchased in year t (year of the acquisition);

$Prod\_r_{t-1}$ – productivity ratio in year t-1 (pre-acquisitions);

Dv_t – deal value paid in year t;

β_1, β_2 and β_3 – represent the parameters model, and the estimated values show the existence of a significant influence of the financial information and the relatedness between the two companies on the purchased stake in the target, in a positive or a negative direction, depending on the sign of the estimation of the three parameters in the regression model.

As well, in order to estimate the influence of the relatedness between the two companies (acquirer and target), as well as the interactions between these and

the financial information (Deal value and Productivity ratio), the study proposes the following model for analysis:

$$\ln(S_t) = \alpha + \beta_1 \cdot \ln(Prod_{r_{t-1}}) + \\ + \beta_2 \cdot \ln(Dv_t) + \beta_3 \cdot R_{unr} + \\ + \beta_4 \cdot \ln(Prod_{r_{t-1}}) \cdot R_{unr} + \\ + \beta_5 \cdot \ln(Dv_t) \cdot R\_unr + \varepsilon \quad (2)$$

For our next hypothesis, we consider the accounting practices of the target a *control variable* (the target firm applies local GAAP and IFRS) which will help us test and validate the hypothesis according to which accounting practice of the target is strongly influencing the decision of the acquirer to purchase a certain amount of stake, as it can be seen in Eq. (3):

$$\ln(S_t) = \alpha + \beta_1 \cdot \ln(Prod_{r_{t-1}}) + \\ + \beta_2 \cdot \ln(Dv_t) + \beta_3 \cdot R_{unr} + \\ + \beta_4 \cdot \ln(Prod_{r_{t-1}}) \cdot R_{unr} + \\ + \beta_5 \cdot \ln(Dv_t) \cdot R_{unr} + \\ + \beta_6 \cdot AccP + \varepsilon \quad (3)$$

The used method is hierarchical linear regression (HLR) because it is a way to show if variables of our interest explain a statistically significant amount of variance in our DV (after accounting for all other variables). Also, our study includes variance inflation factor (VIF), to identify multicollinearity problems. The VIF and tolerance are both widely used measures of the degree of multi-collinearity of the i[th] independent variable with the other independent variables in a regression model (O'Brien, 2007) and it has three accepted thresholds: if VIF is higher than 3, than the probability for multicollinearity increases; when VIF is higher than 5, there is very likely to have collinearity and; in case VIF is higher than 10, the collinearity exists for sure.

5. Results and discussions on the influence of specific determinants on the purchased stake in a target company

The study will present a series of descriptive statistics for the analyzed variables (per total and on categories considered in the analysis), including the ANOVA for the stake, considering the accounting practice of the target and the relatedness between the companies, of the values of the Pearson correlation coefficients, of the values of one-sample Kolmogorov-Smirnov test and the estimations of the parameters of the proposed regression models.

The ANOVA results, presented in **Table no. 3**, show significant difference between the means of the purchased stakes in the target companies, considering two groups of transactions: transactions which involved related/unrelated companies and transactions in which the target company applied local GAAP or IFRS.

Table no. 3. The ANOVA presentation for the purchased stake (%)

Group	Stake (%)	df	Mean Square	F	Sig.
Related/unrelated M&As	Between Groups	1	9200.623	8.455	.005
	Within Groups	58	1088.251		
Accounting practice of the target	Between Groups	1	29061.728	38.966	.000
	Within Groups	58	745.819		
Total		59			

Source: Authors' own processing using SPSS 25.0.

For the relatedness between the core activities of the involved companies (related/unrelated M&As), the significance is underlined by the F-test (F (1,58) = 8.455) and the significance coefficient of 0.005 (p<0.01). Also in **Table no. 3**, we present the ANOVA results for the means of the purchased stake, grouped by the accounting practice of the target (local GAAP and IFRS), which are also significant (F (1,58) = 38.966, p<0.01).

Table no. 4. The results of ANOVA analysis for relatedness and accounting practice

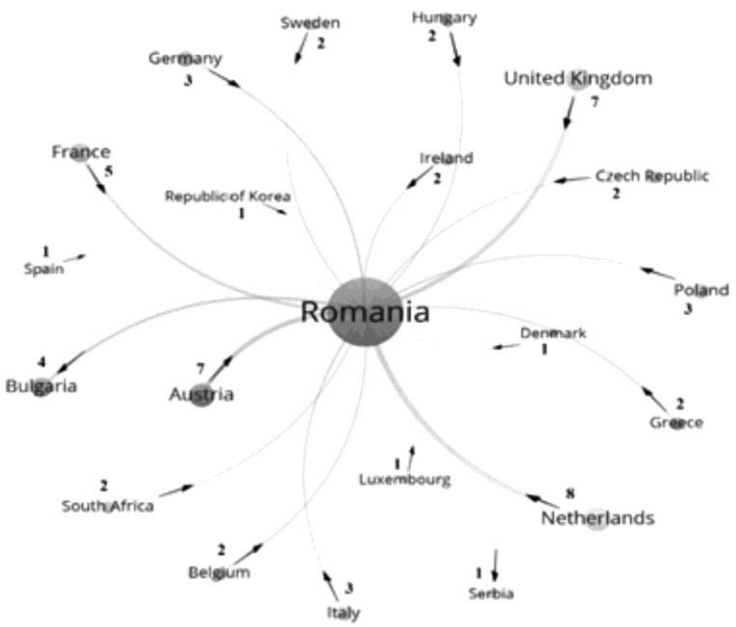
General	Variables	N	Mean	Std. Deviation	Robust Tests of Equality of Means
					Welch & Brown-Forsythe
Relatedness	*Unrelated*	27	65.46	41.877	F-ratio = 7.598, df2 = 38.918, sig. = 0.009
	Related	33	90.35	23.401	
Accounting practice	*Local GAAP*	46	91.29	21.496	F-ratio = 20.286, df2 = 15.173, sig. = 0.000
	IFRS	14	39.26	41.569	
Total		60	79.15	35.011	

Source: Authors' own processing using SPSS 25.0.

As one can notice in **Table no. 4**, although the number of transactions between unrelated companies is close to the one between related (27 and 33 transactions, respectively), the purchased stake in related companies is way higher than the one purchased in conglomerate M&As. Given the opinion according to which the financial reasons conduct to conglomerate M&As, rather than the productivity ones (Nelson-Espeland and Hirsch, 1990), the acquirers purchase a stake which could bring economic benefits, but they don't consider acquiring a company as a whole. Also, the mean of the stake purchased in target companies which apply local GAAP (91.29%) is considerably larger than the stake purchased in companies that apply IFRS (39.26%). This means that acquirers are purchasing local companies in which they are interested and not stakes in listed companies. The Welch and Brown-Forsythe tests are used to test for a significant difference across the means, when the equal variances test results in the rejection of the null hypothesis. In our case, the two tests are significant for both ANOVAs ($p<0.01$).

The geographical representation of the 60 cross-border M&As is presented in **Figure no. 2**.

Figure no. 2. Cross-border M&A in which a Romanian company is involved, 2010-2017



Source: Authors' own processing using VOS Viewer 1.6.9

As seen in **Figure no. 2**, the most transactions took place between companies from Romania (as targets) and acquirers located in Netherlands (8 companies), Austria and United Kingdom (7 companies) and France (5 companies). It is very noticeable the fact that Romanian companies acquire very few companies from abroad (4 in Bulgaria and 1 in Serbia) which gives us a proportion of transactions as cross-border M&As, in which Romanian companies were involved: 55 transactions in which a Romanian company was target vs 5 Romanian acquiring companies (with a total deal value of 11,445.46 th. euro).

Correlation coefficients, estimated for the numeric variables included in the estimation of the acquired stake, are presented in **Table no. 5**.

Table no. 5. Estimated values for the Pearson correlation coefficients

Variables	Final stake (%)	Productivity ratio	Deal value
Final stake (%)	1	.081	.156
		(.541)	(.233)
Productivity ratio (Prod_r)		1	-.040
			(.759)
Deal value (Dv)			1

Source: Authors' own processing using SPSS 25.0.

Pearson correlation shows us that, between the selected numeric predictors, no correlation has been found. Further testing is necessary, so we use one-sample Kolmogorov-Smirnov test, in order to verify the differences in the general shapes of the distributions in our sample (Massey Jr., 1951). The result of the K-S test showed a small p-value (p = .000), which means that there are substantial differences in shape, spread or median of our numeric variables (deal value, productivity ratio and stake). This could be the result of small sample of transactions. As a result, we decide to use natural logarithm (ln). We use logarithmic transformation of the Deal value, Final stake and Productivity ratio in order to pull outlying data from a positively skewed distribution closer one to another, in order to have the variables normally distributed. According to second Kolmogorov-Smirnov Test, the natural logarithm improved the p-value (for deal value, p = .200; for productivity ratio, p = .005; for stake, p = .000).

Once the values of the correlation coefficients have been estimated, to study the causality, **Table no. 6** displays the estimations of the parameters of the three regression models proposed for testing and validation.

Table no. 6. Estimations of the parameters of the regression models proposed for analysis

Variables	Model (1)		Model (2)		Model (3)	
	Coeff .	t	Coeff .	t	Coeff .	t
Intercept	**2.577*****	3.669	.653	.593	**3.378*****	3.162
Ln(Dv)	.112	1.512	**.303****	2.472	**.219****	2.122
Ln(Prod_r)	.097	1.550	**.281*****	2.998	**.250*****	3.202
R_unr	**.878****	2.390	**3.579*****	2.673	**2.676****	2.378
Ln(Dv)·R_unr	-	-	**-.288***	-1.951	-.181	-1.456
Ln(Prod_r)·R_unr	-	-	**-.308****	-2.571	**-.269*****	-2.706
AccP	-	-	**-**	-	**-1.666*****	-4.914
Observations	60		60		60	
R-square	.143		.293		.523	
F-value	F(3,56) = 2.945		F(5,54) = 4.230		F(6,53) = 9.149	
p-value	.041		.003		.000	
Multicollinearity tests	τ_i = .857, VIF = 1.132				τ_i = .477, VIF = 1.005	

Source: Authors' own processing using SPSS 25.0. Dependent variable *ln (St)*. Significance levels: *p < 0.1, **p < 0.05, ***p < 0.01.

Based on the data in **Table no. 6**, the fact that the two companies are related, positively and significantly influence the stake purchased in the target company, compared to the situation when the acquisition is between companies that are not related (conglomerate). Considering the model presented in Eq. (2), we also studied the interaction between the deal value and the fact that the two companies are related and, also, between the productivity ratio and the relatedness between the companies involved (horizontal or vertical acquisition). In this case, both the deal value and the productivity ratio have a positive and significant influence on the stake purchased in the target company, next to the fact that the companies are related, fact that is consistent with the previous model. At the same time, the productivity ratio of a related target company has a negative influence on the stake, to which we add the deal value paid, and the productivity of the companies, which have a negative significant influence on the dependent variable. Moreover, the combined variables raised the R^2, which is the capacity of the model to predict the variance in the dependent variable (stake), from 14.3% to 29.3%. The addition in the model of the accounting practice of the acquired company increased the predictability of the model with 23%, and the fact that the target company applies IFRS, as reporting system, increases the stake purchased by the acquirer.

To continue to study the causality between our variables, **Table no. 7** displays the estimations of the parameters for the third proposed regression model, considering the accounting practice of the target a control variable (local GAAP and IFRS).

Table no. 7. Estimations of the parameters of the second regression model, when accounting practice is considered to be a control variable

Variables	Model 2 – Local GAAP		Model 2 - IFRS	
	Coeff .	t	Coeff .	t
Intercept	**2.875*****	7.010	.343	1.047
Ln(Dv)	**.131*****	2.963	.345	-1.042
Ln(Prod_r)	**.126*****	3.679	**.058***	2.443
R_unr	**1.499*****	2.943	.357	-.992
Ln(Dv)·R_unr	**-.111*****	-2.019	.329	1.082
Ln(Prod_r)·R_unr	**-.128****	-2.916	**.047****	-2.616
Observations	46		14	
R-square	.420		.800	
F-value	F(5,40) = 5.791		F(5,8) = 4.010	
p-value	.000		.077	

Source: Authors' own processing using SPSS 25.0. Dependent variable *In (St).* Significance levels: *p < 0.1, **p < 0.05, ***p < 0.01.

Based on the information presented in **Table no. 7**, we can estimate the influence of the accounting practice of the target company in the year of the acquisition, considering it a control variable. For the target companies that are applying local GAAP, all the predictors have a significant influence on the dependent variable, the purchased stake. In case of the companies that are applying IFRS as a reporting system, the productivity ratio and the fact that the companies have related activities have a positive and significant influence on the stake purchased by the acquirer.

Conclusions

When entering in a transaction so transforming, like M&As, there are some determinants in choosing a target company that fits the needs of the acquirer: the economic resources of the acquiree, tangible or intangible, its employees, its market share, its geographical position, and examples can continue. In this paper, we analyze the acquisitions in which a Romanian company was involves, either in the position of the acquirer or as a target. Given our descriptive analysis, from our sample of 60 transactions (60 bidders and 60 targets), only in five cases the Romanian companies were acquirers, for the rest of 55 transactions, the Romanian companies were targets.

Thus, the remarks that we make as conclusions are applying to this particular situation.

Starting from the idea that, in case of conglomerate/unrelated M&As, the acquirers are considering a target company based on its financial rather than its productive capacities, and the opposite in the case of related M&As, we tested and validated three hypotheses which stated that the stake purchased by the acquirers in the target companies is influenced by the relatedness of their activities, the deal value and the productivity of the involved companies. As a result of the analysis, we conclude that, when the predictors are taken separately, only the relatedness of the activities is significantly and positively influencing the purchased stake. But, when analyzing the combined influence of the aforementioned factors, we noticed that, in the case of related activities, both deal value and the productivity ratio have a negative influence on the purchased stake. The accounting practice of the target in the year of the M&A, taken as a predictor in our HLR, has a negative influence on the purchased stake, which means that the purchased stake is higher in the case of the companies that are applying local GAAP, fact that is confirmed also by the descriptive statistics of our sample. When considering the accounting practice, a control variable, we notice that, when applying local GAAP, the predictability of the model is lower than in the case of IFRS. On the other hand, in the case of the target companies that are applying local GAAP as reporting system, all our predictors have a significant influence, while, in the case of applying IFRS as reporting system, the relatedness of the activities and the productivity ratio of the companies are significant, which means that the acquirers are searching for related companies, that are reporting a good productivity of their employees (revenues per employee).

One of the limits of the study is the small number of transactions in our sample. The fact that many involved companies (acquirers and targets) reported zero employees in the year prior to the M&A made the calculation of the productivity ratio impossible. Second, many companies involved in M&As, according to Zephyr database, were missing the financial data in Orbis database.

For future research, we intend to use the information regarding Romanian acquisitions, taken from Zephyr database, and analyze the influence of macroeconomic conditions of the involved companies' residence countries, in the year of the M&A.

REFERENCES

1. Aevoae, G.M., Dicu, R.M., Mardiros D.N. (2018), How do the foreign direct investments flow? *The case of cross-border M&As in the European Union, Accounting and Management Information Systems*, 17(4), pp. 641-662.
2. Aguilera, R., Dencker, J., The role of human resources management in cross-border mergers and acquisitions, *The International Journal of Human Resources Management*, Volume 15, Issue 8, 2004, pages 1355-1370
3. Ali-Yrkkö, J. (2002), Mergers and Acquisitions: Reasons and Results, *ETLA Discussion Papers* 792, available online at https://www.econstor.eu/handle/10419/63797
4. Boateng, A., Hua, X., Uddin, M., Du, M. (2014), Home country macroeconomic factors on outward cross-border mergers and acquisitions: Evidence from the UK, *Research in International Business and Finance*, 30, pp. 202-216
5. Canina., L., Kim, J.Y., Ma, Q. (2010), What do we know about M&A success? A research agenda for the lodging industry*, Cornell University*, Volume 51, Issue 1, pages 81-101
6. Cefis, E., Rigamonti, D. (2013), The importance of Industry Relatedness in M&A. An empirical analysis of the Dutch Acquisition Market, available online at http://econ.au.dk/fileadmin/Economics_Business/Research/Seminars/2013/Paper_The_importance_of_Industry_Relatedness_in_MA.pdf
7. Dauber, D. (2012), Opposing positions in M&A research: Culture, integration, and performance, *Cross-Cultural Management: An International Journal*, Volume 19, Issue 3, pp.375–398.
8. Devos, E., Kadapakkam, P.R., Krishnamurthy, S. (2009), How Do Mergers Create Value? A Comparison of Taxes, Market Power and Efficiency Improvements as Explanations for Synergies, *The Review of Financial Studies*, Volume 22, Issue 3, 1 Pages 1179–1211.
9. Erel, I., Liao, R. C., Weisbach, M. S. (2012). Determinants of Cross-Border Mergers and Acquisitions. *The Journal of Finance,* 67(3), 1045–1082.
10. Evenett, S.J. (2003), The Cross-border Mergers and Acquisitions wave of late 1990s, *NBER Working Paper* no. 9655, Cambridge, MA.

11. Fan, J. P. H., Lang, L. H. P. (2000). The Measurement of Relatedness: An Application to Corporate Diversification. *The Journal of Business*, 73(4), 629–660.
12. Ficery, K., Herd, T., Pursche, B., Where has all the synergy gone? The M&A puzzle*, Journal of Business Strategy*, Volume 28, Issue 5, pages 29-35
13. Hagedoorn, J., Duysters, G., The effects of mergers and acquisitions on the technological performance of companies in a high-tech environment, *Technology Analysis and Strategic Management*, Volume 14, Issue 1, 2002, pages 67-85
14. Hurley, R. F. (2006), The decision to trust, *Harvard Business Review*, Volume 86, Issue 9, pp. 55–62.
15. Institute of Mergers, Acquisitions and Alliances (2019), Number & Value of M&A Worldwide, available online at https://imaa-institute.org/mergers-and-acquisitions-statistics/
16. Institute of Mergers, Acquisitions and Alliances (2019), Number & Value of Cross-border M&A, available online at https://imaa-institute.org/m-and-a-statistics-transaction-type/
17. Kavanagh, M., Ashkanasy, N. (2006), The Impact of Leadership and Change Management Strategy on Organizational Culture and Individual Acceptance of Change during a Merger, *British Journal of Management*, 17(S1), S81-S103.
18. Kiessling, T., Harvey, M., The human resources management issues during an acquisition: the target firm's top management team and key managers*, The International Journal of Human Resource Management*, Volume 17, Issue 7, 2006, pages 1307-1320
19. Kiymaz, H. (2004), Cross-border acquisitions of US financial institutions: Impact of macroeconomic factors, *Journal of Banking & Finance*, 28(6), 1413-1439.
20. Massey Jr., F. (1951), The Kolmogorov-Smirnov Test for Goodness of Fit, *Journal of the American Statistical Association*, 46(253), pp. 68-78.
21. Moeller, Sara, Schlingemann, F., Stulz, R., 2004, Firm size and the gains from acquisitions, *Journal of Finance Economics*, Volume 73, Issue 2, pages 201-228.
22. Nelson Espeland, W., Hirsch, P. (1990), Ownership changes, accounting practice and the redefinition of the corporation, *Accounting, Organizations and Society*, 15 (1-2), pp. 77-96
23. Pelto, E. (2017), The Role of Trust in Value Creation: The Case of a Cross-Border Acquisition in Russia, in Marinova S., Larimo J., Nummela N. (eds) Value Creation in International Business. *Palgrave Macmillan*, Cham, pp 197-235
24. Rozen-Bakher, Z. (2018), The trade-off between synergy success and efficiency gains in M&A strategy, *EuroMed Journal of Business*, 13(2), pp. 163-184.
25. Shimizu, K., Hitt, M. A., Vaidyanath, D., Pisano, V. (2004). Theoretical foundations of cross-border mergers and acquisitions: A review of current research and recommendations for the future. *Journal of International Management,* 10(3), 307–353.
26. Stahl, G. K., Chua, C. H., Pablo, A. L. (2012), Does national context affect target firm employees' trust in acquisition? A policy-capturing study, *Management International Review*, Volume 52, Issue 3, pp. 395–423.
27. Stahl, G. K., Voigt, A. (2005), Impact of cultural differences on mergers and acquisition performance: A critical research review and an integrative model, *Advances in Mergers and Acquisitions*, Volume 4, pp. 51–82.
28. Uddin, M., Boateng, A. (2011), Explaining the trends in the UK cross-border mergers & acquisitions: An analysis of macro-economic factors, *International Business Review*, 20(5), 547-556.
29. Vasilaki, A., Tarba, S., Ahammad, M.F., Glaister, A., The moderating role of transformational leadership on HR practices in M&A integration*, The International Journal of Human Resources Management*, Cornell University, 2016, pages 1-17
30. Kalotay, K. Sulstarova, A. (2010), Modelling Russian outward FDI, *Journal of International Management*, 16, pp. 131-142
31. United Nations Conference on Trade and Development (2000), World Investment Report. Cross-border Mergers and Acquisitions and Development, available online at https://unctad.org/en/Docs/wir2000_en.pdf
32. Vasconcellos, G.M., Kish, R.J. (1998). Cross-border mergers and acquisitions: the European–US experience. *Journal of Multinational Financial Management*, 8(4), 431–450.
33. United Nations Conference on Trade and Development (1998), World Investment Report. Trends and Determinants, available online at https://unctad.org/en/Docs/wir1998_en.pdf

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