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CONTENT

STUDY ON THE PERCEPTION OF RECOVERY AND USE OF ACCOUNTING INFORMATION GENERATED BY THE ACCOUNTING INFORMATION SYSTEM

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Abstract: *In a changing economy it is not enough to make predictions, have financial and accounting information, no matter how relevant they are. To achieve its objectives managers must consider their capitalization. The financial balance, financial position, performance, profitability, profit, risk are prevailing problems, present and future, that should prompt a growing attention in management. In this context, the development and use of a set of methods is required, tools, practices and norms that contribute to the analysis of financial-accounting information for a healthy and balanced general management. Based on these aspects, the paper captures, through a sample-type selective research, companies' options regarding the capitalization of accounting information.*

Keywords: accounting, information, management, financial

JEL (Journal of Economic Literature) Classification: M210, M410

1. PRELIMINARY CONSIDERATIONS

Balance is just a trend, not a reality. Moreover, as said prof. Ioan Bogdan in „Management of imbalances - a powerful option in modern organizations", the state of imbalance is most common, it is a source of influence for progress and accounting shows the area where the imbalance occurred. To assess the financial (im) balance, two main groups of methods have been noticed in the specialized literature: *traditional (static) methods*, based on the study of the balance sheet, by building the financial and functional balance sheet, and *modern (dynamic) methods*, based on the study of cash flows, the instruments being the „needs-resources" picture and the cash flows. Moreover, the selective scientific research performed revealed that the latter is preferred by managers in assessing financial equilibrium, a reality which can be made, in our opinion, by the fact that the cash flow statement became binding document of financial reporting since the beginning of the accounting harmonization program. Certainly, each of those methods has its own characteristics, advantages and limitations, remaining for managers to opt for one or the other of them.

Knowledge of the financial position is the second largest managerial problem solvable by capitalizing the accounting information. To know the financial position, as instruments, there is mainly operating on the balance sheet, elaborating for analysis, among others, the following rates: rates on asset structure, rates on the structure of debt elements and equity, financing rates, leverage, liquidity and solvency rates.

Financial performance is expressed synthetically based on the relationship between expenses and income, as reported in the profit and loss account. In analyzing the financial performance, the accounting information system is involved in the construction of a system of indicators, such as intermediate management balances, self-financing capacity, break-even, earnings per share. The construction of these indicators is indispensable in the general management to evaluate potential changes of the economic resources that the company will be able to control in the future, to anticipate ability to generate cash flows using existing resources and to formulate judgments about the effectiveness with which management can have through the use of new resources.

Profitability, the fourth issue addressed is the company's ability to make profit. As a result, profitability is a synthetic indicator of major importance in the financial and general management of the company, being the synthetic expression of the results of any kind obtained by the company (Bogdan I., 2002; Bogdan I., 2004).

2. METHODOLOGY OF RESEARCH

The study is based on an occasional survey-type selective research (the information was provided by it „bearer" at the request of the researcher) on a survey basis. For the collection of information the *direct research methods* were used that involved gathering data and information directly from respondents, randomly, by the existence of a questionnaire with questions formulated in a predetermined order. The survey was undissimulated, the purpose being known from the beginning by the respondents. The target population for the study, namely the population from which the sample was selected, consists of active entities from industry, trade and services, and that had no business interruptions, from Sibiu County.

In determining the sample, *random sampling method* was used that was based on a *fixed sample* (taking into account organizational restrictions, a sample of 110 respondents was established) *with restrictions*. We can say that the sampling method consists of combining the *multistage sampling method* with the *non-proportional random stratified sampling method*.

In the selective scientific research carried out, for a confidence level of 95% and a margin of error of 10%, the sample will be 96. Therefore, the minimum number of questionnaires completed correctly, that should be collected and processed, is 96. Keeping the 95% confidence level, and given that there was collected and validated a total of 110 questionnaires, we determined the maximum margin of error of 9.4%.

From the category of organizational restrictions that have arisen in determining the sample size we mention: the financial availability of the researcher (actually, it was the most important, all expenses being borne by the researcher), time assigned to the research, the lack of reliable operators etc.

3. RESULTS OF THE RESEARCH

As mentioned at the beginning of the paper, in capitalizing the accounting information for the analysis of financial position, there are mainly operated, based on the balance sheet, elaborating for the analysis the following categories of rates: rates on asset structure, liabilities and equity; funding rates; leverage; liquidity and solvency rates. In order to establish the degree to which companies calculate and analyze these rates, **v58** question was formulated in the questionnaire processed responses being summarized in table 1.

Table 1: *Rates used in the analysis of the financial position*

		Frequency	Percentage	Valid percentage
a. Rates on asset structure				
Valid 110	not mentioned	83	75,5	65,5
	mentioned	27	24,5	34,5
b. Rates on debt structure				
Valid 110	not mentioned	72	65,5	65,5
	mentioned	38	34,5	34,5
c. Rates on the equity structure				
Valid 110	not mentioned	76	69,1	69,1
	mentioned	34	30,9	30,9

d. Financing rates				
Valid 110	not mentioned	86	78,2	78,2
	mentioned	24	21,8	21,8
e. Leverage rate				
Valid 110	not mentioned	62	56,4	56,4
	mentioned	48	43,6	43,6
f. General business management rates				
Valid 110	not mentioned	82	74,5	74,5
	mentioned	28	25,5	25,5
g. Liquidity and solvency rates				
Valid 110	not mentioned	32	29,1	29,1
	mentioned	78	70,9	70,9
h. None				
Valid 110	not mentioned	86	78,2	78,2
	mentioned	24	21,8	21,8

Source: *own processing*

Research has shown that companies use the mentioned rates in order to know the financial position, as follows: 24.5% - rates on asset structure, 34.5% - rate on debt structure, 30.9% - rates on equity structure, 21.8% - funding rates, 43.6% - leverage rates, 25.5% - general activity management rates, 70.9% - liquidity and solvency rates, 21.8% - do not use any indicator.

In conclusion, the hypothesis before the research (***I_1*** *- In analyzing the financial position most companies use rates of liquidity and solvency*) is confirmed. Moreover, we believe that the establishment of the state of liquidity and solvency is one of the most important axes of capitalizing information presented in the annual reporting requirements, the management of the financial and accounting activity being able to build a series of rates that analyzed will reflect the actual financial health of the company.

For the financial performance analysis there are mainly used the intermediate management balances, the self-financing capacity, breakeven and earnings per share. In order to establish the **degree to which companies resort to instruments referred to analyze financial performance, v59** question was formulated in the questionnaire and the processed responses are shown in table 2.

Table 2. *Rates used in analysing the financial performance*

		Frequency	Percentage	Valid percentage
a. Intermediate management balances				
Valid 110	not mentioned	94	85,5	85,5
	mentioned	16	14,5	14,5
b. Self-financing capacity				
Valid 110	not mentioned	67	60,9	60,9
	mentioned	43	39,1	39,1
c. Break-even point				
Valid 110	not mentioned	63	57,3	57,3
	mentioned	47	42,7	42,7
d. Earnings per share				
Valid 110	not mentioned	102	92,7	92,7
	mentioned	8	7,3	7,3
e. None				
Valid 110	not mentioned	67	60,9	60,9
	mentioned	43	39,1	39,1

Source: *own processing*

Research has shown that companies use to analyze financial performance the instruments mentioned, as follows: 14.5% - intermediate management balances, 39.1% - Self-financing capacity, 42.7% - break-even point, 7.3% - earnings per share and 7.3% - do not use a system of indicators.

In conclusion, the hypothesis expressed before the research (***I_2*** *- In analyzing the financial performance of most companies the break-even point is used*) is confirmed. In essence, by setting breakeven, the minimum level of activity is highlighted that the company has to achieve in order to not be working at loss. Beyond this level, the company's activity becomes profitable.

Knowing profitability occupies the central place in various analyses carried out by accounting professionals. The analysis operates through the rates of return that link the result of actions or activities and means to achieve them. In order to establish **the degree to which companies turn to rates in order to know the return, v60** question was formulated din the questionnaire, the processed responses being shown in table 3.

Table 3: *Rates used to analyse profitability*

		Frequency	Percentage	Valid percentage
a. Commercial rate of return				
Valid	not mentioned	80	72,7	72,7
110	mentioned	30	27,3	27,3
b. Rates of economic return				
Valid	not mentioned	68	61,8	61,8
110	mentioned	42	38,2	38,2
c. Rates of return on equity				
Valid	not mentioned	62	56,4	56,4
110	mentioned	48	43,6	43,6
d. None				
Valid	not mentioned	75	68,2	68,2
110	mentioned	35	31,8	31,8

Source: *own processing*

It is emphasized that companies considered in the sample use in the analysis the rates of returns in the following proportions: 27.3% - commercial rates of return, 38.2% - rates of economic return, 43.6% - rates of financial return and 31, 8% of them - do not use any system of rates of return.

In conclusion, the hypothesis mentioned at the beginning of the research (***I_3*** *- In analyzing the profitability, most companies use financial rates of return*) is confirmed. It can be noted, however, that at a very short distance lays companies which calculate economic rates of return. The smaller share of companies that establish commercial rates of return can be explained by the fact that this indicator is usually calculated by those working in the field of trade. And since they are usually classified as micro-companies, we consider that the results obtained were predictable. The research confirmed our expectations.

In order to determine **how companies resort to various instruments to analyse financial balance**, **v61** question was formulated in the questionnaire, the responses being shown in table 4.

Table 4: *Instruments used in the analysis of the financial balance*

		Frequency	Percentage	Valid percentage
a. Financial balance sheet				
Valid	not mentioned	67	60,9	60,9
	mentioned	43	39,1	39,1

b. Functional balance sheet				
Valid	not mentioned	102	92,7	92,7
	mentioned	8	7,3	7,3
c. Needs-resources funding instrument				
Valid	not mentioned	95	86,4	86,4
	mentioned	15	13,6	13,6
d. Cash flow statement				
Valid	not mentioned	49	44,5	44,5
	mentioned	61	55,5	55,5
e. None				
Valid	not mentioned	79	71,8	71,8
	mentioned	31	28,2	28,2

Source: *own processing*

In analysing the financial balance, the share of instruments (financial statements) used by companies is as follows: 39.1% - financial balance, 7.3% - functional balance, 13.6% - funding needs-resources statement, 55.5% - the cash flow statement. Of the companies included in the sample, 28.2% report that they do not examine the financial balance. In conclusion, the hypothesis mentioned before the research (***I₄*** *- In the analysis of the financial balance, most companies use the analysis of cash flows*) is confirmed.

4. FINAL CONCLUSIONS

Accounting information may be used and capitalized in many contexts. It depends, however, on every manager to be aware of the importance and the need for this.

In analysing the financial position, we believe that determining the state of liquidity and solvency are important axes of capitalizing the information presented in the annual mandatory reports by the construction of various rates which, analyzed, will be reflected in fact the company’s financial health. Through the results of the selective research, we can say that this view is confirmed (over 70% of the surveyed companies calculate rates of liquidity and solvency). It remains however to be determined the proportion in which these indicators are being analysed.

Regarding the accounting information capitalization for knowledge of the financial performance, the selective research conducted showed that most companies use the break-even point (42.7%). It should be noted that the share of companies which do not use a system of indicators to analyse the financial performance is high (39.1%), compared with those not interested in knowing the financial position (21.8%). This difference can be explained by the fact that a number of indicators that can be used in the analysis of the financial position (liquidity ratios, risk indicators - leverage indicator and the indicator on interest coverage, indicators of activity - the speed of inventory or the number of days of storage, the rotational speed of flow-customers, speed of rotation of provider’s credits, the rotational speed of fixed assets - indicators of profitability - return on capital employed, gross margin on sales) are legally regulated, small, medium and large companies being forced to determine them.

Although financial performance is based on the information presented in the “Profit and loss account”, a mandatory statement for all companies, it can be noted the lack of interest exhibited by managers in their recovery. We believe that managers should change their mentality and culture. Only in this way they will be recognized as true professionals.

In terms of profitability, from the selective scientific research we can conclude that organizations often use financial rates of return (43.6%), closely followed by economic rates of return (38.2%). The smaller share of companies that establish commercial rates of return (27.3%) is explained by the fact that this indicator is calculated usually by those with trade activities. It should be noted the relatively high percentage of those who do not use any indicators system in the profitability management (31.8%), especially given that our sample included a small number of micro-enterprises, which are usually those that are not interested in calculating and analysing the various indicators in order to know and assess the economic and financial situation in which they find themselves.

Our conclusion is that the accounting information capitalization for profitability analysis occupies or should occupy a central place in various analyzes carried out by accounting professional. The study undertaken shows that there are few companies interested to know their profitability. We recommend management to be more involved in the diagnosis of profitability, which is a key objective to increase company performance.

The overall conclusion that emerges from the selective scientific research is that in the financial balance analysis most companies use cash flows (55.5%). The large share of those using this tool can be attributed to the fact that in the management of the financial accounting activity of Romanian companies, cash flow statement has become a mandatory reporting document since the start of the accounting harmonization.

Are the indicators presented so „impossible”? We think not, especially given that through the construction and analysis of these rates, management is able to actually reflect on the financial health of the company. Diagnosing the disease of the company early, appreciating the chances of cure, prescribing a good treatment, is in fact the premise of having a management.

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ECONOMICAL EFFICIENCY ANALYSIS FOR A SOURCES DISTRIBUTED POWER SYSTEM

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Abstract: *The paper proposes an analysis of the economic efficiency in a power system with distributed sources. A comparative study of the active power flow is presented for the study case power delivery system. The main purpose of the paper is to use different models for power flow analysis in the proposed case study. The minimum total system generation cost is one of the most important tasks in power delivery. Different models allow power flow modelling and computing, so the alternatives concerning economic aspects may be compared. The different alternatives comparative study takes in consideration the restrictions of the system. Power flow computation is able to give information about system economic savings. The economic efficiency aspect, presented in the paper, is an important goal of power delivery energy savings, which is implemented, very useful and needed in practice.*

Keywords: Distributed Power Systems, Power Flow, Economic Efficiency

1. INTRODUCTION

The conventional power systems load flow modelling and computing does not take into consideration the operating costs associated with the power system under study Saied (2004). Because of this lack of capabilities, EDSA software developed and uses a linear programming model which can present such results.

The sources power generation is not a specified condition but more of it, it is a computed result that must not to exceed the maximum load restriction imposed on the system branches. This concept is known as branch security Dumitrescu (2002). The Optimal Active Power Flow (OAPF) module program has the main functions: Security-constrained active load flow calculations and Security - constrained economic dispatch calculations.

The main advantages of this program are:

- The N-1 security analysis is incorporated into the program, meaning that not only *N*, but also *N-1* line security is satisfied while an active load flow or economic operating solution is obtained.
- Minimum load shedding is incorporated into the program. When load shedding is avoidable, an active load flow or economic operating solution without load shedding is obtained. When load shedding is indispensable due to security constraints, optimal values and bus locations of load shedding are also obtained.

Therefore, the OAPF program is an useful and powerful decision-making tool in selecting an optimal operating schedule, or a reinforcement plan for power system expansion.

Generally load flow analysis by either Newton-Raphson, Siedel Gauss or Fast Decoupled methods, estimates system power flows based on the generation and load levels specified by the consumers Mohan (2005), Dugan (1999). When convergence is achieved, the results will satisfy the mathematical conditions of the load flow equations.

The algorithm will always calculate the real load of all the branches, overloaded or not. OAPF analysis can take measures to avoid overload conditions that may be present in the system and can also be used to determine the most economic efficient functional load flow solution, if we can ensure that all the conditions for branch security are correct (EDSA, 2000), Saied (2001), (IEEE Standard, 1999).

The power system modeling using OAPF module gives the minimum load shedding in order to have the branch security. When load shedding is avoidable, a load flow solution will be obtained without load shedding. When load shedding is indispensable due to security constraints, the model determines optimal values and bus locations for load shedding.

Section 1 introduces the actual knowledge in power flow analysis and modelling using Optimal Active Power Flow module computation. Section 2 presents the implementation of the Security concepts for the Optimal Active Power Flow analysis in the analyzed system. Section 3 presents the results for the comparative powers system economic efficiency analysis using the Optimal Power Flow computation and considering different restriction related to the study case.

2. ACTIVE LOAD FLOW ANALYSIS WITH SECURYTY CONSTRAINS

In the proposed analysis using the Optimal Active Power Flow model a special Line Security is considered. The Line Security consists in Dumitrescu (2002), Mohan (1996), (Saied 2001):

- N Security – a network consisting of N branches, none of which is overloaded, satisfies an N branch security condition. When an N security restriction is imposed in the OAPF calculation, the program will shed load to meet this requirement.
- N-1 Security - a network consisting of N branches satisfies N-1 Security requirements when both the following conditions are met:
    - only one branch trips due to overload;
    - none of the remaining N-1 branches is overloaded;

In a load flow solution if no overload exists on all branches, it is stated that the system state satisfies *N* line security. No overload exists on other branches even when any one branch trips out, it is stated that the system state satisfies *N-1* line security Dumitrescu (2003), (IEEE P1366, 2001), . Obviously, *N* security is the most fundamental requirement for a load flow solution, and *N-1* security is a very important requirement when operating reliability is emphasized.

Active Load Flow analysis means active load flow computation, considering methods such as the Newton-Raphson or P-Q fast decoupled load flow, when the generations of all sources buses are specified by the user. The least possible reactive power is transmitted in power system operation to reduce network losses. Line security is, therefore, mainly associated with active load flow. It is possible that a load flow solution cannot satisfy line security. Overloads might exist on some branches.

Conventional load flow programs cannot solve the problem of how to alleviate these overloads. In the Optimal Active Power Flow model the generations of all sources are not specified, but are computed under the condition that line security must be met.

In order to conduct an Active Optimal Power Flow using EDSA the single line diagram and the equipment data have to be introduced. The following data are required for branches and generation points:

- Branches: kW Rating of the Branch;
- Generators: Generator Cost (Euro/kWh), Max and Min Power Limit (kW).

Specifying different generations for each source bus leads to different load flow solutions. The paper proposes a comparative study for the analized power system of the following OAPF models:

- Active Load Flow / N Security of All Branches (Case A);
- Economic Dispatch Load Flow / N & N-1 Security of All Branches (Case B);
- Economic Dispatch Load Flow / N Security of All Branches & N-1 Security of Crucial Branches (Case C).

Security-Constrained Economic Dispatch model (EDSA, 2000), (IEC 61400-21, 2004), is used to find a set of generations for all sources to minimize the total generating cost (economic operating solution). The load flow obtained by conventional economic dispatch may lead to overloads on some branches, so Optimal Active Power Flow model provides an *N* security-constrained, or *N* and *N-1* security-constrained, economic dispatch solution depending on the user's choice.

The security-constrained economic active load flow is calculated using the following main equations:

$$F(0) = A(0)\cdot(P + C - L) \qquad (1)$$

$$F(1) = A(1)\cdot(P + C - L), \quad l = 1, NL \qquad (2)$$

where:

P- active power generation vector
C- load shedding vector;
L- active power load vectorj;
F(0)- active power branch flow vector when no branch trips out;
F(*l*)- active power branch flow vector when the *lth* branch trips out;
A(0)- relation matrix between active power branch flows and active power injections when no branch trips out;
A(*l*)- relation matrix between active power branch flows and active power injections when the *lth* branch trips out;
NL - set of branches

The security-constrained active load flow, or economic dispatch, is a very large scale problem. For example, for a system of 500 buses and 1,000 branches, the number of elements in Matrix A(0) is 500,000. If *N-1* security of all branches is considered, there will be 1,000 A(l) matrices and each has the same size as A(0). The number of the relative security constraints in the calculation model is 1,000,000. The model utilizes the following techniques to reduce the time and memory storage:

- only sparse bus admittance matrix is stored;
- the sparsity technique and the bus order optimization technique are used;
- the linear programming relaxation technique is applied.

The Optimal Active Power Flow program can solve a system of 500 buses and 1,000 branches on a micro-computer. *N-1* security analysis is associated with much more numerous calculations compared to *N* security analysis. It is, therefore, important, that, in the case of a relatively large system, "*N-1* security of crucial branches" be chosen instead of "*N-1* security of all branches".

3. COMPARATIVE POWER FLOW ANALYSIS

The power system from Fig. 1 was modeled and simulated using the Optimal Active Power Flow program from EDSA Technical 2000. The case study consists of 3 Generators (1 swing bus, 2 PV Generators), and 35 Branches (13 power lines, 19 breakers, 3 transformers).

The original data for the test systems are given in per unit, and the transformer data are given in the form of transformer equivalent circuits. The actual unit data of the system were obtained by assuming base values of VA capacity and bus voltages.

The system was calculated in terms of actual unit and transformer input data. The data for the analyzed power systems and the data associated with reactive load flow distributions, which are not required by the optimal active power flow, are also given.

The additional data for OAPF are the kW ratings of all lines and transformer windings, the upper and lower limits of generations for all generators, and the generation cost coefficients of all generators.

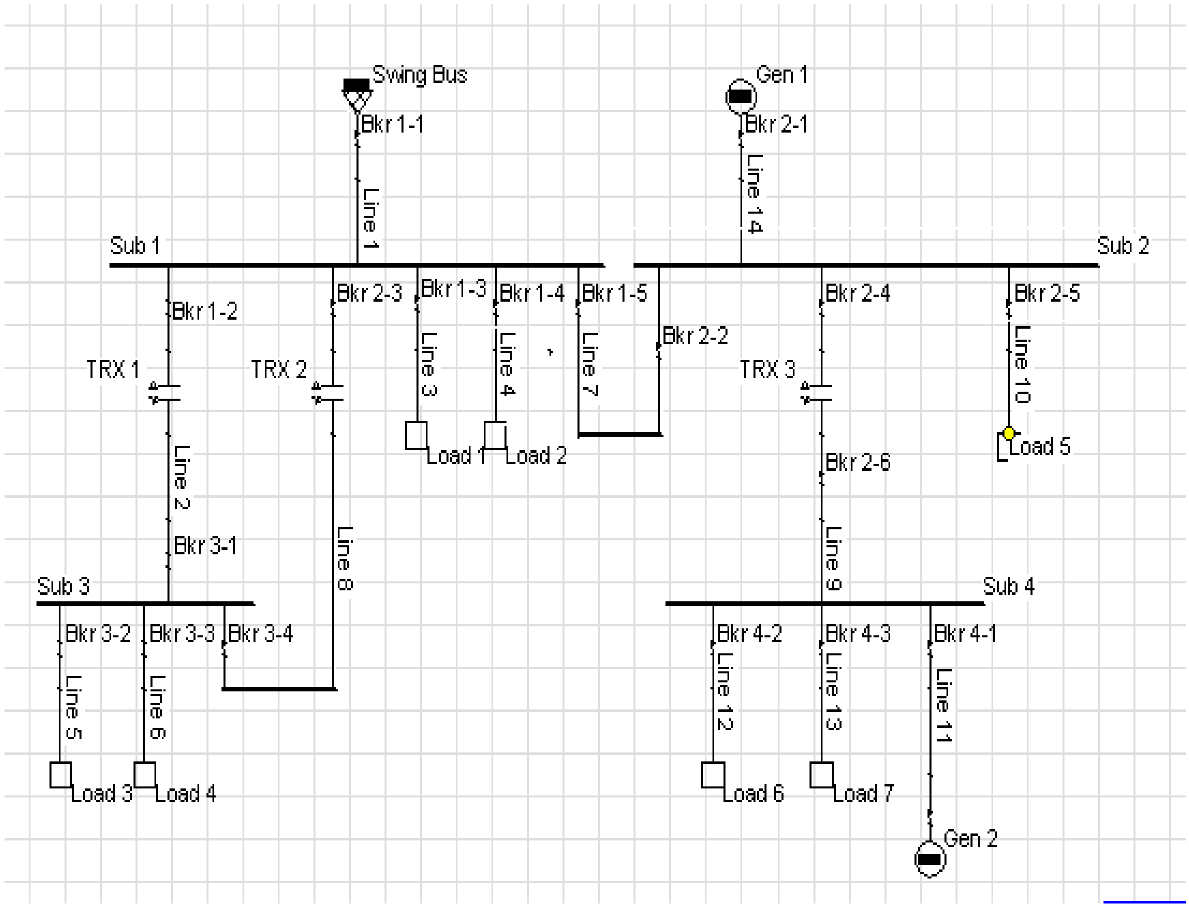

Figure 1: Single line diagram - case study - power system with distributed sources

A comparative optimal active power flow study of the analyzed power system will be presented. The system is simulated in cases A, B, C. The input data are the same in all the cases, see table 1.

Table 1: *Data associated with the system*

Component	P Rating [kW]	Cost [E/kWh]	Min P [kW]	Max P [kW]

Generators				
Swing Bus	-	0,01	50,000	150,000
Gen 1	-	0,035	10,000	50,000
Gen 2	-	0,035	5,000	10,000
Lines				
01	300,000	-	-	-
02	200,000	-	-	-
03	50,000	-	-	-
04	50,000	-	-	-
05	200,000	-	-	-
06	60,000			
07	100,000	-	-	-
08	50,000	-	-	-
09	50,000	-	-	-
10	100,000	-	-	-
11	100,000	-	-	-
12	12,200	-	-	-
13	12,200	-	-	-
14	10,000	-	-	-
Transformers				
Trx 1	75,000	-	-	-
Trx 2	75,000	-	-	-
Trx 3	50,000	-	-	-
Breakers				
Brk 1-1…4-4	200,000		-	-

The results of the computation in three different cases Active Load Flow / N Security of All Branches (Case A), Economic Dispatch Load Flow / N & N-1 Security of All Branches (Case B), Economic Dispatch Load Flow / N Security of All Branches & N-1 Security of Crucial Branches (Case C) are presented in tables 2-4. The branches and the generators output results are presented in tables 2 and 3. The buses at which load must be shed along with the estimated load shedding in kW are presented in table 4.

In case A a load shedding is necessary in order to maintain the N security constraint for the Active Power Flow. Total Load Shedding is 80,018 kW and all generators are set at maximum output.

In case B we will apply the N & N-1 branch security. As seen from these results, the N & N-1 security conditions are more restrictive in terms of guaranteeing a reliable supply of power. In this case we see that the load shedding required to maintain the constraints is the highest so far 139,024 kW. The generators are not set at maximum output.

In case C we will apply N security to all branches & N-1 security to two crucial branches in the system. The two branches considered as crucial for this study case are:

- line 7: from node 0016 to node 0020 (the line between Substation 1- Sub1 and Substation 2- Sub 2)
- line 8: from node 0025 to node 0026 (the line between Substation 3 - Sub 3 and Transformer TRX 3)

Table 2: *Branches output results*

No	Initial bus	Terminal bus	Rating [kW]	Active power [kW]	Loading [%]	Active power [kW]	Loading [%]	Active power [kW]	Loading [%]
				Case A		Case B		Case C	
1	001	002	300000	150000	50	113973	37.99	140058	46.69
2	002	003	300000	149000	49.99	113973	37.99	139988	46.58
3	003	004	200000	30565	15.28	23666	11.83	25978	12.99
4	005	006	50000	30565	61.13	23666	47.33	25978	51.96
5	006	007	200000	30404	15.20	23565	11.78	25844	12.92
6	007	012	200000	59796	29.9	49661	24.83	51181	25.59
7	012	014	60000	60000	100	49775	82.96	51181	85.22
8	007	013	200000	0	0	0	0	0	0
9	013	015	60000	0	0	0	0	0	0
10	007	026	200000	-28884	14.44	-25590	14.8	-24830	12.42
11	003	008	200000	47000	23.50	47000	23.5	47000	23.5
12	008	010	50000	47000	94	47000	94	47000	94
13	003	009	200000	42518	21.26	42518	21.26	42518	21.26
14	009	011	50000	42518	85	42518	85	42518	85
15	003	016	200000	29281	14.64	277	0.14	23975	12
16	016	020	200000	29281	29.28	277	0.28	23975	23
17	017	018	200000	49920	24.99	30000	15	30000	15
18	018	019	100000	49920	50	30000	30	30000	30
19	019	020	200000	-29208	14.6	-277	0.14	-23929	12
20	019	021	200000	7742	3.87	4705	2.35	4750	2.38
21	022	023	200000	7745	3.86	4704	2.35	4708	2.35
22	023	027	50000	7706	15.41	4703	9.41	4704	9.41
23	027	028	200000	12202	6.1	12202	6.1	12202	6.1
24	028	030	12200	12202	100	12202	100	12202	100
25	027	029	200000	5503	2.75	0	0	0	0
26	029	031	12200	5503	40.36	0	0	0	0
27	027	034	200000	-9993	5	-7494	3.75	-7494	3.75
28	034	035	100000	-9993	10	-7494	7.5	-7494	7.5
29	035	033	100000	-10003	10	-7403	3.75	-7499	3.75
30	019	024	200000	28856	14.43	25570	12.79	24633	12.31
31	025	026	50000	28747	59.49	25573	52.15	24633	49.12
32	019	032	200000	42756	21.38	0	0	24600	12.3
33	032	036	100000	7709	15.42	4704	9.41	4706	9.41
34	004	005	75000	28743	38.32	25572	34	24565	32.75

Table 3: *Generators output results*

No	Bus no	Generation [kW]	Total Cost [E/h]	Generation [kW]	Total Cost [E/h]	Generation [kW]	Total Cost [E/h]
		Case A		Case B		Case C	
1	001	150000	150	113994	113.99	140017	140.0117
2	017	50000	1750	30000	1050	30000	1050
3	033	10000	350	75000	262.5	75000	262.5
TOTAL costs			**2250**		**1426.49**		**1452.52**

As seen from the results the N security for all branches & N-1 security for crucial branches also result in a more restrictive scenario (although not as much as the previous case B) in terms of how much energy can be transferred if either of the crucial links trips out. In this case we see that the load shedding required to maintain the constraints is: 113,003 kW. The generators are not set at maximum output.

Table 4. *Load shedding required*

Bus	Load	Shedding [kW]		
		Case A	**Case B**	**Case C**
14	3	5000	15224	13868
15	4	42000	42500	42500
30	6	800	800	800
31	7	-	5500	5500
36	5	32218	75000	50335
TOTAL		**80018**	**139024**	**113003**

The branches output results demonstrate that no overload occurs on any of the branches, in all the analyzed cases A, B, C. Because the kW power rating of the generation the total generation cost, in the Case A is increased to 2250Euro/h, as compared with 1426.49 Euro/h for Case B, or 1452.52Euro/h for Case C.

5. CONCLUSIONS

The Optimal Active Power Flow model is an adequate one when we are interested to quantify the generation of all sources for a power delivery system. The reliability of the analyzed system is very important, so N Line Security and/or N-1 Line Security are considered.

Power Systems efficiency is another important meter when economical aspects are involved. So the Security-Constrained Economic Dispatch model solves the economical problems of the active power flow.

We can find a set of generations for all sources to minimize the total generating cost and to improve power system efficiency. Different models are used on a proposed power delivery system.

The simulation is done on three study alternatives, considering different restrictions in the system Security. The economical aspect of power delivery is affected on an important meter of the imposed restrictions, so the power system efficiency has variations. We can select the most efficient alternative and apply it in practice.

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STUDY REGARDING THE PROFILE OF THE ROMANIAN ONLINE SOCIAL NETWORKING USERS IN RELATION TO THEIR BUYING BEHAVIOUR

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Abstract: *The current paper aims to present a profile of the online social networking sites users from Romania, following a larger marketing research developed within the doctoral studies of the author. We are presenting several aspects related to the concept of online social networking sites, its evolution, typology and importance for the marketing process. The paper underlines the marketing research methodology undertaken within the marketing research and presents the results for the development of the profile. The author, using the SPSS IBM 20 platforms is analysing the responses of the participants regarding: the frequency of use, the preferred online social networking site, the average time spent on an OSN; main methods of connecting to their OSN platforms, all of them in relation with the social-demographic characteristics of the respondents.*

Keywords: online social networks, marketing, marketing research, consumer, user profile

JEL (Journal of Economic Literature) Classification: M30, M31, M39, O3,

1. INTRODUCTION

The emergence and development of information and communication technologies led in parallel to a strong business development. In recent decades, this development has had an impact on how to do business and to address consumers. The Internet has enabled consumers everywhere to get information quickly, at any time and from almost any corner of the world. One of the tools that are used both by individuals and by companies or marketers is represented by online social networks.

The managers and the marketing specialists must use these new methods of contacting and maintaining the relations with their consumers. In today's communicational and technological development context, as well as in the context of a stronger and stronger local, regional, national and global competition, the companies must target the consumer personally, according to their online behaviour, their usage of online social networks and their preferences regarding products and services. We are presenting a small part of a larger marketing research and from its results we have developed a profile of the OSN users.

2. LITERATURE REVIEW

We consider that it has become very important for managers and marketers alike to understand and use the best and latest communication and informational technologies in the relation process with their clients / consumers. In order to do that, we are presenting a brief literature review of the concept of online social networks (OSN), its evolution and its impact on marketing and the consumers.

The first step in understanding the OSN concept is to understand the concept of social network which represents „a number of people (or organizations or other social entities) connected by a set of social relationships, such as friendship, colleagues or exchange of information" (Garton et. al, 1997; Cachia, 2007), and made the transition to the concept of online social network. According to several authors (Boyd and Ellison, 2007), online social networks are „Internet-based services that allow individuals: to create their public or semi-public profile under a prearranged system; to create a list of other users with whom they are related; and to view and cross the list of connections with all persons in the system."

Online social networks are not just information platforms through which individuals and organizations can create links with other individuals or organizations, they are more than that, they are tools that marketing professionals can use in their work of creating a lasting relationship with consumers. These are defined in sociological terms as the relationships developed by individuals through communication and personal connections or through professional exchange of information.

Based on the analysis of the above mentioned definitions and of several other definitions (Kim et. al., 2004; Balas, 2006; Preece and Maloney-Krichmar, 2005, Cain, 2008, Vegheș și Pantea, 2009, Kwon și Wen, 2010, Kavasana et. al. 2010, p.69) a number of elements common to all the concepts outlined in the thesis have been identified: (1) the existence of an Internet connection; (2) the development or use of a default online platform; (3) the ability to communicate quickly with people you know and not only or people with common interests; (4) the ability to post personal information regarding the user or information regarding the organizations; the ability to create specialized groups in which individuals / organizations interact in precise, separate areas, which are of interest to people interested / involved, etc.

Online social networks have evolved sharply in recent years, knowing a powerful explosion after the development of some of the largest and most popular online social networks such as Facebook.com, LinkedIn, etc. In recent years, increasingly more online social networks have appeared, with different profiles and uses.

Only in the range of 1997 – 2009, 35 online social networks have appeared, of which more than 29 online social networks have emerged after 2003, currently reaching a few hundred active platforms. Today (September 2015) the biggest online social networking site, Facebook.com (FB website, 31st October 2015, has the following figures:

- 1.01 billion daily active users on average for September 2015;
- 894 million mobile daily active users on average for September 2015;
- 1.55 billion monthly active users as of September 30, 2015;
- 1.39 billion mobile monthly active users as of September 30, 2015;
- Approximately 83.5% of our daily active users are outside the US and Canada.

Regarding the statistics for the Romanian users of OSN the Facebrands.ro (accessed at 31st of October 2015) platforms shows that in Romania there are over 8,2 million Facebook users.

Moreover, through specialized literature review, we continued with the classification of online social networks. According to Ph. Kotler (Kotler et al., 2010) there are: (1) social media for *expression*, a category which includes blogs (Twitter and YouTube) and social networks, sharing sites etc. (Facebook, MySpace, Flickr etc.); (2) the means of social dialogue based on *cooperation*, a good example being Wikipedia website. Other authors have identified types of online social networks depending on their utility: *(1) General platforms; (2) Specialized / practical platforms; (3) Interest-based platforms; (3) Affinity-based platforms; (4) Sponsored platforms.* Therefore, we conclude that there is a clear distinction between them according to several characteristics: *type of involvement; type of content; the industry in which the platform operates; etc.*

The emergence and development of online social networks in the last decade has opened for organizations, consumers and marketers the gateway to a new medium through which marketers can do their job. In recent years, online social networks have become increasingly important for both the organizations and customers or consumers. Therefore, in order to understand this transition to the online, the evolution from traditional marketing to 3.0 marketing was presented in a comparative analysis. At the same time, we wanted to highlight some elements related to the utility and use of online social networks in marketing.

An important element to be considered when we have to think about achieving a marketing campaign through online social networks is that its purpose is not to be aggressive advertising. Among the best approaches to promotion through social networks we highlight three useful means to convey information and ideas of a network that is interested in the products or services offered by the organization: (1) Communication between friends; (2) Groups; (3) Online applications (or recently, mobile applications).

Organizations can provide some information on the page / profile within the network may publish notices or provide users with various applications, software as a demo, in a much easier way than by e-mail. Social networks offer the possibility to those who are accessing pages of organizations to make comments, suggestions, or bring reproach or participate actively in promoting the products or services. To successfully use social networks for the marketing activity of an organization (Merreman Scott, 2010, p. 317-318) one must: (1) target specific audiences; (2) be an opinion leader; (3) be strong and transparent; (3) create as many links as possible; (4) encourage consumers to contact you; (5) experiment.

The most important feature of the social networks is that you are present, and that consumers are talking about the organization, products, and services about the advantages they offer in the market. But, at the same time, it is possible to spread negative information about the organization and its activity. Organizations must be alert to this issue and be prepared through a system of well-established public relations to counter negative promotion.

The strong increase in purchases for smart phones allowing almost permanent access to the Internet, smart tablet market development, strong growth in purchases of portable computers (laptops), the development of increasingly powerful mobile application solutions led to an unprecedented accessibility to online social networks. Taking all this into account, we must be aware of a number of advantages and disadvantages of using online social networks.

3. RESEARCH METHODOLOGY

The research represents a small part of a larger quantitative marketing research regarding online social networks influences on the purchasing behaviour describes the process of marketing research and marketing research results conducted in January - March 2015. The marketing research aimed at identifying the influences that online social networks have on the purchasing behaviour of their users. Consequently, 19 specific marketing objectives were established, 28 hypotheses have been proposed (based on the specialty literature and the results of previous research – Fuciu and Dumitrescu, 2014; Fuciu et. al, 2015).

The sources of information needed were established and the observation unit considered in this research is the online social network users and is the same with the research unit, i.e. the individual. The instrument used for data collection was a questionnaire (distributed online) consisting of 28 questions divided into three sections that were arranged according to the principle of the funnel (from general to particular).

Sampling was improbable by the "snowball" method and "operating principle of this method involves the identification, by the researcher, based on specific reasons, of a number of respondents to be investigated and which, in turn, will recommend to the researcher other respondents to be covered by the marketing research" (Cătoiu et.al., 2009, p.525). A probability coefficient of 95% was used, taken from statistical tables value of t = 1,96, the calculated margin of error being ± 5,8%. The identification of a characteristic that would differentiate respondents led to determining the value of p = 0,5, automatically resulting the value of q = 0,5.

Following the questionnaire, the collection of 788 questionnaires from respondents resulted. They were checked in the sense of being completed correctly and completely, and after this process a number of 294 valid questionnaires resulted (representing a valid response rate of 37,30%). Causes of elimination of almost 500 questionnaires was that they were either not fully completed or surveys were started (the link received was accessed) but the initial explanation of the questionnaire was not completed.

In this paper we are presenting the research results regarding the profile of the online social networking sites users as well as their behaviour regarding the pages that they use, the reasons behind becoming OSN users, the main activities undertaken on an OSN.

4. RESEARCH RESULTS

The marketing research results are divided into two categories: the descriptive data analysis, creating a profile of online social networks user, followed by the validation of hypotheses regarding the interpretation of results. The current paper presents the main profile extracted from the research results.

For the development and analysis of this profile, we have used the data obtained from the questionnaire and we have applied the Crosstabs function in SPSS v.20. Therefore, we have decided to identify the OSN users profile by analysing several important aspects: (1) The favourite online social network; (2) The frequency of use of OSN; (3) The average time spent on an OSN; (4) Main methods of connecting to their OSN platforms. All these aspects were assessed in relation to their socio-demographical characteristics of the respondents: age, gender, residence, level of education and net income.

a) The main online social network linked to the age of the respondents

Table 1 Favourite OSN vs. age

		Age interval					Total
		19 - 25 y.o.	26 - 35 y.o.	36 - 45 y.o.	46 - 55 y.o.	over 55 y.o.	
Favourite OSN	LinkedIn	0	4	2	1	0	7
	Facebook	137	68	40	8	2	255
	Google+	4	4	2	0	0	10
	Hi5	0	1	0	0	1	2
	YouTube	8	7	3	0	0	18
	Other OSN	1	0	1	0	0	2
Total		150	84	48	9	3	294

(Source: author's computation)

From the analysis of table 1, we can see that an important ant percentage (45,59% - 137) are Facebook.com users with ages between 19 – 25, followed by those that are 25 – 35 years old (23,12%), and 40 of the respondents (13,60%) are between 36 and 45 years old.

We can clearly see, as presented in table 2, that the Facebook.com platform is preferred by 87% of the respondents. Regarding the gender structure, we can observe that the online social network is recognised by 62.92% of the females and only 23,80% of the males, all these having in their great majority (76.19%) their residence in an urban environment.

Table 2 Favourite OSN vs. Gender & Residence

		Gender		Residence	
		Male	Female	Urban	Rural
Favourite OSN	LinkedIn	6	1	7	0
	Facebook	70	185	224	29
	Google+	1	9	7	3
	Hi5	1	1	2	0
	YouTube	7	11	18	0
	Other	2	2	4	0
Total		87	209	262	32

(Source: author's computation)

Table 3 presents a distribution of responses according to the respondents' last graduated education level. Therefore we can see that 34.69% of the Facebook.com users are bachelor's degree graduates, 20.06% of the respondents are Master's degree graduates and 17.34% of the respondents have a Post-university degree (PhD and other).

Table 3 Favourite OSN vs. The education level

		Education level (graduated)					Total
		High school	Post-secondary education	Bachelor's degree	Master's degree	Post university degree (PhD and other)	
Favourite OSN	LinkedIn	0	1	1	3	2	7
	Facebook	33	8	102	59	51	253
	Google+	1	2	3	1	3	10
	Hi5	0	0	1	1	0	2
	YouTube	4	2	2	4	6	18
	Other	0	0	0	4	2	4
Total		38	13	109	70	64	294

(Source: author's computation)

Consequently, in table 4 it is presented the OSN users' distribution related to the net income of the respondents. As we can see, the answers were distributed relatively even in relation to their income level. We can underline that 17% have incomes of 1.501 - 2.000 lei; 16,66% have more than 2.500 lei; 15,64% have an income of 1.000 - 1.500 lei; the remaining respondents (24,48%) have an income situated in the 750 to 1.000 lei range, respectively between 2.000 and 2.500 lei. We also must stress that 12,24% of the Facebook users have no income.

Table 4 Favourite OSN vs. net income

		Net income							Total
		under 750 lei	750 - 1.000 lei	1.001 - 1.500 lei	1.501 - 2.000 lei	2.000 - 2.500 lei	Over 2.500 lei	No income	
Favourite OSN	LinkedIn	0	0	0	0	3	4	0	7
	Facebook	20	32	46	50	20	49	36	253

	Google+	0	1	3	3	1	0	2	10
	Hi5	0	0	1	0	0	1	0	2
	YouTube	0	0	6	4	2	4	2	18
	Other	0	2	0	1	0	1	0	4
Total		20	35	56	58	26	59	40	294

(Source: author's computation)

b) The online social networks' frequency of use

An important characteristic for identifying the profile of the online social networking sites users is represented by the frequency of use of these online platforms.

Table 5 OSN frequency of use vs. age

		Age interval					Total
		19 - 25 y.o.	26 - 35 y.o.	36 - 45 y.o.	46 - 55 y.o.	over 55 y.o.	
OSN frequency of use	Several times / day	128	72	33	8	1	242
	Several times / week	21	11	14	1	1	48
	Several times / month	1	0	0	0	1	2
	Less than once / month	0	1	1	0	0	2
Total		**150**	**84**	**48**	**9**	**3**	**294**

(Source: author's computation)

Following the data analysis of the information from table 5, we can determine that the great majority of the respondents (82%) underline that they use OSN platforms several times / day. From these, the highest number is that of the young individuals between 19 – 25 years old (43.53%), followed by the individuals that are between 26 – 35 years old (24,48%) as for the rest of 16,86% of theme have ages greater than 36 years old. At the same time, 16% of the respondents mention that they use the OSN several times / week.

Regarding the gender and the residence of the respondents, we can see that the respondents are distributed as follows: 60,54 % of those that use OSN several times / day are female and only 21,75% are male. The daily users are in their great majority (73.46%) city residents and only 8,16% of them are form rural areas.

The link between the frequency of use of OSN and the last level of education that was graduated shows that bachelor graduates are the ones that the OSN the most (29,39%) follows by the master graduates (19,04%) closely followed (18,36%) by the Post university degree (PhD and other) graduates. Also the high school graduates have a percentage of 10,54%.

Table 6 OSN frequency of use vs. net income

		Net income							Total
		under 750 lei	750 - 1.000 lei	1.001 - 1.500 lei	1.501 - 2.000 lei	2.000 - 2.500 lei	Over 2.500 lei	No income	
OSN frequency of use	Several times / day	18	32	46	46	20	46	34	242

	Several times / week	2	2	9	11	7	11	6	48
	Several times / month	0	0	0	0	0	1	1	2
	Less than once / month	0	0	1	0	0	1	0	2
Total		**20**	**34**	**56**	**57**	**27**	**59**	**41**	**294**

(Source: author's computation)

The net income of the respondents that use the OSN several times per day have a relative equal distribution, a fact that it is proven by the 3 main categories of income that have registered the same percentage of responses (15,64% for: 1.000 - 1.500 lei; 1.501 - 2.000 lei and over 2.500 lei). The daily users that have an income between 750 and 1000 lei are 10,88%.

c) Average time spent on an online social networking site

Table 7. Average time spent on an OSN vs. age

		Age interval					Total
		19 - 25 y.o.	26 - 35 y.o.	36 - 45 y.o.	46 - 55 y.o.	over 55 y.o.	
Average time spent on an OSN	< 30 min.	20	15	17	3	3	58
	30 min - 1 h.	49	27	20	4	0	100
	1 h - 3 h	45	21	6	1	0	73
	3 h - 5 h	13	4	0	0	0	17
	> 5 h	6	2	1	0	0	9
	Permanently connected	17	15	4	1	0	37
Total		150	84	48	9	3	294

(Source: author's computation)

The average time spent connected to an OSN is another characteristic of great importance for the process of identifying the main profile of the OSN users. The responses for this aspect (as seen in table 7) show that they are much more diverse when linked to the age characteristic. We cans see that 34% of the respondents use the OSN between 30 min – 1 hour, followed by those that are connected between 1 – 3 hours / day (25%) and those that are connected less than 30 minutes (20%). It can also be underlined that, no matter the time spent online, the 19 – 25 years old users carry the majority (51,02%), followed by those with ages between 26 – 35 years old (28,57%).

The same analysis element related to gender and residence, the data has shown that 25,85% of the females are connected between 30 min. – 1h /day, followed by those that send between 1 and 3 hours / day (20,06%). The male respondents, the highest number of respondents (17,86%) spend less than 60 minutes online. The same trends and time intervals are relatively distributed in relation to the place of residence.

Continuing the same pattern as presented at the previous sections, we can see that 18,70% of the bachelor graduates spend more than 60 min. / day connected to an OSN. 14,96% of the master graduates spend in average between 30 minutes and 3 hours / day connected and the other types of respondents (13,60%) spend an average of 1 hour / day connected to an OSN.

The relationship between the average time spent connected to an OSN and their net income shows that the individuals that have an income of 1.501 – 2000 lei and spend 30 - 60 min. connected represent 7,83% of the respondents. The individuals that have an income of more than 2.500 lei 6,08% and those that have an income of 1.001 – 1.500 lei are 6,12%. The respondents that spend less than 30 minutes / day connected to an OSN are the individuals have incomes of more than 2.500 lei.

d) Main means of connection to an OSN

In order to have a better understanding of the behaviour and the profile of OSN users, we consider that it is absolutely necessary to identify the relation between the socio-demographical characteristics and the main means (methods) of connecting to an online social networking platform. Therefore, as we can see in table 8, we have extracted the data regarding the main mean (method) of connecting to an OSN and the age of the respondents.

Table 8 Method of OSN connection vs. age

		Age interval					Total
		19 - 25 y.o.	26 - 35 y.o.	36 - 45 y.o.	46 - 55 y.o.	over 55 y.o.	
Main mean (method) of OSN access	PC-Desktop	17	9	18	0	1	45
	Laptop	54	22	16	7	1	100
	Smartphone	75	47	12	1	1	136
	Tablet	4	6	2	1	0	13
Total		**150**	**84**	**48**	**9**	**3**	**294**

(Source: author's computation)

From the above presented table we can clearly see that more than half of the individuals with ages between 19 – 25 years old are using the smartphone (25,51%) , followed by the laptops (18,35%) and those that use the personal computer. The same distribution can be seen for the following age interval (26 – 35 years old). We can underline that 34% of the total number of respondents have mentioned that they use the smartphone in the process of connecting to an online social networking site.

In close connection to the age group, the gender analysis shows that 34,69% of the female respondents use their smartphone and only 21,14% of them use the laptop. The males also prefer the mobile phone when connecting to an OSN. Regarding the respondents distribution according to their place of residence, we can see that 29,59% of the city inhabitants use the laptop to connect to an OSN and 13,60% of them use the PC.

The education level and the methods of connection to an OSN is another aspect that we have analysed and the results have shown that 16,32% of the respondents are bachelor graduates that prefer the smartphone and 14,28% of them prefer the laptop. The same order of preference of use can be seen for the other higher education categories and high school.

The link between the income and the method of connection was also analysed. Therefore from a simple data observation we were able to ascertain that mobile phone and the laptop are the main methods of connecting to their online social networking site preferred by the respondents that were placed on the entire range of incomes from 750 to more than 2.500 lei.

In order to have a better understanding and to have the complete profile for the online social networking users, we have realised a hierarchy of the main reasons for becoming a member of an OSN, the main activities undertaken on their favourite OSN and the main types of OSN pages visited by the respondents. Among the most important reasons for becoming an OSN member we point out: (1) Wishing to communicate with friends, family and acquaintances; (2) Wishing to reconnect with friends, family and acquaintances; (3) Wishing to be informed about various events; (4) Wishing to communicate / to talk daily; (5) The willingness to know what is happening in the life of friends, family etc.

The main activities undertaken by the OSN users are: (1) Communicate with friends; (2) Viewing the photos of friends; (3) Informing oneself about products / services; (4) Informing about activities / projects; and (5) Spending time online. The last aspect that was analysed in the process of identifying the profile of the OSN user was to find out what are the main pages that an OSN user visits: (1) Friends' / acquaintances' pages; (2) Family member pages; (3) Favourite brand pages; (4) Entertainment pages; (5) Companies' pages.

5. CONCLUSIONS

Following the research results, we can describe the online social networking site user as the person who prefers the largest online social network in the world, Facebook.com, which comes mainly from urban areas, both male and female, having in most cases higher education studies, but users are included at every level of education or income (ranging from no income to high and very high income individuals).

The user of online social networks under investigation is usually someone using online social networking platforms every day, an average from 30 minutes to 180 minutes (3 hours), but who can also be permanently connected to OSN, preferring mainly mobile phone / smartphone and laptop to connect to online social networks. At the same time, the user of online social networks use these online platforms to communicate with family, friends, colleagues, to reconnect with people they know or to be informed about events, products, services or learn what is new in the lives of friends and acquaintances or family.

The user is frequently visiting accounts / pages of family, friends, favourite products or services, businesses or entertainment pages. After learning the results of the analysis and interpretation of results we noticed a complex profile of users of online social networks, which, through proper use by marketers and companies, may lead to the establishment of marketing and communication strategies, better targeted and more effective.

Starting from the mentioned profile, managers and marketers as well as the marketing campaigns can be better targeted towards the proper clients and consumers, taking into account their preferences and online behaviour. We must also acknowledge that this profile is a changing one and it resulted from a transversal marketing research and in order for the profile to be better understood and used for a successful marketing campaign a longitudinal marketing research must be developed in order to see the evolution in time of the profile of the OSN user.

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CREATIVE ACCOUNTING UNDER THE INFLUENCE OF MANAGERS, ETHICAL OR UNORTHODOX REASONS

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Abstract: *The study presents the concept of creative accounting within the context of ethical considerations and how it is influenced by manager's decision. We review different articles published until the present and we have identified and explained the creative accounting practices, the effect of the creative accounting on the quality and reliability of the financial information. We have presented the managers role and interest in accounting and their responsibility for the preparation and the presentation of the financial statements. The research was performed among managers and other economists employed in companies from different industries, freelancers and entrepreneurs from Romania and describe their perception about the reasons for using the creative accounting techniques, highlighting factors responsible for playing a key role in the management of a company's business, not just for shareholders, but also to investors, creditors, suppliers and other users of financial information. Between the fair presentations of the financial statements, an ideal accounting outcome in any company and fraud there are only two steps, one being creative accounting and another being the aggressive accounting. The quantitative analysis results describe the reasons for which managers use the creative accounting practices and their effects in preparing and presenting the annual financial statements. The article concludes with the analysis of the methods and the possible solutions for reducing the negative impact of creative accounting.*

Keywords: creative accounting, code of ethics, earnings management, financial statements, fraud

JEL (Journal of Economic Literature) Classification: G34, M12, M14, M40, M41

1. INTRODUCTION

This research is a theoretical and empirical study addressing the creative accounting concept under the influence of managers from the perspective of Romanian market.

The first part contains a review of the literature concerning the creative accounting definition, from the necessity of the existence of the accounting policies and options to the improperly use of the standards depending on the practitioners interest, the necessity and benefits of the fair presentation of the financial statements, aggressive accounting and the fraud concepts. We have presented the management interest in accounting, the managers role in the manipulation of accounting information being crucial, as the management of the company is deciding the company strategy, together with the adherence to ethics or not.

The second part presents the research methodology and description of results from empirical studies on perception among economists and accounting professionals on the reason for choosing the creative accounting techniques both within listed companies, but also of other companies, regardless of company size, the study being conducted on a number of 378 professionals from Romania, in terms of decrease of the capital cost, keeping management reputation and job retention, management remuneration, improvement of relations with trading partners, advantages of fiscal gains, reducing the income tax, compliance with contractual loan terms.

The third part of the article contains conclusions from the results, indicating both the respondents' perception on the need to apply principles of creative accounting and also the description of the methods for reducing the negative impact of creative accounting.

2. CREATIVE ACCOUNTING CONCEPT

In nowadays the development is based on information, therefore innovation and creativity makes the difference in economy filed also. Creative accounting has been widely discussed among accounting profession and standards development lately, being both a desirable tool but also a criticized accounting technique. Until the present the research has focused on the ethic profile of the professionals, but practically creative accounting is used to describe the process from which the accountant professionals use their knowledge to influence the information, while still being in accordance with accounting standards.

Creative accounting is a widely used concept, known since the beginning of the Accountancy, from the 15 centuries when Luca Pacioli wrote the first accounting manual, called "*De Arithmetica*". Creative practices were used in accounting trade books of register in the Venetian, one less ethical than other, from the inkwell knocked over the accounting register to cover the discrepancies to disputes that lead to the development of new accounting standards and practices. Through the centuries many unethical accounting practice were described by accounting literature and many scandals shocked the world, all of them having also a good result not just economic instability, but contributing to the development and strengthening of the accounting standards, auditing or regulation of taxes, business environment legislation in general.

Kamal Naser (1993) presented his definition about creative accounting concept as being: "1) the process through which, due to the existence of some breaches in the rules, accounting figures are manipulated and, taking advantage of the flexibility, they choose those measurement practices allowing the transformation of the synthesis documents from what they are supposed to be into what the managers want; 2) the process through which the transactions are structured in such a manner that it allows the "production" of the "desired accounting result."

Michael Jameson (1988) mentioned that creative accounting has results in the income smoothing and that "Creative accountants might also argue that, in the long run, their activities are limited to income smoothing since many creative accounting techniques rebound fairly quickly".

Trotman (1993) presented creative accounting as a technique for investor's impression or presenting more attractive financial statements improved with specific accounting techniques which provide a more favorable image of the company than really is.

Niculae Feleaga and Liliana Malciu (2002) considered that creative accounting it is used by accounting professionals to manipulate the financial information.

Creative accounting is defined as being the process resulted due to flexibility in accounting standards, and is based on the existence of the accounting policies, accounting options and accounting estimates, all of them are useful tools and techniques in the hand of professional accountant to be used in nowadays complex and global economic environment. In most cases an accounting issue can have more than one solution, with different effect in reflecting the financial position and financial performance of the company.

The accountant must choose the best accounting estimate, best accounting policy and option to provide relevant and understandable information for economic decisions process and reliable, comparable and understandable information useful for any users of financial information. The financial information must represent fairly and accurately all transaction and events that occurs in the company, must reflect the economic substance rather that legal one, must be neutral and prudent. The accounting policies represents „specific principles, bases, rules and practices used by the companies in preparing and presenting the annual financial statements”, as specified in the *International Accounting Standard 8 „Accounting Policies, Changes in Accounting Estimates and Errors”*.

2. FROM FAIR PRESENTATION OF THE FINANCIAL INFORMATION TO FRAUD

The creative accounting is between the fair presentation of financial statements *(good accounting)* and fraud *(bad accounting)*. Between the fair presentations of the financial statements, an ideal accounting outcome, and fraud there are only two steps, one being creative accounting and another being the aggressive accounting. Creative accounting is usually legal, even if there are cases when the process can mislead about the company's true financial position, while aggressive accounting or fraud is questioned and sanctioned legally.

Fair presentation of financial statements is the ideal outcome resulted by the combination of the accounting standards knowledge with ethical and moral intention and consideration. In this case the flexibility of the accounting standards is used to give a true and fair view of the information included in the financial statements and it is for the interest of all users of financial information. The benefits of fair presentation in the business environment are multiple, the managers and shareholder have a clear view of the company position and results, and all the other internal and external users have a clear image on the company financial position, financial performance and cash flows based on transparent, accurate, relevant and credible information.

Creative accounting is when the flexibility from the accounting standards is used for the interests of the company, rather than the interest of all users. The accountant professionals use their knowledge and skills to influence the accounting information, while still conforming to the accounting standards, but in their own interest. In United State of America the creative accounting definition includes the term of „fraud”, as it is considered illegal, while in Europe creative accounting process is not considered as an illegal activity, being a result of accounting flexibility allowed by standards.

The next step to illegality, aggressive accounting, is when the management of the company interfere in the accounting process more than they are allowed by their responsibilities. Creativity in accounting can be used depending on the manager’s intentions, can be used to find new solution and methods to the daily problems or can be used deliberate in an aggressive way in order to manipulate the accounting records with might have a significant impact on the presentation of the accounting information in the annual financial statements. The accounting standards flexibility is used to transmit a more advantageous picture, rather than the interest of all users. As results, the company financial statements appear more attractive to investors and other users, therefore some forms of aggressive accounting are at the limit of legality, and others are illegal.

Delimiting the concept of creative accounting from that of fraud is important. Fraud is defined as being the process in which the accounts are prepared without reference to accounting standards stepping outside deliberately to create a false image of the accounts and all this for financial or personal gain. Financial engineering processes are used dishonest for personal interest, fall under the law and has serious consequences. Usually companies with poor governance system are subject to fraudulent activity. The management of the company abuse from the possibility of interpreting rules and regulation and from the existence of such various options for recording different accounting issues. The information included in the financial statements become what management desire to be and is not what it should be, in accordance with legislation.

3. MANAGERS ROLE IN THE COMPANY. EARNINGS MANAGEMENT

There are many users who have interest in the company figures, and there are two categories which are very important with a special position (N. Feleaga, 2006):

(i) on one side are the shareholders, even if their patrimonial rights are not exercised and support the financial risk, they are requiring part of the year's profit. The shareholders invest their capitals and give the managers a mandate to manage the company, trying to maximize the performance;

(ii) on the other side, the managers, which have advantage of the position held in the company and, therefore, are tempted to take major advantages.

This separation of the responsibility can lead to conflicts which can generate large costs, as the managers are tempted to manipulate the financial information for their own interest. Manager's role in the company is to set goals and strategic planning, capital budgeting, project management, coordinating and controlling activities, acquiring and allocation resources, identifying, hiring and promotion, developing talent and motivate the employees, internal and external communication.

Earnings management appears when manager's decision is based on subjectivity matters mainly to improve the information included in financial statements for personal gains. Thus the stakeholders are misled about the underlying economic performance of the company or other contractual outcomes impose by other entities. In practice the aggressive accounting leads to earnings management as the revenues are artificial increase, profits are changed or earnings per share are improved depending on the desired income.

Many authors and practitioners has studied and tried to discover the optimum design of managerial compensation. The shareholders (principal) hire the managers (agent) to undertake and influence the company profits and to motivate the managers for their personal effort; the optimal contracts link their compensation to realized firm earnings. The manager performance remuneration reflects the managerial compensation based on realized earnings and the cost of imposing risk.

The negative effects of the aggressive accounting practices or fraudulent activity impact the investors and shareholders who are delude about the financial situation of the company and also affect the long term company image of the market. Over the time there were major scandals due to the management unorthodox style approach for personal gain, facilitated by poor corporate governance, failure of the external audit missions and important companies operating on the world market has bankrupted. Enron, WorldCom, Parmalat Company's bankruptcy is only few examples of considerable accounting scandals that are still mentioned due to extensive impact over the management and accounting profession.

Unfortunately the activity of these companies are impacting in a negative way the economic and social environment as sizable losses are spreads in the market, together with job insecurity and other negative effects.

4. WHY MANAGERS RESORT TO CREATIVE ACCOUNTING PRACTICES

Usually creative accounting, aggressive accounting or fraud occurs mostly when the company is experiencing financial difficulties, and even if creative accounting involves processes that are not considered illegal, but certainly does not comply with ethics standards.

We have examined the manager's common reasons for choosing creative accounting technique, from the ethical one to the unorthodox subjective behavior, from the business development to the business failure on the long term premises. Decrease of the capital cost, keeping management reputation and job retention, management remuneration, good image of the company, lower taxes paid, compliance with contractual loan terms are one of the main reasons to use aggressively creative accounting, with the following methods and results:

A. Decrease of the capital cost. Although both the investors and managers have the same objective to maximize the market value of the company, the way to achieve this purpose is different. While investor's desire is a return on investment greater than the average market, the managers are concerned about minimizing the cost of capital mobilized. The decrease of the cost of capital can be achieved by changing the structure of capital mobilized, as example by changing the ratio of borrowed capital, respectively, of equity in total capital.

The increase share price can be achieved through the use of creative accounting techniques, as example by reducing debt levels and by creating an apparent trend on profit. In this way the companies raises capital by issuing new shares, may offer their own shares in takeover bids and to resist to the other companies takeover.

B. Keeping management reputation and job retention. Managers are enrolled by the shareholders to maximize the performance of the company. This responsibility is passed from owners to managers; therefore the unfavorable results of the manager performance can lead to conflicts generating time loss and cost. Manipulation the accounting information is performed mainly by the company management, as the decision of the performance presentation relays in their needs and vision.

Therefore, there are cases when managers prefer to report constantly profit growth, rather than fluctuating profits with a series of dramatic ups and downs. In this scope higher provision can be recorded in years with high profits, and in the next years when lower profits or even losses are detected the provisions are reduced improving the profits reported.

There are also cases when the management of the company chooses to report large losses in a year and in next years to present profits. The profits can be manipulate to match the forecasts imposed by the company shareholders, thus the accounting policies are selected so the results reported to be connected to forecast profits and not for a fair presentation of financial statements.

C. Management remuneration. Earnings management occurs when the managers use their subjective judgment for manipulating the financial statements figures, to mislead the shareholders about the underlying economic performance of the company and to influence contractual outcomes that depend on reported accounting information.

Bonus scheme for managers or executives are in most cases linked to the profit or share price. If the bonus scheme is computed based on the price of a stock, the managers will be motivated to impress the stock market by fashioned financial statements. If bonuses are determined as a percentage of the profit reported, the managers will use creative accounting to qualify for bonuses as favorable, maintaining profits in the desired range.

The creative accounting methods for managing earnings are based on accounting policies time adoption, estimates and on voluntary accounting changes. Estimates can be changed easily such as fixed assets useful lives estimates, the probability of recovering debtors, all the year-end provisions and accruals which modify the reported earnings in the direction of a desired target (F.L. Ayres, 1994). The accounting policy timing for the adoption of accounting policies can lead to desired earnings, particularly in relation to the possibility of an early adoption. Another method of manipulating the results is represented by the changing the accounting options.

D. Improvement of relations with trading partners. Managers can use creative accounting techniques to delay presentation of the information to the market, or to distract from specific information that will not be made public. The company supplier's needs warrantee about the payments and the customers are concern of the long term survival of the company. Creative accounting techniques can be used in this scope to improve profits of the year, the cash balance or other ratios.

In addition to the annual financial statements, the company can present to the public other reports with additional information referring to the social responsibility activities, the environment information, information on corporate governance, all this creating a good image over the company environment.

E. Advantages of fiscal gains. If the profit is higher the taxes will be higher. In this case the creative accounting techniques lead to understated income or overstatement of expenses, increased debt, decreased assets.

Also the profit can be distributed between subsidiaries in order to avoid local taxes, based on arrangements using tools like creative accounting.

F. Reducing the income tax. Taxation is a major factor for creative accounting in situations where taxable income is calculated based on accounting figures. Therefore the managers are reducing the tax based in order to reduce the income tax to be paid to fiscal authorities.

G. Compliance with contractual loan terms. In the case of funding there can be restrictions on the amount that can be borrowed and usually is computed based on the size of company's equity. In cases when the company no longer meets the loan contractual cases, the subjective motivation appears to choose the accounting policies, option or estimates that lead to profit growth or to finance amount which are not presented as a liability in the financial statements as it should be. When the company risk is lower, the interest rate charged by lenders is lower.

4.1. Research methodology

The research is based on a national sample of 378 managers and accounting practitioners, all with superior studies and relevant professional experience in the field of economics, employed in companies from different industries, irrespective of its size and activity profile, both in listed companies, and the other companies, freelancers and entrepreneurs from Romania regarding the application of the creative accounting techniques.

The scientific research is based on a quantitative approach, which seeks the perception and application of the concept of creative accounting in practice, using the positivist method, which involves defining the research topic, setting hypotheses, gathering, processing and analyzing data and presentation of results.

The research technique is based on a questionnaire consisting of multiple-choice answers, with single or multiple answers. The questions concerning the application of creative accounting in the companies targeted respondents' perception regarding the decrease of the capital cost, keeping management reputation and job retention, management remuneration, improvement of relations with trading partners, advantages of fiscal gains, reducing the income tax, compliance with contractual loan terms.

4.2. Data analysis and interpretation of results

We have identifies the following results after analyzing questionnaire: the majority (99%) of the respondents are having higher economic education and relevant professional experience, mainly economists employees from various companies, the rest being members of professional bodies, professional accountants. The study comprised in 378 viable questionnaires and most of the respondents involved in the research being employees (85.19%), few freelancers (10.58%) and entrepreneurs (4.23 %).

In terms of the size category there were identified 37 % large companies, 24% medium companies, 14 % and 24 % small companies and micro.

Regarding the industry in which the respondents operate, their weight is in services industry (52 %), followed by trade (13%) followed by manufacturing (9%), the rest having other fields of activity (Figure 1).

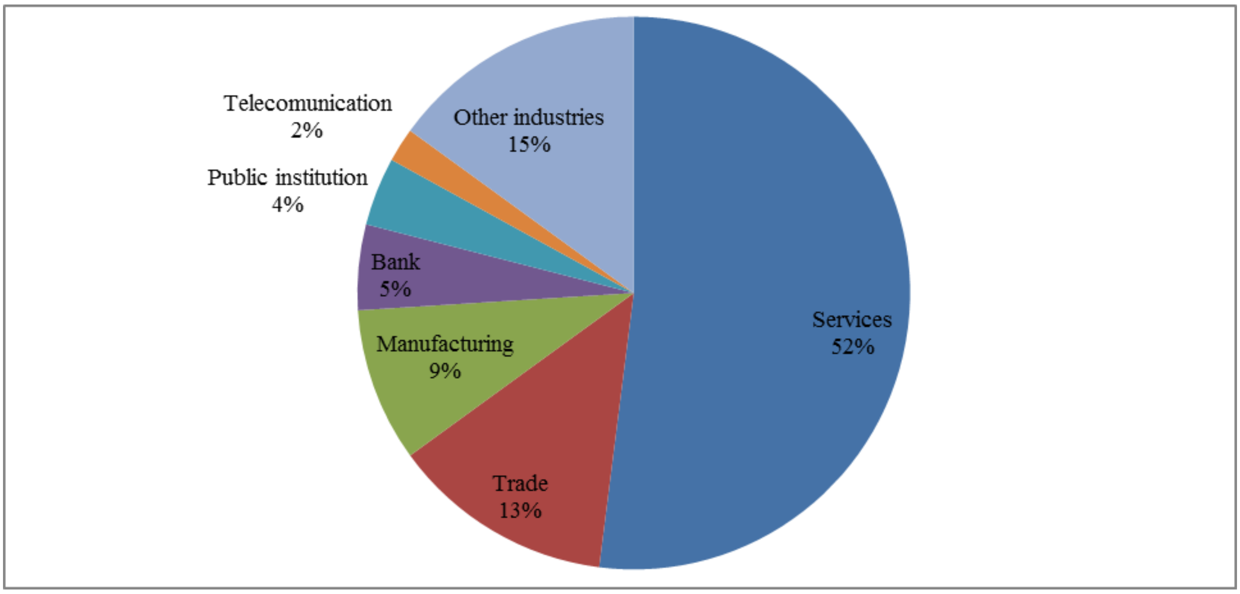

Figure 1. Proportion of industry covered by the study
Source: created by the authors

According to the study conducted in Romania only large companies present in addition to the annual financial statements other reports that provide users with additional information on social responsibility activities, the environment information, information on corporate governance (Figure 2), thus showing that they have a well-defined organizational culture, which can become a competitive advantage designed to support company objectives and strategy, as well to prevent and detect fraudulent activity.

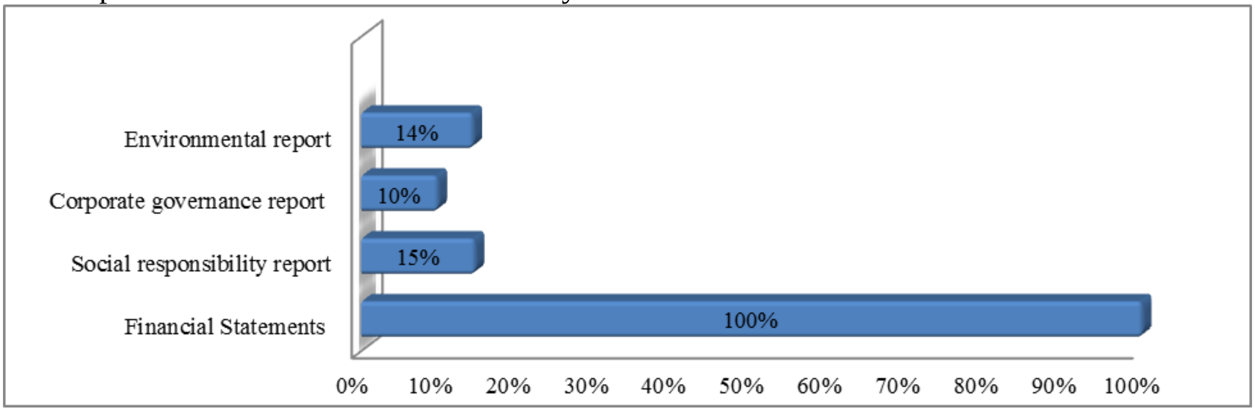

Figure 2. Types of reports by category of companies
Source: created by the authors

As for the perception in the business environment with regard to the research subject, the opinions are mixed (Figure 3). The most important reason regarding the managers implications in creative accounting practices is the reduction of the tax burden by obtaining tax advantages and paying lower income tax and other taxes to the state budget (4.10). The market studies conducted in recent years show that our country is between countries with very high taxation, leading to a significant increase in company costs and consequently to a decrease in annual profit, but also to a considerable reduction in net cash position. A significant percentage of 46%-47% of respondents considered that creative accounting is used for obtaining fiscal gain advantages and for reducing the income tax (very important), and 26-28% of respondents considered important (Figure 4).

We have observed that management remuneration (3.8) and job retention (3.66) are other important reasons to use creative accounting techniques due to salaries payments and social contributions considering the limited cash position of the companies in actual economy, but also keeping motivating factor among all employees in their day by day activity, maintaining also satisfactory and increased efficiency ratio. More than 30% of respondents considered that the creative accounting practices are mainly used for the management remuneration purposes, (very important) and also 31% of the professionals considered as being important. Also creative accounting tools are considered useful for management job retention by 59% respondents.

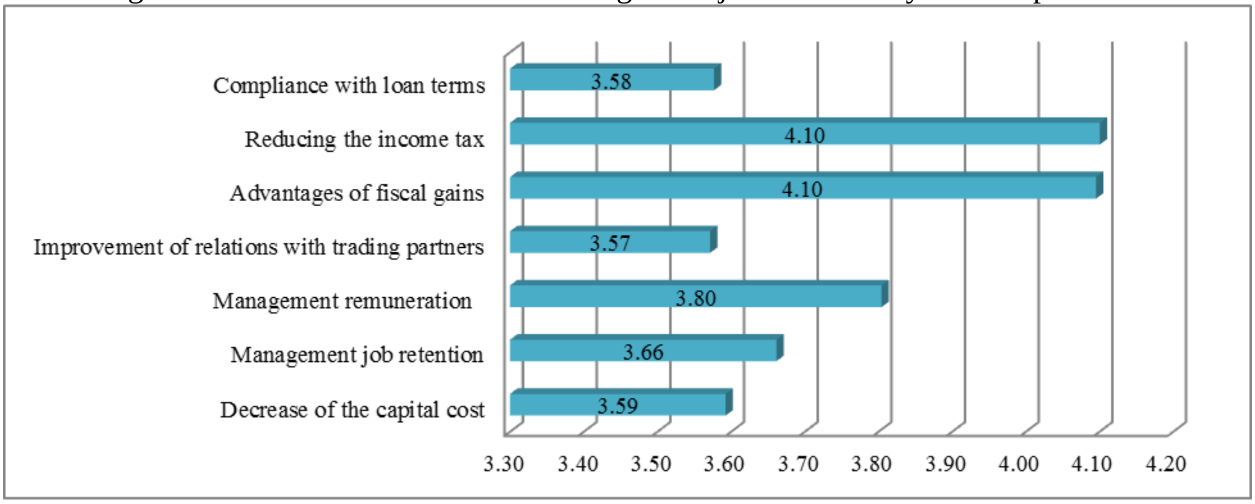

Figure 3. The weighted average of why managers reasons to use creative accounting practices
Source: created by the authors

Due to the decrease of cash positions, the companies are obliged to attracting new financing funds, most often achieved through foreign loans, interest free, therefore the two reasons together with the creative accounting techniques used by managers can reduce the cost of capital (3.59) and compliance with loan terms (3.58). About 52% of respondents considered that the decrease of capital cost or compliance with loan contractual terms can be achieved by creative accounting tools (very important and important).

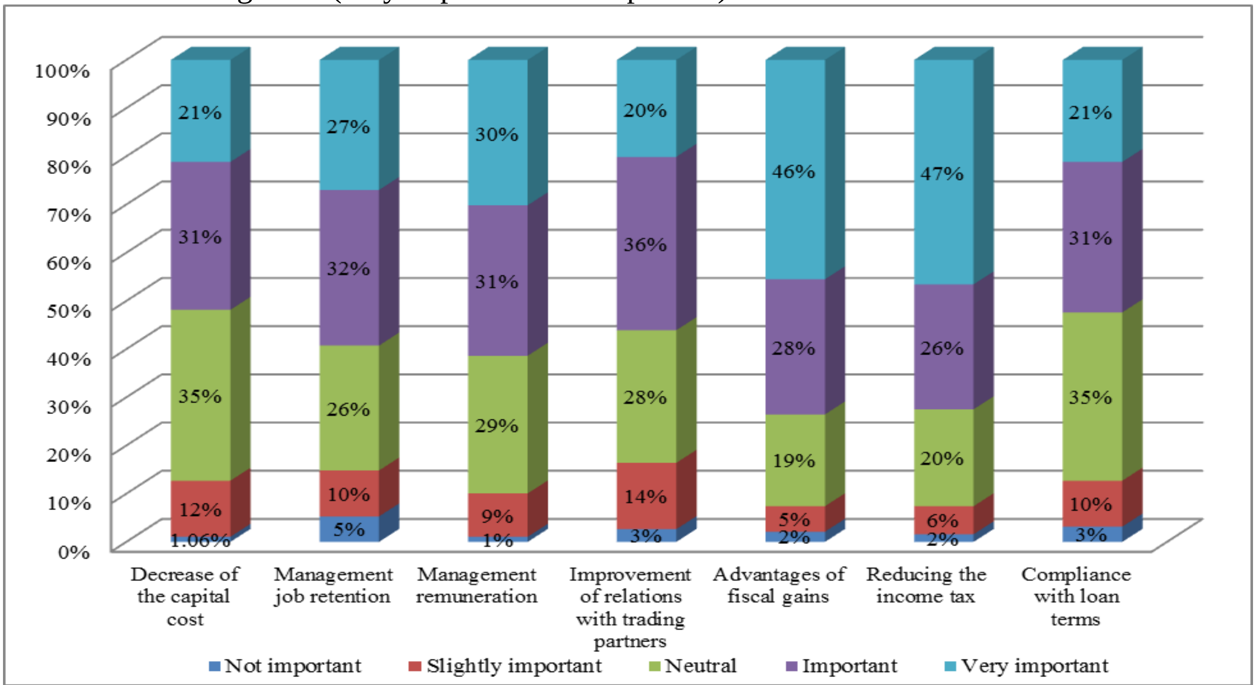

Figure 4: Reasons for managers resort to creative accounting practices
Source: created by the authors

Improving relations with trading partners (3.57) had the lowest impact among respondents on the application of the creative accounting tools by managers, as the trading partners, most often does not have access to the information presented in the financial statements and other reports.

Results indicate a positive relationship between social responsibility and long-term gains focus, between the unethical perception of earnings management and short-term gains focus. The regulators are concern about the management ethical behavior due to their incomes calculated based on performance. Earnings management behavior, an unorthodox method to obtain personal gains, became a major concern of regulators and other accounting profession.

Usually creative accounting, aggressive accounting or fraud occurs mostly when the company is experiencing financial difficulties, and even if creative accounting involves processes that are not considered illegal, but certainly does not comply with ethics standards.

5. CONCLUSIONS

Creative accounting consequences under the influence of managers, both due to ethical or unorthodox reasons, will exist as long as accounting practice will exist. Over the time we have observed that manipulation and fraud does not depend on nationality, on geographic areas, or education, culture, but on people and their subjective intention. The creative accounting can have positive effects in economic environment, as designed by regulators, but also negative impact over the economy and social environment with negative repercussions over the time.

There is also a positive effect of the creative accounting practice not just economic instability, such as contribution to the development of the accounting standards, auditing or regulation of taxes, business environment legislation in general. In addition, the existence of effective corporate governance system with good supervision, effective controls, and a set of best practice guidelines can reduce the negative impact of the creative accounting techniques or fraudulent activity.

The role of the management in the manipulation of accounting information is crucial, as the management of the company is deciding the company strategy, together with the adherence to ethics or not. The management strategy and decision has transactions and events consequences in the company business cycles and all are transposed in in accounting information as results of the accounting practice. All professionals involved in management activity should be honest and should act with integrity, apply the spirit of the law, should develop the business and attract new investment and also should be responsible to all the user of the financial information. In return for their efforts managers and executives should receive relevant simulative incentives for their work and ethic compartment.

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CONSUMER MOTIVATION AND PURCHASE INTENTION FOR LUXURY GOODS THEORETICAL APPROACHES AND PERSPECTIVES

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Abstract: *In scientific literature and marketing practice it is found that income is not the determining factor in the purchasing decisions of products, with other factors less precise and predictable that trigger consumers' actions. Specialty literature makes reference to consumers with a modest social status, the same consumers which engage in consumption of products that are superior to their status. Among the intricate factors which trigger mechanisms that influence consumer decisions are present psychological, social and cultural factors. Be it the case of consumer motivation to project a certain image within the social environment of his belonging, or of motivation of imitation (bandwagon) and conformism, of motivation to exclusivity and even hedonistic motivations of such nature that can not only be explained through economic interpretations. In the current article, we intended to review not only marketing literature but also literature from various scientific fields that facilitate insights on the subject of ostentatious consumption. Starting from the theoretical approach of ostentatious consumption, we aim to achieve an empirical, qualitative and quantitative research, in order to help identify the factors influencing the Romanian consumer propensity to buy luxury brands that are not specific to their social status.*

Keywords: luxury, marketing, luxury brands, purchase motivations

1. INTRODUCTION

Economists and sociologist Thorsten Veblen addressed in his book „The Theory of the Leisure Class" , published in 1899, the subject of „conspicuous consumption" through which he described the behaviour of newly enriched social classes, which he referred to as the ‚new rich'. Their behaviour was the expression of a newly emerged social class as a result of capital shifts following the second wave of industrial revolution. Given the circumstances, the term encompassed newly enriched families or individuals who benefited of their acquired material status and who denoted an arrogant public attitude through which their power of acquisition, influences and high social status was expressed. Nevertheless, the present century is characterised by a higher degree of ostentatious consumption, even more accentuated than at the time it was defined by Veblen. Dissipation is commenced as a daily routine on all levels of social classes. As Veblen argued when he enumerated and explained the different levels of luxury dimensions, the perception of social value is, in many cases, a primordial need. This fact leads to the usage, purchase and dissipation of some products and goods on a larger scale, completely unnecessary, on account of imposing a certain social status.

The aforementioned Thorsten Veblen is considered the author and the first to use the term of ostentatious consumption. In his view, the term ostentatious consumption, also known as discretionary consumption, represents the individuals who endorse money spending activities and acquisition of luxurious products on the side of being publicly recognized and affiliated to a wealthy social class.

From a sociological perspective, the ostentatious consumer who discretionary displays in public amounts of money, denotes the appurtenance to a particular social position. Another term which describes a similar but narrower phenomenon of spending activities is the envious consumption and it represents a deliberately ostentatious consumption of goods and services which is practiced with the intention to astound other individuals by instilling sentiments of envy. Having this in mind, the concept is regarded as a method through which consumers try to emphasize their superior socio-economic status. Consumer behaviour is most often imposed by the need of achieving a certain level of social prestige rather than being driven by the individual basic personal needs, as it would ideally be thought of. It is well known that in some situations the consumer is more inclined to buy products which have higher prices as long as other individuals from the social environment are aware of this fact. (Teodoru, 2011, p. 536). In conclusion, four important criteria must be met in order to be able to sustain a costly signing framework of ostentatiously consumed goods (Bliege et al, 2005). The first, refers to the fact that the product must be easily observable. The second, refers to the fact that the it must be difficult to be copied. Third of all, it must relate to a certain unobservable individual quality, such as genes, physical condition, health and so on. The last criteria must meet the condition of being able to offer some personal benefits (Rob M.A., Nielssen, Marijn H.C., Meijers, 2010, p.346).

2. "OSTENTATIOUS LUXURY"

Even if the emergence of a luxury social class did not occur at the same time with the social innovation of individual property, the occurrence can be seen as an effect of the creation of the individual property institution. Contextually using the term "luxury" does not necessarily accounts for carelessness, nor passivity, but can also suggest leisure time or spending time unproductively.

Veblen argues that the cause of this condition develops for two reasons: either from a feeling of hopeless to productive work, either as a proof for a good financial condition through which individuals afford to carry on an "idle" life (Thorsten Veblen, 1958, p. 17).

Practically, ostentatious luxury, also refers to the capability of a person to be idle and to do nothing while he has an outstanding financial condition whereby to afford a luxury consumption in all its forms. We can observe that many of these situations fold on descendants coming from high social classes who live without any material shortage or worries from the achievements carried out by their forefathers and in some cases even wasting or conspicuously consume luxuries without engaging in productive activities or contributing with anything in return.

Consumer behaviour varies depending from which social class the individual comes from. It may seem that individuals who engage in ostentatious consumption derive from a higher social class but this may not always be the case, on the contrary, it can be proven otherwise. Having in mind the elements that make up the social structure, Mircea Teodoru concurs that it is composed of " relatively homogenous and permanent divisions, hierarchically arranged, whose members share similar values, interests and behaviours. Therefore, this is considered the defining element which distinguishes the social class from other factors of influence and it revolves around the conferred position of the individual within the social hierarchy ladder, thus, being vertically differentiated, we conclude that the framework for social classes presumes highly discriminatory consumer behaviours (Teodoru, 2011, p. 536)."

Being part of a specific social class is mostly influenced by the occupation of an individual and in accordance with current sociological debates, it may even be attributed considering the individuals partner occupation. If we were to thoroughly analyze, we can distinguish the following influencing elements which characterize appurtenance: occupation, income and degree of education. It may seem counterintuitive that the highest and the lowest social class avoid ostentatious consumption even though they might be considered best fitted to engage in such activities. The phenomenon is widely spread within upper middle classes (adherents of ostentatious consumption; it comprises of people settled in upper managerial, administrative and professional positions; not benefiting of an outstanding wealth) in an attempt to surpass their current rank on the social ladder. Craving for and lacking wealth determines them to mask their deficiency through ostentatious consumption, a tipping point for people who drive luxurious cars, acquired through bank loans and credit, living in rented apartments to the extent of extreme limitations. For them, having their wealth being displayed is more gratifying than their actual condition and this creates the basis for ostentatious consumption, waste and investment in goods which are not truly needed.

Even though the model for the degree of involvement is useful for distinguishing prestige products from standard products, it can't be utilized as a differentiating factor for brands which offer similar prestigious products. This being said, it has been agreed that there are three different brand types which can be classified as follows: *upmarket brands*, *premium brands* and *luxury brands*, depending on their acquired prestige within market activities. Vigneron and Johnson graphically illustrate this classification as seen bellow.

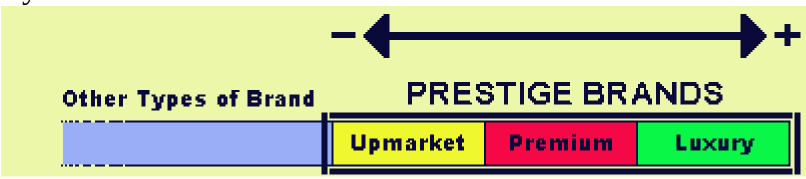

Figure 1: Prestige Brands

Source: *Vigneron and Johnson, 1999 / A Review and a Conceptual Framework of Prestige, p.2*

2.1. Veblenian Effect

In the early 1980s, several researchers conducted studies based on Bourne's (1957) original activity who concentrated his studies on the influence of reference groups on the subject of prestigious brand consumption. It has been concluded that the ostentation of a product is strongly bonded with the influence of reference groups. For example, Bearden and Etzel (1982) found that the consumption of luxury products had a propensity for more visible products than in the case of privately consumed products.

In his first published book, Thorsten Veblen (1899) suggested that ostentatious consumption has been embraced by individuals in order to point out their status, wealth and importance in society. Veblen effect is based on the theory of leisure class and ostentatious consumption and it describes the differences between the functional utility of a good and the utility attached to the price of that good. The utility attached to the price of a good can be seen as a measure of the satisfaction surplus of a given consumer who affords to acquire costly products. According to Veblen, as the price of a product is more striking, the impact on the buyers perception will be greater, implicitly offering a greater satisfaction when he is acquiring it.

Several authors have demonstrated that the price of products can have a decisive role in the perception of the quality of products. The studies have shown that most of the people use prices as reference and decisive factor in determination of the quality of products, inclusively in choosing a certain brand. Thus, we can strongly affirm that, within the perception of the consumer, the prestige of a brand can be determined by the associated price of the products. The ostentation construction dominated the most part of specialty literature in which the notion of prestige has been analyzed. Nevertheless, it is important to know that the notion of ostentation partially describes the perceived values of prestigious products. This is explained by the fact that the majority of these products are being consumed in private, e.g. good quality champagne.

1st Conclusion: Consumers, adepts of Veblen's theory, have raised price awareness because the price factor is considered a sign of prestige given their main objective to impress other people.

2.2. Literature Review Regarding Snob Effect

This effect is known as being opposite to the band wagon effect. The approach enunciates the individual desire to stand out from the crowd. Consequently, the individual product demands are directly reduced when the overall demand is raised.

According to field studies, the snob effect surfaces in two situations: when a prestigious product is released (the snob will be the first to procure such product in order to be part of the limited number of individuals who managed to obtain it at that moment). Another exemplary situation in which the snob stands out is when he rejects and criticizes a product which is already owned by the majority of the population (Mason 1981, 128).

Groth and McDaniel (1993, 11) advocate the hypothesis according to which an exclusive and unique perception of a brand is related to the cost of its products. They state that "the exclusivity of a brand consists in its market positioning such that provides the possibility to propose a higher price compared to similar products on the market". Their study suggests implementation of a strategy focused on the prices of prestigious products in order to sustain commercialization of luxurious and high quality goods.

2nd Conclusion: Snob type consumers perceive price as a sign of exclusivity and uniqueness and they avoid using popular brand products from the desire to self-experience and stand out of the majority.

2.3 Band Wagon Effect

The band wagon effect can be considered as the antecedent of the snob effect. Even though individuals governed by snob values buy products for apparently opposed reasons, the main reason remains the same. Regardless of differences or affiliation to group, their main objective is to consolidate social status.

The desire of individuals to own luxury brand products can be considered an important advantage in specific groups. Band wagon effect can influence an individual to comply with prestigious groups and to distinguish non-prestigious groups from those that really matter in their own perception.

From a market perspective, band wagon effect is present whenever the change of demand of goods occurs due to the fact that a certain product is bought by the majority of the community. Personal demand is driven by consumer anticipation and it's highly influenced by the dimension of the overall market demand. As a result, individual demand is being raised along the overall demand but in a much higher degree.

The latest research demonstrate people had the tendency, right from antiquity, to comply to the general direction of the groups among which they were included (Festinger, 1954). As an example of practices, people can dress up with a certain outfit during the week in conformity with their work group while in the weekend they can dress up in total contrast in order to satisfy their neighbors, friends or family. It is also known that the band wagon effect is deeply influenced by mass media and mostly by what popular television channels promote. As a plain example from current times, some people embrace the hair colour trend promoted by different personalities which dye their hair with unconventional colours such as green or blue.

On the other hand, in the case of luxurious products which offer a certain degree of prestige to the consumer, there are a series of intricate factors that must be taken in consideration. Some of the individuals have the tendency to buy products from the mere fact of associating them to personalities who use or wear those specific products. This is also the main reason why some brands and companies choose to promote themselves through association with different celebrities.

3rd Conclusion: In comparison with snob type consumers, the band wagon adepts offer a smaller importance to the price factor as a prestige value. Even if this is the case, when they acquire prestigious products, most of the individuals focus on the effect that acquisition has over other members of their entourage.

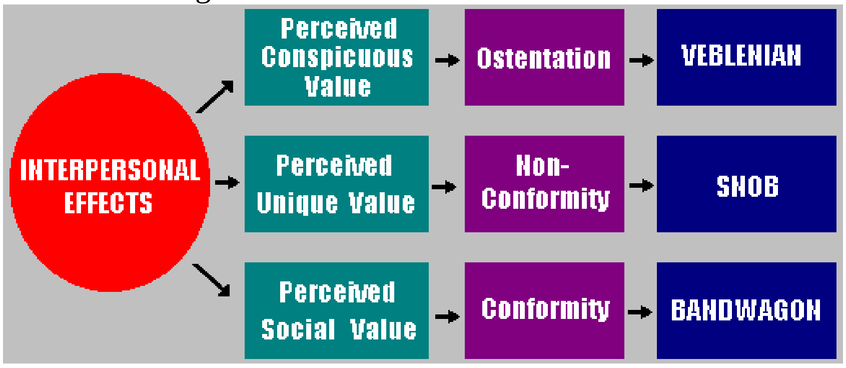

Figure 2: Interpersonal Effects

Source: *Vigneron and Johnson,1999 / A Review and a Conceptual Framework of Prestige, p.9*

3. MOTIVATION AND NEEDS. MASLOW'S PYRAMID AND OSTENTATIOUS CONSUMPTION.

In order to better understand the notion of ostentatious consumption, the author will focus on the well-known Maslow's pyramid, an illustration that tries to explain needs and motivations, two essential attributes of humans, through which they can be defined and differentiated.

As you might already know from Maslow's pyramid, there are a series of needs that must be orderly met in favour to reach a certain level of wellbeing. Generally speaking, consumer's main needs are comprised of physiological needs, the same needs without which human species could not exist: water, air, food, sleep, hygiene and sex. Maslow frames these needs at the base of his pyramid and considers them indispensable.

The second type of needs, illustrated by Maslow are defined as secondary needs and are also known as superior needs. The first classification of this category refers to social needs such as appurtenance, acceptance, love, family and friends. In continuation to the before mentioned needs, people pursue social status, self-respect, recognition and power. The peak of the pyramid is constituted by self-realization, an upper need that requires a certain creativity potential.

The manifestation of needs as impulse for activities within the society can be considered as economic interests. The economic interests represent acknowledged needs that manifest in the sense of acquiring goods. The author deliberately chose to mention and explain Maslow's pyramid in the context of ostentatious consumption, precisely because the order of the pyramid's classification can be differently interpreted. Specifically, for the conspicuous consumer, social needs and esteem are of most importance and are considered primary needs.

Through acquisition of luxury goods, which are not absolutely necessary, consumers develop features of comfort on a subconscious level, thus becoming a routine. In other terms, we can argue that the notion of normality subjectively differs in the perception of the ostentatious consumers, whereas their financial situations varies and their standard of living cannot be subject of comparison.

4. SEMIOTICS THEORY AND HANDICAP PRINCIPLE

The idea according to which the social status of a person consists of luxurious display can be explained through the theory of signs, first introduced by Miller. This theory has been successfully applied as a costly signal not only for the animal behaviour but also for the consumer behaviour. Miller envisions that the ostentatious consumption can function as a signal for ideal individual qualities. Costly signals such as energy, risk, time or money guarantee reliability. This expression also holds the name of 'handicap principle'(Rob M.A. Nelissen, Marijn H.C. Meijers, 2010, p. 345).

The handicap principle theory has been proposed by ethologist Amo Zahavi. According to Zahavi, some phenotypic features of animals might seem, at first glance, disadvantageous for the survival of individuals, thus they are considered "handicaps".

Ethologist Dorian Furtună publishes the book „Hommo Agressivus", in which he tries to expand this theory by analysing and describing specific handicaps. The author exemplifies the bushy tale of a male peacock which is some sort of „handicap", creating difficulties with the birds locomotion; the massive horns of male deer are also a sort of „handicap", because of the costly growth and support, from a resource perspective; in general, any mottled plumage, sonorous voice or display of male behaviours of different species of insects, amphibians, reptiles, birds or mammals makes them susceptible to detection and even vulnerable in the eyes of their predators. How can we, thus explain the occurrence and persistence of these „handicaps" that negatively impact survival, from a perspective of evolution? Shouldn't those individuals who are less theatrical and more precautious be more advantaged? The reality is that these „handicaps" are actually signs of physical excellence. In other words, „handicaps" denote the high quality of genes and individuals' strength; a male condition, that can be interpreted as communicating to the female the following message:"we bare these disadvantageous features because we are the strongest and worthiest and we can afford having them, ultimately, you should pick us".
„Female, indeed prefer males with bushy tales, larger horns, a more coloured plumage, a more sonorous voice and with a daring behaviour because they too instinctually understand that only performant and strong males afford to have such „handicaps". Therefore, even if individuals are more cautious and less theatrical will have, perhaps longer life span, but they will also be disadvantaged in the field of mating activities. On the contrary, those that suffer of these kinds of „handicaps" have been favorized in the mating process. On an evolutionary scale, the natural selection favorized and perpetuated those traits that ensure a reproductive success, even with the cost of life of the individual; the important aspect is that the male has to have access to female partners, before he dies (Dorian Furtuna, 2015)."

Similar, regarding the human behaviour, extravagant persons have more success and are better appreciated by the society. We can name this extravagance as being some sort of a "handicap". Nowadays' society can be characterized by the emergence of diverse "handicaps" designed to draw fame, money and general satisfaction. Drugs, luxury, snobbishness, exclusive cars, fame, plastic surgery, eccentric outfits, exaggerate alcohol consumption and many more can be easily included in the classification of modern day behavioural "handicaps". Even though numerous "handicaps" don't directly reflect individual genetic quality, today's society continues react positively to such different and pompous displays. In general, humans rely on different behavioural strategies in order to improve their social position. Depending on the circumstances, their position can be derived from their academic achievements, sport performances or even from the ability to drink a lot of beer.

Some features, such as a pleasant physical aspect, can be universally associated with a strong and high social status (Langlois et al, 2000). Another feature associated with a strong social status is represented by wealth and general resources of a person. In order to engage in the consumption of luxurious goods, individuals need not only financial resources but a good training and a special set of skills as well.

Often, these conditions create the basis for a “halo effect”, a cognitive bias according to which the perception of a trait (e.g. the dominant characteristic of a person or object) is influenced by the perception of other traits of the same person or object, as defined by Phil Rosenzweig.

This halo effect often occurs in groups of people with high financial status, as they are assigned a specific label by some characteristics, more or less justified. For example, if you drive an expensive car and live in a palace, you can be assigned with the idea that you were an arrogant and carefree billionaire, which is not accurate in most of the cases.

Going back to social status, luxury label can act, in Plourde's vision, as a costly signal that increases status exactly as ostentatious consumption theories (Plourde, 2008).

5. RESEARCH PERSPECTIVES AND CONCLUSIONS

Even though researchers agree that the study of prestigious good is interesting and important, there is no present consensus regarding the best way to define and understand the psychology of consumer behaviour. As a general rule, prestigious products were used as examples for understanding the decision-making process which presumes a high emotional involvement. The hypothesis refers to the fact that prestigious products are rarely purchased and requires a high level of interest and knowledge. This is because these are goods that require high-involvement from the consumer and also the brands that offer such products provide sensory gratification, intellectual stimulation and approval / social recognition.

In order to maintain a costly signaling of a ostentatiously consumed good, the good must be easily observable, hard to replicate, associated with a certain unobservable individual quality such as genes, physical condition, health etc. Also, the costly signaling must facilitate personal benefits. These four criteria, in conjunction with the social recognition needs, as per Maslow’s pyramid, lead to the idea that social and esteem needs take shape of primordial needs for the ostentatious consumer. He focuses his attention on self-esteem, respect by others and the way on which he publicly displays. The upper-middle social class, in an attempt to surpass their current social rank, tries to cover their deficiency and unfulfilled needs through ostentatious consumption.

There is still a present need to quantify and determine the factors that lead to the ‘handicap’ phenomenon. The aim is to clearly define the variables that leads an individual from lower-middle class to acquire certain goods, of which he does not necessarily needs, but which give a sense of self-sufficiency and urge him to be better than others. A sum of factors such as social, economic, emotional and psychological variables must be met simultaneously. Thus, we can provide a useful tool for the Romanian market, a post-communist emerging market, with unique features, of highly interest for local and foreign investment in luxury products and services.

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MODERN ORIENTATIONS OF MARKETING MANAGEMENT BASED ON THE KNOWLEDGE ECONOMY

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Abstract: *Romanian organizations must open their doors to the outside, and for that managers must perceive and interpret all incoming signals to withstand competitive pressure to attract and retain customers, to be competent, to achieve maximum efficiency in their business processes. The purpose of the selective scientific research aims the knowledge of certain issues within the organization, such as: current state of marketing management and customer orientation; specific business marketing management in conditions of business globalization and internationalization of companies; specific customer orientation. Depending on the objectives pursued, the investigation carried out included two successive researches: an exploratory qualitative research and a descriptive quantitative research. The general conclusion about the state of knowledge on marketing management in the context of business globalization and internationalization of companies is that the majority of respondents are aware of the importance of marketing management to support them when they face the daunting penetration option of global markets;*

Keywords: *global markets, client orientation, marketing management, internationalization*

1. INTRODUCTION

We chose this primary objective in the construction of our work to identify the extent to which, at present, both the literature and practice of marketing management is prepared to implement and manage a new type of marketing management. The analysis of the extent to which the concepts that this management subsystem operates with are known, is the starting point of any scientific attempt.

Double focusing the company's efforts on superior products and services – therefore on quality and total services - as a source of consumer satisfaction and as a means of establishing lasting relationships with them, signifies, according to Ph.. Kotler – the essence of specific approach of marketing management. To be successfully used, marketing must be fully integrated into the organizational structures of the third millennium entities. Trends in the development of marketing management process identified and addressed in conjunction with the manner in which they currently operate and depending on marketing environmental factors influencing the organization.

Obtaining competitive advantages is foreshadowed to be increasingly difficult. Former competitive concepts that were once successful, such as product differentiation, technological supremacy or lower costs are no longer sufficient in the current market conditions, to ensure long-term profitable, economically advantageous position of the company. A cause is considered the increase of competitive intensity. This led to the fact that the products offered are becoming more similar and product innovations are imitated increasingly faster, with lower costs.

More and more organizations are in a position to offer products for specific target groups at the required quality and at competitive prices. Thus, taking into account their objective quality, they have become interchangeable to the customer. Because of this it was necessary to seek new sources of differentiation, that would be appreciated by the client and allow the organization to maintain a harder edge to match by the competition, for a longer period of time.

Both specialty literature and practice consider customer satisfaction a central indicator in assessing an organization in providing quality services. Customer satisfaction shows to what extent the offerer's promises and achievements overlap with customer expectations. We can say that an organization that has only satisfied customers is a customer-oriented enterprise.

For these reasons and others, we considered it absolutely necessary to believe customer orientation and its role in marketing management as a major research objective, both documentary and applied to our paper.

2. METODOLOGY OF RESEARCH

Depending on the objectives, the investigation carried out included two successive researches: an exploratory qualitative research and a descriptive quantitative research.
Identifying the problem and purpose is one of the most important phases of a research. The purpose of the selective scientific research is closely related to the problems and issues raised in substantiating the study. Thus, it aims to highlight, describe the characteristics of marketing management and customer orientation at universities, PhD students and researchers, managers and customers of companies in Sibiu county and to determine the extent of the differences in terms of needs, attitudes or opinions between the different categories of respondents, between theory and practice, between what should be done and what is being done.

To operationalise the research the following objectives and hypotheses have been established:

Table 1: *Objectives and hypotheses of the research*

	OBJECTIVES OF THE RESEARCH	HYPOTHESES
Q1	Analysis of the current state of knowledge on marketing management: realities and requirements in the context of business globalization and internationalization of companies	***H_1***- Marketing management is largely influenced by change, business globalization and internationalization of companies ***H_2*** – Most respondents consider that marketing management can adapt to contemporary world's changes
Q2	Determination of the degree in which customer orientation is considered an essential component of marketing management	***H3*** – The majority of respondents believes that customer orientation is crucial to the success of organizations. ***H_4*** – Most respondents believe that the organization successfully applies methods and techniques of customer orientation.

The research was conducted through four questionnaires with a relatively high degree of structuring, distributed directly to the four categories of respondents (academics, PhD students/researchers, managers, clients). These questionnaires are structured relatively the same, with the top five common questions and the last, and the rest covering the same goals, but adapted to the typology of the respondent.

Therefore, dichotomous and multiple choice closed questions and were used, open questions, mixed questions.

To measure the variables under the study (baseline variables, descriptive variables, organizational variables, situational variables) the most suitable type of scaling and the scaling method should be used. As a method of scaling, the Likert scale was used.

The selective scientific research carried out for a confidence level of 95% and a margin of error of 10%, the sample will be of:

$$n = \frac{1,96 \times 0,5 \times (1 - 0,5)}{0,1^2} = 96$$

Therefore, the minimum number of duly completed questionnaires, which should be collected and processed, is 96. Maintaining the confidence level of 95%, and given that a number of 200 questionnaires was collected and validated, we determined the maximum margin of error ( ):

$$\Delta_{\omega \max} = t\sqrt{\frac{p \times (1-p)}{n}} = 1,96\sqrt{\frac{0,50(1-0,50)}{110}} = 9,4\%$$

From the category of organizational restrictions that have arisen in determining the sample size, we mention: the financial availability of the researcher (actually, it was the most important, all expenses being borne by the researcher), the time given to the research, the lack of reliable operators etc.

We believe that the most important limitation of the research carried out is due to the sample size (200 respondents) and fairly high margin of error (10%) for a confidence level of 95.

3. RESULTS OF THE RESEARCH

In order to operationalise the research a series of questions were formulated common to all categories of respondents, in order to achieve a series of comparative studies in the research. These comparative studies have allowed us to get extra information and motivation regarding the interdependence of the various aspects of marketing management and the training and the background of respondents.

The first question addressed to all categories of respondents concerns the fundamental concepts with impact on marketing management: change, business globalization and internationalization of companies. The data obtained in question v1 are shown in table 2 and graphically described in figure 1:

Table 2*: State of knowledge of marketing management in the context of change, business globalization and internationalization of companies*

State of knowledge of marketing management in the context of change, business globalization and internationalization of companies				
		Frequency	Percentage	Valid percentage
Valid	200			
	Unimportant	8	4	4
	Less important	16	8	8
	Neutral	33	16,5	16,5
	Important	41	20,5	20,5
	Very important	102	51	51
Total		200	100	100
Mean	**4.06**			

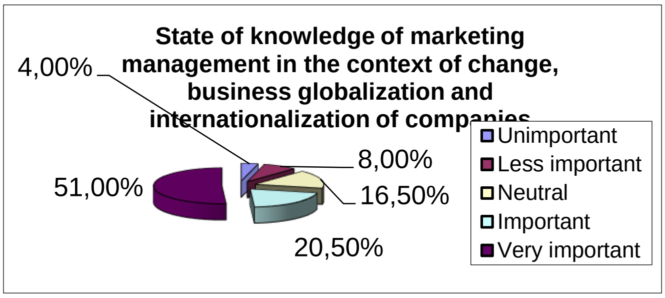

Figure 1: State of knowledge of marketing management in the context of change, business globalization and internationalization of companies

Processing responses leads us to conclude that most respondents (51%) attached great importance to the concepts of change, business globalization and internationalization of companies and to the impact that these concepts have in marketing management. This result leads us to note the awareness of the respondents of the need to know and operationalise these concepts in organizations' management, and especially in marketing management. A neutral opinion on these concepts have 16,5% of respondents, 8% of respondents gave little importance, while only 2 respondents representing 4% consider the concepts of change, business globalization and internationalization of companies in the current economic context unimportant.

The average of responses (5- very important, 4- important, 3- neutral, 2- little important, 1- unimportant) is of 4,06 and are within the "important" area, so that the hypothesis launched before the research (H1- Marketing management is largely influenced by change, business globalization and internationalization of companies) is confirmed.

The formulated question was mixed and therefore measures to adapt the marketing management to the listed changes were formulated. Among those listed by respondents include: the identification of new markets and consumer segments, better training for managers in marketing management, finding new sources of competitive advantage in international markets, reconfiguring and rethinking organizational objectives, thorough research of global environmental conditions, increasing structural and dimensional flexibility.

In conclusion, given that 84% of respondents listed at least one solution to adapt the marketing management to business globalization and internationalization of companies, we can say that our hypothesis (H2 - Most respondents find that marketing management can adapt to contemporary world's changes) is confirmed.

For details, v1 question pairing with the category of respondents was carried out (State of knowledge of marketing management in the context of change, business globalization and internationalization of companies/category of respondent), the information obtained being presented in table 3 and graphically described in figure 2.

***Table 3**: State of knowledge of marketing management in the context of change, business globalization and internationalization of companies*
Depending on the category of respondents

State of knowledge of marketing management in the context of change, business globalization and internationalization of companies depending on the category of respondents					
	Category of respondents				**Total**
	Academics	**PhD students/researchers**	**Managers**	**Clients**	
Unimportant	-	-	2	6	8
%	-	-	4%	12%	4%
Less important	1	1	4	10	16
%	2%	2%	8%	20%	8%
Neutral	4	7	9	13	33
%	8%	14%	18%	26%	16,5%
Important	18	16	4	3	41
%	36%	32%	8%	6%	20,5%
Very important	27	26	31	18	102
%	54%	52%	62%	36%	51%
Total	50	50	50	50	200
%	100%	100%	100%	100%	100%

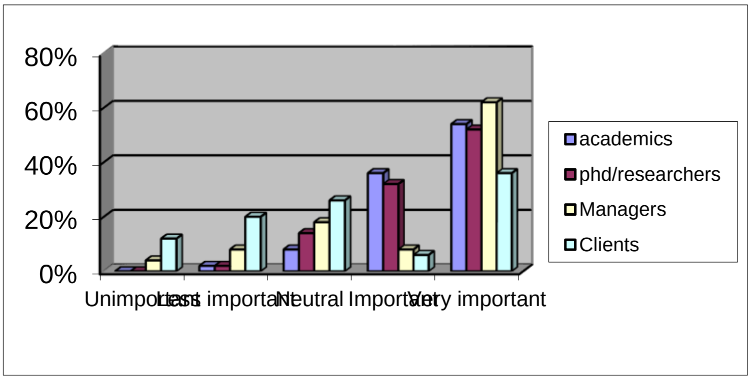

Figure 2. State of knowledge of marketing management in the context of change, business globalization and internationalization of companies depending on the category of respondents

It thus appears from the information provided that the two categories engaged in practical activity, namely managers (4%) and customers (12%) are those with answers which consider unimportant the concepts of change, business globalization and internationalization of companies, especially in marketing management. Customers are the ones who feel in the greatest proportion (20%) of these concepts as being less important, while a neutral view is found in all categories of respondents, the highest percentage is thus again found at the customers.

Academics and PhD students considered in significant percentages (36% and 32% respectively) these concepts as important, and they also consider them as very important in a proportion of 54% and 52%. What is noteworthy, however, is the highest percentage of the category that considers as very important these concepts is that of managers and the lowest percentage, of customers. This shows the diametrically opposed views of the two categories directly involved in practical activity.

In order to achieve the second objective the v2 question was formulated, seeking to determine whether customer orientation is considered an essential component of marketing management. The information obtained after processing the data are shown in table 4 and graphically described in figure 3.

Table 4: *The degree to which customer orientation is considered an essential component of marketing management*

The degree to which customer orientation is considered an essential component of marketing management				
		Frequency	Percentage	Valid percentage
Valid	200			
	Unimportant	3	1,5	1,5
	Less important	7	3,5	3,5
	Neutral	12	6	6
	Important	47	23,5	23,5
	Very important	131	65,5	65,5
Total		200	100	100
Media	**4.48**			

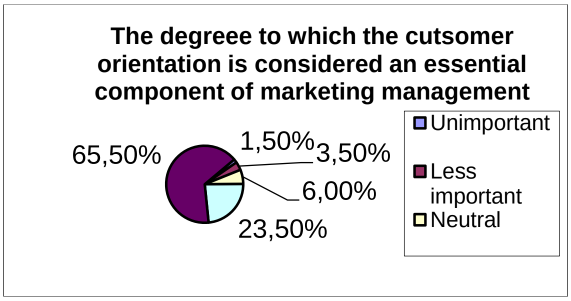

Figure 3. Degree to which customer orientation is considered an essential component of marketing management

From the above information we could conclude that most respondents (65,5%) believe that customer orientation is a strong component in marketing management while 23,50% consider it important. 6% of respondents show a neutral opinion while 3,5% consider it less important. Only 3 respondents (1,5%) consider this concept as totally unimportant. The score of responses is 4,48 (on the scale 5- very important, 4- important, 3- neutral, 2- least, 1- unimportant) and in conclusion, the hypothesis (H3- The majority of respondents believes that customer orientation is crucial to the success of organizations) is confirmed, which leads us to conclude that the majority of respondents are aware that the organization's activities should be conditional on the customer's requirements.

From the answers given by respondents to our request to advance solutions for the marketing management to get closer to customers, the most significant are: the intensification of marketing research, the formation of interdisciplinary teams to analyze the needs and demands of customers, using previous experience for assortment diversification, transfer of knowledge and know-how, networking and outsourcing of certain services, use of experts, external benchmarking.

From the replies we could not identify specific methods and techniques of customer orientation listed by the respondents, and thus we can say that H4 (H4 - Most respondents believe that the organization successfully applies methods and techniques of customer orientation) is invalidated.

4.FINAL CONCLUSION

Our scientific approach, along with its special place that it holds within the modern organizations in the frame of business globalization and companies internationalization, can be considered as of a certain complexity and difficulty that must be evaluated, handled and approaches with a certain amount of attention.

The research has shown that the most important measure that organizations are considering in order to improve marketing management and make the organization's management efficient is to increase the place and role of marketing management in the overall management of the organization.

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THE IMPACT OF INNOVATION ON SECTORIAL ECONOMIC PERFORMANCE AT INTERNATIONAL LEVEL

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Abstract: *This paper aims to determine the impact of R&D expenditure and innovation activity on economic performance of companies.*
To achieve the goal were analyzed empirical studies in various sectors, which have shown a positive and significant correlation between R&D expenditures and economic performance, on the one hand, and innovation activity (excluding R&D expenditures) and economic performance, on the other hand.
The work is complemented by an empirical analysis on the cross-correlation between the three variables (R&D expenditures, innovation activity and economic performance). For the analysis were composed series of panel data, which reflects the work of private companies at the industry level in 21 European countries. Empirical analyses results shows a positive correlation between the innovation activity, measured by innovation turnover, and economic performance, measured by total turnover. The influence of the independent variable on the independent variable is approximately 20%. Regarding the cross-correlation between R & D expenditures and innovation activity, the analysis showed a significant dependence between the second variable and the first.

Keywords: innovation, performance, R&D expenditures

JEL (Journal of Economic Literature) Classification: -

1. INTRODUCTION

The importance of innovation was highlighted in recent years both by globalization and the advent of new technologies, creating new forms of competition and opening up new markets for production and sale of innovative products and services. This situation had consequences over the activities of companies from different sectors of activity, who were forced enter into the process of restructuring and development to meet new challenges.

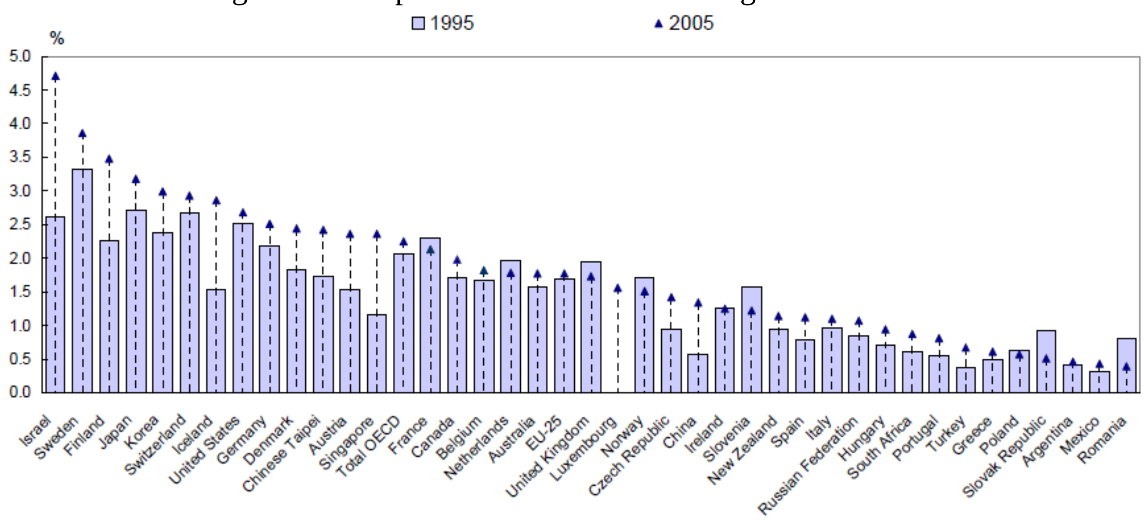

Figure 1: The variation of the research and development spending 1995-2005
sorce: *OEDC. Innovation and Growth: Rational for an innovation strategy*

Thus, there has been an increase with research and development expenditure in 2005 compared to 1995, according to **Figure 1**.

The policy undertaken worldwide in order to increase innovation activity determined the increase the number of patent applications, the highest intensity of stimulation to research and development was recorded in developed countries (Anghel, I.E., Iancu, V., 2009).

In developed economies, innovation is an important issue in increasing the competitiveness of firms and countries they belong. Thus, for the insurence of economic growth, companies need radical innovations (Knošková, L., 2015).

The important role assigned to innovation in increasing performance of companies in various activity sectors is a subject much discussed in the past and continues to present interest even today.

This paper aims to provide an overview on the impact of innovation activity on the performance of companies in different sectors, and it is structured in two parts.

The first part presents the results of empirical studies concerning cross-correlation between research and development activity and economic performance, on the one hand, and the cross-correlation between innovation activity and economic performance, on the other hand. Empirical studies which have been analyzed present the situation in different countries and different activity sectors.

The second part presents an empirical analysis structured just like the first part. The analysis aims to determine the intercorrelation between the innovation activity and the economic performance in the industry privat sector.

2. THE INNOVATION ACTIVITY AT INTERNATIONAL LEVEL

2.1. The impact of research and development spending on economic performance

The evolution of innovation is closely linked to the evolution of research and development (Bilbao-Osorio, B., Rodríguez-Pose, A., 2012In this context, the link between research and development and innovation, countries such as Finland, Ireland, Portugal and Spain, have increased their research and development expenditure in the period 1995-2000. The annual average of GDP of these types of expenditure has recorded values of 13.02, 10.92, 10.01, respectively 6.32 percentage points (Bilbao-Osorio, B., Rodríguez-Pose, A., 2012).

The possible link between research-development activity and innovation, with impact on the performance of companies, has been intensively analyzed in recent years. Thus, Huňady, J., Orviská, M. (2014) showed that research-development activity has a negative impact on company performance in the short term, but recording a positive long term impact.

Kwon, HU, Inui, T. (2003) in a study comprising 3,000 companies in Japan highlights the positive impact of research-development activity on performance for large companies, within which unfold continous research and development activities.

Analyzing the ability of research and development to determine the increase of performance of companies from Canada, Katharine Wakelin (2001) shows a positive but sensitive correlation between the two. Thus, some factors specific to different sectors of activity, such as the degree of occurrence of technological opportunities, may affect the correlation between research-development spending and corporate performance.

The expenditure for research and development per employee and the capacity to absorb new technologies from different vendors have a positive impact on innovation performance and thus on companies performance in the industry (Bogliacino, F., Pianta, M., 2013).

In a comparison study conducted by Zvi Griliches and Jacques Mairesse (1991) on the industrial sector in Japan and the United States, Edwin Mansfield present its own results regarding the impact of research and development expenditure in the two economies. Thus he shows that applying a higher level of research and development costs in United States and Japan recorded a higher rate of return, because of their high absorption rate of occidental technology, which they take and improve with significant lower costs.

Marios Zachariadis (2004) analyzed cross-correlation between research and development expenditure and the level of performance, using panel data recorded in the period from 1974 to 1990 in 30 OEDC countries. The analysis showed a positive correlation between research and development spending levels and economic performance for the 30 OEDC countries analyzed.

Emphasizing the need for a large amount of capital to support research and development expenditure in order to improve economic performance, Li Peng (2010) believes government intervention is absolutely necessary in order to stimulate research and development in the private sector. Thus, in an analysis carried on companies in China, using data from the 1987-2007 period, Li Peng (2010) stresses the positive cross-correlation of government incentives for research and development and performance of companies.

The positive influence of the intensity of research-development expenditure (research-development costs per unit of gross regional product) on the rate of innovation and subsequently on the rate of economic growth, is highlighted in an analysis by Wu Yanrui (2010). To achieve the analysis were collected panel data from 31 regions in China in the period 1998-2007.

The contribution of research and development spending to the economic growth is 34.81%, as shown in a analysis performed by Jin Woong Kim (2011) in Korea. The analysis was based on data recorded during the period 1997-2009, both in the private sector and the public sector, in both cases the influence of research and development spending on growth is positive.

Recent analysis of Zhao Yanyun and Zhang Mingqian (2004) in Japan, Korea, Singapore, Malaysia, Thailand, China, Indonesia and the Philippines, Bronwyn H. Hall, Jacques Francesca Lotti and Mairesse (2009) in Italy, Michael Funke and Annekatrin Niebuhr (2000) in West Germany, Andrés Rodríguez-Pose and Crescenzi Riccardo (2008) in Europe, Hulya Ulku (2005) in 17 OEDC countries, strengthened the hypothesis of a positive correlation between research and development expenditure and economic performance.

The capacity of research and development expenditure to positively influence the economic performance level is determined by firm size, the patenting and patenting maintenance (Pelin Demirel and Mariana Mazzucato, 2012). Thus according to a study conducted in the pharmaceutical sector for the period 1950-2008, small businesses can record positive effects of patenting only if those patents are mentained for at least 5 years.

In the case of large companies, innovation record negative effect on the performance of companies in the pharmaceutical sector (Pelin Demirel and Mariana Mazzucato, 2012).

Centralized situation results of the analyses presented above is given in **table 1.**

Table 1: *Cross-correlation between research-development spending and economic performance*

	Correlation	Database selected from:	Economic sector
Research and development expenditures	+/-	Slovenia	all sectors
	+	Japan,	manufacturing industry
	+/-	Canada	manufacturing industry
	+	Germany, Italy, Spain, Norway, Portugal, UK, France, Netherlands	industry
	+	30 OEDC countries	manufacturing industry
	+	China	all sectors
	+	Korea	all sectors
	+	Japan, Korea, Singapore, Malaysia, Thailand, China, Indonesia, Philippines	all sectors
	+	Italy	manufacturing industry
	+	West Germany	all sectors

	+	Europe	all sectors
	+	17 OEDC countries	electric and electronic sector and chemical sector
	-	Chile	manufacturing sector
	+/-	United States	pharmaceutical sector

Source: *own processing based on data obtained from empirical studies*

2.2. The impact of innovation on economic performance

Innovation can be or not the result of research and development process. That is why numerous studies have pursued direct analysis for the impact of innovation on economic performance, taking into account, in addition to research-development expenditure and other accepted indicators of innovation. These include the number of patents, the value of patents, the number of innovations or the summary innovation index (ISI). Summary Innovation Index is based on 29 indicators of innovation and was created to enable further a performance benchmarking of innovation activities of the EU Member States and other innovative nations.

Using innovation indicators such as number of patent applications domestic and ISI, Aija Leiponen (2000) conducted a survey on 209 companies in Finland, operating in manufacturing. The result of the study highlighted the positive impact that innovation can have on level of performance of the companies analyzed. Separating the product innovation from the process innovation it can be seen a negative influence of the process innovation on marginal productivity, while product innovation cause a positive and significant effect on the productivity growth (Leiponen, A., 2000).

In an analysis structured in two stages, for determination of the impact of research-development expenditure on innovation and the subsequent impact of innovation on companies productivity in Chile, Jose Miguel Benavente (2002) reach conclusions different from those of earlier. Thus, both the research-development expenditure by the negative impact it has on innovation intensity, as well as innovation activity is in negative correlation with the productivity of companies.

The positive influence of innovation on the economic performance of companies in the service sector is present in Italy as well (Giulio Cainelli, Rinaldo Evangelista and Maria Savona, 2006).

Elena Cefis and Matteo Ciccarelli (2005) consider that the innovation has a positive impact on the marginal profit of companies, benefits of innovation activities consisting even in the ability of innovative companies to adapt to market changes, an ability which is not present in non-innovative businesses. Another benefit of innovation activity is given by its ability to provide a high level of profitability on the long-term (Elena Cefis and Matteo Ciccarelli, 2005)

The positive intercorrelation between innovation activity and the performance level was underlined by Beñat Bilbao-Osorio and Andrés Rodríguez-Pose (2004) in an analysis conducted at European Union level.

The period of time from the implementation of innovation until the record of an increase in economic performance, varies from one economic sector to another, for manufacturing in Canada, innovation having a positive and significant influence on profitability (Wulong Gu and Jianmin Tang, 2004).

The analysis of Bronwyn H. Hall (2011), on the ability of innovation to improve the performance of companies in the manufacturing, showed a positive and significant correlation between the product innovation and productivity level. On the other hand, the analysis shows that the impact of process innovations on the performance of companies is insignificant.

Centralized situation results of the analyses presented above is given in **table 2.**

Table 2: *Cross-correlation between innovation and economic performance*

	Correlation	Database selected from:	Economic sector
Innovation	+/-	Finland	manufacturing sector
	-	Chile	manufacturing sector
	+	Italy	services sector
	+	United Kingdom	manufacturing sector
	+	European Union	all sectors
	+	Canada	manufacturing sector
	+/-	Argentina, Estonia, Brazil, France, Germany, Ireland, Italy, Mexic, Spain, Sweden și United Kingdom	manufacturing sector

Source: *own processing based on data obtained from empirical studies*

3. EMPIRICAL ANALYSIS

The analysis aims to determine the correlation between expenditure on research - development and innovation activity, and further implications on economic performance in companies from 21 European countries (Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Spain, Italy, Cyprus, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Norway).

Significant influence that innovation can have on the performance of companies in different sectors coupled with the lack of a recent record concerning the cross-correlation between expenditure on research -development, innovation and performance at the level of 21 European countries, are the reasons underlying the analysis.

For the analysis were constructed series of panel data. The data reflect the activity of private companies in industry, which reported innovation activity for the years 2004, 2006, 2008 and 2010.

The data used were taken from the statistical office of the European Union, Eurostat, based on Community surveys on innovation (CIS 2006 CIS 2008 CIS 2010 and CIS 2012), deployed in enterprises in activity sectors such as industry, manufacturing industry, agriculture, electricity, gas and water services.

The multi-annual frequency data used due to the lack of annual, monthly, quarterly or half yearly records for the analyzed indicators.

The analysis is based on the performance indicator for companies: the total turnover generated by the overall activity of companies (CA_T), expenditure on research -development (C_D) and the main outcome indicator of innovation: the turnover of innovation, determinated only by the innovation activity (CA_I).

The empirical analysis was carried out by studying data in panel structure, in two stages:

Step I. Determining of interrelation between research-development expenditure (C_D) and innovation activity (CA_I).

Step II. Determining intercorrelations between innovation activity and the performance of companies (CA_T).

Pentru analizarea intercorelație dintre cei trei indicatori au fost formulate următoarele ipoteze de lucru:

Hypothesis 1. Research-development expenditures positively influence the innovation activity at the industry companies level.

Hypothesis 2. Research-development expenditures have a positive impact on the total turnover of companies.

Hypothesis 3. Innovation activity is in positive intercorrelation with the performance level of companies.

An overview regarding the confirmation of the assumptions made above is provided by the correlation matrix between the independent variables and the dependent variables mentioned above.

The result is shown in **table 3**.

Table 3: *The correlation matrix between the independent variables and the dependent variables*

	CA_T	CA_I	C_D
CA_T			
CA_I	45%		
C_D	18%	17%	

Source: *own processing*

Looking at the correlation matrix of the dependent variables and independent variables is noted that the costs evolution of research and development (CD) has a positive influence on the development of innovation activity indicator (CA_I) and corporate performance level evolution (CA_T). You can also see a significant and positive relationship between turnover generated by the innovation and performance levels.

To determine the extent to which these relationships are statistically valid it was used a panel type analysis.

To analyze the extent to which the three hypotheses are confirmed or not were defined the following equations:

1. In order to analyze the hypotheses 2 and 3

• Explicit equation: CA_T = C(1) + C(2)*CA_I + C(3)*C_D (1)

Initial analyzes were done using both fixed effects and random effects.

• Fixed effects model on countries (cross section):

CA_T = C(1) + C(2)*CA_I + C(3)*C_D + [CX=F] (2)

• Random effects model on countries (cross section):

CA_T = C(1) + C(2)*CA_I + C(3)*C_D + [CX=R] (3)

where, CA_T – the procentual evolution of the total turnover, CA_I – the procentual evolution of the turnover generated by the innovation activity, C_D – evoluția procentuală a cheltuielilor de cercetare-dezvoltare, [CX=F] – fixed effects on countries and [CX=R] – random effect on countries

To determine which of the two models is appropriate for the analysis, was conducted Hausman test, that determined the acceptation of the model with random effects, **table 4**.

Tabel 4: *Analysis of hypotheses 2 and 3*

Dependent Variable: CA_T
Method: Panel EGLS (Cross-section random effects)
Sample (adjusted): 2006 2010
Periods included: 3
Cross-sections included: 21
Total panel (balanced) observations: 63
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.

C	0.006489	0.063020	0.102971	0.9183
CA_I	0.371299	0.108648	3.417460	0.0011
C_D	0.131257	0.147807	0.888028	0.3781
		Effects Specification		
			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			0.461937	1.0000
		Weighted Statistics		
R-squared	0.215403	Mean dependent var		0.093152
Adjusted R-squared	0.189250	S.D. dependent var		0.470591
S.E. of regression	0.423728	Sum squared resid		10.77272
F-statistic	8.236211	Durbin-Watson stat		2.684586
Prob(F-statistic)	0.000691			
		Unweighted Statistics		
R-squared	0.215403	Mean dependent var		0.093152
Sum squared resid	10.77272	Durbin-Watson stat		2.684586

Source: *own processing*

Analyzing the obteined results it is found that the two indicators (innovation turnover and R&D expenditures) may influence the evolution of total turnover of companies with approximately 21.54%. The value of the coeficient of research and development expenditures (C_D) has a high probability of being statistically insignificant.

To determine the extent to which the two coefficients, C (2) and C (3) can take null values was used Wald test. The test result (F statistic = 0.0020) led to the rejection of the null hypothesis, so that both the evolution of innovation turnover and the evolution of research and development expenditure may cause evolution of total turnover of companies in the industry.

This conclusion allows the acceptance of hypotheses 2 and 3.

2. For the analysis of hypothesis 1

• Explicit equation: CA_I = C(1) + C(2)*C_D (4)

Initial analyzes were done using both fixed effects and random effects (random).

• Fixed effects model on counties (cross section):

CA_I = C(1) + C(2)*C_D + [CX=F] (5)

• Random effects model on countries (cross section):

CA_I = C(1) + C(2)*C_D + [CX=R] (6)

To determine which of the two models is appropriate for the analysis, was conducted Hausman test, that determined the acceptation of the model with random effects, **table 5**.

Table 5: *Analysis of hypothesis 1*

Dependent Variable: CA_I
Method: Panel EGLS (Cross-section random effects)
Date: 10/11/15 Time: 12:47
Sample (adjusted): 2006 2010
Periods included: 3
Cross-sections included: 21
Total panel (balanced) observations: 63
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.172849	0.074475	2.320890	0.0237
C_D	0.226211	0.180440	1.253660	0.2147

Effects Specification			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			0.571886	1.0000

Weighted Statistics			
R-squared	0.027649	Mean dependent var	0.196478
Adjusted R-squared	0.011709	S.D. dependent var	0.547589
S.E. of regression	0.544373	Sum squared resid	18.07689
F-statistic	1.734539	Durbin-Watson stat	1.806191
Prob(F-statistic)	0.192759		

Unweighted Statistics			
R-squared	0.027649	Mean dependent var	0.196478
Sum squared resid	18.07689	Durbin-Watson stat	1.806191

Source: *own processing*

Analyzing the obtained results may be observed that the influence of R&D expenditure on the innovation turnover is insignificant (R2=2,76%). The probability that the value of the coefficient C (2) to be 0 is significant (21.47%), which determines the use of Wald test to see if this coefficient may be zero.

The result of Wald test (F-statistic = 0.214) highlights the lack of impact of R&D expenditure on the innovation turnover, which conduct to the rejection of hypothesis 1.

Analysis results associated to hypothesis 1 contradict the analysis conducted for hypotheses 2 and 3. To analyze to what extent the two independent variables (CA_I and C_D) can influence the dependent variable (CA_T) was conduct an individual analysis, which has led to the following conclusions:

- The evolution of innovation turnover generated by the innovation activity can influence with approximative 20% the evolution of total turnover of companies in the industry, the probability that the coeficient of the dependent variable to be zero being 0,0005.
- The evolution of research and development expenditure can not influence the evolution of innovation turnover and neither the evolution of the total turnover of companies.

4. CONCLUSIONS

The study of empirical research highlight the existence of a positive link between R&D expenditures and innovation activities, and the economic performance level of companies from different activity sectors.

The empirical analysis on the intercorrelation between the three variables (R&D expenditures, activity innovation and economic performance) shows different results from those highlighted in the study of empirical research.

Thus, the empirical analysis conducted in the industry show a insignificant dependency between R&D expenditures and innovation activity. Regarding the cross-correlation between the innovation activity, measured by innovation turnover and the economic performance, measured by the total turnover, the result is positive.

Thus, the influence of the independent variable on the dependent variable is approximately 20%.

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SELECTED ASPECTS OF FINANCIAL RISKS FOR LEASING COMPANIES

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Abstract: *Financial leasing is a long term financing technique and an alternative to bank loans or other financing methods. Leasing has the advantage of using an equipment or machinery without paying the entire price, and without using the beneficiary own capitals. Using leasing operations, a company (financial entity or the leasing company) gives the right to use an asset (which it owns) to another company over an amount of money (called leasing rent). Risk is used in common language to mean exposure to the chance of an injury or loss. In finance, the term risk is used in general to the chance of the loss of money. For our paper, we define risk by its distinct sources of uncertainty and the adverse effect over profitability. In order to measure risk we need to know and evaluate not only the uncertainty, but also the potential opposite effect over profitability. In the financing through leasing field exist a lot of risk sources which determine the profitability's reduction. These risk sources must be attentively identified, taken into consideration for the company's strategy elaboration for risks' monitories and control. Regardless the tendencies on the financial market in introducing new services or products, leasing companies must evaluate the risks implied in issuing such assets and their involvement in profitability. Financing costs and, therefore, the return that must be earned on an investment depend on the types of investments, including the riskiness of those investments. So even in financial system, especially in leasing companies, risk must very carefully estimate and secured. The author analyze the leasing efficiency through return on equity, on some Romanian leasing companies, as a case study for Sibiu county.*

Keywords: financial risk, Return on Equity, leasing, financial resources.

JEL (Journal of Economic Literature) Classification: - G23
http://www.aeaweb.org/journal/jel_class_system.html

1. INTRODUCTION

Risk is used in common language to mean exposure to the chance of an injury or loss. In finance, the term risk is used in general to the chance of the loss of money. (Seitz, Ellison, 2005) Risk may also refer to the chance of getting back less than was expected, less than the rate of return on a sure thing such as treasury rate, or less than would have been received from some other risky investments. For our paper, we define risk by its distinct sources of uncertainty and the adverse effect over profitability. In order to measure risk we need to know and evaluate not only the uncertainty, but also the potential opposite effect over profitability.

This paper is focused on an economic analysis of risk in leasing operations in Romania and is based on a study made between 2005 and 2009 on eleven leasing companies. We will dwell on extensively economic efficiency while we analyze the economic activity of leasing and we focus on efficiency over the use of financial resources. Usually, various sources financing is based on obtaining auspicious effects. As stated above, we consider that economic efficiency represents the positive result (enunciated in economic substance) of comparing the economic effects (bigger) of an activity and the efforts used to realize this activity. This view represents the basis for all considerations over the subject of our paper.

As for banks and other financial institutions, in leasing companies credit risk is one of the main source of loses in profitability and is defined by the fact that debtors could not comply the obligations enforced by loan contract. This could determine a total or partial money loss from the amount given to the debtors.

Liquidity risk is a major risk and is defined by lack of liquidity, due to diminishing of liquid assets or the small possibility of obtaining funds at a "*normal*" cost. The extreme lack of liquidity could produce insolvency, so the liquidity risk is major. Still, in some circumstances, this kind of risk is the result of some types of risks.

For instance, substantial lose due to an important client could grow lack of liquidity and create doubts regarding company's activity. And this is enough to generate credit lines closure from banks and other financial institutions that are trying to protect themselves from a probable risk. In both cases this could bring a liquidity crisis and an eventual insolvency.

Interest rate risk is generated by diminishing company's profit by evolution of interest rate on financial market.

Market risk is the risk of apparition of non favourable deviation of the market values established for a portfolio of company's assets that is planned to be sold through transaction on the market.

Exchange risk is the risk generate by selling assets in a foreign currency on the monetary market. If the leasing company could not cover losses issued by all the types of risks enounced above using only available capital, solvency risk could appear.

2. NEWER LEASING SERVICES AND PRODUCTS RISKS

Creation of new leasing products and services is known as a necessity for developing of the market. More, due to the changes in financial system, introduction of new services has become a condition for staying in competition. As a financial institution, leasing companies are trying to be leaders in this field and should initiate new services. But there are companies for which the cost an eventual failure could be too high and not be supported. So there are limits in offering and introduction on the market for new products that are been tested, and had success for users and consumers.

This option in marketing policy depends on many factors, such as proposed objectives, organization scope, size and resources at disposal, and not last, the nature of the new service proposed.

Generally, financial companies could be classified by the degree of new services in proactive or adaptive. (Popa, 2010, Cetină, 2005) The proactive ones initiate major changes on financial market. Market leaders have usually a powerful marketing behaviour and a straight orientation over consumer needs.

An adaptive strategy implies that institution wait to observe the market reaction and then introduce same type of service, with same characteristics or an "*identical*" service, but "*superior*" (with some minor improvements of initial product).

The degree of novelty for financial products could result from:

- Changes in technology (new technology and new products);
- Changes in consumer needs (different types of loans – sell and lease-back);
- Strategy changes for competitors (introduction of new financial services).
- Changes in technology and in consumer needs could be proactive and adaptive.

Small financial companies as leasing companies offer new services on the market behind the competitors, when those having large financial resources assume the risk on introduction on the market services adapted to the level of technology and information development in financial sector.

Major part of new services evolved lately, prove that financial institutions have the tendency to react mostly to the competition, and not to the market. The conclusion drawn could be that in the case of financial companies the advantage of "*first arrived*" not applies.

The measure in which a new financial service could be adapted to the market depends on many factors, mostly linked to the consumer, and partially attributed to the product or service.

Financial institutions must know the reasons for which a segment of consumers is willing to try a new service and another segment prefer to wait, and the causes of not accepting it. The consumer behaviour could be less influenced but the financial companies have control over their financial products and services.

To adapt this process to the consumer needs depends on many factors, such as:

Relative advantage. The product or service should first offer consumer some benefits regarding the superiority over other similar products. The variation of the services in general, and those financial in special, implies changes in offering process, while heterogeneity could have a major impact regarding personalization and competition advantage. Financial institution must identify tolerance level of variability for the new product after launching, in order to satisfy the consumer.

Comparability. This is needed for comparison with the value system of the target consumer. In the case of new services evolved from a necessity, this factor is understood. In the case of development of the services evolved form the improvement of the technical or information system or pasting the competition it is risky not to verify actual needs of the consumers.

Marketing testability. Is very difficult, even impossible, to apply in the case of financial services. Difficulty is grown by delimitation of the provider from the user. And so, when it is launched a new financial service, the company must orient not only on offering process, but also on consumer experience (degree of consumer implication, the level of understanding of the service complexity, changes in consumer behaviour);

Communication. It refers to the measure dimension of promotion for the new service (methods, techniques, programs). It is important to mention that some aspects of communication for financial services are strongly regulated, which induce attention for this important factor in launching a new service.

3. ROE FINANCIAL EFFICIENCY ANALYSIS FOR ROMANIA LEASING COMPANIES

Several ratios between economic and financial effects and efforts are used to express the relative measurement of profitability. One of the most important ROE measures the rate of return on the ownership interest or shareholders' equity, for the common stock owners. It measures a firm's efficiency at generating profits from every unit of shareholders' equity (also known as net assets or assets minus liabilities). ROE shows how well a company uses investment funds to generate earnings growth. Between 15% and 20% ROE is considered desirable. The level of this ratio must be over medium interest rate, in order to invest more capital in leasing companies. When ROE is higher than price for capital (interest ratio) then the company produces more value for the investors.

If ROA is important to firm's management because it emphasizes the performance of investment resources through the total assets of the firm and eventually by invested capital for obtaining those performances, ROE is important to investors.

The economic literature offers many methods for computing the Return on Equity ratio [4], but we will use the following:

$$\text{ROE} = \frac{\text{Net income after tax}}{\text{Shareholder Equity}} \times 100 \qquad (1)$$

ROE is equal to a fiscal year's income divided by total equity, expressed as percentage. As many financial ratios ROE is best used to compare companies in the same industry.

In this paper we analyze the financial efficiency of leasing in a small sample of Romanian leasing companies, non banking companies, whose main activity is leasing. The main objective is to determine the efficiency level of this activity and eventually to offer proposals for increased the efficiency. As the data in Table 1 show, the activity of non banking and financial leasing companies is lucrative, with the Return on Equity ratio between 0,07% and 133.94% through the entire period.

A brief analysis of the ROA in each of the 2005-2009 years yields the following results:

- In 2005, return on equity was between 2,2 – 78,81%, with one exception when return on equity was negative (-184,53%), in the case of ING Lease Romania IFN SA, whose net income of that year was negative. This was due to the fact that ING Lease Romania IFN SA was established in 2005 and thus entered the leasing market late. This negative result influences all the research results, but we want to present the reality of the leasing market in Romania and therefore this company was not excluded from our research.

In conclusion, for the year 2005 Return on Equity ratio was good, the effect generated by net income repays the investment and was over the medium interest rate.

- In 2006, return on equity was between 2,02 – 54,71%, lower than the year before, with again one exception ING Lease Romania IFN SA which had a negative ratio of -221,48%, and whose net income was three times lower then the year before.

In conclusion, for the year 2006, Return on Equity ratio was good, the best for the analyzed period.

- In 2007 return on equity was between 2,25 – 176,89%, the superior limit being the lowest since now. We note that three companies had negative return on equity: General Leasing IFN SA, ING Lease Romania IFN SA and Unicredit Leasing Corporation INF SA.

Some general reasons for this situation can be identified while observing the companies' accounting papers. First, in 2007 there was compulsory provisions for risks and expenditures, elements that influenced in negatively net result (income) in by growing expenditures and costs. Second, there companies have seen a growth in their current assets of these companies, and so the growing expenditures from amortization.

- In 2008 return on assets was between 2,82 – 133,94%, and diminishing, but increasing the number of firms with negative return on equity (Motoractive, Romstal Leasing, Trakia and Unicredit). The general reasons for that situation are:

- The financial accounting reports made compulsory by the law 13/2008 [6]; the law's compulsory provisions had a strong influence over expenses and on gross revenues of the year;
- Lowered demand for leasing of automotives and cars, due to the financial crisis effects (in the case of Motoractive);
- Lower demand for leasing of heating equipment and the diminishing investment in construction (Romstal);

In conclusion, for the year 2008, the leasing market had substantively diminished (over 30%) and thus lowered the demand for these financial services. Along with this the reporting accounting system had been changed, by increasing provisions and so diminishing incomes.

- In 2009 return on equity was between 0,07 – 101,42%, the smallest since now. Return on equity ratio was negative for only two companies (Trakia şi General Leasing), smaller companies which could not adapt to the new and difficult conditions in this time period and thus could not cover the financial loses just by their own capital. Even in those difficult conditions, the others have adjusted theirs activities, offering other types of financial contracts, and at the end they had small but positive financial results.

Even if the ROE ratio is the lowest in the period, the number of companies with negative profitability is smaller, which indicates that leasing companies are changing their business structures and are adapting to the unfavorable conditions of the leasing market; for example, some are founding new financial activities such as rent on short time, or selling new imported cars in European Union.

Using data from Table 1 we compute the average Return on Equity ratio and evaluate its representativeness with the help of the Pearson variation coefficient. With this statistical instrument we draw conclusions for the Return on Equity analysis in our sample companies. Data in Table 1 show that the leasing activity was profitable in 2005-2007, but less so afterwards due to the financial crisis. Although the ratio was positive between 2005 and 2007, from 14,93% to 17,67% it was generated by own capital increase. Reducing tendency was generated by diminishing of net income and growth of equity.

Table 1. *Dynamic of ROE ratio for Romanian leasing companies between 2005-2009 (%)*

Company	2005	2006	2007	2008	2009
BCR Leasing IFN SA	51,15	48,23	45,81	64,46	90,69
BRD Sogelease IFN SA	5,09	41,50	176,89	133,94	101,42
General Leasing IFN SA	78,81	17,15	-30,69	2,82	-18,03
ING Lease Romania IFN SA	-184,53	-221,48	-14,55	20,35	4,95
Motoractive IFN SA	25,46	22,13	37,89	-44,97	12,41
Partener Leasing IFN SA	2,20	2,02	2,42	2,92	3,90
Raiffeisen Leasing IFN SA	46,19	34,63	17,10	7,33	6,35
Romstal Leasing IFN SA	33,44	25,56	9,45	-235,13	7,34
Trakia Credit IFN SA	31,54	20,59	2,25	-3,58	-1,64
Unicredit Leasing Corporation IFN	57,36	54,71	-62,00	-377,58	45,13

Source: *Annual Accounting Reports for years 2005-2009, www.mfinante.ro*

The negative value of 38,14% in 2008 shows the inefficiency of the leasing companies. A better investment was then a bank deposit. In 2009 ROE increased at 22,96% and we conclude that leasing companies are changing their business structures and were adapting to the unfavorable conditions of the leasing market.

In Table 2 we represent Pearson variation coefficient value for each year and base factors value for this coefficient. From the data in Table 2 we can see that in the years 2005, 2006, 2007 and 2008, the average value is representative for the sample.

Table 2. *Dynamic deviation for ROE ratio for Romanian non banking financial institutions and leasing activity in 2005-2009 (%)*

Indicators	2005	2006	2007	2008	2009
Average Return on Equity ratio	14,93	5,85	17,67	-38,14	22,96
Deviation	67,49	73,33	57,90	144,27	37,37
Pearson variation coefficient	4,52	12,54	3,28	-3,78	1,63

Source*: Own research data*

From deviation's study we see that companies deviate on average, from return on equity by 67,49% in 2005, 73,33% in 2006, 57,90% in 2007, 144,27% in 2008 and 37,37% in 2009. In the last years, deviation is less significant.

For a representative average Return on Equity ratio, the Pearson variation coefficient should be under 30%. From data in Table 2 we notice that in each year the average value is representative for the leasing companies in the sample.

For our analysis to be complete we take into account the companies' distribution on value of the return on equity for each year. This distribution is presented in Table 3.

Table 3. *Leasing companies' distribution on ROE ration between 2005 – 2009 (number of firms)*

Return on Equity ratio (%)	*2005*	*2006*	*2007*	*2008*	*2009*
<0%	*1*	*1*	*3*	*4*	*2*
0 – 1%	*0*	*0*	*0*	*0*	*1*
1% – 5%	*1*	*1*	*2*	*2*	*2*
5% – 15%	*1*	*0*	*2*	*2*	*3*
>15%	*8*	*9*	*4*	*3*	*3*

Source: Own research data

The average Return on Equity ratio displays a clear diminishing tendency from 14,93% in 2005, to 5,85% in 2006, -38,14 in 2008. But in 2009 ROE is 22,96%. This tendency is determined by the increasing value of equity, and the accompanying lowering trend for net income.

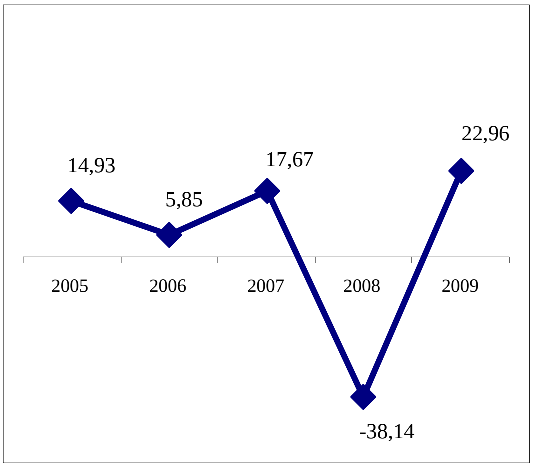

Figure 1. Financial efficiency analysis through return on equity in Romanian leasing companies (%) *Source: Own research data*

In the first year companies were able to be profitable (10 of them gained even a positive net income). In the next year, average return on equity grows to 4,93%, due to increasing net profit. In following years the average ROE is at its lowest, due to diminishing net income and growth in equity value, combined with the effects of the financial crisis (increasing value of clients' unrecovered debt, increasing total assets due to the recovery of leasing objects from insolvent clients, etc.). Some companies have a very good profitability, due to either small value of total equity or large net income. In our analysis, we considered that a good profitability is over 5%. From Table 3 we could observe the number of companies with ratio over 15% in 2005 and 2006. Most of them obtained ROE over 5%. Starting 2008 63% of the companies had ROE over 5% and in 2009 81%. We see from 2007 on a constant decrease in the number of firms attaining 15% profitability. In 2008, 40% of the firms show negative profitability ratio; in real values, the ratio was between 1-15%, quite realistic given that difficult period. Mostly due by lower net results, only 30% of companies achieves a return on equity ratio over 15% in 2008. Thus the number with negative return on equity ratio increased every year; this indicates that net revenue is negative, and companies experienced financial losses; in such cases we cannot speak of profitability.

Finally, even through many companies obtained a return on equity ratio over 15%, still is under the medium interest ratio in the financial market, and capitals invested were not used properly, which is concerning for the companies evaluated; as suggested above, this is explained by changing and modifying of activities, and by finding new markets and services in order to increase gross revenues.

4. CONCLUSIONS

The financial decisions of the banks begin with the choice of a business' strategy designed to create value. The strategy is then implemented by making investments – by committing resources to particular courses of action (for firms or financial institutions conditions are the same). The investment decisions are the primary source of risk, and risk must be considered in the investment selection process. Investment requires money, so they are also result in financing needs. Financing costs and, therefore, the return that must be earned on an investment depend on the types of investments, including the riskiness of those investments. So even in financial system, especially in banking industry, risk must very carefully estimate and secured.

1. Efficiency represents the positive result or over unit ratio between effects generated by an activity and the efforts made to realize that activity; the positive or over unit result can be obtained through greater effects (and constant efforts) or lesser efforts for the same effects, or a combination of both. Economic inefficiency is described as the negative result between effects obtained and efforts used in an activity.

2. As main factor influencing the results' comparability is average rate of life for companies, and so we selected only firms that lasted throughout the period, which did not experience an interruption in their activities.

3. The average Return on Equity ratio diminished throughout the period from 14,93% in 2005, to 5,85% in 2006, and from 17,67% in 2007 to -38,14% in 2008. This clear trend was determined by the increasing value of equity, compared with lowering trend for net income. In the first interval companies were able to obtain profit and ten of them even gained a positive net income.

4. These effects were exacerbated by the financial crisis, which increased the amount of clients' unrecovered debt, as well as the total assets due to the recovery of leasing objects from insolvent clients.

5. In conclusion, for the year 2005 ROE ratio was good, the effect generated by net income using equity was positive. For the year 2006, ROE was lower. We consider that general reasons for this situation could be compulsory provisions for risks and expenditures, elements that influenced in negative way net result (income) in that year by growing expenditures and costs, aspects observed in accounting papers of the companies. In 2008 the leasing market substantively diminished and thus lowered the demand for these financial services. At the same time, the changes in the accounting reporting system, by requiring increased provisions, also contributed to diminished income for the Romanian leasing companies.

6. ROE was over the interest ratio just in 2005 and 2006, when equity was fairly used and brought more income. From 2007 ROE begun to decrease and thou the capitals invested are no more efficient.

7. However, even though Return on Equity ratio is the lowest in 2008, in 2009 ROE grows to the highest value in the period. Thus we conclude that the number of companies with negative profitability is small. In our opinion, this suggest that the Romanian leasing companies are changing their business structures and are adapting to the challenging conditions of the leasing market by founding new financial activities (e.g. rent on short time, or selling new imported cars in European Union).

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KNOWLEDGE-BASED MANAGEMENT – BASIC THEORETICAL NOTIONS WITH PRACTICAL APPLICABILITY IN ALL MANAGEMENT AREAS

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Abstract: In this current context where Romania is making significant efforts to build a knowledge-based society, knowledge management has become a constant concern for a growing number of specialists trying to find ways to implement this new science in management, including Project Management. This article discusses the context that gave rise to knowledge management and to the definition of main specific concepts, for which specialists from both domestic and international literature were consulted. A contribution of this paper consists in efforts to achieve a distinction between the concepts used by the authors in approaching this field.

Keywords: management, knowledge, innovation.

JEL (Journal of Economic Literature) Classification: - M 20.

1. INTRODUCTION

In the early 1990s, a growing body of academics and consultants talk about knowledge management as the "new business practice" and the term begins to appear in more and more business magazines and more often in conferences' agenda. By the mid-1990s, it became known that the competitive advantage of some of the world's leading companies was carved out of the assets of these "knowledge-based companies", such as skills, customer service and innovation. Managing knowledge, therefore, suddenly became a business target of many companies in their attempts to become market leaders. (Caroline Brown, 2005)

While philosophers' opinion is that "knowledge is nothing natural" (we are not born with knowledge), from the viewpoint of historians, the accumulation of knowledge is the basis of human evolution since its inception, thousands of years ago. The importance of knowledge for the competitiveness of companies is nowadays widely accepted in organizations and even in the economy. (Mertins, K., Heisig, P., Vorbeck, J., 2003)

What was called documentation, later communication and information, today is characterized by a lot broader term: knowledge. This concept makes you think of science, method, criteria, mental openness, international relations, empirical approach. (Capitani, Paola, 2006)

2. THEORETICAL STUDY ON THE DEVELOPMENT AND EVOLUTION OF KNOWLEDGE MANAGEMENT

In this current context where Romania is making significant efforts to build a knowledge-based society, knowledge management has become a constant concern for a growing number of specialists trying to find ways to implement this new science in management, including Project Management.

This article discusses the context that gave rise to knowledge management and to the definition of main specific concepts, for which specialists from both domestic and international literature were consulted.

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What was called documentation, later communication and information, today is characterized by a lot broader term: knowledge. This concept makes you think of science, method, criteria, mental openness, international relations, empirical approach.

In a comprehensive study conducted by the authors on 1000 top German companies and 200 top European companies, on the best European organizational practices, one of the topics was about the term “knowledge management”.

If international literature uses only the expression of “knowledge management” for analysis and approach of the concept, Romanian authors resort to a number of terms such as: management of knowledge, knowledge-based management and knowledge management, without a conceptual boundary.

The translation of the term “knowledge management”, management of knowledge is the process of managing knowledge and is a new interdisciplinary business model, still developing, which puts knowledge at the heart of an organization. It is rooted in several disciplines, including business, economics, psychology and information management. Management of knowledge is the latest competitive advantage for companies today and involves interaction between people, technology and processes. (Awad, E., Ghaziri, H., 2007)

Jennex defines knowledge management as the practice of selectively applying knowledge gained from previous experiences in decision-making activities with the express purpose of improving the efficiency of the organization. (Murray, E Jennex, 2007)

According to some authors, knowledge management is a branch of the field of managerial knowledge in charge of carrying out actions on knowledge (knowledge actions), such as organizing, blocking, filtering, collection, storage, sharing, dissemination and use of objects of knowledge (knowledge objects), identified as information, data, experiences, evaluations, analyzes and initiatives. (Nestian, S. A., 2007)

In the view of some, knowledge management was understood as *part of the corporate culture, which support the active exchange of information, knowledge and experience between employees and departments*, while other responses classified the term as *a method of the company representing the amount of procedures that causes production, distribution and application of knowledge to achieve organizational goals*. (Mertins, K., Heisig, P., Vorbeck, J., 2003)

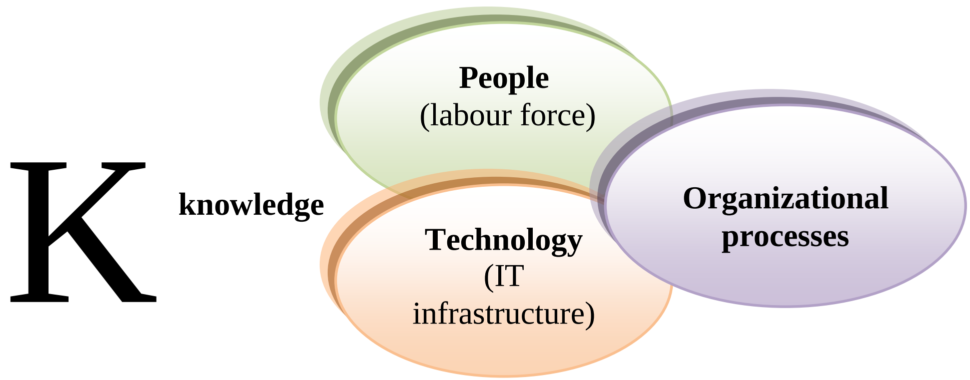

Figure 1: Interaction between people, technology and knowledge management processes
Source: Awad, E., Ghaziri, H., 2007

The term "knowledge-based management" is addressed by the authors Nicolescu O. And Plumb I. who have proposed two definitions of the concept: a theoretical one *as a science*, and another one as a *management practice*.

As *science*, knowledge-based management is to study managerial processes and relations based on knowledge, the discovery of regularities that govern them and developing new systems, methods, techniques, etc. in order to increase functionality and performance of organizations, exploiting the great values of knowledge.

The theory of knowledge-based management is still in its beginnings. Virtually, no one can say that there is not such a theory, science or scientific discipline, in the fullness acceptation of these concepts. The studies published in recent years still offer relatively few rigorous elements and a limited range of managerial components, their contributions being still modest, but absolutely necessary.

As *practice*, knowledge-based management consists of approaches, methods, techniques of companies focused on the production and use of knowledge, which ensures a higher exploitation, compared with the previous period, with multiple valences of knowledge.

As it happens most of times in all new areas that relate to the company, practice came before theory. Especially in developed countries, there are thousands of companies that have developed management practices based on knowledge, in their various forms, which give a substantial functionality asset.

In the opinion of Professor Ovidiu Nicolescu, premises for knowledge-based management are (Nicolescu, O., Plumb, I., 2003):

- transition to a new type of economy based on knowledge strongly influences the manifestation and content of management in all its components and at all levels of the company;
- placing knowledge in the forefront of management, because they simultaneously become a resources, major asset, a main product and a strategic advantage for organizations, a new type of management;
- treating knowledge as a management object, in its completeness, given the sources, types, sizes, characteristics and specificity on various levels;
- management maintains its raison d'être, its organizational purpose, represented by providing the functionality and high, competitive performances for the company.

Either defined by practitioners, or by theoreticians, from the definition of knowledge-based management, the following can be concluded:

- it uses available knowledge from external sources;

- it incorporates and stores knowledge in business processes, products and services of the company;
- built-in knowledge in database, documents;
- it promotes lifelong learning in the organization's culture;
- the transfer and share of knowledge is present throughout the entire organization;
- regular assessment of the value and impact of knowledge.

The idea of "management" of knowledge is an abstract one. Knowledge can not be regarded as an asset that can be managed, but rather individually, personally and autonomously controlled. Knowledge can not be measured. The consequence is clear: if we can not measure them, we can not measure them either.

A single indicator of knowledge management is the people's way of thinking: active or passive. Employees of a company must have a future-oriented thinking, not the past-oriented. In the environment in which it operates today, a better customer service means faster and effective resolution of problems, quick launch of new products to the market, improving delivery processes of new products on the market, all of which being possible by increasing creativity and innovation of the people behind these processes. In this case technology, data networking and communications infrastructure play an important role. Thanks to technology, knowledge transfer and innovation have become achievable. Contributions of knowledge management in innovation enhancement with institutional growth effects are shown in figure 2. (Awad, E., Ghaziri, H., 2007)

A more popular view is that knowledge management can not remain a separate subject, but rather will become embedded in the organizations' mode of operation. This can be compared to Total Quality Management, which was "under discussion" in the 1980s. There are no more debates on "TQM" but many of the principles and practices are an integral part of how most organizations operate. It seems likely that this could be possible also in the future for knowledge management. (Caroline de Brun, 2005)

With the definition of knowledge management experts try to point out a series of clarifications of the concept (Awad, E., Ghaziri, H., 2007):

- First, knowledge management is not reengineering. Reengineering involves a drastic, shocking change in the organizational processes with the purpose of increasing managerial effectiveness, while knowledge-based management involves constant changes, capitalizing opportunities, removing future threats through lifelong learning.
- Knowledge management is not a discipline, but a way to increase quality and profitability within the organization;
- Knowledge management is not a philosophical appeal, but it represents the core of an organization's intangible assets.
- Knowledge management is not the intellectual capital of the company. Intellectual capital is the value of the trademark, patent or brand names owned by the organization. It represents the collective intellectual capacity of the organization, being composed of experiences, knowledge, information, intellectual property of the entire organization.
- Knowledge management is not a management of information, it becomes knowledge only when it is used to produce added value.
- Knowledge management is not a data management, because data and information are not knowledge.
- Knowledge management is not a value chain based on information. In the value chain, the core component is a technological system that guides business processes, where the employees are passive participants. By contrast, a knowledge-based value chain focuses

on human resources in evaluating and processing the information gathered into a technological system.

- Knowledge management is not limited to the accumulation of information from experts in the field and creation of databases accessible by the intranet system. Knowledge management is a collective concept on the whole knowledge base of the organization.
- Knowledge management is not a digital network. Knowledge management has in view improving business processes with the help of people and technology.
- Knowledge management does not involve a capture of knowledge for oneself. Knowledge management involves collaboration, cooperation within the organization.

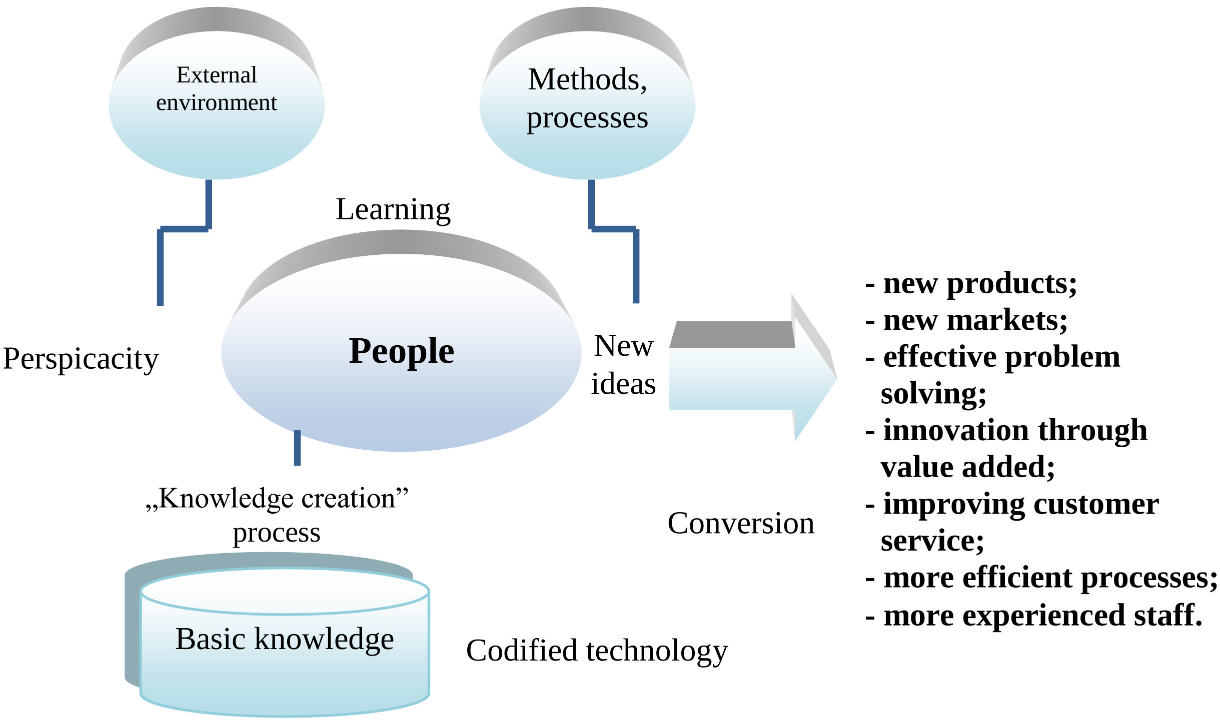

Figure 2: Knowledge-based management and innovation
Source: Awad, E., Ghaziri, H., 2007

3. CONCLUSIONS

In the context of a new economy that is emerging, an economy based on knowledge and ideas, where the key factor of prosperity and creating jobs is the degree of implementation of new concepts, ideas of innovation and technology in all sectors of economy, a new concept that brings major changes in the functioning of an organization makes place, namely: knowledge management. It is today one of the latest approaches in management that can significantly influence and mark out the project management process.

One conclusion that can be drawn upon reading the literature that addressed this area is that this theory is new, and the concepts used (management of knowledge, knowledge management, knowledge-based management) are not yet clearly defined in the studies of some authors. There are international specialists who preferred taking the term in English for not experiencing such difficulties: the author Paola Capitani in "Il Knowledge Management".

The lack of accuracy in the use of knowledge management terms can meet a negligence of language, but it also reflects the lack of sound and fair benchmarks to guide the practice in the field.

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TECHNICAL DIAGNOSIS OF A COMPANY OPERATING IN AUTOMOTIVE

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Abstract: Making a diagnosis for any economic and social system is vital. The analysis is performed to highlight the strengths and weaknesses of the organization, and the opportunities and threats in the external environment. The analysis focuses on the causes that unbalance or favour the activity and development of the organization. The importance of the diagnostic analysis is revealed from the essence of the method comprising: tracking the symptoms, dysfunctions of a company, research and analysis of the facts and responsibilities, identifying the causes, developing programs of action through whose practical application the recovery or improvement of performance are ensured. As a general management method, diagnosis is extremely important because it can be used by any manager, regardless of the hierarchical position in the organizational structure, from increasingly diverse aspects. Technical diagnosis requires a detailed analysis by evaluators who act as technical experts of the production technical factors, products' manufacturing technologies, as well as the organization of production and labour. The paper deals with technical diagnosis for a company in Sibiu operating in the automotive industry and can represent an analytical model for other companies.

Keywords: technical diagnosis, automotive industry

JEL (Journal of Economic Literature) Classification: - L23
http://www.aeaweb.org/journal/jel_class_system.html

1. INTRODUCTION

The analysed company operates in automotive filed, with object the processing components of AUTOMOTIVE turbo blowers.

The products made by the company are:
- Body of the turbo blower turbine;
- Central body of the turbo blower.

The company obtained the first place in Top Profit Middle-Sized Enterprises in Romania, the town of Sibiu, activity 29: Manufacture of motor vehicles, trailers and semi-trailers, according to the balance sheet for the year 2009.

The company obtained the first place in Top Profit Middle-Sized Enterprises in Romania, the town of Sibiu, activity 2932: Manufacture of other pieces and accessories for vehicles and vehicles' motors, according to the balance sheet for the year 2009.

The company obtained the second place in Top Middle-Sized Enterprises Businesses in Romania, the town of Sibiu, activity 2932: Manufacture of other pieces and accessories for vehicles and vehicles' motors, according to the balance sheet for the year 2014.

The company's customers are:
- HTT (HONEYWEL TURBO TECHNOLOGIES, S.U.A.);
- MEE (MITSUBISHI ELECTRONIC EQUIPMENT, JAPONIA);
- S.C. COMPA S.A. (SIBIU, ROMÂNIA);
- BOSH MAHLE (GERMANIA).

The suppliers of the company S.C. SIRFIT S.R.L. are:

- FOM (FONDERIE e OFFICINE MECANICHE) TACCONI SPA (ITALIA);
- MT MITSUBISHI TOOLS (JAPONIA);
- SANDVIK;
- UTENSILERIA CHIMERA.

The main 5 competitors in Sibiu county are:

- TAKATA SIBIU S.R.L.;
- COMPA S.A.;
- FAURECIA SEATING TĂLMACIU S.R.L.;
- SWOBODA HARTMANN ROMÂNIA S.R.L.;
- THYSSENKRUPP BILSTEIN COMPA S.A.

2. ANALYSIS OF MAIN INDICATORS IN THE PERIOD 2008-2014

Turnover (CA represents total sales (made) during a tax year. The figure does not include the VAT charged. A major contribution to total turnover amendment is due to income from the basic activity of the enterprise. During 2008-2014 the turnover had an evolution in accordance with the data presented in table 1.1.

Table 1.1. Evolution of turnover in the period 2008-2014

year	Turnover [LEI]
2008	11098275
2009	18875989
2010	40000000
2011	45050736
2012	33142635
2013	26126517
2014	22346604

Showing graphically the data from table 1.1, we have:

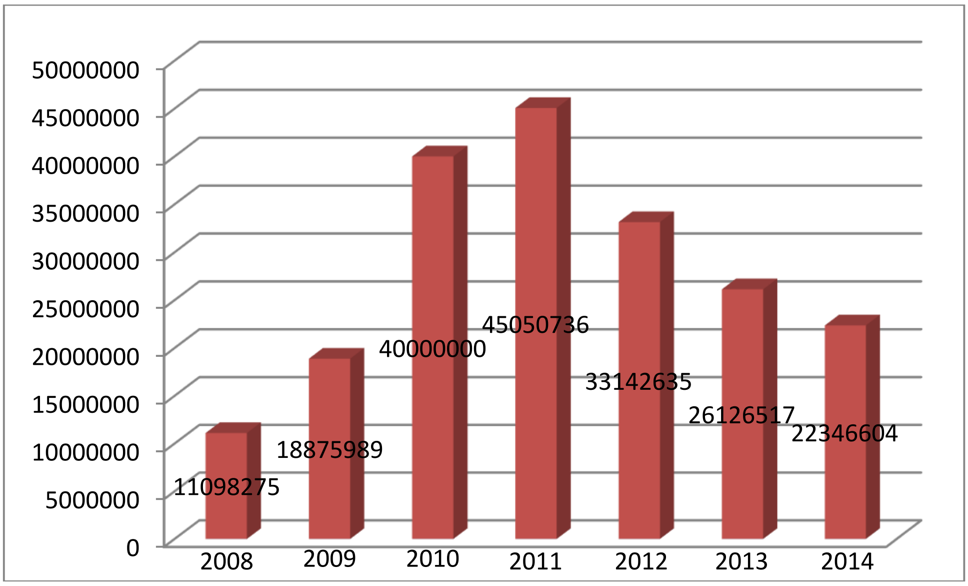

Fig. 1.1. Evolution of turnover in the period 2008-2014

From the data in table 1.1. and the graph from figure 1.1. it is noted:

- turnover in the period 2008-2011 has seen a constant growth, so that in 2008 it was of 11098275 LEI, reaching in 2009 the amount of 18875989 LEI and then in 2010 - 40000000 LEI and in 2011 the maximum value of 45050736 was recorded, meaning a good activity due to the concern of continuous growth of the production volume and implicitly of sales;
- turnover from 2011 until 2014 decreased due to investments made;
- turnover in 2009 recorded an increase of 70.08% as compared to and in 2010 an increase of 260,41% as compared to 2008;
- turnover in 2014 recorded more than double the value of 2008.

Analysis of the company's profit

Profit is, in the narrowest sense, the revenue that economic agents obtain as a product of capital use. In the broadest sense, profit is the gain that economic agents get as a surplus over the cost of production. Hence, there is the advantage made in cash from an action, operation or economic activity. Therefore, any company can not progress, can not develop unless making profit.
The evolution of the company's profit during 2008-2010 is presented in table 1.2

Table 1.2 Evolution of profit in the period 2008-2014

year	Profit [LEI]
2008	147400
2009	85648
2010	200000
2011	51398
2012	206160
2013	188178
2014	235708

From the data of table 1.2. the following graph resulted, which is presented in figure 1.2.

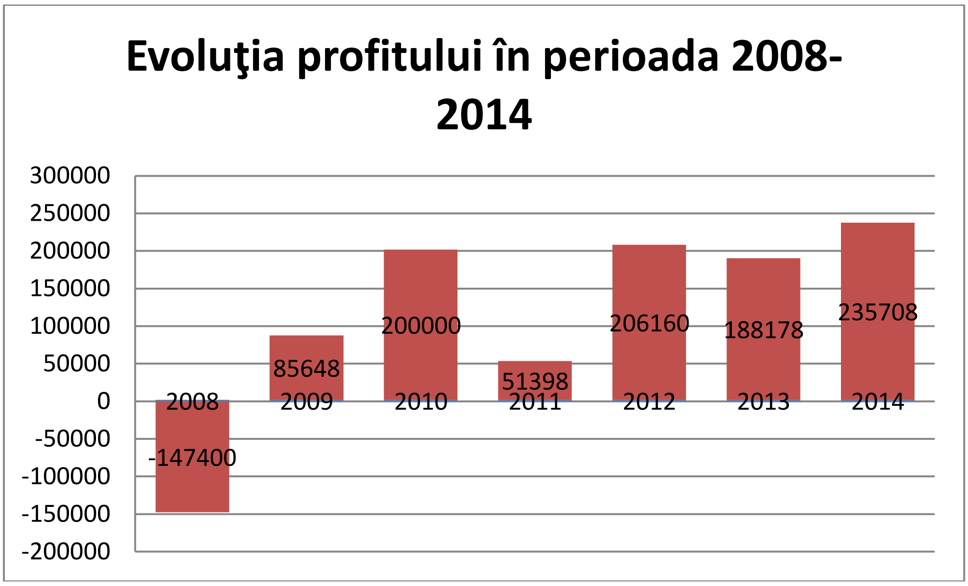

Fig. 1.2. Evolution of the company's profit in the period 2008-2014

From the data presented in table 1.2 and the graph presented in figure 1.2, we have the following conclusions:

- the company's profit in the period 2008-2010 continuously increased from - 147400 LEI in 2008 to 85648 LEI in 2009 and then to 200000 LEI in 2010 due to good management activities;
- in 2011, there was recorded the minimum value of profit of 51398 LEI;
- the company's profit in 2010 increased by 133,51% as compared to 2009 and we should consider that in 2008 it was -147400;
- a spectacular increase was recorded in 2012 when it reached 206160 LEI, decreasing the following year to 188178 LEI and then increasing again to 235708 LEI.

3. TECHNICAL DIAGNOSIS

Essentially, technical diagnosis involves a detailed analysis of the technical factors of production, manufacturing technologies of products and production and labour organization.

As for the existing machine tools at the company analyzed the following were found:

- Machine tools were purchased in 2009-2010;
- The machines are relatively new so they have a low usage level;
- The company's machine tools are the latest models in specialty catalogues and superior alternatives are found only in aviation;
- Producers ensure an operation within the prescribed parameters of between 30 and 50 years;
- Due to the use of cell method of production, there are no unused machine tools.

All the peculiarities of the machine tools owned by the company constitute strengths for the company. The company uses horizontal or vertical CNC centres (a number of 12 pieces) and CNC lathes (20 pieces). The total number of machine tools of the company in 2010 was 32 pieces, in 2009 there were 18 pieces and in 2008 there were 14 pieces, currently far surpassing 50.

The source of funding for 3 regular CNC lathes and 2 horizontal CNC centres acquired in 2010 consisted of:

- 50% of those machines without VAT from structural funds through POS CCE program, Axis 1, Operation: Support for strengthening the productive sector by tangible and intangible investments - operation for large enterprises;
- The difference from own funds.

As for the warranty and post warranty for these machine tools purchased in 2010, the following was established:

- Security will be provided for each machine and the related digital control of minimum 36 months from the date of final acceptance;
- Service under warranty will be done free of charge by the supplier whenever necessary, intervention which shall be conducted within a maximum of 24 hours of reporting, and resolving within 48 hours from diagnosis;
- Devices, accessories, parts, hardware and software that will fail during the warranty period will be replaced free of charge if the fault reported is not due to the beneficiary. This will have to respect the level of the existing working performance parameters at the date of receiving the equipment;
- The provider must be able to replace the defective machine with a similar one in perfect technical condition throughout the period during which the machine purchased will be relocated for repairs impossible to be performed at the beneficiary's headquarters. All costs of this temporary replacements will be borne by the supplier;
- For each repair which involves the relocation of equipment, the latter will be given an additional guarantee of 36 months from the date of its reinstatement in service;
- The time for action is 12 hours if the incident was announced during normal working hours (until 6 p.m.) or within 24 hours if it was announced later (including Saturdays-Sundays);
- Time for procuring parts from the nearest warehouse should not exceed 24 hours / internal warehouse and 48 hours / external warehouse;
- The manufacturer must have a permanent service point in the national territory but not more than 300 km of Sibiu;
- Any repair / replacement intervention carried during the warranty period causes an additional warranty of 24 months applied to the part / subassembly / software that was repaired / substituted starting with restoring the machine into function;
- The cost of transport at the beneficiary of the parts / subassemblies / software repaired / replaced under warranty lies with the supplier;
- Cost of labour and the transfer / hotel costs of staff who fixes / replaces the parts / accessories / software / equipment are the responsibility of the supplier;
- The manufacturer shall guarantee for a period of 5 years maximum stability of constructive and functional parameters under normal working conditions of 3 shifts / day. If this condition is not met, the beneficiary is entitled to receive (for each unit in this situation) on request, without possibility of appeal, within 30 calendar days, compensation amounting to 50,000 Euro plus VAT.

Framing depreciation of fixed assets is in line with L 15 / 03.24.1994 – 2.1.51; 2.1.34.

Machine tools were in 2008, 50% of the total fixed assets, 70% in 2009 and reaching 80% in 2010.

The semi-finished products are from Italy.

The type of production in S.C. SIRFIT S.R.L. is high series.

The characteristics of this type of production are:

- Reduced manufacturing nomenclature;
- Volume of production of each type of product is high;
- Jobs are technologically specialized (manufacturing cell);
- Form of labour movement of objects is individual;
- Working staff does not require a high degree of qualification.

The company S.C. SIRFIT S.R.L. runs a primary processing consisting of internal trimming, polishing and sanding followed by an external sanding and quality control.

In Hall 1 (plant 1) primary operations are carried out after moulding, after which the semi-finished product is ready for processing.

In Hall 2 and 3 processing is executed in different phases of a code on a line-up of CNC machines called cell. Production cells are formed by groups of machines and equipment for the manufacture of parts grouped by similarity of the sequence of processing operations in families or groups. Unlike the specific organization of group technology, providing only its specific processes in a cell, the complete processing of the component group is done, distributed for processing. For example a cell for BMW consists of 2 lathes and 1 centre. For BMW there are 3 cells to provide the required amount.

Within the cell, the technological process is running, divided on OP 10…..OP 50 processing phases, corresponding to fixtures or positioning changes.

The advantages of cellular organization of production are:

- Reduction of the parts' processing cycle;
- Shortening transport circuits of the parts and cutting out the interoperation interruptions;
- Increasing the quality of manufactured products, as a result of a single manufacturing cell responsibility in their execution;
- Ensuring better use of the time available of machines and the working time of workers in the manufacturing cell;
- Ensuring the transition to multiple qualifications, to work on several machines;
- Growth in labour productivity as a result of using staff, equipment and tooling and S.D.V. specific to the production cell;
- Reducing production inventory and accelerating the rotation of working capital.

This system of cellular organization of the production is taken from the developed countries that have advanced experience in this field and offered concrete evidence of their superiority compared to other forms of production organization.

After completing the cycle, the piece is checked qualitatively aiming to size and appearance by visual inspection. Then comes the finished operation which is performed with manual micro-cutters and industrial automatic washing with a grease remover solution plus a coating that lasts between 30 and 90 days made against corrosion. After this operation the parts are handled only with gloves to leave no traces of fat and the final control is carried out.

Packaging is made according to customer specifications.

The use of working time required is 87%, the difference being given by physiological needs, scheduled change of tooling, unscheduled tool change (for breaks), differences in pace and supply and maintenance operations (e.g. oil change). Productivity gap is covered by the extra number of days worked.

Productivity is 60,000 pieces / month and 2000 pieces / day.

The technological process has no impact on the environment.

ISO TS 16949 standard specific for vehicle production is used.

ISO TS 16949 (technical specification TS) combines multiple needs of automotive (QS 9000, VDA 6.1, EAQF and AVSQ) for quality management systems.

ISO TS 16949 is recognized in the automotive industry around the world (European, Asian and American).

ISO TS 16949 specifies the quality management requirements for design (Development), production and, where applicable, installation and maintenance of automotive products.

As for the buildings they are in very good condition, some new ones being built in 2005 and the on last survey conducted in 2008 their value was considered not impaired. No change destination for any building is being considered.

The land on which the company operates is 100% consistent with its activities.

The company SC SIRFIT SRL outsourced logistics services.

4. CONCLUSIONS

After the analysis, the following can be noticed:

- Machine tools are new, high performance, latest generation;
- The buildings are relatively new (built in 2005) currently not impaired and fully corresponding to the activity;
- Organisation of production cell offers clear advantages as evidenced by increasing turnover and profit;
- The number of employees has increased continuously, especially the working personnel;
- Imposition of effective use of 87% of the total available labour requires serious discipline of work.

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MANAGEMENT DEVELOPMENTS AT SIBEX

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Abstract: *The risk in organizational management now governs the social existence and the existence of business environment. One of the goals is to identify potential risks that may arise during the progress of institutional activities in general and within Sibiu Stock Exchange, mainly. The importance of identifying risk, the main risk categories and their characteristics, the main types of risks at the institutional level are particularly important and relevant in terms of smooth organization of activities. Such identification proves to be necessary under the new requirements posed by contemporary capital market compared to a competitive European and global environment, in which risk is assumed as common business practice.*

Keywords: risk, management, business, implementation

JEL (Journal of Economic Literature) Classification: M11

1. INTRODUCTION

As specialists in the field claim, management and risk control management are characterized by a large volume of information, a systematic approach to preventing accidental damage, reducing the costs of these damages and finding the most efficient ways of settling claims. The main purpose of risk management is to give an organization the ability to achieve its objectives in circumstances where there is a risk of accidental damage. In order for the risk management to intervene successfully, it is necessary for the organization first to define objectives and strategies.

In today's global economy, we can no longer talk about isolated risks, bounded by local or national economic environment, since contractual ramifications extend beyond cultural and ethnic boundaries. The necessity of adapting the Romanian economic environment to the European market rules entails the unconditional need for risk analysis in all economic fields. The term risk can be found in the specialised literature with different meanings. But, whether it is economic risk, commercial or financial, the term is widely addressed in the specialised literature in the country and from abroad.

2. FEATURES ON IDENTIFYING RISKS WITHIN THE ORGANIZATION

In classical theory sense of decision, risk is identified as an element of uncertainty, but which possibly permanently appears in the social and human activities, whose effects are damaging and irreversible. The risk has been called as the uncertainty associated with any result.

Risk management involves covering six essential steps outlined in **Table 1**:

Table 1: The s*ix steps for covering risk management*

Description of context	**Identification of risks**	**Analysis and classification of risks**	**Elaborating the risk management plan**	**Implementation of risk management plan**	**Monitoring and updating the initial risk management plan**

However, there are a number of risk mitigation strategies illustration in **Table 2**:

Table 2: *Strategies to reduce costs*

Accepting risks	**Avoiding risks**	**Monitoring risk and preparing the plan**	**Transfer of risks**	**Systematic risk reduction**	**Accepting risks**

Risk management demonstrates that it is essentially a problem of organization of protection against the main threats that are of human and financial nature. Figure 1 schematically highlighted this risk management process.

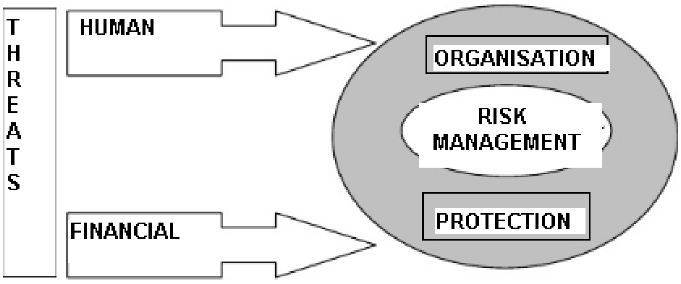

Figure 1: Risk management
Source: *Gheorghe Ilie*

We can try to define economic risk as the potential damage to which patrimony, interests and entrepreneurial activity are exposed, caused by force majeure (natural disasters, wars), accidental situations (fire, theft, accidents, etc.), acts of managerial negligence (Jucan Cornel N., 2000). The main factors of market risk are interest rate risk, exchange rate, freight and price risk of shares traded and their volatility. Total market risk is obtained by aggregating these risk factors (Irina Isaic-Maniu, 2006). The rapidity of changes and unbalances in the economic and social environment are the defining features of the new economic and social context. An ever changing world in which the principles of strategy and tactics of war enter the offices of managers. To survive in this uncertain environment, and often even hostile, managers should be aware of the dangers, must have the means and technical measures to prevent and combat them. Over time it could have been seen that risk management is influenced by many factors with random event, difficult to be described and therefore unmanageable.

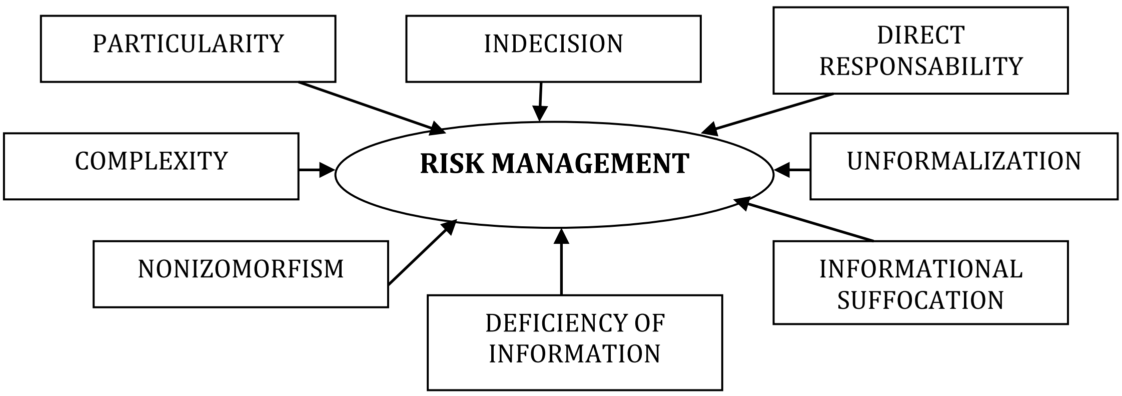

Figure 2: Factors influencing risk management
Source: *Gheorghe Ilie*

3. EFFECTS AND EFFICIENCY OF RISK MANAGEMENT

Problems associated to risk management are quite intractable. Managers recognize that risk taking presents an emotional component that produces anxiety, fear, but also joy and shivers with pleasure. Satisfaction in assuming the risk is proportional to the size of the risk taken and the value of results (Jucan Cornel N, 2000). Managers are also strongly influenced by incoherent social order through which they are required to take as many risks, but out of which they should come out winners more often than losers (Jucan Cornel N, 2000). In happy situations, managers tend to overtax the risks which they undertook and to minimize the role of chance in the results obtained. Almost in all situations, with a certain vanity, managers maintain the illusion that they can make permanent difference between good risks and bad risks. In the simplest formulation, risk management (RM) is a systematic approach of risk within an organization and has different meanings, depending on the people who are involved in carrying out this process and the areas in which they are carried out. The scope is very controversial. In traditional approach, RM is considered as an interdisciplinary science that deals with pure risk within organizations, and the focus is on insurance (Ciocoiu Carmen Nadia, 2006).

4. IMPLEMENTATION OF RISK MANAGEMENT TECHNIQUES WITHIN THE ORGANIZATION

Number RM is increasingly considered as a general function of the organization's management whose objective is to identify, analyze and control the causes and effects of uncertainty and risks in an organization. RM's main purpose is to support the organization to progress towards achieving its goals and objectives in the most direct, efficient and effective way. Regarding the implementation of risk management procedure, the completion of six stages is required, respectively (Ciocoiu Carmen Nadia, 2006): getting support from top management and the developing of a philosophy within the organization; developing a policy within the organization (its own approach to risk management); communicating the policy; application of risk management at the organizational level; application of risk management at the program, project, team level; monitoring and updating risk management software. Once the most appropriate techniques of risk management are selected, they should be implemented. If the implementation is not done effectively, then there is a risk of losing what was originally anticipated that could be gained by adopting these techniques. Implementation means action and new decisions from the organization. For example, if a company decided to use risk control for a given exposure to damages, it must decide whether the responsibility to exercise proper control lies with the staff of the company or a specialized company. If it is decided to make the control within the company, will there be used people from the risk management department or other departments for their effective exercise? If another department assumes responsibility for risk control, which is the motivation that will stimulate the employees of this department to work efficiently? Answers to these questions are in fact the new decisions that the organization must take for a correct implementation of the selected risk management techniques.

All measures implemented by risk management should be monitored or tracked step by step to see how they are applied them and to verify if their beneficial effect is the one expected. Experience shows that only through this monitoring process it can be determined whether the measures and technique adopted and implemented are really the best to achieve those objectives. The actual conditions under which the measures were implemented evolve over time. The selected methods were designed for specific circumstances and after implementation there is a change in these circumstances. To monitor a program, the risk manager has the duty to develop standards, to implement methods and track whether these standards are met. At the same time he must decide if, in this process, it is necessary to make changes. Risk factors are a subset of all market variables that may influence the evolution of a financial portfolio (e.g.

share prices, exchange rates, volatility of turnovers, interest rate, etc.). Identification and modelling of risk factors is one of the most important steps in the analysis of financial risks. This requires the use of assumptions such as: recent history which is a fairly accurate indicator of future evolutions of risk factors; risk factors are normally distributed; parameters of distributions that are unchanged over time (Irina Isaic-Maniu, 2006). Based on the recovery process management, risk management specialist is able to control direct and indirect costs resulting from productivity decrease, when employees are temporarily unable to work (Constantinescu Dan Anghel, 1999). Risk management is however in an accelerated process of evolution, and the result is materialized in the explosion of publications, guidelines, methodologies and frequent organisation of seminars and conferences on this topic.

5. IDENTIFYING RISKS AT SIBEX

In the Monetary Financial and Commodities Stock Exchange of Sibiu, the Romanian Clearing House (CRC) handles the identification, management, resolution and even the attempt to avoid the risks. If Sibex organizes and regulates the market, CRC deals with risk management of participants, its activity having its own rules. Regulations of the two institutions are harmonized and completed continuously for an operation as safe and rapid of the market as a whole. Regarding the purpose and objectives of the CRC, we can specify the implementation of work procedures for the department of risk analysis at the institutional level, the primary goals being to apply the rules and terms under which risk management by CRC are carried out, on the market regulated by derivatives financial instruments, administered by Sibex in accordance with legal regulations. As in any department, there are a number of responsibilities, the employees of the department having the responsibility to carry out the procedures to achieve the attributions of the department. The head of department also has obligations, the first of which is the implementation and design of control policies and procedures regarding compliance with work procedures, regulations and specific stipulations.

Risk analysis department policy aims:

a) protecting the company's assets through: definition and separation of responsibilities and functions within the department – the procedure of granting empowerments;

b) ensuring the reliability and accuracy of information on trading operations by: designing and implementing procedures for issuing daily reports; supervision of clearing members and monitoring their classification within established risk limits; analysis of transaction reports to detect transactions entered into without complying with the regulations or for the transfer of amounts; issuing regular statements; procedures for forced closure of open positions; identifying/preventing suspicious trading transactions and money laundering; controlling the „futures" and „options" market through CRC version of the trading platform;

c) ensuring compliance with general policies and regulations of the company;

d) applying decisions regarding trading taken by the Board of Directors of CRC or by the Executive Director;

e) maintaining contact with market participants and providing expert advice to clearing members.

6. GENERATING AND SAVING THE SITUATION "HOLDINGS" FROM BACKOFFICE CRC

1. The button called "Dețineri" (Holdings) is activated;
2. Dețineri window is open; after verifying the holdings limits, this window is closed;
3. This situation is saved in file C\backofficecrc\Detineri\aaaa-ll-zz; two files are generated: one in excel format "Dețineri hh-mm-ss.cvs" and one in word format "Dețineri hh-mm-ss.rtf";

4. The file "Dețineri hh-mm-ss.rtf" will be processed and then sent by e-mail to the Executive Director of CRC;
5. Before opening the file "Dețineri hh-mm-ss.rtf" it will be renamed as "Dețineri zz.ll.aaaa ora hh-mm-ss"; then the document is opened, the page is set for landscape (Page setup – landscape), 10 Font is selected, the name of the file is viewed and header (View Header&Footer->Insert Autotext->File name); customers whose holdings is close to 30% or above will be viewed in red; the file is saved and then printed; the listed file is stored in CRC Monitored file, Holding positions >5% which is found in the CRC Transactions Department (**Figure 3**).

Limiting thresholds will be set by the Board of Directors of CRC on a proposal from the Executive Director, depending on market volatility and liquidity and the existence of Market-Markers for each contract and maturity separately and can be modified according to changing market conditions. The MC will be notified by fax of the decision to increase the margin level for a particular contract and maturity and will be required to meet the margin call resulting from that until 12:00 the next trading session, according to the letter:

This margin will be kept at the increased amount until the end of the meeting where compliance with the limits laid down is met or where the total number of positions falls below the increasing threshold at which time it will be recalculated at the initial level, without further notice.

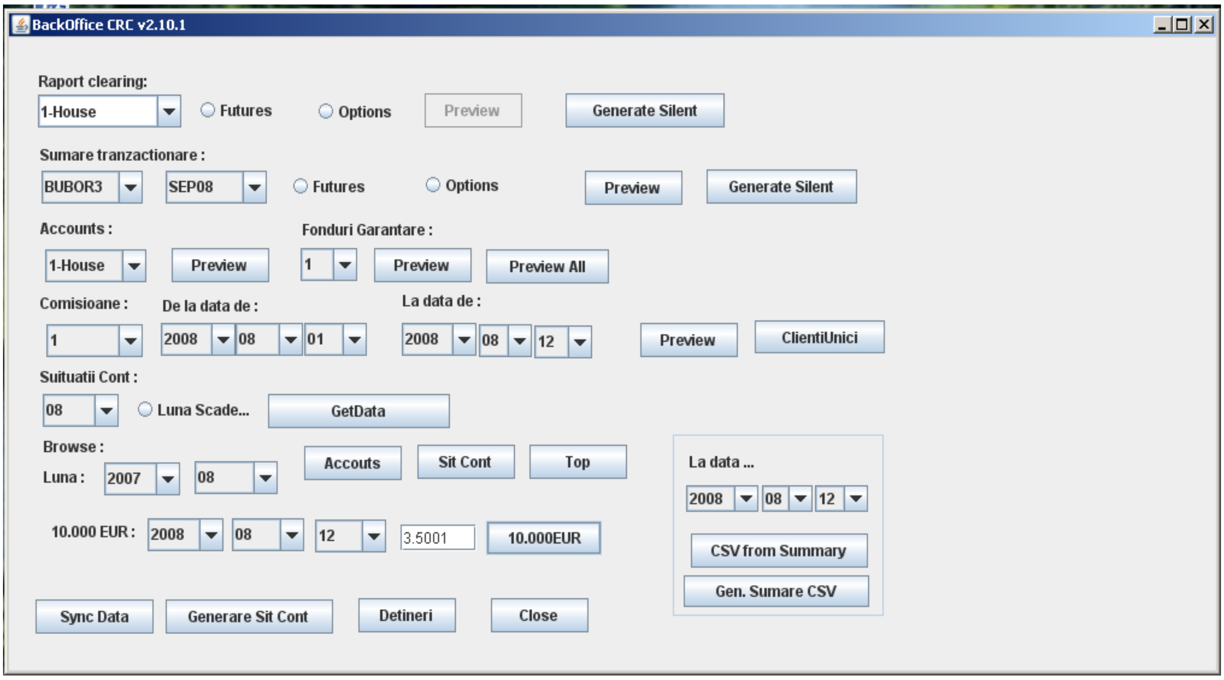

Figure 3: Generating and saving the situation Holdings from BackOffice CRC
Source: *Sibex*

7. WAYS OF CALCULATING THE ANNUAL CONTRIBUTION OF CLEARING MEMBERS TO THE GUARANTEE FUND

The Guarantee Fund's financial resources consist of:
a) initial contribution of MC;
b) annual and special contributions of MC;
c) short-term loans to cover temporary needs only;
d) income from the liquidation of CRC receivables;
e) income from the investment of these funds.

The Guarantee Fund will be used to cover MC debts recorded after the closing of all positions and liquidating the amounts from the margin account, under the terms established in Regulation no. 3 and Regulation no. 1 of the CRC.

Individual contribution of an MC to the guarantee fund consists of:

a) Initial contribution of the MC which will be made prior to market access. This contribution will be 1% of the minimum initial capital of a financial investment services company referred to in art. 7 of Law no. 297/2004, according to the scope of activity authorized;

b) Annual contribution submitted at the request of CRC: annual contribution to the guarantee fund will be calculated annually, in January and will be 0.1% of the highest exposure of the MC, calculated as sum of the highest margins needed in previous year on the house accounts, Market Maker and customers in whatever period of the previous year in which this MC traded;

c) Special contribution: is made to comply with art. 23;

d) Additional contribution submitted by MC who is a Market-Maker: is determined by the Board of Directors and is between 10,000 and 100,000 lei for each contract and maturity for which MC is a Market Maker depending on the market characteristics of that contract. The additional contribution will be returned to the clearing member at the termination of the market maker quality and may also consist of securities.

Initial and annual contributions of the MC shall be constituted in cash only. In order to determine the annual contribution of the MC to the guarantee fund in January, the situation of the greatest daily exposures recorded by the MC will be generated, separately on the house, Market Maker and customers accounts from the previous year, these values and will be summed up and 0.1% percentage of the obtained number will be applied. MC will be notified of the guarantee fund supplementation at the beginning of each year, having given 10 days to deposit the funds.

8. CONCLUSIONS. HEDGING AT SIBEX

Through the stock market and specific mechanisms of transactions, hedging operations are achieved. Market participants are motivated differently so that some are willing to take greater risk in terms of a potential higher profit, while others are not willing to risk. Risk transfer from participants with risk aversion to participants who are willing to risk is performed using the exchange hedges. Harmonization of the desire to win with the risk mitigation can be established through a series of statistical methods generally called “securities portfolio management”.

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RESEARCH ON FINANCIAL PERFORMANCE, FROM THE PERSPECTIVE OF MODERN INDICATORS. THE CASE OF COMPA

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Abstract: *The financial theory emphasizes the importance of maximizing shareholder wealth as the ultimate goal of the company. In this regard, modern analytical indicators are provided for analyzing listed companies' performance, starting in their construction from the concept of value creation.*

Keywords: Economic Value Added Market Value Added), Cash Flow Value Added, Total Return to Shareholders, Cash Flow Return on Investments.

JEL (Journal of Economic Literature) Classification: - G23

1. INTRODUCTION

The financial theory emphasizes the importance of maximizing shareholder wealth as the ultimate goal of the company, while shareholders are no longer satisfied just with the compensation through a residual income, asking for reward of own equity.

Creating value is, for listed companies, the major criterion by which shareholders evaluate performance. It represents the market validation of company's strategic objectives, quantifying its financial performance in relation with owners, as residual value generated by company activity (Petcu, 2009).

The specialized literature provides modern analytical indicators of the listed companies' performance, in their construction starting from the concept of value creation.

The main indicators used in the analysis of value created by the enterprise for shareholders are: Economic Value Added (EVA), Market Value Added (MVA), Cash Flow Value Added (CVA), Total Return to Shareholders (Total Shareholders' Return- TRS), and Cash Flow Return on Investments (CFROI).

2. MODERN ANALYTICAL INDICATORS

2.1. Economic Value Added (EVA)

The concept of Economic Value Added (EVA) is a registered trademark of Stern Stewart & Co Consultancy Company and economic measure of profit, determined as the difference between net operating profit after tax and the opportunity cost of invested capital. It is a more realistic indicator of the value created, unlike accounting (classic) profit and operating cash flow, which does not take into account the risk related to invested capital.

Enterprises create value when the company achieves a return on capital invested in assets higher than the cost of resources mobilized to finance them (Petrescu, 2009). Equity compensation should be made at an attractive rate to investors, superior to that offered by less risky investments, thus avoiding capital losses towards more "tempting" (Niculescu, 2005) entities and justifying the assumption of risk, as compared to other investment opportunities (Petcu, 2009).

The economic value added is the real economic profit obtained by the company based on the entire capital used and determined according to the relation (Petrescu, 2008), (Tabără, Dicu, 2007).

The calculation model for Economic Value Added (EVA) is:

EVA = [Operating result - tax profit]$- \left[\frac{Cp}{CI} \times Rf + \frac{Dt}{CI} \times d \times (1-i)\right]$

EVA = Operational Net Profit - (Invested Capital × Cost of capital)

Where:

Cp – own equity

Dt - total debt

CI- invested capital, CI = Cp + Dt

d – interest rate

i - income tax

Or

$$EVA = \frac{Operating\ Net\ Profit}{Ci} * Ci - Ci * CMPC =$$
$$= Ri * Ci - Ci * CMPC = (Ri - CMPC) \times CI$$

Where:

Ri - return on total invested capital

Ri = $\frac{Operating\ Net\ Profit}{Invested\ Capital}$

Operating net profit after tax (NOPAT) = Net result – Income tax

CMPC - weighted average cost of capital

CI-invested capital, CI = Cp+Dt

The positive Economic Value Added (EVA) indicates wealth creation for shareholders over compensation of capital. The negative value indicates that the company does not cover the capital cost of operating result, losing money even in case of a positive accounting result.

2.2. Market value added (MVA)

Market value added is the difference between the current market value of the enterprise and the capital brought by investors. The market value of the company includes the market value of all its capital, or the market value of equity and market value of debts. For listed companies, the market value is the market capitalization of the exchange rate, determined by multiplying the number of exchange rate with the number of issued shares (Petrescu, 2008). Given the reference to the market, we may consider that MVA is an indicator of the external performance of the company (Jianu, 2007).

The calculation models:

a) MVA $_1$= Market value – Capital invested

b) MVA $_2$= Market capitalization – Equity (Tabără & Dicu, 2007):

c) MVA$_3$= Market capitalization – Net assets (Berceanu, Siminică, Cîrciumaru, 2010),

A positive value of the indicator indicates that the company creates value, equity released bringing forward the value of the invested capital. If there is a negative result, the company has a compromised value, the value of managerial activity and of investments being lower than the company's capital brought to the enterprise from the market; in this case, the enterprise destroys the value. The higher the market value added is, the more favorable it is to investors, confirming that the economic entity created wealth for investors.

2.3Analysis of Cash Flow Value Added (CFVA)

The analysis of financial performance in terms of cash value added (CFVA) is similar to the analysis based on economic value added (EVA), but taking into account only cash flow, not the results of the companies.

The calculation model

CFVA = Net rezult + D – CCT

Where

CCT - The opportunity Cost of Invested Capital

D – expenses with the interests

2.4. Analysis of Total Shareholders Return (TSR)

Considered to be the most synthetic indicator which characterizes enterprise's value creation for its shareholders over a period of time (Herciu, 2009), the indicator has been promoted by American consultancy firm Boston Consulting Group (BCG). It shows the value investors actually receive.

The calculation model is (Vâlceanu, Robu, Georgescu, 2005):

$$TSR = \frac{\Delta CB + Dividends}{CB_0}$$

Where

$\Delta CB -$ changes in market capitalization

CB_0 - market capitalization

2.5. Cash Flow Return on Investment (CFROI)

Cash Flow Return on Investment (CFROI) represents an internal rate of return on investment, expressing the ratio between the gross cash flow for the period, after deducting amortization and total gross investments of the same period. It was introduced in 2002 by CFSB Holt Value Associates Chicago, considered to be the best measuring indicator of value creation.

The calculation models are (Petrescu, 2008):

$$CFROI = \frac{Cfb - A}{Ib} = \frac{Rnet + D + A - A}{Ib} \times 100 = \frac{Rnet + D}{Ib} \times 100 = \frac{Cfs}{Ib} \times 100$$

Where:

Cfb - gross cash flow.
Cfb- Rnet+D+A
Rnet – net result
D - expenses with the interests
A- depreciation
Ib – gross investments. Ib=Ai+Ac
Ai - gross fixed assets, at the current inflation rate
Ac - net current assets
Cfs – sustainable cash flow.
Cfs – Cfb-A=Rnet+D
CA – Turnover

Cash flow return on investments (CFROI) can be divided in two other ratios, as follows:

$$CFROI = \frac{Rnet + D}{Ib} \times 100 = \frac{Cfs}{CA} \times \frac{CA}{Ib} \times 100 = Mcf \times Na$$

Where :

$\frac{Cfs}{CA} \times 100 = Mcf$ - Cash Flow Margin

$\frac{CA}{Ib} = Na$ – Asset Turnover Ratio

3. CASE STUDY FINANCIAL PERFORMANCE FROM THE PERSPECTIVE OF MODERN INDICATORS

Based on the theoretical mentioned concepts, we computed EVA, MVA, CFVA, TSR and CFROI for COMPA SA, a company listed and traded on Bucharest Stock Exchange .

3.1 Hypothesis of the research

The analysis performed is based on the following hypothesis: ***the financial performance based on modern indicators is inadequate, and not provide shareholders an appropriate value added.***

3.3 Methodology of research

Financial performance indicators are calculated by the author based on the information provided by the individual financial statements of the of company, developed for the years 2006-2013, published on www.bvb.ro and on the website of each of the listed companies in the special sections dedicated to investors.

Starting with the financial statements of year 2012, companies listed on a regulated market were required to apply IFRS in preparing separate financial statements, according to Minister of Finance Order no. 1286/2012. In applying these regulations, companies restated financial statements for 2011, according to the law, which led to the recording of value differences between the information provided by the initial and restated financial statements. The financial statements for 2011 are extracted from the reports for the year 2012 made in accordance with IFRS .

Calculations, graphs, tables and annexes are the processing performed by the author. The calculation was done according to the methodology presented in the theoretical aspects regarding each indicator

3.4. Data analysis and presentation of results

The main indicators, used in the analysis of value created by the enterprise, for shareholders, computed for COMPA SA are: Economic Value Added (EVA), Market Value Added (MVA), Cash Flow Value Added (CFVA), Total Return to Shareholders (Total Shareholders' Return- TRS), and Cash Flow Return on Investments (CFROI).

3.4.1. Analysis of Economic Value Added (EVA)

For the years 2006-2012, the evolution of the Economic Value Added is presented in Figure no.1

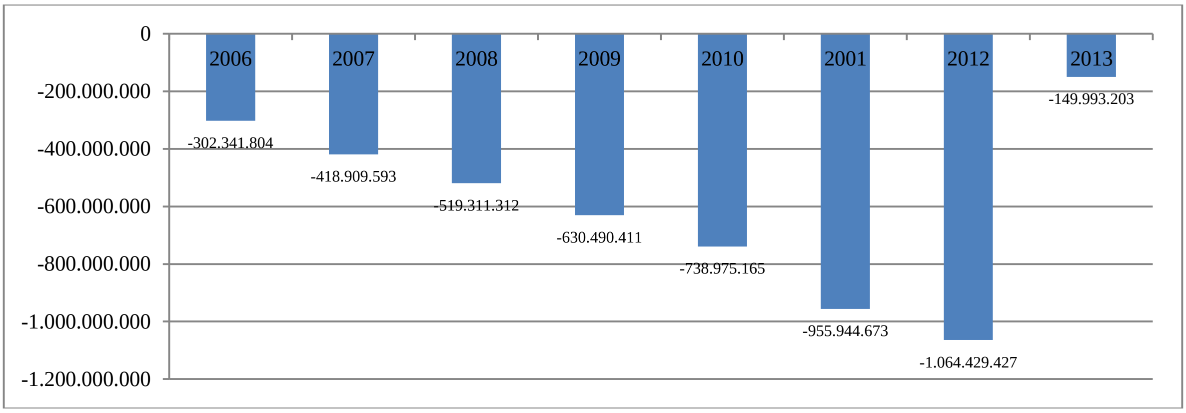

Figure 1: The Evolution of the Economic Value Added

Source*: author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

As it can be noticed, the Economic Value Added has a negative value, during 2006-2012, as represented in figure No 1, followed by a significant recovery in 2012-2013. However, given the negative values of Economic Value Added, one cannot speak of a performance, but rather of a reduction of inefficiency in terms of performance expressed by this indicator.

The negative value of the Economic Value Added is due the higher values of the Weighted Average Cost of Capital, which exceeded in each period the values of Total Invested Capital Profitability Rate, presented in Figure no. 2.

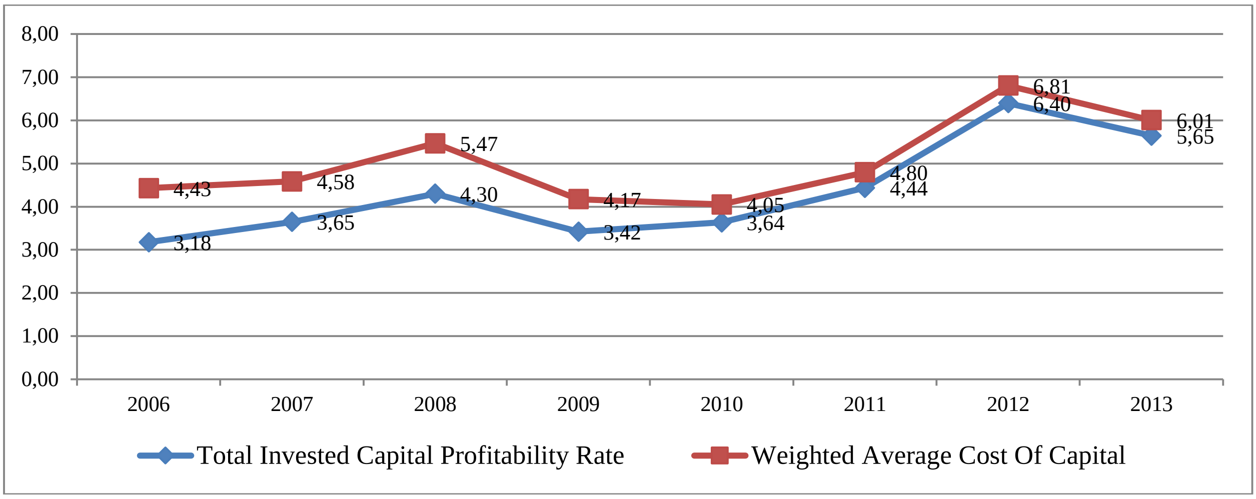

Figure 2: The Evolution of Total Invested Capital Profitability Rate and Weighted Average Cost Of Capital

Source*: author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

3.4.2. Analysis of Market Value Added (MVA)

Calculating MVA according to the formula MVA 2= Market capitalization– Equity, the evolution of the MVA is presented in Figure No.3.

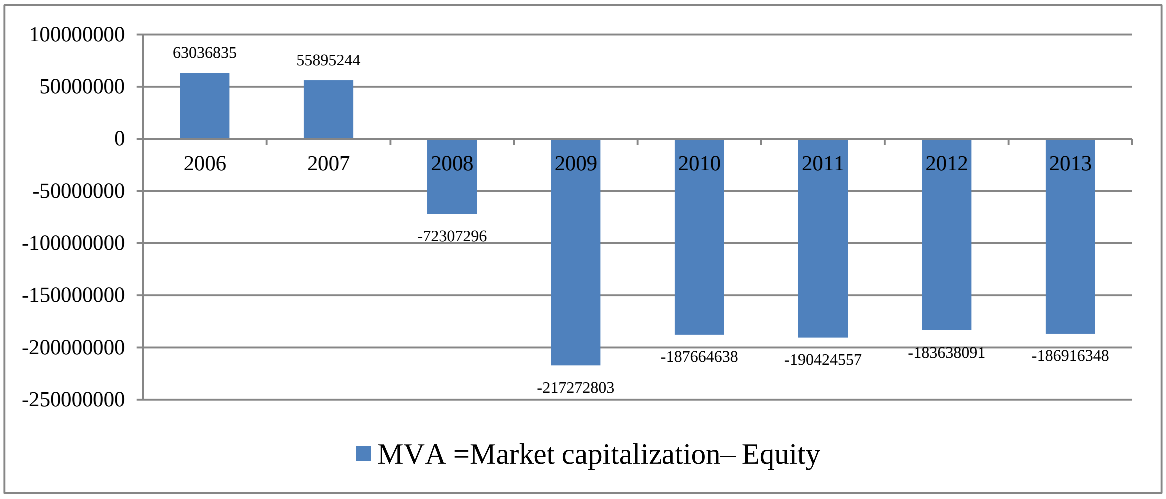

Figure 3: The Evolution of the Market Value Added, based on relation MVA= Market capitalization– Equity

Source*: author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

Calculating MVA according to the formula MVA 1= Market value– Capital invested, the evolution of the MVA is presented in Figure No.4.

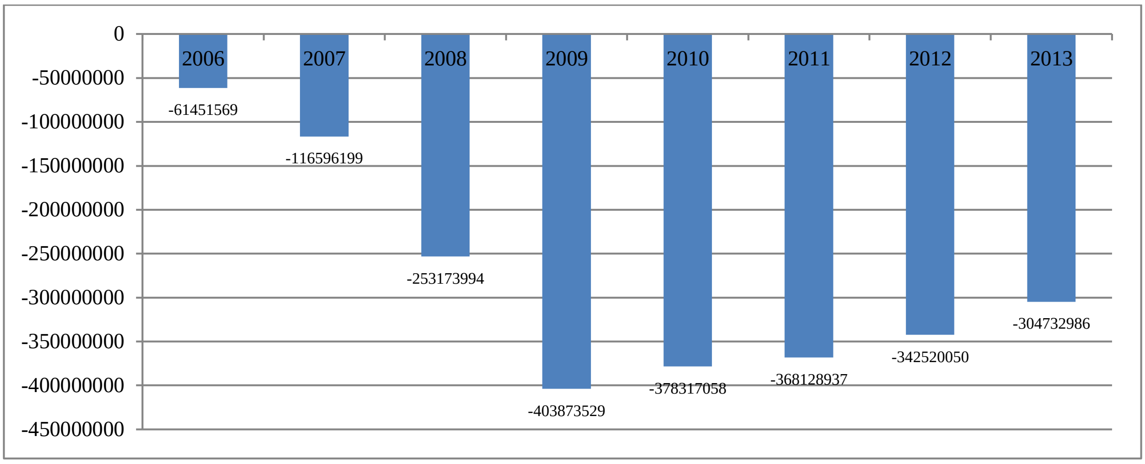

Figure 4: The Evolution of the Market Value Added, based on relation MVA= Market value– Capital invested

Source: *author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

Calculating MVA according to the formula MVA 1= Market capitalization – Net assets, the evolution of the MVA is presented in Figure No.5.

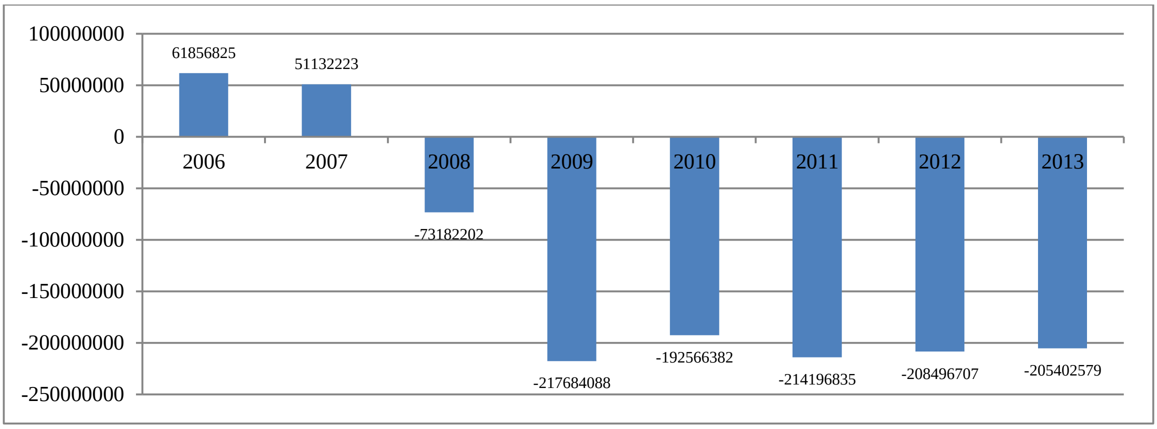

Figure 5: The Evolution of the Market Value Added, based on relation MVA= Market capitalization – Net assets

Source: *author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

These developments of MVA are due to the evolution in its calculation elements: Market capitalization falls by an average annual rate of 6,3%, while Equity increases by an average annual rate of 14,5%, the Invested Capital increases by an annual average rate of 8,18% and the Net Assets value increases by an average annual rate of 15,27%. Market capitalization is higher than equity and Net Assets only in 2006 and 2007, leading to the negative values of MVA. Between 2007-2009, Market capitalizations show a strongly decreasing tendency, followed by a short recovery during 2009-2013. The evolution of MVA_m components are shown in figure No. 6.

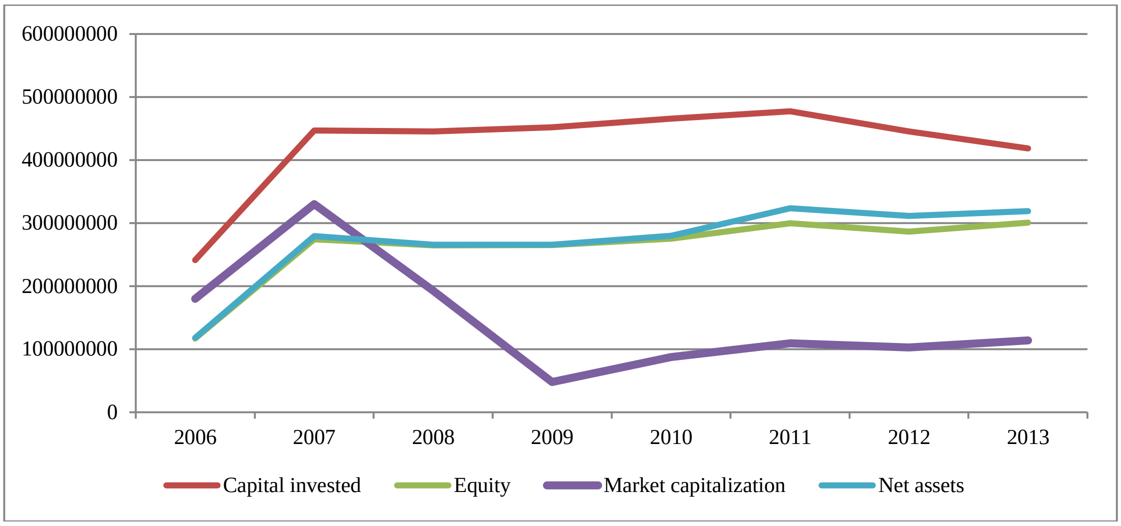

Figure 6: The Evolution of the Market Value Added calculation elements
Source*: author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

3.4.3. Analysis of Cash Flow Value Added (CFVA)

For the years 2006-2013, the evolution of the Cash Flow Value Added (CFVA**)** is presented in Figure no.7.

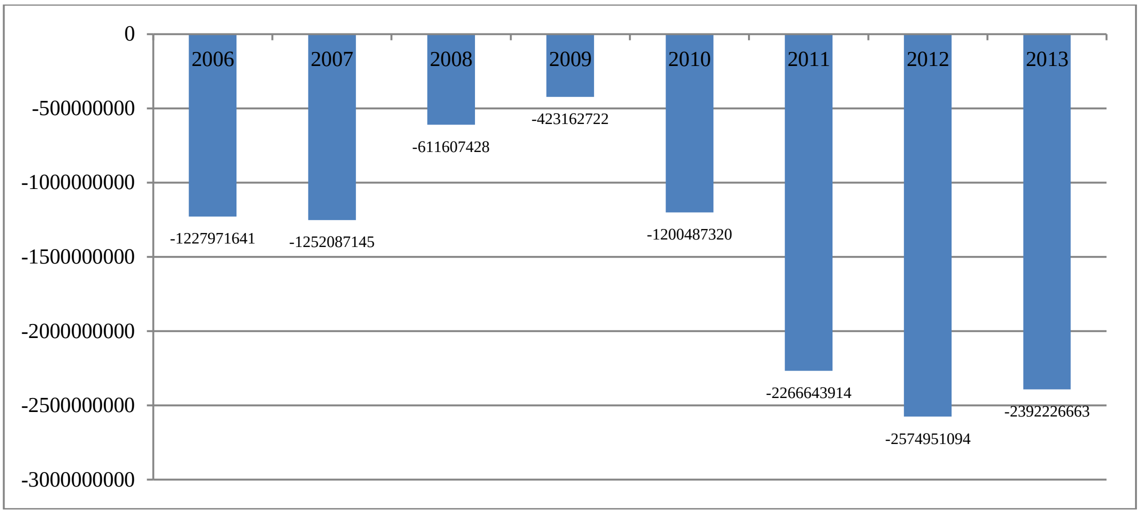

Figure 7: The Evolution of the Cash Flow Value Added (CFVA)
Source*: author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

As it can be noticed, the Cash Flow Value Added (CFVA) has a negative value, along the entire analyzed period as represented in figure No 7, with a significant recovery in 2009. During 2006-2013, the Cash Flow Value Added (CFVA) falls by an average annual rate of 9.99%

3.4.4. Analysis of Total Shareholders Return (TSR)

For the years 2006-2013, the evolution of the Total Shareholders Return (TSR) is presented in Figure No.8.

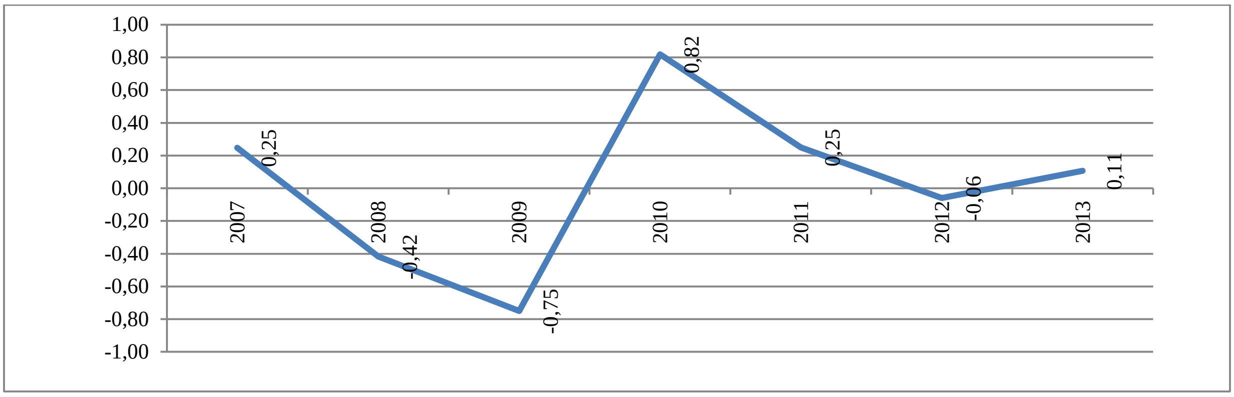

Figure 8: The Evolution of Total Shareholders Return (TSR)
Source*: author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

The evolution of the Total Shareholders Return follows the general evolution of the stock exchange, in the main events in the financial and economic context of the period 2006-2013, with a strong decline during 2007-2009

3.4.5.Analysis of Cash Flow Return on Investment (CFROI)

For the years 2006-2013, the evolution of the Cash Flow Return on Investment (CFROI) is presented in Figure No.9.

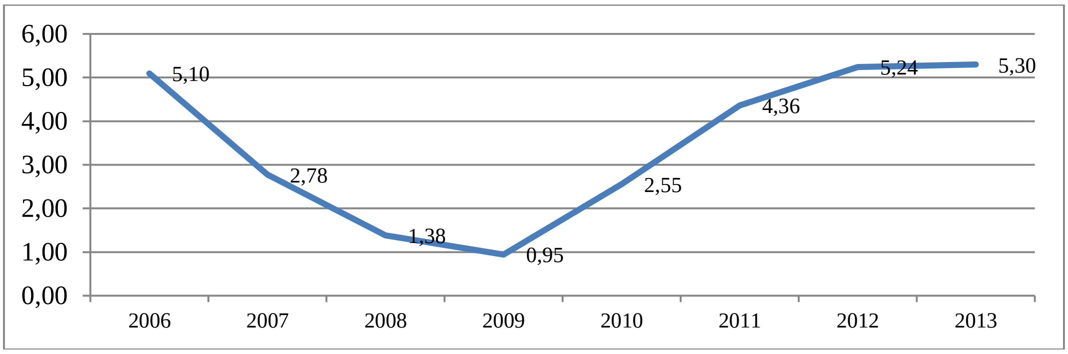

Figure 9: The Evolution of the Cash Flow Return on Investment
Source*: author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

Cash Flow Return on Investment shows a strong decrease during 2006-2009, followed by a by an increase during 2009-2013.

To determine the causes that led to the change in Cash-Flow return on investment, we apply the chain substitution method.

The total variation of Cash-Flow return on investment, in the period t_1 as compared to t_0, where t_1 and t_0 are two consecutive years from the period 2006-2013, is calculated according to the model:

$$\Delta CFROI = CFROI_1 - CFROI_0$$

To determine the causes that led to the change in Cash-Flow return on investment, we apply the chain substitution method, using the following factorial analysis model shown in the methodology of research.

The influence of direct action on the indicator's change:

- cash-flow margin influence (Mcf)

$$\Delta CFROI_{Mcf}= Mcf_1*Na_0-Mcf_0*Na_0=(Mcf_1-Mcf_0)*Na_0$$

- influence of asset turnover ratio (Na)

$$\Delta CFROI_{Na}= Mcf_1*Na_1-Mcf_1*Na_0=Mcf_1(Na_1-Na_0)$$

In the able No 1 are presented, for each period of 2 consecutive years (t_1-t_0) in the range from 2006 to 2013 are presented The total variation of Cash-Flow Return on Investment and the influence of direct action on the indicator's change due to cash-flow margin influence (Mcf) and due to influence of asset turnover ratio (Na)

Table 1: *The total variation of Cash-Flow Return on Investment and causes that generated it*

Period	**$\Delta CFROIi=CFROI_1-CFROI_0$**	**$\Delta CFROI_{Mcf}$ = $(Mcf_1-Mcf_0)*Na_0$**	**$\Delta CFROI_{Na}$ = $Mcf_1(Na_1-Na_0)$**
2006-2007	-2,32	-0,95	-1,37
2007-2008	-1,39	-1,45	0,06
2008-2009	-0,44	-0,21	-0,23
2009-2010	1,61	0,68	0,92
2010-2011	-2,53	-2,50	-0,03
2011-2012	-1,99	-1,88	-0,11
2012-2013	0,06	0,18	-0,13

Source*: author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

During 2006-2013, CFROI recorded decreases, excepting the periods 2009-2010 and 2012-2013.

In most cases, the variation of Cash Flow Margin M_{cf} had a negative influence on CFROI, Cash-Flow Margin's variation's leading to declining Cash-Flow Return on Investment. A positive influence of Cash Flow Margin M_{cf} was recorded during 2009-2010 and 2012-2013.

The influence of the variation of Asset Turnover Ratio (Na), calculated as a ratio between turnover and gross investment was negative, excepting the periods 2007-2008 and 2009-2010.

The combined influence of the two factors is presented in Figure No 10.

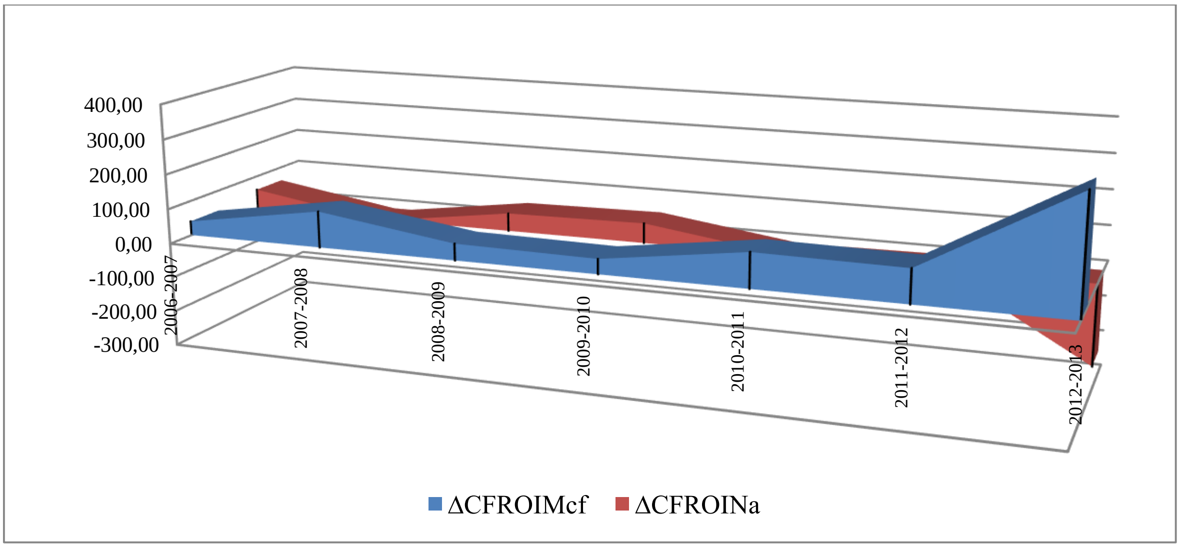

Figure 10: The combined influence of Cash-Flow Margin's and Asset Turnover Ratio variation's

Source*: author's processing, based on information provided by the annual financial statements in the period 2006-2013 of the company, available on www.bvb.ro*

4. CONCLUSIONS

The financial analysis based on modern indicators **allowed us to validate the research hypothesis,** showing that, regardless of the chosen indicator, financial performance is inadequate, consuming value. However, one should note the tendency to reduce inefficiency, even if we can not consider this as a performance improvement.

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