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**Statistical Study on the Perception of  
Professional Accountants Regarding the  
Existence and the Manifestation of  
Creative Accounting**

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## **Statistical Study on the Perception of Professional Accountants Regarding the Existence and the Manifestation of Creative Accounting**

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### **Abstract**

This paper represents a part of an extended study referring to the perception of various categories of persons specialized in economics or who study economics (professional accountants, undergraduate and graduate students) on the existence and the manifestation of the so-called creative or innovative accounting. The research methodology consists of conducting a poll to find out whether the subjects of this study would agree or are attracted to use on purpose creative accounting practices. Our study focuses on several objectives, to each being attached an appropriate hypothesis, which we verify by using the  $\chi^2$  statistical test for independence. Another statistical tool that we use to evaluate the relation between the perception on the manifestation of creative accounting and some personality traits is the Pearson's coefficient of correlation, which measures the strength and direction of the relationship between the variables. The results of this study suggest that the main conduct is to reject the intentional use of innovative accounting techniques and practices.

**Keywords:** Creative accounting, professional experience, assumption of risk, ethics,  $\chi^2$  statistical test, Pearson's coefficient of correlation.

**JEL Classification:** C12, M14

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## **Preliminaries**

The concept of creative or innovative accounting refers to accounting practices that may follow the letter of the law and of the rules of standard accounting techniques, but deviate from the spirit of those rules, being characterized by excessive complication and the use of novel ways of presenting in an “embellished” form the income, assets or liabilities, and by the intent to influence readers towards the interpretations desired by the authors. As favourable circumstances for the birth of the notion of creative accounting can be mentioned the need of economic entities to emphasize a good reputation in an increasingly competitive and tough economic environment. The first mention belongs to Fra Luca Pacioli [Pacioli, 1494], the founder of modern accounting.

Among the motivations of using innovative accounting techniques, we emphasize, for example, personal motives, bonus-related pay and/or benefits from shares, job security, cover-up fraud, tax management. General principles on the Romanian accounting system are given in [Feleaga, 1996] and [Feleaga&Malciu, 2002]. Some research on accounting and creativity, from the perspective of Romanian economists, was done in [Balaciu, 2011] and [Balaciu&al., 2012].

The aim of this study is to analyze whether the employment of these techniques appeals to economist or not. For detecting the manipulation of financial/accounting information, it is important to review the reasons behind this manipulation and to measure the percent of those professionals willing to obey.

The study focuses on several objectives, to each being attached appropriate hypothesis, in order to evaluate the perception on the existence and forms of manifestation of creative accounting.

The empirical research was carried out between January and March 2014, the research method used being a survey, with the instrument of the research a questionnaire, applied directly in the field to ensure a high response rate. Some instruments regarding applied statistics are given, for example, in [Cox&Donnelly, 2011].

The paper is organized as follows: some *Preliminaries*, which emphasize the intentions of our scientific approach, are given. The *Research methodology* is followed by the description of some theoretical issues relative to the *Independence testing and Correlation*. The *Empirical study*, dedicated to testing several hypothesis and applying statistical tools, allow to obtain the *Conclusions* of the study. *Acknowledgments* are addressed to the organizers of the conference and the referees. Some *References* are also provided.

## **Research Methodology**

The research methodology is a cross-sectional analysis and consists of conducting a poll to find out whether the subjects would agree to use on

purpose creative accounting practices. In our research survey, we have created relevant questions that would allow us to point out different approaches of the tendency to use innovative accounting techniques, depending, for example, on the gender of the questioned person and on the experience in the domain. Other questions were meant to offer an accurate image for the personal profile of the respondents. The questionnaire, as the instrument of the survey, uses a Likert-type scale with 5 levels of appreciation. In our approach, the score goes from five points, for the answer *Strongly agree* or *Total agreement*, decreasingly to one point, for the answer *Strongly disagree* or *Total disagreement*, for the so-called „positive” questions, and vice-versa for „negative” questions.

The major steps in conducting our sample survey are:

- E<sub>1</sub>**. Overall planning: aims and objectives of the study;
- E<sub>2</sub>**. Design and selection of samples, as well as detection of the sample size;
- E<sub>3</sub>**. Design of questionnaires;
- E<sub>4</sub>**. Analysis of internal consistency;
- E<sub>5</sub>**. Collection of raw data;
- E<sub>6</sub>**. Compilation and analysis of data and dissemination of the survey’s results.

The approach is done by using specific statistical methods, such as testing hypothesis by using the  $\chi^2$  statistical test. In general, by means of this test, an empirical and a theoretical frequency distribution can be compared, the independence of distributions of two characteristics can be verified, or one can establish the homogeneity of several selections. For each case, there exists a  $\chi^2$  test with specific designation. In general, Pearson’s  $\chi^2$  test is used to assess two types of comparison:

- tests of *goodness of fit*, which establish whether an empirical frequency distribution differs from a theoretical one;
- Tests of *independence*, which allow assessing if paired observations on two characteristics, expressed in a contingency table, are independent of each other.

In our study we apply the test for independence. As the variables can be transformed, due to the Lickert scale, into numerical type, it is also appropriate to use the Pearson’s coefficient of correlation, which is relevant to measure the intensity of the linear bond between two variables.

To measure the internal consistency of the questionnaire we apply the Cronbach’s  $\alpha$  method, which is commonly used as an estimate of the reliability of a psychometric test for a sample of examinees. We compute

$$\alpha_C = \frac{L \cdot \bar{c}}{(L-1) \cdot \bar{c} + v},$$

where  $L$  is the number of items,  $\bar{c}$  is the average inter-item covariance and  $\bar{v}$  is the average variance, and we obtain  $\alpha_C = 0.821$ , which indicates that the internal consistency is good and it refers to a low-stakes testing.

Our study focuses on three objectives:

**O<sub>1</sub>.** To find the correlation between the professional experience of the accountants and the frequency with which they use creative accounting practices;

**O<sub>2</sub>.** To determine the perception of the accountants regarding the intentions of the managers to use techniques of innovative accounting in order to “embellish” the financial situation or the true income and to obtain the desired results;

**O<sub>3</sub>.** To analyze a possible correlation between the tendencies of the accountants to be creative in their work, but without trespassing legal limits, and their assuming of certain risks;

The hypotheses that we test, attached to the objectives of the study, are:

**H<sub>1</sub>.** There exists a correlation between the professional experience of the accountants and the frequency of intentionally using techniques of creative accounting.

The questions on which basis we test the validity of this hypothesis are:

*I.2.* What is your experience as an accountant?

*II.15.* Have you ever used in your professional career practices of innovative accounting in order to maximize the financial result?

*II.16.* Have you ever used in your professional career practices of innovative accounting in order to minimize the financial result?

**H<sub>2</sub>.** There exists a correlation between the intentions of the managers to use creative accounting techniques and the acceptance of the accountants to “support” them.

We test the validity of this hypothesis on the answers to following questions:

*I.4.* Do you consider that the managers are tempted to use creative accounting techniques within legal boundaries in order to embellish the image of their financial position and the economic/financial performances?

*II.6.* At your manager’s request, would you accept to use accounting techniques to maximize the financial result, in order to obtain a loan or to attract new investors?

*II.7.* At your manager’s request, would you accept to use accounting techniques to smooth the financial result, in order to reduce the amount of taxes due to the budget?

*II.20.* The most important for me is to respect the financial regulations.

*II.21.* If the manager offers me a promotion or a financial motivation, I am willing to “cosmeticize” some of the financial results of the company.

**H<sub>3</sub>.** There exists a connection between the tendency of the accountants to be creative in their work, but without trespassing legal limits, and the assuming of certain risks in their life.

The validity of this hypothesis is tested based on the answers to the next questions:

- II.2. Do you like to take risks in your personal life?
- II.14. Would you agree to take some risks in your work, without trespassing legal limits?
- II.17. Would you agree to apply to the impairment of assets in order to manipulate the accountancy figures?
- II.18. Would you resort to changing the stocks evaluation method in order to smooth the financial result?
- II.19. Would you appeal to circular transactions in order to improve the data from financial situations?
- II.22. During your professional activity, would you agree to appeal to accounting techniques to maximize the financial result?
- II.23. During your professional activity, would you agree to appeal to accounting techniques to minimize the financial result?

**Independence Testing and Correlation**

Two characteristics, denoted  $X$ , with  $l$  states, and  $Y$ , with  $m$  states, are observed simultaneously. Let us consider the null hypothesis  $H_0$ :  $X$  and  $Y$  are independent. In order to analyze the acceptance or rejection of this hypothesis, we will proceed to the following steps:

**S<sub>1</sub>**. The data are given by

**Table 1.** *The Contingency Table*

$X/Y$	$y_1$	$y_2$	...	$y_m$	
$x_1$	$n_{11}$	$n_{12}$	...	$n_{1m}$	$N_1$
$x_2$	$n_{21}$	$n_{22}$		$n_{2m}$	$N_2$
...					...
$x_l$	$n_{l1}$	$n_{l2}$		$n_{lm}$	$N_l$
	$K_1$	$K_2$	...	$K_m$	$n$

where  $n_{ij}$  is the number of individuals for which the characteristics  $X$  takes the value  $x_i$  and  $Y$  takes the value  $y_j$ . Following relations hold:  $N_i = \sum_{j=1}^m n_{ij}$ , for all

$$i = \overline{1, l}, K_j = \sum_{i=1}^l n_{ij}, \text{ for all } j = \overline{1, m} \text{ and } \sum_{i=1}^l \sum_{j=1}^m n_{ij} = n;$$

**S<sub>2</sub>**. We compute  $e_{ij} = \frac{N_i K_j}{n}$ ,  $i = \overline{1, l}$ ,  $j = \overline{1, m}$ ;

**S<sub>3</sub>**. We consider the statistics or the selection function defined by the relation

$$h^2 = \sum_{i=1}^l \sum_{j=1}^m \frac{(n_{ij} - e_{ij})^2}{e_{ij}},$$

that satisfies the  $\chi^2$  repartition with  $(l-1)(m-1)$  degrees of freedom;

**S<sub>4</sub>.** Based on the selection data, we compute  $h_0^2$  according to the formula in **S<sub>3</sub>**;

**S<sub>5</sub>.** We determine  $\chi_0^2$  such that  $P(\chi^2((l-1)(m-1)) > \chi_0^2) = \alpha$ ;

**S<sub>6</sub>.** Conclusions: if  $h_0^2 \leq \chi_0^2$ , then the null hypothesis **H<sub>0</sub>** is accepted, with a confidence level of 95%. In the contrary case, **H<sub>0</sub>** is rejected.

Beside the  $\chi^2$  method, we use another statistical tool, the Pearson's coefficient of correlation, which measures the strength and direction of the relationship between the variables, i.e. the intensity of the linear bond between two variables. It is defined as the covariance of the two variables divided by the product of their standard deviations. One aim of the statistical inference based on Pearson's correlation coefficient is to test the null hypothesis that the true correlation coefficient  $\rho$  is equal to 0, based on the value of the sample correlation coefficient  $r$ .

The population coefficient of correlation, denoted  $\rho$ , can be determined by the formula

$$\rho = \frac{cov(X, Y)}{\sigma_X \sigma_Y} = \frac{E[(X - m_X)(Y - m_Y)]}{\sigma_X \sigma_Y}$$

where  $cov(X, Y)$  is the covariance,  $\sigma_X$  is the standard deviation of  $X$ ,  $m_X$  is the mean of  $X$  and  $E$  is the expectation. After substituting the estimates of the covariances and variances, based on a sample, we may write

$$r = \frac{n \sum_{i=1}^n x_i y_i - \sum_{i=1}^n x_i \sum_{i=1}^n y_i}{\sqrt{\left[ n \sum_{i=1}^n x_i^2 - \left( \sum_{i=1}^n x_i \right)^2 \right] \cdot \left[ n \sum_{i=1}^n y_i^2 - \left( \sum_{i=1}^n y_i \right)^2 \right]}}$$

where  $x_i$  are the values of the characteristic  $X$  and  $y_i$  are the values of the characteristic  $Y$ ,  $i = \overline{1, n}$ .

The value of the coefficient of correlation is a number between -1 and 1, the sign of it indicating the sense of the relation. If  $r > 0$ , the two characteristics are in positive correlation, being direct proportional. If  $r < 0$ , the two characteristics are in negative correlation, being indirect proportional. The significance of the correlation between the characteristics can be establish by comparing  $r$  with  $r_{\alpha, n-2}$ , where  $\alpha$  is the significance level and  $n - 2$  the degrees of freedom. Following cases hold:

- if  $r < r_{0.05, n-2}$ , the correlation is not significant;
- if  $r_{0.05, n-2} < r < r_{0.01, n-2}$ , the correlation is significant;
- if  $r_{0.01, n-2} < r < r_{0.001, n-2}$ , the correlation is distinctly significant;

- if  $r > r_{0.001, n-2}$ , the correlation is very significant.

The number  $r^2$  is called the precision index and it show in what measure a characteristic is influenced by the other.

### Empirical Study

Let us consider a significance level of  $\alpha = 0.05$  or the confidence level 95%. To choose the right sample size for a population of size  $N = 450$  professional accountants of Arad county, we follow the next steps:

- we consider the desired margin of error  $me = 6.6\%$ ;
- we determine the critical standard score  $z$ , i.e. the value for which the cumulative probability is given by the relation  $1 - \alpha/2 = 0.975$ . According to the distribution of standard scores that has a mean of 0 and a standard deviation of 1, we obtain the value of the standard score  $z = 1.96$ ;
- we assume that the population proportion  $p$  is equal to its past value over the previous 5 years. This value is  $p = 0.75$  and  $q = 1 - p = 0.25$ .

Given these inputs, we can find the smallest sample size  $n$  that will provide the required margin of error using following formula

$$n = \frac{z^2 \cdot p \cdot q + me^2}{me^2 + \frac{z^2 \cdot p \cdot q}{N}} = 121.66.$$

Hence, we need to survey 122 professional accountants. As two of them didn't show up, we have considered a sample of respondents of size  $n = 120$ .

In what follows, the descriptive analysis of the received answers is given.

**Table 2.** *Distribution of the Respondents According to their Gender*

Answer type	Absolute frequencies	Relative frequencies	Cumulate relative frequencies
Female	75	62.5%	62.5%
Male	45	37.5%	100%
<b>Total</b>	<b>120</b>	<b>100%</b>	

We can observe that the most respondents are women.

**Table 3.** *Distribution of the Respondents According to their Work Experience*

Answer type	Absolute frequencies		Relative frequencies	
	F	M	F	M
< 5 years	6	5	8%	11%
5–10 years	8	6	11%	13%
10–15 years	11	14	15%	31%
15–20 years	10	8	13%	18%
> 20 years	40	12	53%	27%
<b>Total</b>	<b>75</b>	<b>45</b>	<b>100%</b>	<b>100%</b>

We can remark that the most respondents have a professional experience of over 20 years.

Let us now verify hypothesis  $H_1$ . We consider it as an alternative hypothesis to the null hypothesis  $H_0$ , which claimed the independence of the considered characteristics X and Y. Let us give now the distribution of the answers to the questions concerned by objective  $O_1$ .

**Table 4.** *Distribution of the Answers to Questions II.15 and II.16.*

Answer type	II. 15 Abs. freq.		II. 15 Rel. freq.		II. 16 Abs. freq.		II. 16 Rel. freq.	
	F	M	F	M	F	M	F	M
T.d.	17	19	22.67%	42.22%	22	16	29.33%	35.56%
D.	29	10	38.67%	22.22%	38	14	50.67%	31.11%
I.	8	4	10.67%	8.89%	6	2	8.00%	4.44%
A.	19	5	25.33%	11.11%	8	5	10.67%	11.11%
T.a.	2	7	2.66%	15.56%	1	8	1.33%	17.78%
<b>Total</b>	<b>75</b>	<b>45</b>	<b>100%</b>	<b>100%</b>	<b>75</b>	<b>45</b>	<b>100%</b>	<b>100%</b>

where we have denoted: T.d – Total disagreement; D – Disagreement; I – Indifference; A – Agreement; T.a – Total agreement

As the perception of the professional accountants regarding the use of innovative accounting techniques is given by means of several variables (questions II.15 and II.16), we will associate to each answer a score, followed by the calculation of the average score for each respondent. If we define by X the characteristic that gives the mean scores, and by Y the characteristic that denotes the years of professional experience, we can draw, as in  $S_1$ :

**Table 5.** *The Correlation Table between the Work Experience and the Answers to Questions II.15 and II.16.*

Experience\ Mean scores	< 5 years	5–10 years	10–15 years	15–20 years	> 20 years	Total
3.00	0	0	3	1	5	<b>9</b>
3.50	0	5	6	3	10	<b>24</b>
4.00	0	1	2	2	7	<b>12</b>
4.50	3	4	5	6	21	<b>39</b>
5.00	8	4	9	6	9	<b>36</b>
<b>Total</b>	<b>11</b>	<b>14</b>	<b>25</b>	<b>18</b>	<b>52</b>	<b>120</b>

By computing  $e_{ij}$  according to formula given in  $S_2$ , we obtain

**Table 6.** *Table of Recalculated Frequencies*

Experience\ Mean scores	< 5 years	5–10 years	10–15 years	15–20 years	> 20 years	Total
3.00	0.825	1.05	1.875	1.35	3.9	<b>9</b>
3.50	2.2	2.8	5	3.6	10.4	<b>24</b>
4.00	1.1	1.4	2.5	1.8	5.2	<b>12</b>
4.50	3.575	4.55	8.125	5.85	16.9	<b>39</b>
5.00	3.3	4.2	7.5	5.4	15.6	<b>36</b>
<b>Total</b>	<b>11</b>	<b>14</b>	<b>25</b>	<b>18</b>	<b>52</b>	<b>120</b>

We compute  $h_0^2$ , according to  $S_3$  and  $S_4$ :

$$h_0^2 = \frac{(0 - 0.825)^2}{0.825} + \frac{(0 - 1.05)^2}{1.05} + \frac{(3 - 1.875)^2}{1.875} + \dots + \frac{(9 - 15.6)^2}{15.6} = 22.31$$

According to  $S_5$ , the table value for  $\chi_0^2$ , determined for  $(l-1)(m-1) = 4 \times 4 = 16$  degrees of freedom and a confidence level of 95%, is 26.30.

As in  $S_6$ , we conclude that  $h_0^2 \leq \chi_0^2$ , and, hence, the null hypothesis  $H_0$  is accepted, with a confidence level of 95%. It means that the characteristics  $X$  and  $Y$  are independent. As the alternative hypothesis  $H_1$  is rejected, it means that there doesn't exist any correlation between the professional experience of the accountants and the frequency of intentionally using techniques of creative accounting.

We will proceed now to verify hypothesis  $H_2$ . We consider it as an alternative hypothesis to the null hypothesis  $H_0$ , which claims the independence of the characteristics  $X$  and  $Y$ , where  $X$  gives the mean scores calculated for the answers to questions II.6, II.7, II.20, II.21, and  $Y$  denotes the points attributed to the answers regarding the perception of the accountants on the tendency of the managers to use creative accounting techniques.

The distribution of the answers to the questions concerned by objective  $O_2$  is:

**Table 7.** *The Correlation Table between the Answers to Question I.4 and to Questions II.6, II.7, II.20, II.21.*

Perception on managers\ Mean scores	1 point	2 points	3 points	4 points	5 points	Total
2.00	0	0	1	5	3	<b>9</b>
2.50	1	2	2	5	4	<b>14</b>
3.00	1	1	2	7	8	<b>19</b>
3.50	1	2	4	18	20	<b>45</b>
4.00	1	3	3	20	6	<b>33</b>
<b>Total</b>	<b>4</b>	<b>8</b>	<b>12</b>	<b>55</b>	<b>41</b>	<b>120</b>

After computing  $e_{ij}$ , we obtain

**Table 8.** *Table of Recalculated Frequencies*

Perception on managers \ Mean scores	1 point	2 points	3 points	4 points	5 points	Total
2.00	0.3	0.6	0.9	4.12	3.08	<b>9</b>
2.50	0.47	0.93	1.4	6.42	4.78	<b>14</b>
3.00	0.63	1.27	1.9	8.71	6.49	<b>19</b>
3.50	1.5	3	4.5	20.63	15.37	<b>45</b>
4.00	1.1	2.2	3.3	15.12	11.28	<b>33</b>
<b>Total</b>	<b>4</b>	<b>8</b>	<b>12</b>	<b>55</b>	<b>41</b>	<b>120</b>

Let us now compute  $h_0^2$  :

$$h_0^2 = \frac{(0 - 0.3)^2}{0.3} + \frac{(0 - 0.6)^2}{0.6} + \frac{(1 - 0.9)^2}{0.9} + \dots + \frac{(6 - 11.28)^2}{11.28} = 12.003.$$

As the table value, determined for 16 degrees of freedom and a confidence level of 95%, is  $\chi_0^2 = 26.30$ , we conclude that  $h_0^2 \leq \chi_0^2$ , and, hence, the null hypothesis  $H_0$  is accepted, with a confidence level of 95%. It means that the characteristics  $X$  and  $Y$  are independent. As the alternative hypothesis  $H_2$  is rejected, we obtain that there exists no correlation between the intentions of the managers to use creative accounting techniques and the acceptance of the accountants to help them, although the professional are aware, in a large number, that the managers are willing to embellish or smooth the financial result of the company.

In order to verify hypothesis  $H_3$ , we will proceed to the same steps presented before.  $X$  denotes the mean scores calculated for the answers to questions II.14, II.17, II.18, II.19, II.22, II.23, expressed as intervals, and  $Y$  denotes the points attributed to the answers regarding the penchant of the accountants towards risk in their everyday life. We have reordered the answers in the following way: for *Total agreement* or *Agreement* 3 points, for *Indifference* 2 points, and for *Total disagreement* or *Disagreement* 1 point.

**Table 9.** *The Correlation Table between the Answers to Question II.2 and to Questions II.14, II.17, II.18, II.19, II.22, II.23.*

Assumption of risk \ Mean scores	1 point	2 points	3 points	Total
[2 – 3.5)	0	10	20	<b>30</b>
[3.5 – 5)	10	10	34	<b>54</b>
[5 – 6.5)	10	10	16	<b>36</b>
<b>Total</b>	<b>20</b>	<b>30</b>	<b>70</b>	<b>120</b>

After computing  $e_{ij}$ , we obtain the following results.

**Table 10.** *Table of Recalculated Frequencies*

Assumption of risk \ Mean scores	1 point	2 points	3 points	Total
[3 – 4.5)	5	7.5	17.5	<b>30</b>
[4.5 – 6)	9	13.5	31,5	<b>54</b>
[6.5– 8]	6	9	21	<b>36</b>
<b>Total</b>	<b>20</b>	<b>30</b>	<b>70</b>	<b>120</b>

Hence,

$$h_0^2 = \frac{(0-5)^2}{5} + \frac{(10-7.5)^2}{7.5} + \frac{(20-17.5)^2}{17.5} + \dots + \frac{(16-21)^2}{21} = 11.60$$

We obtain the table value  $\chi_0^2 = 9.49$ , for  $(l-1)(m-1) = 2 \times 2 = 4$  degrees of freedom and a confidence level of 95%. The computation of  $h_0^2$  provides the value 11.60. As  $h_0^2 > \chi_0^2$ , we conclude that, in this case, the null hypothesis  $H_0$  is rejected. Hence, the alternative hypothesis  $H_3$  is accepted, which means that there exists a correlation between the tendency of the accountants to be creative in their work, but without trespassing legal limits, and the acceptance of taking risks in their life.

We compute the correlation coefficient in order to measure the intensity of the connection between the variables. We obtain the value of Pearson's coefficient  $r = 0.991$ , at a significance level 0.05, which confirms the existence of a large positive relationship between the two variables, for both the sample group and the total population. As  $r^2 = 0.982$ , it follows that the tendency of the professional accountants to be creative in their work, but within legal boundaries, is influenced at a percentage of 98,2% by their penchant of assuming certain risks in every day life.

The results related to the considered hypotheses are synthetically given in:

**Table 11.** *Conclusions*

<b>H<sub>1</sub></b> . There exists a correlation between the professional experience of the accountants and the frequency of intentionally using techniques of creative accounting.	The hypothesis is not validated.
<b>H<sub>2</sub></b> . There exists a correlation between the intentions of the managers to use creative accounting techniques and the acceptance of the accountants to "support" them.	The hypothesis is not validated.
<b>H<sub>3</sub></b> . There exists a connection between the tendency of the accountants to be creative in their work, without trespassing legal limits, and the assuming of certain risks in their life.	The hypothesis is validated.

## Conclusions

The objective of our extended study, of which this paper is only a part, is to answer the question: *Is the employment of innovative accounting practices a real scourge in Romania, particularly in Arad county, where we have conducted the study?* The article brings to attention a contemporary issue, found in almost all economies, more so in a transition one, threatened by economic and political crises. The theme is a step toward a supply of solutions for a series of issues that the international accounting system is confronted with, regarding the use of creative accounting in the current context.

The aim of this study is also to analyze whether the employment of the statistical techniques suits the needs of the research problem. The results obtained after statistically processing the answers received from respondents and after testing the research hypotheses emphasize that there is a low interest of the professional accountants towards the manipulation of the accounting figures, despite their penchant to take risks or the attempts of the managers to persuade them. Remaining between ethical boundaries seems to be a priority for the respondents and they are not disposed to employ techniques of creative accounting, even if these practices would offer a more favorable image of the company and bring them benefits. The results may also be explained by the fact that most of the respondents were women, who are, in general, more cautious and conservative. Another explanation could be the number of respondents with a considerable work experience of over 20 years, who are not disposed to take as many risks as the respondents with less experience.

The main results of this study suggest that *the main conduct is to reject the intentional use of innovative accounting techniques and practices.*

Among the conclusions aimed by our survey that refer to the professional behavior, several other findings can also be emphasized, as for example, the relation between the personality and the penchant to use techniques of creative accounting, which consist also some of the aims of other studies in work.

Our future research intend to generalize the obtained results and to test the reaction of the undergraduate and graduate students in economics of our university regarding the perception on the existence and the manifestation of innovative accounting.

## References

- Balaciu, D.E. 2011. Accounting and Creativity: A Sociological and Psychological Approach. *Ann. Faculty of Economics*, Univ. of Oradea 1(2), 459-465.
- Balaciu, D.E., Bogdan V., Mester I.T. and Gherai D. 2012. Empirical Evidences of Romanian Auditors' Behavior Regarding Creative Accounting Practices. *J. Account. Manag. Inf. Syst.* 11(2), 213-238.
- Cox, D.R. and Donnelly, C.A. 2011. *Principles of Applied Statistics*. Cambridge University Press.
- Feleaga, N. 1996. *Taming the Accounting Jungle*. Economica Publishing House, Bucharest.

Feleaga, N. and Malciu, L. 2002. *Accounting Policies and Options*, Economica Publishing House, Bucharest.

Pacioli, L. 1494. *Summa de Arithmetica, Geometria, Proportioni et Proportionalita*. Venezia.