EXPLORATORY RESEARCH ON THE CASH FLOW STATEMENT'S UTILITY IN AN ACCRUAL ACCOUNTING SYSTEM

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Abstract: *The present paper aims to emphasize the differences that exist between the accrual accounting and the treasury accounting having as a main instrument the cash flow statement. The approach is not exhaustive, studies in this field being achieved by numerous researchers both in a national and an international context. Thus, the specialized literature offers various points of view about this issue. The study is based on a cumulus of research methods, such as: the analysis, the synthesis, the induction, the deduction, the brainstorming, the case study, the sounding or the mathematical and statistical modeling. The main objective of the paper is to demonstrate that accrual accounting respects much less the "accurate image" principle in comparison with the treasury accounting.*

Key words*: financial statements, cash flow statement, accrual accounting, treasury/cash accounting, chi-squared test*

INTRODUCTION

The cash flow statement is the component of the financial statements that highlights cash inflows and cash outflows between two successive periods, i.e. the beginning and the end of the financial year [4].

The importance of this financial statement is particularly distinct, and even more, for trade and industrial companies, the importance of the cash flow table is indisputable, since no other financial statement directly discloses information on how the treasury was formed [10].

The cash flow statement is an extremely important piece of work, especially in the context of an accrual accounting system, since it reflects much more accurately the reality and, implicitly, the actual performance.

This is indicated in the table below [7]:

Table 1.

Accrual accounting versus Cash accounting

Accrual accounting	**Cash accounting**
Discrepancy between the timing of the actual income / actual expense and the timing of cash collection / payment	Synchronization between the timing of the actual income / actual expense and the timing of cash collection / payment

Source: own elaboration

The cash flow table is in full correlation with the business cycles of a comany, as described in the Table no. 2 [6].

Taking into consideration the above table, based on the Romanian balance sheet structure, three categories of cash flows are described, which correspond to the business cycles of a company, namely [9]:

- operating cash flows;
- investment cash flows;
- financing cash flows.

Table 2.

Business cycles f a company

ASSETS		LIABILITIES	
INVESTMENT CYCLE	**LONG TERM**	**LONG TERM**	**FINANCING CYCLE**
	Fixed Assets	Equity Long-term debts	
	SHORT TERM	**SHORT TERM**	
OPERATING CYCLE	Stocks Receivables Cash	Short-term debts	**OPERATING CYCLE**

Source: own elaboration

As we have seen above, cash flows correspond to some cycles of activity, namely operating, investment and financing activities, and in the following, we are going to speak more widely about these activities [5].

First of all, what can be said about operating activities is that they are the main revenue-generating activities of a company. These activities include all those activities that are not, by nature, investment or financing activities. In other words, there are firstly indicated the investment and the financing activities and what remains are considered operating activities [14].

Secondly, investment activities refer to the buying and selling of long-term assets as well as other investments.

Thirdly, financing activities consist of exchanges of the size and structure of the company's equity and long-term debts [2].

Below, we'll present the treasury flows specific to the three business cycles of a company. Cash flows are calculated at the level of each activity: operating, financing and investment in terms of difference between receipts and payments [16].

In accordance with the International Accounting Standard 7, operating activities are defined as follows: "The main revenue generating activities and any other activities, except those defined as investment or financing activities".

Operating cash flows can be determined by two methods, namely [12]:

- Direct method: Operating receipts - Operating payments;
- Indirect method: Net result (result before tax - income tax paid) - Calculated income (impairment adjustments, provisions) + Calculated expenses (depreciation, provisions) - Investment receipts + Investment payments - Financing receipts + Financing payments - NFR variation (short-term debt variation - stock variation - debt variation).

According to the direct method, the information provided refers to gross receipts and payments, and according to the indirect method, the net result is corrected by:

- non-monetary operations;
- any reporting or settlement of past or future receipts or payments supposed as being operating ones;
- the revenue or expense items associated with cash flows that involve investments or financing activity [2].

Also, according to International Accounting Standard 7, investment activities are defined as "those activities relating to the buying and selling of long-term assets and other investments not included in cash equivalents" [11].

Information related to the cash of the investment activity refers to:

- payments made for the buying of tangible and intangible assets, as well as long-term assets, capitalized development expenses, payments involved in the production of the firm's property assets;
- receipts arising from the selling of tangible and intangible assets and other long-term assets;

- payments made for the buying of units, debt securities of other companies;
- receipts coming out from repayment of advances and loans to other parties (other than advances and loans granted by financial institutions) [17].

In accordance with International Accounting Standard 7, financing activities are "those activities that involve changes in the size and structure of equity and borrowed capital of the company".

The treasury movements generated by the financing activity refer to [3]:

- receipts from the issue of shares and other equity instruments;
- payments made to shareholders for the acquisition or redemption of the company's shares;
- receipts from issuing bonds, statutory loans, treasury bills, mortgage bonds or other short and long term debt securities;
- cash repayment of borrowed amounts.

The cash flow statement is intended to provide information about the receipts and payments of a company that occur during a financial year. This information allows accountancy users, especially shareholders, to assess the liquidity and solvency of the company [6].

MATERIALS AND METHODS

The aim of the paper is to see whether there is a difference in perception between students and accountants as well as between students and teachers regarding the usefulness of drawing up the cash flow statement [1]. Thus, this exploratory study is based on the survey as a research method [13], having as a research tool the questionnaire [15].

RESEARCH RESULTS

The first research question is: "Do you consider it appropriate to draw up the cash flow statement within economic entities, considering that it reflects the real added value in concrete terms?"

Through this research it is aimed whether the students, respectively the professional accountants have a different opinion on the elaboration of this financial statement.

In order to determine whether or not there is a difference in perception, the "square chi" test will continue to be used among target group subjects. First of all, this test involves the definition of the statistical assumptions, and then the "alpha" significance threshold, as well as the degree of freedom. Then the chi square parameter and the critical region are defined, and finally the observed value of the parameter is calculated, making a decision based on what is found [8].

Objective 1: The perception of the students from accounting and of the professional accountants on the opportunity to draw up the cash flow statement.

Within this objective we aim to test the following hypothesis: There is a difference in perception between students and accountants in terms of the opportunity to draw up the cash flow statement.

The target group was asked to answer the following question: "Do you think it is advisable to draw up the cash flow statement within economic entities, since it reflects the added value actually created?"

The predetermined answers to this question were based on the Likert scale, using five variants of the answer from 1 – categorically inappropriate to 5 – categorically appropriate.

Null hypothesis H_0: There is no difference in perception between students and accountants in terms of the opportunity to draw up the cash flow statement.

Alternative hypothesis H_a: There is a difference in perception between students and accountants in terms of the opportunity to draw up the cash flow statement.

Decision criteria: significance threshold: alpha = 0.05, and the number of degrees of freedom: gf = (no.columns-1) x (no.lines1) = (5-1) x (2-1) = 4

Table 3.

Observed frequencies

	Categorically inappropriate	Inappropriate	Indifferent	Appropriate	Categorically appropriate	Total on rows
Students	1	0	2	11	9	23
Accountants	0	1	3	8	3	15
Total on columns	1	1	5	19	12	38

Source: own elaboration based on the answers from the questionnaire

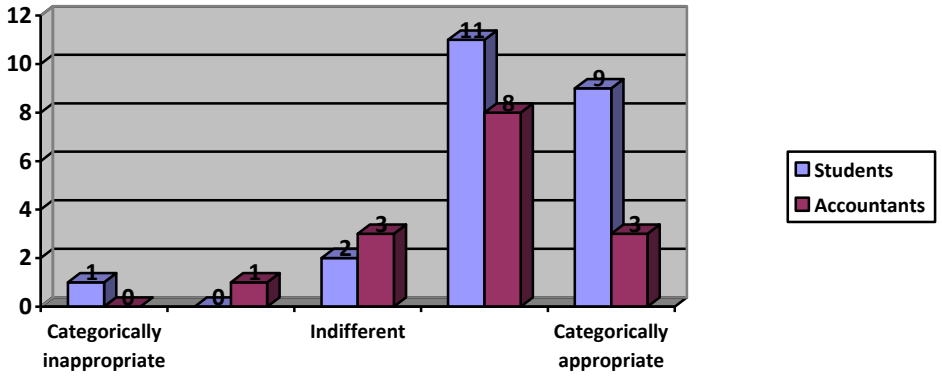

Figure 1. The subjects' opinion on the opportunity of elaborating the cash flow statement

Table 4.

Theoretical frequencies

Theoretical	Categorically inappropriate	Inappropriate	Indifferent	Appropriate	Categorically appropriate	Total on rows
Students	0.6	0.6	3	11.5	7	23
Accountants	0.4	0.4	2	7.5	5	15
Total on columns	1	1	5	19	12	38

Source: own elaboration based on the answers from the questionnaire

Calculating the observed value of the parameter: $Chi^2_{calculated} = \frac{(1-0,6)^2}{0,6} + \frac{(0-0,6)^2}{0,6} + \frac{(2-3)^2}{3} + \frac{(11-11,5)^2}{11,5} + \frac{(9-7)^2}{7} + \frac{(0-0,4)^2}{0,4} + \frac{(1-0,4)^2}{0,4} + \frac{(3-2)^2}{2} + \frac{(8-7,5)^2}{7,5} + \frac{(3-5)^2}{5} = 0,27 + 0,6 + 0,33 + 0,02 + 0,57 + 0,4 + 0,9 + 0,5 + 0,03 + 0,8 = 4,42.$

$Chi^2_{calculated} = 4,42$, and $Chi^2_{critical} = 9,488 \Rightarrow Chi^2_{calculated} < Chi^2_{critical} \Rightarrow$ Alternative hypothesis is rejected, and, as it follows, the null hypothesis is accepted.

Objective 2: The perception of students from accounting and teachers about the opportunity of parallel elaboration of expenditure-income budgets and payments-receipts budgets within entities.

Within this objective, we propose to test the following hypothesis:

There is a difference of perception between students and teachers about the opportunity of parallel elaboration of expenditure-revenue budgets and payments-receipts budgets within the entities.

The target group was asked to answer the question: "Do you think it is appropriate to draw up parallel expenditure - income budgets and payments - receipts budgets in order that entities to improve performance?"

The predetermined answers to this question were based on the Likert scale, using five variants of the answer from 1 – categorically inappropriate to 5 – categorically appropriate.

Null hypothesis H_0: There is no difference in perception between students and teachers about the opportunity of parallel elaboration of expenditure-revenue budgets and payments-receipts budgets within entities.

Alternative hypothesis H_a: There is a difference of perception between students and teachers about the opportunity of parallel elaboration of expenditure-revenue budgets and payments-receipts budgets within entities.

Decision criteria: significance threshold: alpha = 0.05, and the number of degrees of freedom: gf = (no.columns-1) x (no.lines1) = (5-1) x (2-1) = 4.

Table 5.

Observed frequencies

Observed	Categorically inappropriate	Inappropriate	Indifferent	Appropriate	Categorically appropriate	Total on rows
Students	1	0	3	12	7	23
Accountants	1	0	1	4	1	7
Total on columns	2	0	4	16	8	30

Source: own elaboration based on the answers from the questionnaire)

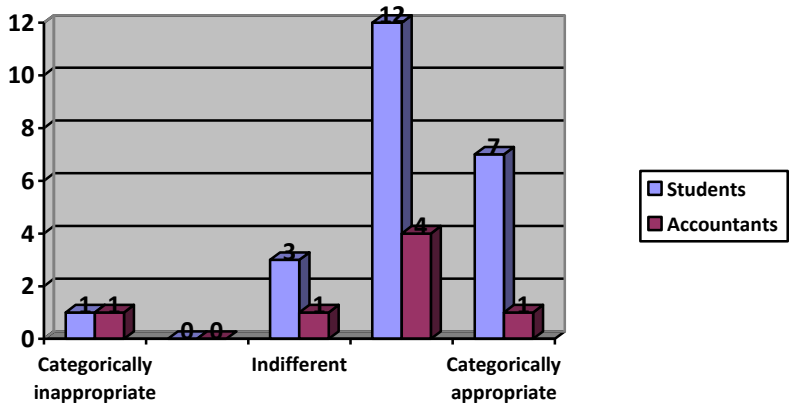

Figure 2. The subjects' opinion on the opportunity of elaborating both expenditure - revenue budgets and payments - receipts budgets

Table 6.

Theoretical frequencies

Theoretical	Categorically inappropriate	Inappropriate	Indifferent	Appropriate	Categorically appropriate	Total on rows
Students	23*2/30 = 1.5	23*0/30 = 0	23*4/30 = 3.1	23*16/30 =12.3	23*8/30 = 6.1	23
Accountants	7*2/30 = 0.5	7*0/30 = 0	7*4/30 = 0.9	7*16/30 =3.7	7*8/30 = 1.9	7
Total on columns	2	0	4	16	8	30

Source: own elaboration based on the answers from the questionnaire

Calculating the observed value of the parameter: $Chi^2_{calculated} = \frac{(1-1,5)^2}{1,5} + \frac{(3-3,1)^2}{3,1} + \frac{(12-12,3)^2}{12,3} + \frac{(7-6,1)^2}{6,1} + \frac{(1-0,5)^2}{0,5} + \frac{(1-0,9)^2}{0,9} + \frac{(4-3,7)^2}{3,7} + \frac{(1-1,9)^2}{1,9} + = 0,17 + 0,003 + 0,01 + 0,13+ 0,5 + 0,01 + 0,24 + 0,43 = 1,49.$

$Chi^2_{calculated} = 1,49$, and $Chi^2_{critical} = 9,488 \Rightarrow Chi^2_{calculated} < Chi^2_{critical} \Rightarrow$ Alternative hypothesis is rejected, and, as it follows, the null hypothesis is accepted.

Objective 3: The perception of students from accounting and professional accountants about the utility of the cash flow statement for users.

Within this goal, we aim to test the following hypothesis: There is a difference in perception between students and accountants regarding the utility of the cash flow statement for users.

Null hypothesis H_0: There is no difference in perception between students and accountants on the usefulness of the cash flow statement for users.

Alternative hypothesis H_a: There are differences in perception between students and accountants on the usefulness of the cash flow statement for users.

Decision criteria: significance threshold: alpha = 0.05 and number of degrees of freedom: gf = (no. columns-1) x (nr.linii-1) = (5-1) x (2-1) = 4.

Table 7.

Observed frequencies

Observed	Categorically inappropriate	Inappropriate	Indifferent	Appropriate	Categorically appropriate	Total on rows
Students	2	2	3	4	11	22
Accountants	1	3	1	4	4	13
Total on columns	3	5	4	8	15	35

Source: own elaboration based on the answers from the questionnaire

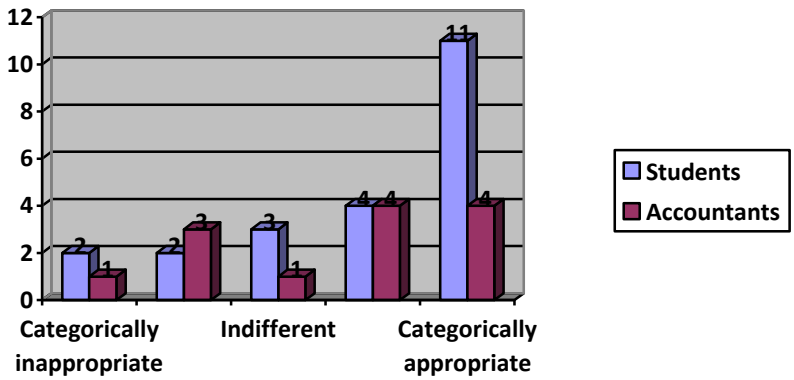

Figure 3. The subjects' opinion on the utility of the cash flow statement for users

Table. 8.

Theoretical frequencies

Theoretical	Categorically inappropriate	Inappropriate	Indifferent	Appropriate	Categorically appropriate	Total on rows
Students	22*3/35 = 1.9	22*5/35 = 3.1	22*4/35 = 2.5	22*8/35 =5.1	22*15/35 = 9.4	22
Accountants	13*3/35 = 1.1	13*5/35 =1.9	13*4/35 = 1.5	13*8/35 =2.9	13*15/3 =5.6	13
Total on columns	3	5	4	8	15	35

Source: own elaboration based on the answers from the questionnaire

Calculating the observed value of the parameter: $Chi^2_{calculated} = \frac{(2-1,9)^2}{1,9} + \frac{(2-3,1)^2}{3,1} + \frac{(3-2,5)^2}{2,5} + \frac{(4-5,1)^2}{5,1} + \frac{(11-9,4)^2}{9,4} + \frac{(1-1,1)^2}{1,1} + \frac{(3-1,9)^2}{1,9} + \frac{(1-1,5)^2}{1,5} + \frac{(4-2,9)^2}{2,9} + \frac{(4-5,6)^2}{5,6} = 0,01 + 0,4 + 0,1 + 0,24 + 0,3 + 0,01 + 0,64 + 0,17 + 0,42 + 0,46 = 2,75.$

$Chi^2_{calculated} = 2,75$, and $Chi^2_{critical} = 9,488 \Rightarrow Chi^2_{calculated} < Chi^2_{critical} \Rightarrow$ Alternative hypothesis is rejected, and, as it follows, the null hypothesis is accepted.

CONCLUSIONS

Although the Romanian accounting system gradually introduces elements of Anglo-Saxon origin, it still remains, for the instant, to a great extent, based on the rigidity of the continental accounting

A small number of students, teachers and even professional accountants accurately estimate the importance of cash-flows versus the expenditure-revenue, especially under the dome of accrual accounting, such as in our country.

Thus, the validation of the null hypothesis in the three above-mentioned situations draws an alarm signal concerning this aspect. Most respondents remain on the notions of financial position, highlighted by the balance sheet and performance, highlighted by the income statement, underestimating the relevance of the cash flow statement as a fundamental tool for the practical implementation of the concept of accurate image in the context of an accrual accounting system.

For example, a transport entity with a large fleet, having depreciation expenditure of a high volume, but not being payable, will appear in some exercise with inferior performance, given these expenses, which do not represent money outflows. Also, an entity that sells household appliances, providing collateral and provisioning, will appear to be superior to reality in the exercise of the cancelling of provisions, as a consequence of recognizing the income that does not involve receipt.

At the same time, sales based on commercial credit with later payment are characterized by the revenue recognition at the time of invoicing and not at the time of the receipt. Equally, the purchase of a fixed asset gradually impacts the expense situation by depreciation, while the impact on liquidity is massive at the time of payment.

Considering cash flows more important would reduce the distortion of the accurate image at the level of economic entities.

In practice, professional accountants give less importance to the cash flow statement, considering it more as an optional component of financial statements, being useful only for advanced studies of financial management.

The optional nature is caused by the limited time, by the reduced financial resources in order to remunerate the professional accountants and by the increased interest of companies' owners in the "paper" profit, regardless of whether or not it results in a liquidity surplus.

Far from wishing to be exhaustive, the paper aims to continue the research by expanding the sample of respondents in order to ensure a higher level of accuracy of testing, currently applied by extrapolation.

We aim at developing and perfecting the study with the occasion of other workshops or conferences.

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