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RISK FACTORS REGARDING REVENUE RECOGNITION AS KEY AUDIT MATTERS (KAM)

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Abstract:

Revenue is known to be one of the most important performance indicators of a company. Revenue recognition policy involves a high level of management judgment and, not infrequently, management may feel some pressure to achieve the planned results. Based on these issues, it is found that revenue recognition is a key audit issue frequently encountered in auditors' reports. Auditors justify this classification by the fact that the principles that an entity must apply regarding the nature, value, timing and uncertainty of revenue generated by a contract with a client are quite complex, according to IFRS 15 "Revenue from Contracts with Customers" and important for users to understand the financial statements. This study aims, on the one hand, to demonstrate that revenue recognition is the most common key audit aspect reported by auditors in the last five years, being influenced, in particular, by the object of activity. On the other hand, the risk factors that determine the classification of revenue recognition to key audit issues are identified, and the regression model applied highlights the fact that the audit opinion is influenced, in particular, by the professional reasoning regarding the time of revenue recognition. Depending on these aspects, a company profile is also identified in the analyzed sample. The sample studied is represented by companies listed on the BSE on the regulated market, analyzing the audit reports published in the period 2016-2020, with a number of 344 observations.

Key words: audit report, revenue recognition, KAM, risk factors, audit procedures, listed companies

JEL classification: K22, M42, M48

1. INTRODUCTION

In addition to assets, liabilities, equity, as elements that measure the financial position, expenses and income are important elements that measure the performance and, implicitly, the company's equity. In order to report comparable financial information, public interest entities should keep up with all changes to international accounting standards, including the international revenue standard. It seems that the ability to adapt to change is one of the most useful features in the recipe for success (Farcane, N. et. al., 2019). IFRS 15 "Revenue from Contracts with Customers" was issued in 2014 to ensure convergence between the IASB and the FASB in recognizing revenue from customer contracts (IASB, 2014). The application of IFRS 15 was recommended for the financial years that started after January 1, 2017, and the preparation of European companies was also analyzed through various studies. (Quagli, 2021). In Romania, IFRS 15 applies from January 1, 2018 (OMFP no. 3189/2017). IFRS 15 has replaced IAS 11 "Construction Contracts" and IAS 18 "Revenue", as well as a number of their Interpretations. By issuing IFRS 15, the objective was to formulate a common model for revenue recognizing from contracts with customers, regardless of the industry in which the entities operate. The basic principle of IFRS 15 is directed towards the transfer of control approach, rather than the risk-benefit transfer approach used by IAS 18. Specifically, IFRS 15 describes the accounting treatment of income in the ordinary course of business. by economic entities, for the field of constructions being even a challenge (Wyk and Coetsee, 2020). Under these conditions, there is an inherent risk of incorrect revenue recognition, which leads financial auditors to include revenue recognition in audit reports as a key audit matters (KAM).

2. LITERATURE REVIEW

As a financial structure, revenue are considered a key performance indicator of a company (Mihalciuc and Grosu, 2019), and management may feel some pressure to reach a certain threshold (Du and Whittington, 2018). In addition, because revenue are significant, their recognition policy implies a high level of judgment on the part of the preparers of financial statements, as studies in recent years have highlighted this aspect. (Peterson, 2012; Gîrbină, 2014; Grosu and Socoliuc, 2016; Grigoroi, 2017; Napier and Stadler, 2020; Veysey, 2020; Vîrtosu and Florea, 2020; Piosik, 2021). With regard to audit reporting, an important change takes into account the requirement for auditing the financial statements for the periods ended at the end of 2016 to include key audit matters in the auditor's report. (*Key Audit Matters* - KAM), requirement of ISA 701, Disclosure of Key Audits in the Independent Auditor's Report (IAASB, 2018). A previous study by the authors showed that revenue recognition, as a key audit matters, reported in one period can influence the audit approach in the next period (Grosu et. al., 2020).

Identifying and recognizing income from current activity involves five steps (Deloitte, 2018): identifying the contract with a client, identifying the obligations generated by the contract, fulfilling contractual obligations, determining the transaction price, allocating the transaction price on the execution obligations related to the contract. Revenue recognition of interest and dividend revenues no longer falls within the scope of IFRS 15. Specifically, the five-step revenues recognition model has shifted from the concept of "risks and rewards" to the "concept of control" (Lim et al., 2015). The application of revenue recognition principles in accordance with the relevant financial reporting framework - IFRS 15 - is complex, and this complexity (Horton et al., 2011) can be associated with the following factors: professional judgmentused to determine when that control is transferred to the customer and thus a certain obligation to perform is fulfilled, taking into account the delivery conditions of the arrangement, on the one hand, and the significant uncertainty associated with estimating the amount of contractual consideration, especially when the consideration is variable, on the other hand. Therefore, in addition to the significant impact on the result reported by companies, the application of IFRS 15 also has an economic-legal impact at the level of entities (Farcane, 2019). There are studies that have shown that insufficient disclosure of information on revenue recognition can compromise decision-making utility (Coetsee et. al., 2021).
At national level, through OMFP no. 3189/2017 brought to the fore the responsibility of the administrator for the estimates made, which are the basis of accounting records and for establishing the nature of economic and financial operations, depending on their economic reality (Grosu and Ungureanu, 2019). The implications of changing the income standard can be significant for financial results, financial indicators agreed with banks as financing conditions, but also for the configuration of systems and processes in companies, from which those in the field of auditing are excluded (Wagenhofer, 2014; Lu and Wang, 2018; Buhăescu, 2019). However, not in all situations, the application of IFRS 15 would have a significant impact on discretionary revenue, but could reduce managerial estimation in revenue recognition resulting in higher shareholder costs (Caylor, 2010; Piosik, 2021). There are studies that have proposed taking into account a revenue recognition system based on costs, not just the time factor (Duru et. al., 2017).

Considering the specialized literature consulted, in the present study the following research hypotheses are proposed for testing and validation.: *1. Revenue recognition as KAM depends on the object of activity, the type of auditor and the time factor; 2. Professional judgment regarding the time of revenue recognition and reductions granted outside the normal invoicing process, as risk factors, influences the type of audit opinion; 3. A company profile listed on the BSE may be drawn up depending on the object of activity, the type of auditor, the risk factors regarding the revenue recognition as KAM and the auditor's procedures for identifying them.*

3. RESEARCH METHODOLOGY: POPULATION, SAMPLE, VARIABLES, DATA SOURCE, AND DATA ANALYSIS METHODS

Identifying the population, selecting the sample, choosing the variables, establishing the data analysis methods and proposing the econometric models to be analyzed, collecting and processing the data, as well as obtaining the research results and interpreting them in the final part of the study are the elements used to test the research hypotheses study, following a statistical approach (Jaba, 2002). From the total of companies listed on the Bucharest Stock Exchange (BSE), which represents the population, only the companies listed on the regulated market were selected in the sample. 70 companies were included in the sample (for the period 2016-2020) out of the total of 80 listed at the end of the financial year 2020, 10 companies being eliminated, because they must meet other criteria in the financial reporting, and the audit reports are based the requirements of these reporting frameworks and are not comparable with the audit reports of other companies, being entities in the field of financial-banking, insurance or financial intermediation. Out of the total number of observations of 350, 344 observations were taken into account in the performed processing, because no data were available for six entities, some of which were delisted in the last part of the analyzed interval. The distribution by objects of activity for the period of five years is shown in Table 1.

Table 1. The sample analysed in the study

Year	No of observation	Activity Field											
		Manugacturig Industry		Trade		Chemical-Pharmaceutical		Services		Building		Energy-Oil	
		N	%	N	%	N	%	N	%	N	%	N	%
2016	69	36	52.2	1	1.4	8	11.6	9	13.0	4	5.8	11	15.9
2017	70	36	51.4	1	1.4	8	11.4	10	14.3	4	5.7	11	15.7
2018	70	36	51.4	1	1.4	8	11.4	10	14.3	4	5.7	11	15.7
2019	69	36	52.2	1	1.4	8	11.6	10	14.5	4	5.8	10	14.5
2020	66	35	53.0	1	1.5	7	10.6	9	13.6	4	6.1	10	15.2
Total	**344**	**179**	**52.0**	**5**	**1.5**	**39**	**11.3**	**48**	**14.0**	**20**	**5.8**	**53**	**15.4**

Source: own processing in SPSS 23.0

From Table 1, it can be seen that the largest share, of 52%, is held by the manufacturing industry, followed by the energy-oil field, by almost 16% and the services field, by 14%. The entities in the chemical-pharmaceutical field have a share of just over 11%, and the construction and trade fields are in the last places, as the lowest shares (5.8% and 1.5%, on average). For the testing and validation of the proposed research hypotheses, the study aims, starting from the literature, first of all, to highlight that the object of activity influences the revenue recognition as KAM, which are the risk factors that explain the recognition of income as KAM, and secondly, the aim is to draw up a profile of the company listed on the BSE according to the object of activity, the type of auditor, the risk factors regarding the recognition of income as KAM and the auditor's procedures for identifying them. The data were collected manually from the published audit reports related to the financial years ended at the end of the periods 2016-2020, and the data analysis was performed with SPSS 23.0 software. To perform the processing, the identified variables and their description are presented in Table 2.

Table 2. The variables

Variable	Abbreviation	Description
Year	Y	Dummy variable that takes the value 1 for the current year and 0 for the other years (Year: 2016, 2017, 2018, 2019, 2020)
Company	Comp	Company name
Activity Field	Act_Field	Field of activity: Manufacturing Industry, Trade, Chemical_Pharmaceutical, Services, Building, Energy-Oil
Auditor Type	Auditor	Auditor type: Big4, Non-Big4

Opinion Type	OP	The type of opinion: Unqualified, Qualified
KAM-Revenue Recognition	KAM_Rev_Rec	Key Audit Matter-Revenue recognition: Yes/Non
Fact1-Revenue - Key Performance Indicator	Fact1_RKPI	Risk Factor1: Revenue - Key Performance Indicator: Yes/Non
Fact2-Pressures on Management to achieve Planned Results	Fact2_PMPR	Risk Factor2: Pressures on Management to achieve Planned Results: Yes/Non
Fact3-Revenues are Obtained in Different Stages of Production	Fact3_RODSP	Risk Factor3: Revenues are Obtained in Different Stages of Production: Yes/Non
Fact4-Incorrect Turnover	Fact4_IT	Risk Factor4: Incorrect Turnover: Yes/Non
Fact5-Discounts Granted (outside the normal billing process)	Fact5_DG	Risk Factor5: Discounts Granted (outside the normal billing process): Yes/Non
Fact 6-Decreased Sales due to Covid-19	Fact6_DSC	Risk Factor6: Decreased Sales due to Covid-19: Yes/Non
Fact7-Invoiced but Undelivered Goods	Fact7_IUG	Risk Factor7: Invoiced but Undelivered Goods: Yes/Non
Proced 1-Assess the Principles of Revenue Recognition	Proced1_APRR	Procedure applied1: Assess the Principles of Revenue Recognition (through Documentation/Investigation): Yes/Non
Proced2 - Correct Registration of Transactions	Proced2_CRT	Procedure applied2: Correct Registration of Transactions (through Documentation /Recalculation /Reconstruction): Yes/Non
Proced3 - External Confirmations	Proced3_EC	Procedure applied3: External Confirmations: Yes/Non
Proced4 - Analysis of Contracts	Proced4_AC	Procedure applied4: Analysis of Contracts (through Documentation): Yes/Non
Proced5 - Analytical Procedures	Proced5_AP	Procedure applied5: Analytical Procedures: Yes/Non

Source: own projection

The variables included in Table 2 take into account the time period, as dummy variable, the activity field of the companies from the analyzed sample, the type of auditor (Big4 or Non-Big4), the type of opinion (unreserved or qualified), if it is reported in the audit report at KAM, the revenues recognition, the risk factors that justify the framing of the revenue recognition to KAM, as well as the procedures used by the auditor to identify the risk factors. Following the data collection, it was found that among the matters reported by auditors in the audit reports to KAM, in the period 2016-2020, the largest number of occurrences is held by KAM: revenue recognition, issue demonstrated in another previous study (Grosu et. al., 2020).

To test the dependence between revenue recognition, as KAM, on the object of activity and the type of auditor, with or without time effects, as well as the influence of risk factors on revenue recognition on the audit opinion, multiple linear regression models are used (Jaba, 2008), and to identify the associations between the revenue recognition, such as KAM, object of activity, risk factors to justify revenue as KAM, the procedures used by the auditor to identify risk factors, the type of auditor, the Multiple Factor Correspondence Analysis (AFCM) is used, as a method of multivariate data analysis (Pintilescu, 2007).

4. RESULTS AND DISCUSSIONS

Following the data processing, the results consider, first of all, the presentation of descriptive statistics for the variables used in the proposed models, described in Table 3.

Table 3. Descriptive statistics of the analysed variables

Variable	Value	Frequency of occurrence
Auditor	It belongs to Big4	31.10%
	It does not belong Big4	69.90%
OP	Op1: unqualified opinion	79.10%
	Op2: qualified opinion	20.90%
KAM_Rev_Rec	Yes	48%
	Not	52%
Fact1_RKPI	Yes	20.10%
	Not	79.90%
Fact2_PMPR	Yes	25%
	Not	75%
Fact 3_RODSP	Yes	12.20%
	Not	87.80%
Fact 4_IT	Yes	8.70%
	Not	91.30%
Fact5_DG	Yes	16%
	Not	84%
Fact6_DSC	Yes	5.80%
	Not	94.20%
Fact7_IUG	Yes	4.10%
	Not	95.90%
Proced1_APRR	Yes	47.40%
	Not	52.60%
Proced2_CRT	Yes	14.80%
	Not	85.20%
Proced3_EC	Yes	39.20%
	Not	60.80%
Proced4_AC	Yes	42.20%
	Not	57.80%
Proced5_AP	Yes	35.20%
	Not	64.80%

Source: own processing in SPSS 23.0

From Table 3, it is observed that the revenue recognition as KAM is found in 48% of the analyzed audit reports, the auditors do not necessarily belong to Big4, and the opinion issued is often unqualified. Among the risk factors that explain the frameing of revenue recognition at KAM it stands out Factor 2 - The pressure that management may feel in relation to achieving the planned results, with a percentage of 25%, and the procedure that most auditors use to identify the factors of risk refers to the documentation for assessing the principles of revenue recognition, in accordance with IFRS and the entity's accounting policies, in approximately half of the situations (47%).

For testing the first research hypothesis: *1. Revenue recognition as KAM depends on the object of activity, the type of auditor and the time factor*, multiple linear regression models are used. The processing results can be found in Tables 4,5,6 and table 7. The first model of multiple linear regression does not take into account the time factor, and the second model of regression shows the influence of the field of activity and the type of auditor on the revenue recognition taking into account the time effects.

Table 4. Correlation matrix between the variables

Variable	KAM_Rev_Rec	Act_Field	Auditor
KAM_Rev_Rec	1	0.212	-0.243
Act_Field		1	-0.159
Auditor			1

Source: own processing in SPSS 23.0

From the correlation matrix, it is observed that there is a greater influence between the field of activity and the revenue recognition, as a dependent variable, and the parameters of the first regression model highlight the same aspect.

Table 5. Estimates of the parameters of the first regression model

Variables included in the model	β	Std E	t	Sig
Constant	1.789	.110	16.230	.000
Act_Field	.046	.014	3.391	.001
Auditor	-.232	.056	-4.100	.000

R^2 is 0,100; N=344
Regression Model: $KAM\_Rev\_Rec_i=\beta_0+\beta_1Act\_Field_i+\beta_2Auditor_i$
Source: own processing in SPSS 23.0

Although the determination ratio is only 10%, it is considered with a 95% confidence level (Sig < 0.05) that the field of activity certainly influences the revenue recognition as KAM for the analyzed sample.

Table 6. Correlation matrix between the variables with time effects

Variable	KAM_Rev_Rec	Act_Field	Auditor	Y 2016	Y 2017	Y 2018	Y 2019	Y 2020
KAM_Rev_Rec	1	0.212	-0.243	0.103	0.023	0.008	-0.057	-0.079
Act_Field		1	-0.159	0.001	0.006	0.006	-0.007	-0.007
Auditor			1	-0.040	-0.035	0.012	0.039	0.024
Y_2016				1	-0.253	-0.253	-0.251	-0.244
Y_2017					1	-0.255	-0.253	-0.246
Y_2018						1	-0.253	-0.246
Y_2019							1	-0.244
Y_2020								1

Source: own processing in SPSS 23.0

By taking into account the time factors, it is observed that year 2016 has the greatest influence on the revenue recognition as KAM, this being the starting year for the mandatory reporting of KAM in audit reports.

Table 7. Estimates of the parameters for the second regression model

Variables included in the model	β	Std E	t	Sig
Constant	1.788	.122	14.637	.000
Act_Field	.046	.013	3.399	.001
Auditor	-.225	.057	-3.979	.000
Y_2016	.085	.081	1.044	.297
Y_2017	.005	.081	.058	.954
Y_2019	-.057	.081	-.704	.482
Y_2020	-.084	.082	-1.026	.305

R^2 is 0,103; N=344
Regression Model: $KAM\_Rev\_Rec_i=\beta_0+\beta_1Act\_Field_i+\beta_2Auditor_i+\beta_3Y\_2016_i+\beta_4Y\_2017_i+\beta_5Y\_2019_i+\beta_6Y\_2020_i$
Source: own processing in SPSS 23.0

However, the second regression model that also takes into account the time factor does not change the results much, the determination ratio is, however, higher, which means that there is a small influence also of the time factor. But, what can be seen is that 2018 is the year removed from the model, precisely because the influence of this year as an independent variable is explained by the other independent variables, the tolerance of this period being very close to zero.

To test the second research hypothesis: 2. *Professional judgment regarding the time of revenue recognition and reductions granted outside the normal invoicing process, as risk factors, influences the type of audit opinion,* a multiple linear regression model is also used, and the processing results can be found in Tables 8 and 9. Specifically, the influence of risk factors concerning revenue recognition on the type of audit opinion is tested.

Table 8. Correlation matrix between the variables

Variable	OP	Fact1-RKPI	Fact2-PMPR	Fact3-RODSP	Fact4-IT	Fact5-DG	Fact6-DSC	Fact7-IUG
OP	1	-.010	0.000	-0.157	-0.044	0.127	0.006	0.034
Fact1_RKPI		1	0.331	0.013	-0.078	0.356	0.062	-0.103
Fact2_PMPR			1	0.072	0.083	0.114	0.143	-0.119
Fact3_RODSP				1	0.357	-0.017	0.173	0.328
Fact4_IT					1	0.006	0.187	0.406
Fact5_DG						1	0.061	0.071
Fact6_DSC							1	0.200
Fact7_IUG								1

Source: own processing in SPSS 23.0

From the correlation matrix, it can be seen that the professional judgmend regarding the moment of revenue recognition and the reductions practiced by the entity are the factors with greater influence on the type of audit opinion.

Table 9. Estimates of the parameters for the third regression model

Variables included in the model	β	Std E	t	Sig
Constant	1.081	.294	3.670	.000
Fact1_RKPI	-.059	.062	-.967	.334
Fact2_PMPR	.025	.055	.466	.641
Fact3_RODSP	-.221	.073	-3.029	.003
Fact4_IT	-.037	.088	-.421	.674
Fact5_DG	.149	.064	2.345	.020
Fact6_DSG	.027	.097	.277	.782
Fact7_IUG	.179	.127	1.411	.159

R^2 is 0,050; N=344

Regression Model: $OP_i=\beta_0+\beta_1 Fact1\_RKPI_i+\beta_2 Fact2\_PMPR_i+\beta_3 Fcat3\_RODSP_i+\beta_4 Fact4\_IT_i+\beta_5 Fact5\_DG_i+\beta_6 Fact6\_DSG_i+\beta_7 Fact7\_IUG_i$

Source: own processing in SPSS 23.0

The data from Table 9 justify the above statement by the fact that Sig for Factors 3 and 5 takes values below 0.05. As an inherent audit risk factor, the decrease in revenue due to the Covid-19 pandemic is not noted as a factor that could significantly change the auditor's opinion at the level of the companies in the sample analyzed, perhaps also because the influence of this factor was only recently analyzed.

For testing Hypothesis 3: *A company profile listed on the BSE may be drawn up depending on the object of activity, the type of auditor, the risk factors regarding the revenue recognition as KAM and the auditor's procedures for identifying them,* multivariate data analysis methods were used, namely AFC and AFCM. Figures 1, 2 and 3 show the processing results.

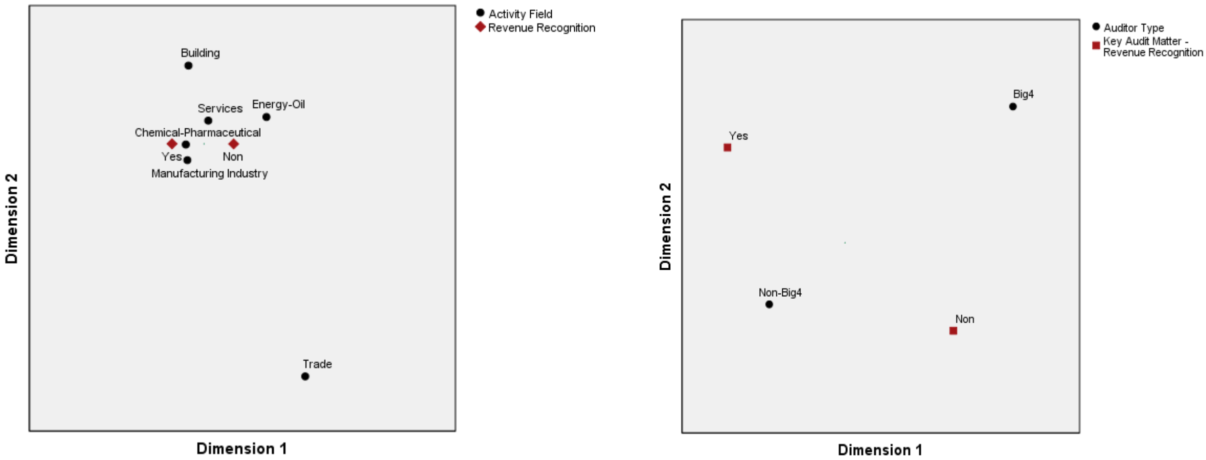

Figure 1. The association between the object of activity, the auditor type and the recognition of revenue as KAM

Source: own processing in SPSS 23.0, using FAC

From Figure 1 it can be seen that for the fields: manufacturing and chemical-pharmaceutical industry there is a revenue recognition as KAM more than for other areas of activity, and the type of auditor (Big4/Non-Big4) does not necessarily influence revenue recognition. The association between the field of activity, the risk factors regarding the revenue recognition as KAM and the procedures used by the auditor to identify the risk factors can be analyzed based on the graphs in Figure 2.

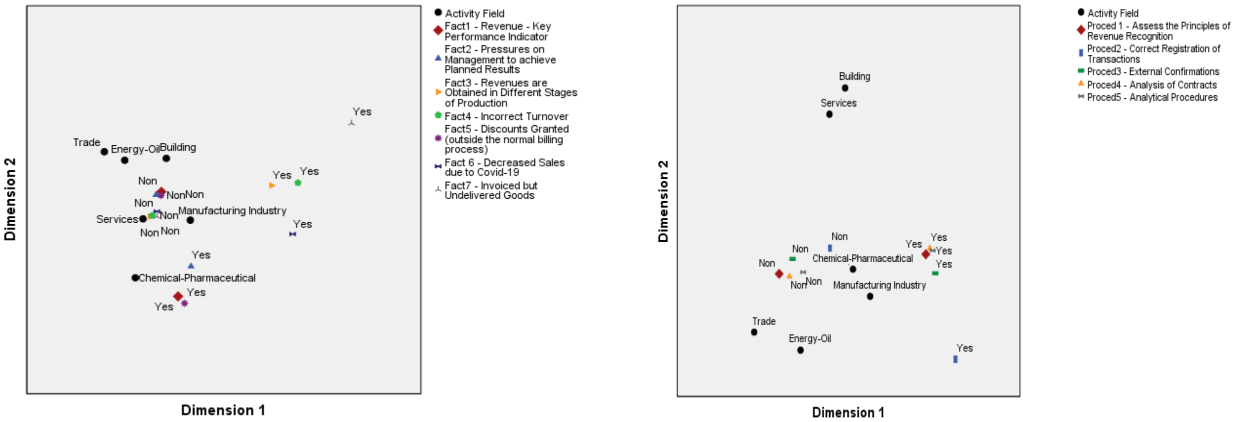

Figure 2. The association between the object of activity, the risk factors regarding the recognition of revenue as KAM and the auditor's procedures for identifying risk factors

Source: own processing in SPSS 23.0, using FACM

It can be seen from Figure 2 that for the chemical-pharmaceutical field, statutory auditors identify among the risk factors for revenue recognition at key audits matters that revenues represent a key performance indicator and that management may feel some pressure to achieve results, on the one hand, and the fact that these entities grant discounts outside the normal invoicing process. The procedures used by the auditor to justify this frameing include, in particular, the assessment of the principles of revenue recognition, the documentation for the analysis of sales contracts and the analytical procedures.

Figure 3 highlights the relationship between the type of auditor (Big4 or Non-Big4), the risk factors and the mentioned procedures.

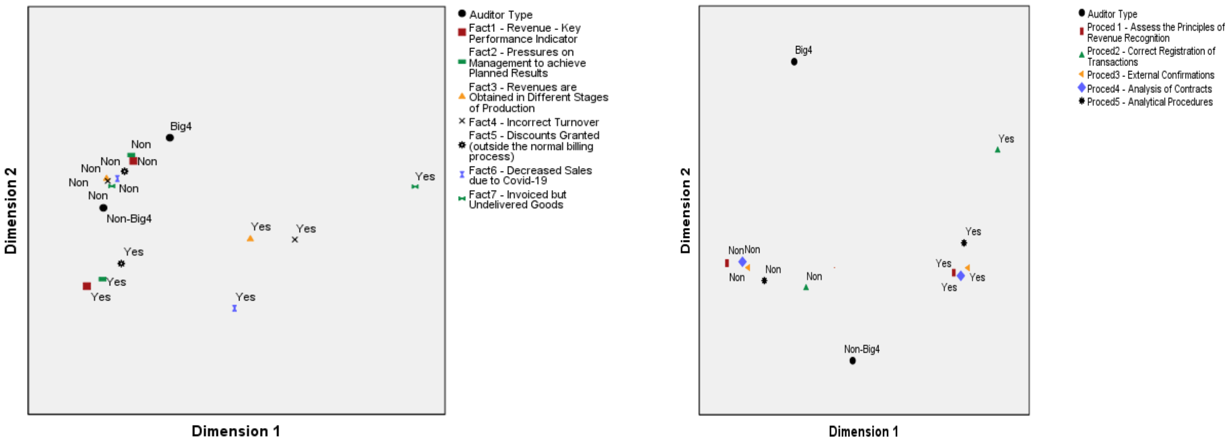

Figure 3. The association between the type of auditor, the risk factors regarding the recognition of revenue as KAM and the auditor's procedures for identifying risk factors
Source: own processing in SPSS 23.0, using FACM

From Figure 3, it can be seen that a more frequent reporting in the audit reports of the risk factors regarding the revenue recognition is found in the case of auditors who are not part of Big4, an aspect directly related to the indication of the procedures that the auditor may use. This is not because Big4 would report fewer issues in the Audit Reports issued, but because Big4's share as auditor for the sample analyzed is lower.

CONCLUSIONS

It is desirable that the single revenue recognition model for all industries contribute to improving the content and quality of financial reports published by companies, as well as to ensuring the comparability of revenue recognition practices in different areas. The research conducted during this study led us to the following general conclusions: 1) revenue recognition as KAM is found in almost half of the Audit Reports consulted, and the variable that most influences this aspect from the variables taken into account is the field of activity, both without and with time effects.; 2) of the seven identified risk factors, the time of the revenue recognition and the reductions applied by the entity are the factors with the greatest influence on the type of audit opinion; 3) with regard to the drawing up of an entity profile, depending on the criteria taken into account as variables, it can be seen from the analyzed sample that for entities operating in the chemical-pharmaceutical field, financial auditors mention revenue recognition as KAM more than for entities operating in other areas, the risk factors for revenue recognition in key audit matters take into account, in particular, that revenue represents a key performance indicator, that management may feel some pressure to achieve results, and that these entities grant rebates outside the normal invoicing process, and the procedures used by the auditor to justify this frameing include, in particular, the assessment of revenue recognition principles, documentation for the analysis of sales contracts and analytical procedures. Although IFRS 15 falls on the fields of telecommunications, software development, real estate investment and construction, some of which are not mentioned in the previous standard (Ciesielski and Weirich, 2015), in the analyzed sample, these areas did not necessarily stand out. This aspect is explained by the fact that the entities included in the analyzed sample and operating in these fields are less numerous, the construction sector holding only a percentage of 5.8%. This is also considered a limitation of the study, which can be removed in a future study by expanding the sample.

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