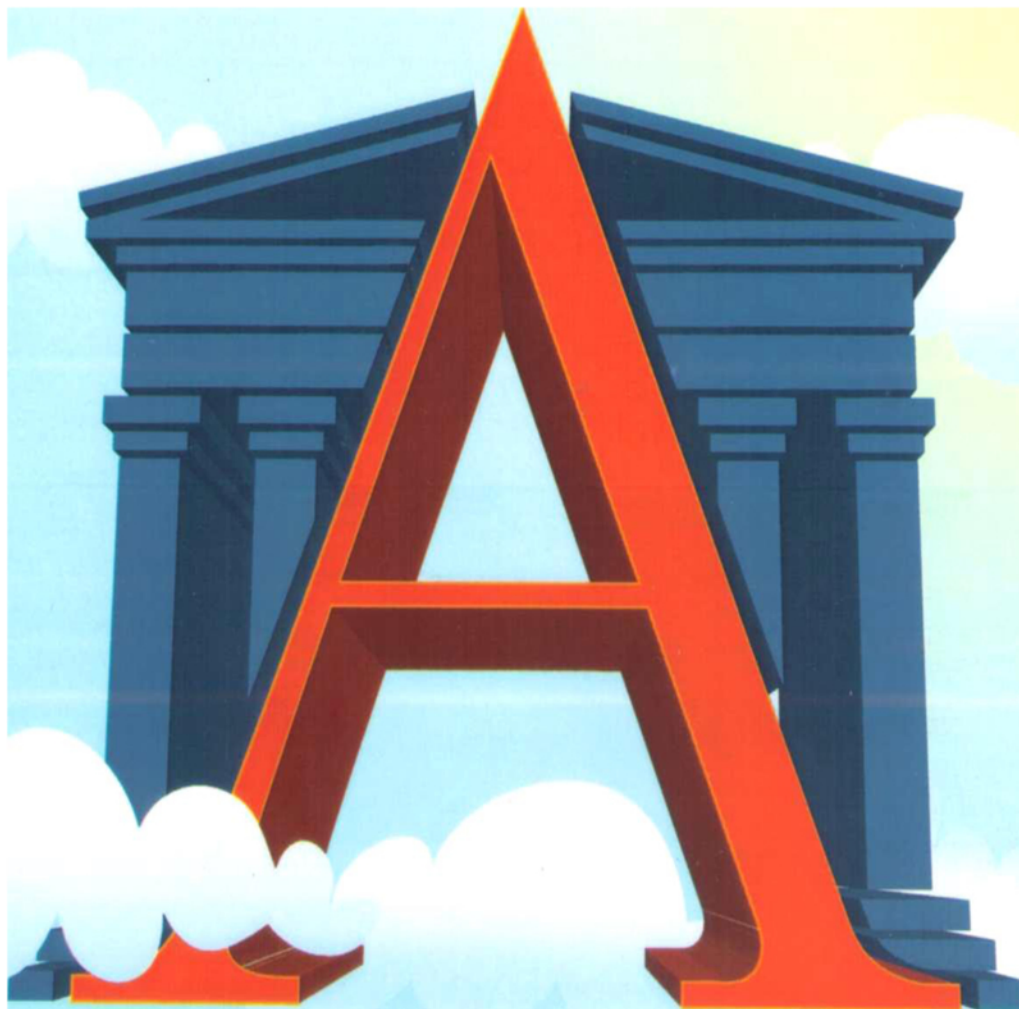


INTERNAL AUDITING & RISK MANAGEMENT

ANUL XII, Nr.1 (45), March 2017



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**IMPLEMENTATION OF MANAGEMENT ACCOUNTING TOOLS –
SOLUTION TO ENHANCE THE PERFORMANCE OF PUBLIC
CAPITAL COMPANIES IN DIFFICULTY.
CASE STUDY: ROMANIAN TELEVISION COMPANY**

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Abstract

The current legislative framework and the tools the Romanian Television Company (SRTv.) has at its disposal, outdated by the realities of the competitive market whereon it operates, brought the Romanian public television before a permanent financial risk. The absence of a coherent long-term operating strategy led to the lack of financial performance and serious situation SRTv. faces for several years. By means of this paper, the authors aim to guide the managers of SRTv. towards the implementation of the management accounting tools, providing several possible solutions by which the financial performance of SRTv. can be improved: budgeting the costs and changing the method of cost calculation.

Keywords: *management accounting, cost budgets, public companies, difficulty, performance.*

JEL Classification: *M41, M42, H83*

1. The Romanian Television Company – national company in difficulty

The Romanian Television Company (SRTv.) is an autonomous entity of national interest, editorially independent, under the control of the Romanian Parliament. SRTv. has the public aim of promoting the “values of the Romanian language, of the cultural, scientific, national and universal authentic creation, of national minorities, as well as the democratic, moral and sport values, to militate for the national unity and country's

independence, to cultivate the human dignity, truth and justice", with competence and exigency as provided by the law (Law 41/1994 on the organisation and operation of SRTv). Hence the undeniable importance of the Romanian Television Company, even more so if we also took into account the general practice of the European Union to support the existence of the public television stations in the member countries.

*The existence of a legal framework full of confusions and interpretations, unrestricted in terms of incurring the expenses, as well as not imposing managerial performance indicators, has enabled the teams who were in the management of SRTv over time (the Council of Administration, Chairman – General Manager and Board of Directors) to come with their own visions and procedures to organise the activity of public television (Catargiu and Răvaş, 2014). The absence of a coherent long-term SRTv. operating strategy led to the lack of financial performance and serious situation the entity faces for several years. Thus, starting with 2006, although the financial situation of the entity was continuously worsening, the management of SRTv. has shown a behaviour of expansion of the activities performed, materialised in establishing new TV channels, purchasing TV shows/ movies and costly broadcasts of sport events, as well as in increasing the number of staff and money rights granted to them. These poor management decisions led to the significant increase of costs and loss of SRTv. between 2006 and 2012, a situation that worsened from one year to another. Thus, compared to 2006 when a deficit of 3,813.11 thousand euro (17,159 thousand lei) was recorded for the first time, at the end of 2011, an annual deficit of 35,735.11 thousand euro (160,808 thousand lei) and the accumulation of debts totally amounting 123,084.89 thousand euro (553,882 thousand lei) were already reached, debts consisting of payment obligations to internal and external suppliers of goods, services and assets, staff of the unit, general consolidated state budget, bank loans, etc. After the evolution described above, in May 2012, the operational accounts were blocked entirely by the National Agency for Fiscal Administration (ANAF), and the debts recorded by the entity were of 652,012 thousand lei (about 146,539,301 euro). The Government of Romania issued the Emergency Ordinance no. 33 of June 27th, 2012 on certain measures to ensure the provision of the public television service, by which the obligation to approve a *program of economic recovery* within 45 days from the date of its entry into force was established to be the responsibility of the Council of Administration of SRTv (Ciurea and Catargiu, 2015). But if we analyse the objectives included in the *program of economic recovery*, we observe they are established in a very general form, without having specific deadlines attached for achievement nor managers or*

responsible structures. No deadlines are set and the timeframe required for the proposed measures to take effects is not specified either.

2. Literature review

Caraiani and Dumitrana (2008) consider the management accounting to be a concept involving knowledge and professional knowledge in preparing and particularly in presenting the information required to managers on various hierarchic levels. Tabără and Briciu (2010) develop the concept, considering that management accounting should provide the manager with those elements that would make them understand the phenomena and processes that occur within the organisation, to provide operative information based on which relevant decisions can be taken, to be able to provide the repercussions of the decisions taken and, at the same time, to have the levers to perform a permanent and efficient control. We can find many authors dealing with these issues, such as Proctor (2002); Burlaud and Simon (2003); Coombs et al. (2005); Bouquin (2006); Iacob (2007). In line with Bouquin (2004) and Horngren et al. (2006), the managerial approach to cost calculation is encountered in the works of Călin et al. (2001, 2005, 2008) and Man (2007, 2008) which proves the importance of ante-calculation of costs, explains the technique of elaborating the budgets of costs and connection with the standard-cost method. The utility of the budgets of costs for controlling the performance of organisations is also dealt with in the works of Albu and Albu (2003); Bouquin (2004); De Ronge and Cerrada (2005); Selmer (2009); Dima and Grabara (2009); Man and Dima (2010, 2012); Tabără and Briciu (2010); Iacob (2016).

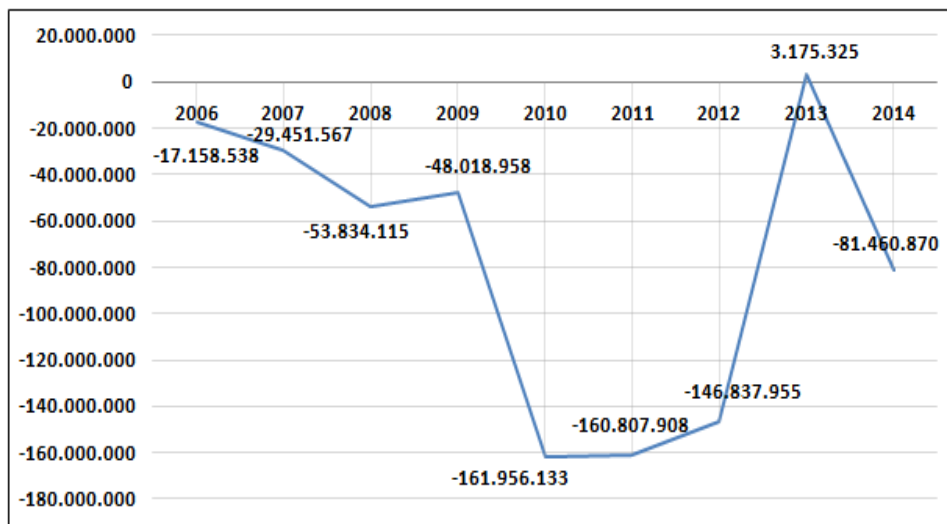
3. Methodology of the Research

To elaborate the paper, we combined the qualitative research with the quantitative research, by highlighting the particularities of the topic, both theoretically, of descriptive-conceptual manner and practically, empirical. Regarding the theoretical perspective, we considered that the best approach is of deductive type, starting from the general to the particular. The perspective of the quantitative research allows an empirical, inductive approach, starting from the conclusions identified at the level of the case study to formulating generalised conclusions. The research methods we used were: analysis of documents, comparison, non-participant observation and participant observation, consultation with specialists, analysis of descriptive statistics, etc. We analyse *the annual financial statements of SRTv for the last ten years, the budgets of incomes and expenses, the legislation in force regarding the organisation, operation and legal status of*

SRTv, the system of organising the management accounting, calculating, controlling and reporting the production costs of SRTv.

4. The Financial Situation of the Romanian Television Company

Analysing the evolution of the financial results, we considered it necessary to present the annual accounting results recorded for the period between 2006 and 2014, in “lei” (romanian monetary unit), which is shown graphically in Figure 1.



Source: Romanian Court of Accounts – SRTv. Performance Audit Report, 2015.

Figure 1. Annual Results recorded between 2006 and 2014

From the analysis of the data shown in the figure above, one may observe that SRTv. has recorded significant *losses* between 2006 and 2014, the only exception being the year 2013. Starting with the second half of 2012, one of the priority objectives of the management of SRTv. was to resize and reorganise the activity, under the conditions of increasing the editorial production and reducing the production costs. Year 2013 was an important moment for SRTv., if we take into account the fact that in February 2013 the staff dismissal began, according to the program of economic recovery, which also included the reconfiguration of the organisational structure. In August 2013, the production flows were redesigned and the budget of incomes and expenses was resized. To achieve the editorial productions, less was spent in 2013, compared to 2012. With all these efforts, at the end of 2014, SRTv. records again losses of more than 18 million euro (81 million lei). Regarding 2015, by analysing the annual financial statements, one may observe that at the end of the year, SRTv

recorded the following economic-financial indicators (Table 1). We observe that SRTv is again in difficulty, recording losses. The level of the loss related to 2015 is of 5,381,444.44 euro (24,216,500 lei), standing however by 70.32% below the level of the loss of 2014, which was more than 18 million euro (Table 2).

Table 1. Statement of Incomes, Expenses and Results – 2015

No.	Indicators	2015 (euro)
1.	INCOMES , of which: Incomes from exploitation Financial incomes	111,346,635 110,017,107 1,329,528
2.	EXPENSES , of which: Expenses from exploitation Financial expenses	116,728,080 113,557,890 3,170,190
3.	NET TURNOVER	107,639,896
4.	RESULT OF THE FINANCIAL YEAR: loss	-5,381,445

Source: processing after the Annual Financial Statements of SRTv. 2015

Table 2. Statement on the Accounting Result - 2015

No.	Indicators	2015 (euro)	2014 (euro)	Deviations 2015/2014
1.	INCOMES	111,346,635	120,937,686	- 7.93%
2.	EXPENSES	116,728,080	139,068,355	- 16.06%
3.	ACCOUNTING RESULT: loss	5,381,445	18,130,669	- 70.32%

Source: processing after the Annual Financial Statements of SRTv. 2015

If we analyse the *result of the financial year 2015* by components, we observe the following: *the result from operation* at the end of 2015 is a *loss* of 3,540,782.66 euro (15,933,522 lei) by 78 % lower than the *loss* related to 2014 of 16,051,691.33 euro (72,232,611 lei) (Table 3); *the financial result* is a *loss* of 1,840,661.78 euro (8,282,978 lei), by 11.46% lower than the *loss* related to 2014 of 2,078,978 euro (9,355,401 lei) (Table 4).

Table 3. Statement of the Result from Operation – 2015

No.	Indicators	2015 (euro)	2015 (%)	Deviations 2015/2014
1.	REVENUES FROM EXPLOITATION	110,017,107.11	100	- 9.35%

1.1	Incomes from the fee for the public television service	74,327,811.17	67.56	4.78%
1.2	Incomes from advertising	4,489,884.31	4.08	-29.82%
1.3	Revenues from operating subsidies	27,351,743.12	24.86	-30.95%
1.4	Other incomes from exploitation	3,847,668.51	3.50	14.77%
2.	EXPENSES FROM EXPLOITATION	113,557,889.77	100	-16.72%
2.1	Expenses with the personnel	38,863,541.56	34.22	12.12%
2.2	Expenses related to external services	38,879,033.56	34.24	-31.19%
2.3	Expenses with taxes and duties	9,238,047.33	8.14	-17.82%
2.4	Expenses with the depreciations and adjustments to tangible and intangible assets	6,469,956.00	5.70	-7.75%
2.5	Expenses with adjustments and risk provisions and those related to current assets	11,209,730.22	9.87	2.29%
2.6	Expenses with consumable materials, inventory items, power, water, etc.	1,922,189.77	1.69	-1.64%
2.7	Other expenses from exploitation	6,975,391.33	6.14	-50.2%
3.	OPERATING RESULT (loss)	-3,540,782.66	-	-78%

Source: processing after the Annual Financial Statements of SRTv. 2015

Table 4. Statement on the Financial Result - 2015

No.	Indicators	2015 (euro)	2015 (%)	Deviations 2015/2014
1.	FINANCIAL INCOMES	1,329,528.44	100	108.20%
1.1	Revenues from foreign exchange differences	1,316,934.00	99.05	106.54 %
1.2	Other financial incomes	12,594.44	0.95	1215.00%

2.	FINANCIAL EXPENSES	3,170,190.22	100	16.65%
2.1	Exchange rate difference expenses	2,231,624.00	70.39	86.65%
2.2	Expenses on interests for the long and short term loans	938,566.22	29.61	-38.33%
3.	FINANCIAL RESULT (loss)	- 1,840,661.78	-	-11.46%

Source: processing after the Annual Financial Statements of SRTv. 2015

It may be observed that the managers of SRTv. have found some solutions to reduce the losses recorded by SRTv., but not enough. The most significant one is the extent of massive lay-off, taken in 2013. The further development of the economic and financial situation of SRTv. reflects the fact that other solutions should be sought. In this regard, we propose the managerial accounting of SRTv. to be resized, in the sense of focusing managers' attention on the budgets of costs, operative control of deviations and change of the method of cost calculation.

5. Organising the Managerial Accounting at the Romanian Television Company. Interest and Limits

The *General Budget* of SRTv consists of the *Budget of incomes and expenses*, *Treasury Budget (cash-flow)* and *the Statement on the main economic and financial indicators*. Preparing the *Budget of incomes and expenses of SRTv* is the procedure whereby the incomes (resources) intended to achieve the objectives established for a determined period of time (one year) are planned, along with planning the level of expenses, allowed by the resources for achieving those objectives. In designing the *budget of expenses*, the factors that can influence the level of estimated expenses are taken into account, namely:

- strategy of programs (the activity of production and broadcasting shows) established by the management of SRTv.;
- ranking the objectives depending on the general strategy of SRTv.;
- level of resources allocated through the project of the income budget of the budgeted period;
- expenses already contracted in previous periods;
- expenses incurred from allocations from the state budget;
- forecasted level of inflation;
- estimated foreign exchange rate;
- forecast of the national economy evolution in the global economic environment, etc.

Since 2010, at the Romanian Television Company, the *Procedure on the Organisation and Management of Bookkeeping*. Studying the content of this procedure, we encounter the formulation according to which, in order to elaborate the *Budget of expenses* at SRTv., the expenses are grouped into: *direct costs, indirect costs and overheads*, and within each group, the expenses are grouped by categories (materials and inventory items, power, gas, water, maintenance and repairs, rents, insurances, travels, postal services, phone, protocol, advertising, copyrights and related rights, civil contracts, awards for shows, levies, taxes and duties, labour protection, licences, settlements on staff – salaries and vouchers, banking services, amortisation). Or, by analysing the structure and content of a *Budget of incomes and expenses* prepared by SRTv., one may observe that this institution groups the expenses according to the requirements of the general (financial) accounting and not according to the specifics of the management accounting, as specified in the aforementioned procedure. It is also observed that in SRTv. *no budgets of costs are prepared, there being a confusion between the concept of expense and the concept of cost*.

Also, as it could have been observed from the research carried out at SRTv. on the expenses incurred by the achievement and broadcasting of TV shows, *indirect costs can currently reach even up to two thirds of the amount of total costs incurred by the activity of producing TV shows*. At SRTv., the method for calculating the costs incurred by the production of TV shows is a classical one (Călin and Man and Nedelcu, 2008), which has characteristics that render it closer to the specifics of the *method by orders*. At SRTv., the method for calculating the costs incurred by the production of TV shows is a classical one, which has characteristics that render it closer to the specifics of the *method by orders*. Of course, the shortcomings of the method for calculating the costs, used at SRTv. have impact on the accounting information on the cost per TV show. *In our opinion, using the method by orders in calculating the costs at SRTv has many disadvantages: inadequacy of cost structure, uncompetitive prices in relation to competing televisions, cumbersome communication within the organisational structures, inexistence of a dashboard*.

From the research carried out at SRTv., it was observed that the *problem of calculating the costs at this entity is not a priority, being seen rather formally, as an obligation, not as a necessity of the management*, thus reaching the situation of not knowing the level of the actual cost, this having a negative impact on the economic activity of that company. Production costs are determined by joining a share of indirect costs to direct costs, depending on the degree of loading the studio of a TV show. Therefore, the allocation of indirect expenses between the shows produced is done depending on a direct consumption that can be appropriate, only if it

is relevant. Taking into account that indirect expenses are currently a significant percentage of the total production costs, the use of these procedures is not appropriate (Rakos and Man, 2015). *After the process of production of a TV show finished, the actual cost determined is not exactly a real cost. Examining its composition, we observe that cost cannot be considered "exact", as it encompasses many expenses determined by preliminary or restrictive calculations.* In completing the fact that it does not guarantee the establishment of a real cost, does not guarantee an operational information of the management of SRTv. in order to adopt competent decisions in a timely manner (Măcriș and Grabara, 2014).

The actual full cost of the shows is known after the whole production process related to a season finished and all expenses on their development were collected, printing a prominent historical feature to the data transmitted, which makes it possible to use them only for perspective (Man and Ciurea, 2016). *The historicity of the data transmitted by this method makes the adjustment of the production phenomenon to not be achieved operationally in its evolution, therefore their contribution in substantiating the short term decisions is low.* In case of taking a decision based on costs, after completing the production process, it is likely that the data provided by this method would be late, not being always relevant. Because of these difficulties, the actual cost calculated is appreciated as a historical cost. *Determining the actual cost at the end of the production season of TV shows limits its informational character, the data provided being used only in the long term management phenomena, their related season being already over.*

The lack of efficiency of the current calculation method used is another limit with major implications in the management process. Its application does not allow the performance of an operative and efficient control on how to use the material and personnel resources. As the actual cost of the TV show is calculated only at the end of the season, comparing it to the preset cost in order to determine the deviations can be done only at this moment, which is late and practically the information on those deviations can no longer be useful to managers in order to adopt the decisions of eliminating the unfavourable deviations and reducing the costs involved. Therefore, there is not a coherent system for tracking and reporting the deviations from the preset costs in the methodological concept of the calculation method applied by structures appropriate to these, by places of expenses as centres of responsibility and by causes.

6. Cost Budgets – Instruments of Managerial Accounting Useful in Improving the Performance of the Romanian Television Company

The managers of the companies in difficulty face the problem of finding solutions that would enable them to size and control the balance between expenses and incomes. In this regard, *we consider that **the cost budgets** can become a tool to harmonise and especially to streamline the relation between expenses and incomes within SRTv., and budgeting the costs, a systematic economic practice that involves the performance of a formal process of allocating the financial resources, in order to achieve objectives aimed at the upcoming period* (Călin and Man and Nedelcu, 2008). **Budgeting the costs** involves the development of budgets that would allow the presentation of all digit forecasts in costs at SRTv. Thus, it is a matter of creating autonomous subsystems inside SRTv, called *cost centres*, which would present the optimisation of using the resources allocated and gaining profit as their objective. The cost centre is an identifiable function or part of the economic entity at the level of which costs can be identified. *The profit centre* is a broader vision of the idea of economical sectoring, given that here, both costs and profits can be identifiable (Dima and Man, 2012).

Preparing the **Cost budget** regarding the activity to develop TV shows at SRTv. involves drafting *partial budgets of costs*, which are ultimately centralised in a **General Budget (centraliser) of costs** related to the operating activity. In organising the budget process, the organisational structure of SRTv. down to the level of jobs can be taken into account. Sectoring the SRTv by channels of distribution, centres of production (studios) and responsibility, the administrative and management sector requires the localisation of the costs both in ante-calculations and post-calculations, by each centre of costs, and therein, by the *bearer of costs (the TV show)*, in order to determine the *unit cost per show, the total cost of the broadcasting channel productions, total cost of SRTv productions*.

In the approach of the research performed, we suggest the elaboration of distinct **Budgets of costs** for the groups of direct expenses, respectively for the indirect expenses, considering that the relevance (quality) of the information regarding the costs provided by these budgets is much higher (Dima and Man, 2015). Based on the researches performed, the mathematical model of the **General Budget of the Romanian Television Company's Costs** was drafted as follows:

$$\text{GBC} = \sum_{i=1}^n \text{BCC}_i ,$$

where: **GBC** – **General Budget of the production and broadcasting Costs of SRTv.**;

BCC_i – *Budget of Costs*, related to a broadcasting channel “i”;

i – broadcasting channels of SRTv. (e.g.: the TVR 1 channel, the TVR 2 channel, etc.); $i = 1, 2, \dots, n$.

On the date of carrying out the research, SRTv. used only six broadcasting channels, therefore six BCC's should be developed, the sum of which will result in the BCG. The mathematical model of the **Budget of costs related to a broadcasting channel** is a *sum of several partial budgets of direct and indirect costs*, such as:

$$BCC_i = BEDM_i + BEDL_i + BODE_i + BIEP_i + BGBME(\text{share } i) ,$$

where: **BCC_i** – **Budget of costs**, related to a broadcasting channel “ i ”;
BEDM_i – *Budget of Expenses with Direct Materials*, related to the broadcasting channel “ i ”;
BEDL_i – *Budget of Expenses with Direct Labour*, including the contributions to the insurances and social protection, related to the broadcasting channel “ i ”;
BODE_i – *Budget of Other Direct Expenses*, related to the broadcasting channel “ i ”;
BIEP_i – *Budget of Indirect Expenses of Production*, related to the broadcasting channel “ i ”;
BGBME(share i)– the *share of expenses* from the *Budget of General SRTv. Broadcasting and Management Expenses* incumbent to the broadcasting channel “ i ”.

For the operative supply of the information on the production costs and for the development of the forecasting side of the managerial accounting in SRTv., *it is necessary to adopt a calculation method based on preset costs, which would harmonise with the budgets of costs, in the sense of using the information provided by them. In this sense, we consider that the standard cost method would best meet these requirements, a method that provides information on the production costs of operative, functional and forecasting feature.*

By applying the *standard-cost method*, the shortcomings of the current method for calculating the costs are eliminated, due to the advantages they offer in terms of the efficiency of the information provided on the deviations arising in the process of production and of simplifying the works of calculating the costs (Horngren and Datar and Foster, 2008). This method consistently promotes the *anticipated calculation of the production costs, as well as the determination, tracking and control of the deviations from them*. According to this method, the cost is not calculated after completing the manufacturing process, but before starting it, removing all post-calculation operations. Standard costs are established scientifically, based on the data from the previous periods, but also based on the

forecasted elements correlated with the conditions in which it is expected that the economic entity will operate in the future. The standard cost is considered to be a reasonable and definite cost, which is why the actual cost is no longer calculated.

By applying the standard-cost method, operational and forecasting techniques and procedures are adopted, based on preset costs, which creates the possibility to compare between the actual and standard, for highlighting and analysing the causes that determined any deviations. The results of the analysis of deviations are used as basis of substantiating the decisions on the costs for the upcoming period. *The analysis of the deviations* is a helpful tool of controlling the performance and serves in achieving the planned level of performance. Highlighting and analysing the deviations can only make sense in the case of *the same level of activity*, namely *actual, real, effective* (Man and Dima, 2010).

$$\text{Total deviation} = \text{Real (actual)} - \text{Budgeted (standard)}$$

$$(\Delta t) \qquad (R) \qquad (B)$$

As a result, budgets will be adjusted to the actual activity and the achieved profit can be compared to the preset one. The deviations calculated for analysis can be highlighted by the *total deviation* (Δt), as an aggregation of all categories of deviations, and *partial deviations* (deviations for materials, deviations for labour, deviations for indirect expenses). For maximum efficiency, *reporting the deviations* must meet the following conditions (Dima, 2015): correct identification of deviations by factors of influence; clear determination of the responsibilities for each individual, in order to identify those responsible for unfavourable deviations; because deviations can be controllable and uncontrollable, reporting the deviations will focus on the accounting ones in order to identify on time the responsibilities and rapidly act by correction measures imposed by each case; reporting the deviations to the top management can also include details in the case of the deviations provided by lower levels, by causes and responsible individuals.

7. Research Implications

The economic environment is in a constant change, therefore, *budgets should not be managed strictly and rigidly, if a change of previously established plans is required*. In other words, the compliance with budgeting should not be a purpose in itself for the managers of SRTv. The budgeting process requires SRTv. to have a special structure, so that there is a responsible person for each individual budget. Applying the budgetary technique is costly, but managers should aim to compensate the cost through the advantages they obtain. Due to the fact that budgets are a fundamental

component in the control systems, if they are well managed, they have a number of advantages. These advantages result from the role budgeting has: it imposes strategic planning and the implementation of action plans; it facilitates the communication between the subdivisions of SRTv., as well as the internal coordination; it allocates the resources; it provides that reference environment required to evaluate the performance of SRTv.; it motivates both the managers and the employees of SRTv. We can say that budgeting is recommended as important technique that helps the management process (Modrak and Dima and Man, 2011) in at least six ways:

- forcing the managers to plan for the future and restart the ad-hoc decisions;
- supporting the communication, so that the management would establish objectives and subordinates would indicate the problems and opportunities they perceive. Everyone should understand their role in executing the annual budget;
- supporting the coordination, by the fact that separate functional departments provide data that must be corroborated during the budget process. A strong budget helps in coordinating the separate activities and ensures the harmony between all the components of the organisation;
- clearly defining the targets that would support motivation. If the employees participate individually in preparing the budget, assisting the management in their activities, this can be a strong motivating factor, thus providing a challenge. On the contrary, if the budget is dictated "from above", it is rather a threat than a challenge, which can do more harm than good;
- providing standards and plans that can be introduced as part of the control process. By comparing the current results to the amounts recorded in the budget for different categories of expenses, managers can determine which costs are not compliant with the initial plan and which require their attention;
- providing a benchmark/ standard in relation to which managers can be assessed. The performance of a manager is most often assessed by measuring their success in the management of budgets.

Conclusions

The exceptional situation of SRTv. motivates our research approach to contribute to finding solutions to improve the performance of SRTv. by optimising the operation of the system for organising the managerial accounting, calculation and control of costs at the level of SRTv. *Implementing the budget system of costs* also leads to the need to *reorganise the managerial accounting*; this should adapt to the specifics of the ante-

calculation of costs to capitalise the wealth of information provided to the managers of the budget system. In this respect, it was suggested to implement *the standard-cost method in the single standard-cost variant*. Along with adopting the budgets, the performance of SRTv. can be assessed by relating the obtained results to the budgets developed. In other words, *the budgets allow managers to overcome the shortcomings related to using the past results in order to be able to analyse the current results*, namely: the results obtained in the past include both the results and the performance of past standards; using the past results, we forecast the future, but the conditions may vary.

The main limits of the research performed are: limited access to the economic information of SRTv. regarding the costs, which are not intended for external users, but only to the internal ones; the lack of information essential to control the current activities, to plan the future activities, to ensure the optimal use of resources, to measure and evaluate the performances of all subdivisions of SRTv., in order to win the competitive position; reluctance on the part of the management team and employees in answering the questions on the instruments used in SRTv. to control the performances; the theoretical documentation was predominantly from the Romanian, French and English literature, and the research applied in a Romanian environment; the technique for budgeting the costs at an experimental stage being validated on a small number of cases.

The conclusions of this research are *starting points for future researches*, as follows: to implement the technique of budgeting the costs in each broadcasting channel of SRTv.; to elaborate the budgets based on activities in SRTv.; to analyse the behaviour of the personnel in terms of the budgetary process within SRTv., both at the stage of preparing the budgets and at that of performing the budgetary control and the analysis of deviations; the achievement of models of dashboards for each organisational level of SRTV.

In SRTv. managerial accounting will thus change from a historical record that registers and reflects past facts, without the power of efficient and operative information, into a modern tool of management.

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HOW TO USE FINANCIAL STATEMENTS WITHIN THE GLOBAL ECONOMIC ANALYSIS TREND

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Abstract

This article aims to put into the light the importance of the financial statements within our day's financial analysis trend. Our research begins with a description of the importance given to financial analyses as part of the global economic diagnose for any worldwide entity. The idea developed throughout is a better understanding of the financial indicators used in this area, even quantitative or qualitative, with a view from outside, as an investor interested to achieve one of the best choice in Romanian market, with a limited information at its disposal. Therefore, our article present a form of how to manage to analyze the economic situation for a company only by the public information gathered through the internet and is looking for a suitable answer on this making easier decision environment.

Keywords: *financial statements, global economic analysis, profit and loss, investment decision, financial indicators*

JEL Classification: *M410*

1. Introduction

Competition is everywhere and due of the competition all over the world since golden age to our days, most people is thinking that the winner takes it all. On the contrary, the economists are wondering why sometimes the loser can take part of it or can take it all, if the others are not interested.

As a chance of survival into the economic jungle, when globalization seems to be the single way to perform, when the information is spreaded with the speed of our thoughts, an essential place has been billed to the financial analysis as part of the economic global analysis trend.

The specific elements of the global economy (i.e.: economical freedom, globalization, competition, changing the economy based on industrialization with the economy based on knowledge and information, social and ecological challenges, global financial crises) decided also the new items to be solved by any company, both with economic and social

responsibilities, not only for their own profit but also for society improvement.

The global economic environment of our time being, with its specific elements, is asking to the companies for new performance standards and these standards are beyond the economic territories.

In the next, our research is trying to highlight the importance of the financial analysis if is completed with social information about the company, in case of interest and how the financial statements should include such social and ecological information. Considering these aspects, we assume as a must, the integration within the development strategy of a company by social and environment standards elements aiming to perform the activities sustainability and the harmonization of its objectives.

This study tries also to treat and analyze the subject of performance at the Romanian company's level and the most important question is how the performance should be measured considering that, social and ecological information are not reflected direct as indicators in our financial statements derived by the present accounting and tax legislation.

2. The performance concept

Regarding the state of knowledge, the concept of performance has seen a remarkable evolution, so that if up during the 50s years, all definitions references to financial measures of performance, which is particularly appreciated by the couple costs / benefits subsequently being used and other measures such as quality offered to customers (up during the 90s years) currently, performance concept has evolved to a comprehensive approach including financial aspects and the non-financial aspects which relate, mainly, to the elements of social responsibility.

If the last century has in the center the financial performance, currently economic entities have realized that this is only the result of the race, but the race itself and the determinant of success racing future is what today, in the context of sustainable development of society, call overall performance.

The overall performance of the entity involves the aggregation of economic performance, with the social and environmental performance. All economic entities are claiming performance so that performance management has become a tool not only useful but also indispensable, unable to speak of performance without proper management, performance evaluation and in this context, is a key to management.

In this article vision the research is limited for financial indicators for a general economic and financial analysis as the following:

1. **company's ability to generate profit**, with indicators such as: commercial margin, EBITDA, operational net profit, commercial

profitability, return on assets, sales revenue, cost of acquisitions, production cost,

2. **company's ability to pay its debts**, with indicators such as: liquidity-ability to pay short-term debts, solvency- ability to pay debts on short, medium and long terms

As the results of medical tests aim to assess the health of a person, the same applies to the interpretation of financial results (indicators) obtained for the assessment of the "financial health" of a company.

Economic and financial results obtained are assessed by

-comparison with the values obtained for the same company in prior periods, to appreciate the time evolution of the "state of financial health"

-or comparing with the averages registered or recommended for different areas and industries for various types of companies.

Depending on the objectives pursued by the economical-financial diagnosis of a company and depending on the assessment of the results, we can arrive at different conclusions, of which I would mention:

- the financial evolution of the company (overall or industry analysis) their performance has improved compared to the prior period, but compared to the average values of branch activity can be seen as a company is much below these performances;

- the financial evolution of the company (overall or industry analysis) own performance deteriorated from the prior period, but compared to the average values of branch activity can be seen that the company lags far more than these performances.

Depending on the conclusions of the financial diagnosis, which occurs we can identify the strengths and weaknesses of the company, as the first step to prepare a corrective action plan in the short, medium or long term, in order to recover, maintain or optimize "state of financial health" of the company.

In a separate note, all the above concernings for management level, inside the company, would also arise a kind of interest for the investors, too.

But the investors are firstly looking by outside. They are looking for the elements impacting the value of the company in their eyes. As a general rule, the primary information are gathered by mass-media and following, if a private investor wants to make his own short investigation, the next step is the public information which can be asses.

Our research intends to mirror how usefull or not, are the public information provided by the Ministry of Finance official website, for any investor interested to find a primary diagnosis for a company with Romanian residence.

3. Research methodology

Taking into accounts the limits of this article, we decided to analyze two important indicators: solvency and liquidity of a company (picked from the internet www.mfinante.ro by chance).

The financial data and information are extracted from the financial statements published by the Ministry Of Finance on its web page www.mfinante.ro, namely the financial statements as for 31.12.2015 and the balance sheet founded also on the company web page, with data and information as for 30.09.2016.

This financial database is used for indicators calculation in the next passage.

The economic analysis using the company's financial situation is a *methodological study of the company development stage in terms of financial structure and solvency,*

starting from:

1. the balance sheet,
2. the income statement, annexes, a
3. and the corresponding period as of 31.12.2015 and of 30.09.2016 (info provided by company management on its website).

4. An empirical case study

In this context this analysis aims to capture key aspects of the business in terms of economic and financial developments to interpret and recognize trends that can fit future evolution of company solvency on short time (less than 1 year)

As a matter of fact will be analysed the impact of an external event in the health company during for less than one month).

Table no.1. Indicators from Y2015 financial statements

INDICATORS NAME	Value (lei)
1	2
FIXXED ASSETS - TOTAL	34162
CURRENT ASSETS- TOTAL:	11808156
Stocks	3312401
Receivables	8353627
Cash and equivalent	142128
ADVANCE EXPENSES	0
DEBTS	10577674
ADVANCE REVENUE	0
PROVISIONS	0

SOCIAL CAPITAL - TOTAL:	1264644
Subscribed and paid capital	335200
Indicators from the profit and loss account	
TURNOVER	11971596
TOTAL INCOME	11991079
TOTAL EXPENSES	11031158
Brut Profit or loss	
-Profit	959921
-Loss	0
NET Profit or loss	
-Profit	806334
-Loss	0
Taxes (16%)	153587
Indicators for salaries	267000
No of employees	7
Type of activity under CAEN clasification	Trade, import & export for furniture and other home articles

Source: www.mfinante.ro accessed at 14.12.2017

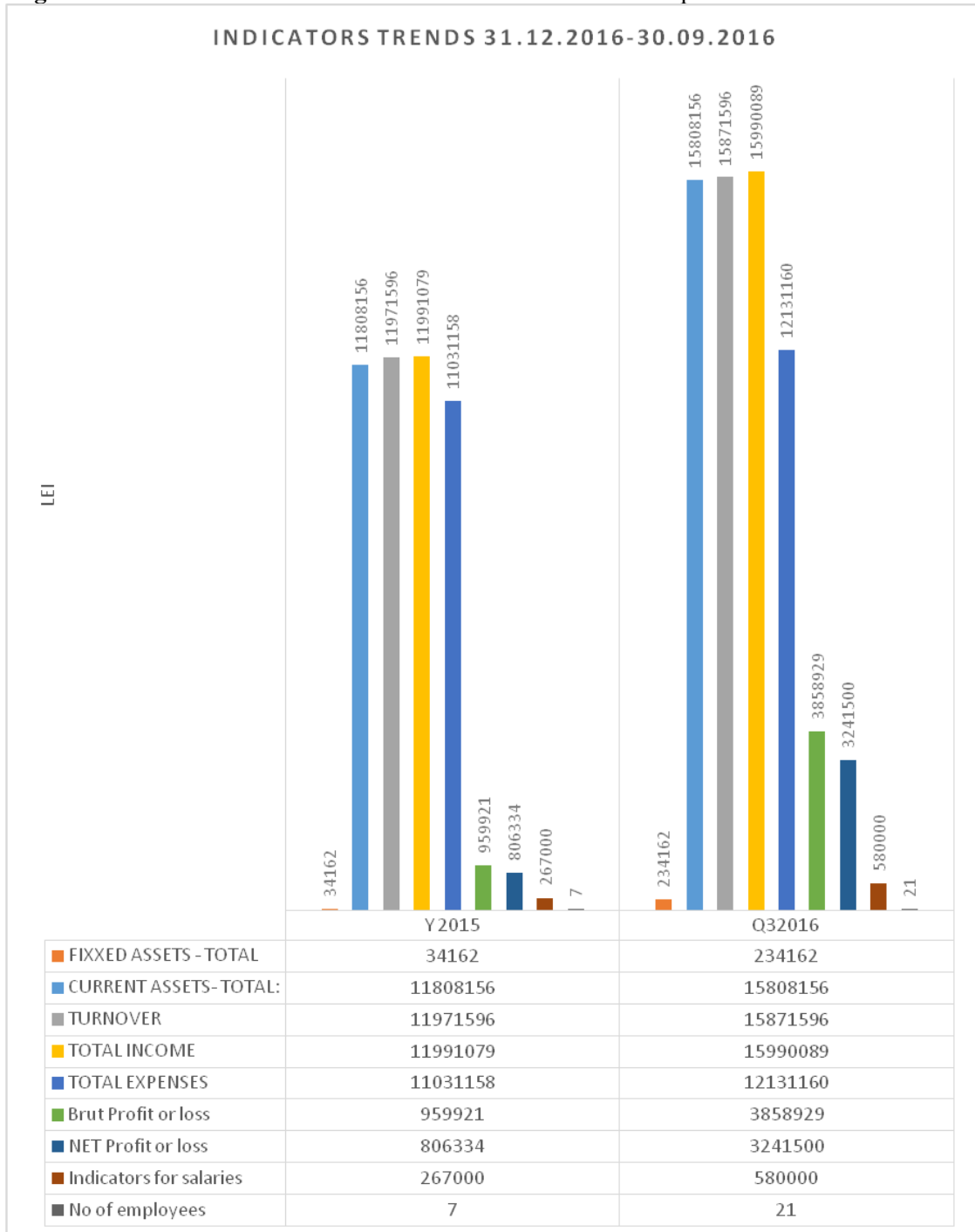
Table no.2. Indicators from Q3 2016 Balance sheet

INDICATORS NAME	Value (lei)
1	2
FIXXED ASSETS - TOTAL	234162
CURRENT ASSETS- TOTAL:	15808156
Stocks	2312401
Receivables	10353627
Cash and equivalents	3142128
ADVANCE EXPENSES	0
DEBTS	5577674
ADVANCE REVENUE	0
PROVISIONS	0
SOCIAL CAPITAL - TOTAL:	1264644

Subscribed and paid capital	335200
Indicators from the profit and loss account	
TURNOVER	15871596
TOTAL INCOME	15990089
TOTAL EXPENSES	12131160
Brut Profit or loss	
-Profit	3858929
-Loss	0
NET Profit or loss	
-Profit	3241500
-Loss	0
Taxes (16%)	617429
Indicators for salaries	580000
No of employees	21
Type of activity under CAEN clasification	Trade, import & export for furniture and other home articles

Source: www.marne.ro accesed at 14.02.2017

Figure no 1. Indicators trend as of 31st of December 2015 and September 2016



Source: made by the author

As the figure above we could say that the company is in a positive way of living: **is generating profit and has the capacity to pay its debts.**

As a matter of number facts, we can observe that, the entire company assets (fixed and current) are increasingly in a better way and the profit accounts registered high good steps.

So, we can conclude using this kind of information source that the company is in a good health and any investor should find it as an attractive investment.

We also note that the number of employees and the salaries registered a growing up trend and this information could confirm at first sight that a social responsibility is taken by the management of this company in a good way.

But, let's imagine how this lovely picture is changed by a simple TV news or an article spreaded into a national newspaper. Because of an innopinate control made by the fiscal state bodies at the level of several companies acting in the same commercial area as the above company, their activities were closed and the legal representatives went under the fiscal investigations motivated by a fiscal bad behavior of a couple of common suppliers (not paying their taxes).

Therefore, the company fall apart, the activity was suspended, the employees were fired, the creditors were not able to recover their money. So, the good health of the company as of September 2016, is changed into an worse scenario at the end of October 2016 and the value for investments seems to be down or better said seems to be zero.

In this case the question for everybody should be like: are really mirroring the financial statements the health of any company?

What about the general principle of accountancy: to reflect the company as a mirror?

It seems that financial statements are only a tools not the entire stage and the actors are many others in the whole picture, but this accountancy mirror cannot reflects them all.

Therefore, any investors would read some financial indicators bu should investigate many others elelemnts in order to assure for a future investment.

Conclusions

The idea developed throughout this article was to highlight the risk of using the financial indicators without any kind of external elements. We showed in a limited analysis how to get a better understanding of the financial indicators used in this area, even quantitative or qualitative, with a view from outside, as an investor interested to achieve one of the best choice in Romanian market, with a limited information at its disposal,

namely the official website of the Ministry of Finance. If from a day to another the health company could be changed so easily by an external event (fiscal control for example), how trustable are the figures about company: having capacity to generate profit, having the capacity to pay its debts, having the capacity to hire more people, being able to a continuously increasing commercial activity, if at the end of the month all of this are suddenly gone and the company enter a process of insolvency. Therefore, our article present a form of how to manage to analyze the economic situation for a company only by the public information gathered through the internet and is looking for a suitable answer on the consequently question: Is the accountancy the real mirror of any company?

To be or not to be, that's the question!

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METHODS AND TECHNIQUES FOR ANALYZING THE POPULATION EVOLUTION

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Abstract

On our planet live 7 billion people, every five days another million are born. Currently, world population is 10 times higher than 400 years ago. The demographic explosion occurred due to improved living standards and health, which allowed people to live longer than in previous centuries.

Any economic process or phenomenon allows a mathematical description of its behaviour from an economic theory. It is very important to know the future evolution of the population and its structure therefore we using the forecasting models of the population. The paper presents the main models used in forecasting population and the advantages and disadvantages of each model.

Keywords: *population forecast, forecast models*

JEL Classification: *J1, J16, J19*

Introduction

In the process of modelling have been a number of approximations: approximation functional (approximating functions involved in functions as simple, such as linear) approximation distribution (approximate probability distributions of system components actual distributions classic often normal or exponential), approximate independence (real consideration of system components as independent random variables), approximate aggregation (more similar objects of one).

The study demographic phenomena and processes necessary knowledge is subordinated to the number and geographic distribution of the population, its structure by different features of the evolution of these structures as factors that determine the population status changes over time. Of the population growth patterns can include a range of models from the simple to the intricate. A review of the most significant is presented briefly below. The models are divided into two groups:

1. global forecasting models of population
2. predictive models of population structure

1. Global Forecasting Models of Population

Design models are models that global population projected total population without structures information. These are used to determine the total effective population perspective; we differentiate by gender, age or other characteristics.

Using this method is usually in estimating future population based on extrapolation. To do this, first determine the trend of population development over a certain period in the past by adjusting the data series extends this trend in the future for different horizons design.

a) Average annual growth rate method

$$S = \frac{P_1 - P_0}{n - 1}, \text{ where:}$$

P_1 = population in the year of forecast

P_0 = population a year before the calculation

n = number of years witch separated P_0 to P_1 .

Number of population for each year of the forecast period is determined by adding the number of population since the calculation of average annual growth many times, how many years separated mementos future of computing time:

$$P_t = P_1 + n \cdot S, \text{ where:}$$

P_t = population at time t witch to be projected

P_1 = population in the year of forecast

n = separating a number of years P_t to P_1 .

The method can be used provided that, following the analysis of population trends from the previous period and studying the fate of the natural movement of population perspective it is concluded that the population will increase in arithmetic progression, the natural growth of its remaining constant for all period. Based on data on population trends in a previous period 5-10 years establishes annual average population growth.

This method applies to the design short-term as well as medium and long-term projections. Most effective in the short term but has since changes in the population is relatively constant over the short time period. Another drawback is the fact that this method does not present any information on the structure of the total number of the population or on the evolution of the aging population.

b) The average annual rate method

$$R = \sqrt{\frac{P_1}{P_0}}, \text{ where:}$$

P_1 = population in the year of forecast

P_0 = population a year before the calculation

n = the number of years separating P_0 and P_1 .

Population projection is calculated using the formula:

$$P_t = P_1 \cdot R^n \text{ where:}$$

P_t = population at time t witch to be projected

P_1 = population in the year of forecast

n = number of years which separating P_t to P_1 .

This method is relatively similar to that of before, the only difference being that if the average annual increase of the population requires a linear increase, the average annual growth is associated with an exponential equation.

This method is used with good results on relatively small period of time and requires a good knowledge of the earlier development of the population. As with the previous method that does not present any information on the structure of the total number of the population or on the evolution of the aging population.

c) Design methods population trend based on mathematical functions

If population linear function is determined by the relationship:

$$P = a + b \cdot t$$

If the exponential function:

$$P = a \cdot b^t,$$

If population parabolic function is determined by the relationship

$$P = a \cdot t^2 + b \cdot t + c, \text{ where the parameters } a, b, c \text{ are determined}$$

by the least squares method.

From the methodological point of view is done in a similar manner to the case of using the two previous methods. It examines the graphic evolution of the population in the previous period and is determined by the trend that best matches the number of actual population likely to be linear function, exponential function, parabolic function, etc.

2. Predictive Models of Population Structure

Methods provide more information on the population structure and evolution of the degree of demographic aging.

a) Method of components

Population is determined by the relationship:

$$P_{t+1} = \sum_{15}^{49} F_x \cdot f_x + P_0 \cdot s_0 + P_1 \cdot s_1 + \dots + P_{100} \cdot s_{100}, \text{ where:}$$

P_{t+1} = population in the year following the reference

F_x = age female population x (x ranging from 15 to 49 years)

f_x = fertility rate for age x

P_0 = population aged 0 years in the reference year

s_0 = survival rate (probability of reaching age population aged 0 to 1)

P_1 = population aged 1 year in reference

s_1 = survival rate (the probability that people age 1 to reach age 2)

.....

P_{100} = population aged 100 years in the reference year

s_{100} = survival rate (probability-age population to reach age 101)

Components method is one method which gives a forecast of population by age. The method involves two stages: the first is to determine the number of survivors at each age, in other words the probability that the number of people shed x reaches an age $x+1$; and the second is to determine the number of născuți live in t .

To calculate the population P_{t+2} and so on, the same formula using age population projected for the previous year and considering that the survival and fertility rates remain constant over time. Fertility rates of mortality that are contingent on each individual age mortality tables that fertility.

b) Stochastic and deterministic models for forecasting population

$\min f(x)$

referring to:

$$g(x) = 0 \quad g(x) = 0$$

$$h(x) \geq 0 \quad (1,c)$$

$$l \leq x \leq u \quad (1,d)$$

where $f: R^n \rightarrow R$ the objective function and restrictions model functions

$g: R^n \rightarrow R^m$ and $h: R^n \rightarrow R^p$ is explained here as equalities and inequalities. l and u vectors defined restrictions on variables single borders. Such optimization model is called mathematical programming problem.

A dynamic optimization model in its general form, may be in the form of:

$$\min \varphi(x(t_f), t_f) + \int_{t_0}^{t_f} \Phi(x(t), u(t), t) dt$$

referring to:

$$\begin{aligned} g(x(t), u(t), t) &= 0, \\ h(x(t), u(t), t) &\geq 0, \\ a(t) &\leq x(t) \leq b(t), \\ c(t) &\leq u(t) \leq d(t), \\ t &\in [t_0, t_f]. \end{aligned}$$

One issue that should be considered is linearity optimization models. Since optimization problems are very complex, involving thousands or tens of thousands of variables and constraints, mathematical problem solving these problems is extremely difficult. Therefore, modelistii introduce some simplifications. One of the most common is the assumption that relations are linear optimization model. From the mathematical point of view, the linearity is very convenient. The most popular question of mathematical programming is linear programming, which has applications in virtually all areas of operation and known algorithms for solving polynomial. However, in reality, the linearity is very little present. This led to the development of nonlinear optimization methods, a very active area with remarkable results.

Often optimization models contain very complex algebraic expressions, which depend on a number of parameters, known as exogenous variables. Parameters values are specified and input into the model. The parameter values may be derived from other models or may be generated from the mental model of the modeler. The problem is very important to the accuracy of the parameters, their more accurate uncertainty has led to optimization of parameters, a stochastic optimization study dependence of parameters solutions, the introduction of the calculation interval, etc.

Finally, we note that often optimization models do not consider the so-called variable delay argument. Optimization models, especially dynamic optimization, containing variables are intractable and still do not have a theory stating optimality conditions. Delays in complex systems are important because they are a major source of instability.

Known many types of mathematical models and they can be classified in many ways. Models can be: static or dynamic, linear or nonlinear, deterministic or stochastic, etc. But one of the most profound mathematical models classification divides the optimizing and simulating. The distinction between the two classes of mathematical models is important because, on the one hand, fundamentally, they have different purposes and then, on the other hand, each based on other mathematical concepts.

Any optimization model has three components: the objective function, decision variables and constraints. The objective function defines the purpose or objective model. Obviously an optimization model can contain multiple objective functions. The objective function acts as a yardstick against which to do optimization. Decision variables are quantities that should we choose to optimize the objective function. We must make a distinction between the variables of the problem and its parameters. The model optimization parameters mean those sizes that define the model as an independent entity in the surrounding reality. Parameters have certain numerical values, well-defined and known. The decision variables are the unknown model. They can fit the model into various classes of models as values they can take. Such known models with varying real numbers, integers or Boolean variables are expressed as the corresponding crowds. Restrictions mathematical model is those relationships that constrain choice decision variables. Usually such an optimization model is given in the form of restrictions can be: static or dynamic, linear or nonlinear, deterministic or stochastic, etc. An optimization model considers three components in input and output generates the optimal decision variables, and the optimum value of the objective.

Most optimization models have limitations that must be known by those who use it. The first difficulty lies in the fact that an optimization model is, in a sense, rigid.

c) Model dynamic of population forecast

The dynamic model prediction of the population (IDMS) shows changes in the population as having a cumulative growth rate, after a number of intervals, equal to the product of long-term growth rate associated with each of these ranges.

This model focuses on the idea that the net birth rate is showing a sequence population projection matrix (Leslie). Leslie matrix elements of content they represent Net reproduction rate and the age at which women decide to have a child. In IDMS, the path of birth sequences generated by Leslie matrix can be analytically based.

A solution was offered explicit bowing at two rates in a population with two reproductive age. (Schoen and Kim 1994), but most cycles that characterize populations are too complex and are on a direct algebraic solution.

One of the models end to forecast population it is the Lotka model representing central model in math demographic. It assumes that a stable society while not lead to significant changes in terms of age-specific birth and mortaltății this leading to an exponential increase in birth and age structure unchanged (cf. Lotka 1939; Keyfitz 1968) .

1970 model is extended to the case multistadiu, that is considered more of a state and took into account the movements of these. (Land and Rogers 1982; Rogers 1975 Schoen 1988). They concluded the fixed rates can no longer be current. In our world characterized by rapid changes and fluctuations uncertain long-term, fixed rate option is unrealistic and uncertain term.

As it reached dinamic need to develop a model that takes into account that vital rates (birth, death) change over time. In a pioneering work, Coal (1972) investigated the dynamic nature of rates, which affects them and found an approximate relationship between exchange rates and birth sequence is generated later. Lee (1974) considers dynamic in terms of population, external constraints. Kim (1987) makes a discrete analysis of the model and finds an algebraic solution linking them to the sequence of the rate of birth. However the solution was too complex to get its final shape. Cyclicity stable population studied and (Tuljapurkar 1990; Caswell 2001).

d) The Malthusian model

$$Y = f(K, P) \cdot G$$

Y = total product

P = total population

K = total productive capital

G = product multiplier which takes account of technical progress

Where f a homogeneous degree 1 and K and (in the absence of scale effect) and convex in K and P (relative increase f in K or P). It remains to define the evolution of K , P and G from one period to another.

For the capital, the variation is simply represented by the invested savings balance (with a saving rate constant) and the redemption of the:

$$K'' = uY - vK$$

The population is expected to grow independently of the economic situation, with the rate determined as follows:

$$\frac{P'}{P} = r$$

In more simple models such as the Solow, is initially ignore technical progress ($G = 1$). The three foregoing equations

can be therefore calculating the logarithmic derivatives $\frac{K}{P}$:

$$\frac{\left(\frac{K}{P}\right)'}{\left(\frac{K}{P}\right)} = \frac{K'}{K} - \frac{P'}{P} = \frac{u \cdot f(K, P)}{K - v - r}$$

Since, by definition, $f(K, P)$ increase much less quickly than K , the second element is canceled for certain values of $\frac{K}{P}$.. In these conditions

the derivative of $\frac{K}{P}$ becomes zero and we had a puncture stable equilibrium K which will increase at the same rate r as P well f . In the absence of technical progress, production is mainly responsible for the stagnation of the first people who would otherwise increase exponentially.

For the situation to improve obigatoriu need to register technical progress. In nine Solow's model, it is assumed that we have an exponential function of time rate s :

$$G = e \cdot st$$

and $Y = F(K, P)e \cdot st$

The model is based on two fundamental principles that seem to gideze after Malthus population trends: the first would be that food is essential to human existence and the second that fertility stems from the passion that ties the two sexes and remains now a necessity for perpetuating the species.

The two principles have been modeled in a mathematical expression that leads to the result that the population grows in geometric expression if it is not hampered by random factors.

On the other indicators subsistence increases only in arithmetical progression. As will be shown later first condition can turn into an increase in arithmetic when population exceeds subsistence level. The model assumes that a given country livelihoods are sufficient to meet the needs of citizens.

The Malthus saw along Timpu radical changes that led to a whole series of new models adapted to the new realities.

The total production tends to become proportional to strong population growth which is not the case in the Malthusian model for which production progress is endogenous. In order to reduce this issue has become customary to put a relationship between technical progress and the median income changes.

e) Models to analyze the impact of environmental change and globalization on demographic trends

The model contains several blocks, namely:

• *production unit*

Comprising three production sectors: industry intensive resources (producing final goods), consumer non-intensive resources (services) and mining (and intermediate goods).

• *investment block*

The share of total GDP of the country to investment depends positively on GDP per capita relative to GDP per capita initially in developed countries (as a measure of the need for minimum consumption) and negative for young people (aged between 0 -14 years) and the older of 65 years.

This link is one of the most important model and EXPIM the relationship:

$$c = 0.34 + (-0.07) \ln(PIB / PIB_0^R) + 0.7 \cdot pop(0-14) + 2.1 \cdot pop(65+)$$

where:

c is the consumption of GDP;

PIB is actually GDP / inhabitant;

PIB_0^R is GDP / capita initially in developed countries;

$pop(0-14)$ represents the population with Varta 0-14 years;

$pop(65+)$ represent the population with more than 65 years.

• *the quality of the environment block*

In this way consider air pollution and polluting revasărilor impact locally and regionally. The aim is to obtain information on how the emissions from economic activity and to a lesser extent the structure of the economy. The pollution resulting from energy use, which are assumed in the model, to be a linear function of resource intensive production in the industry as a logarithmic function depending on the final use of goods per capita.

• *population block*

The rate of infant mortality of children aged 1-5 years and elderly (age greater than 60 years) in the model are updated every 5 periods in accordance with changes in GDP / capita and time . Fertility is updated every five years in accordance with infant mortality (positively affected) and human capital (negative affect).

The model considers that the school population is aged 6-17 years targets and working population has aged 18-64 years.

Migrants are alleged to have aged 20-35 years, and the motivation for migration arising from their desire to maximize salary. The direction of

migration is from low-wage countries to countries with high wages. These trajectories are studied using logit model.

In literature there are models that seek to determine the impact of globalization and climate change on demographic evoluțiiei. These models are used to quantify developments in socio-economic development of countries with different conditions in terms of endowment with natural resources, physical and human capital, technology and people, in a world with a special dynamic movement of goods persons and capital, with flexible structures of economies, etc.

The model seeks to quantify the impact of globalization in different countries, depending on specific conditions in the country. The model comprises the following major sections:

- global economic system;
- natural environmental resources system, on the quality of the environment, natural resources capacity to welfare, production and consumption in the economy;
- changes due to population growth and age distribution of it in each country considered (including international migration).

Consequently, the determinism and the frequency, time discrete model is followed by: i) steady, ii) optimization (maximize profit, maximize salary by international migration, final consumption of goods mixed joint investment, etc), iii) update (in production, number and age structure of the population, mortality rate and fertilitate, etc.). To these are added a set of information on international trade price indices.

Specialty literature includes an impressive number of different types of models which attempts, among other things, an assessment of the state where there is population in a certain area, determine the impact of various factors on indicators characteristics demographic phenomena, population prognosis term shield, medium or even long term. Using one or another of them depends on several factors: the database we have, time for the weather to be made, information should be highlighted etc.

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THE DIFFERENT SIDES OF OBJECTIVE AND SUBJECTIVE WELL-BEING: IMPLICATIONS ON THE CHANGES AT INSTITUTIONAL LEVEL

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Abstract

The scenery of social movement in Romania, started at the beginning of this year following the Emergency Ordinance issued by the Romanian Government, which provided, among others, collective pardons and amendments of the Penal Code, was largely described by the media in two key points:

On one hand, a political one, which placed under discussion the alleged manipulation of the parties in opposition, parties which accumulated frustrations related to the weak results obtained at the last parliamentary elections; the rejuvenation of the anti-PSD sentiment; the attempt to break the main party in the Government; blocking the economic investment program of the government installed after the elections; the reconstruction of the popularity of Romanian President Klaus Iohannis, which declared himself against the Government program, but also against the main political party in Government, etc.

On the other hand, one in which the moral component was in the focus of the public debate, by underlying several messages with ethical roots; the diversification of the forms of masked corruption; “unfair behavior in the public space”¹ of the government party; the fear that the history is reversible; the fact that the attempt of the Government to implement a law in the area of corruption had hidden and well-calculated objectives.

At the intersection between the two explanatory frontiers, once with the disarming of the conflict, it remained a media construction unidentified scientifically: the image of the two countries of Romania which are irreconcilable (the poor Romania versus the rich Romania), willing in the future to confront argumentatively their own decisional alternatives as regards their own social path.

¹See interview with prof. Dumitru Sandu in PressOne / <https://pressone.ro/sociologul-dumitru-sandu-politicienii-judeca-strada-ca-si-cum-ar-fi-cea-de-acum-10-20-de-ani/>

Complementary to the two approaches, the article seeks to introduce in the explanatory equation a new variable, almost absent in the series of the debates in the Romanian press: social pressure to change the institutional behavior in Romania. Has the Romanian society changed in the last 27 years in a way that we can feel a pressure towards changing the formal institutions, as a first step of changing the political practices? What has changed and how can we explain this pressure towards change? Do we have data that support this hypothesis? We know from Robert Putnam that the “performance of an institution depends on its social, economic and cultural background.” How does this background in Romania look like at the beginning of 2017? How do the Romanians perceive the quality of their own lives at present?

Key-words: objective indicator, objective well-being, satisfaction with current life, satisfaction with past, subjective indicator, subjective well-being, the satisfaction of life, quality of life

JEL Classification: J1, J10

I. Objective and subjective well-being – conceptual evolutions

The concept of “quality of life” was first “launched” by the intellectuals in the 6th-7th decade of last century. A key concept of the “social state of a community”¹, is propagated in time in the “public conscience” and especially in the “public speech”, becoming step by step “a global objective of the politics, a performance criteria for all social programs”² specific to the governmental space of the EU Member States.³

The quality of life represents an important indicator of each individual’s life, if the individual is satisfied, generally speaking, by his social route, including all the components which build his social journey: the health condition, the human / social capital he has available, the profession, the workplace and work environment, the earnings obtained, the place of living, family, free time allocated to it and the group of friends, the society in which he lives.

¹ See Zamfir, Cătălin (coord.), *Social state of Romania – quality of life: current situations and perspectives for 2038*, Social report of ICCV, Romanian Academy, 2017, p. 5

² Zamfir, Cătălin; Căce, Sorin (coordinators), „A strategy of relaunching the quality of life in the perspective of 2035: Directions. Objectives. Targets. Restrictions. Opportunities. Priorities”, ICCV, Romanian Academy, 2016

³ See Amsterdam Treaty, from 1997, respectively Europe Strategy 2020, and for Romania post-1989 the Government programs 1998-2000 and 2001-2004, 2005-2008, 2013-2016, 2017-2020.

The Romanian sociology has connected itself to the series of conceptual debates since the 8th decade of last century, proposing several objective and subjective indicators of measuring the quality of life.

In the paperwork “Indicators and sources of variations of the quality of life, which appeared in 1984 and was coordinated by professor Cătălin Zamfir, there were four “global indicators of the quality of life” which were proposed”, but also “several partial indicators”, specific to the “quality of different spheres, domains of life”:

1. **Life satisfaction** (an indicator called „satisfaction not specific to life” is used, but also an indicator of “satisfaction specific to life”, with four items “indicators of satisfactions with the big life component domains”: work, way of spending free time, own self, life, family),
2. **The perceived quality of life** (using a list of 73 components of the “life situation”, grouped in 13 domains of life),
3. **The perceived change in the quality of life** (which are the directions of the important characteristics of life development, given the perception of the past / future),
4. **Integration / psychological alienation** (using 6 items: / human community, control / lack of control on own life; understanding / lack of understanding; control / lack of control on the social events; the meaning / lack of meaning of work; optimism / pessimism referring to the dynamic of the social life environment).¹

Underlining the fact that the subjective indicators are “the only global indicators of the quality of life”, a decade later (1992), in the paperwork “factors of *quality of life*”,² professor Cătălin Zamfir makes an excellent description of the differences of “coverage” and “structure” between the objective / subjective indicators, responsible for the process of measuring the social state of a society.

On one hand, “there is a difference in coverage”, Zamfir says. If the objective indicators rather paint a static picture of the material quality of life, being “more adequate to describe determinant components of life (number

¹ Zamfir, Cătălin (coordinator), „*Indicators and sources of variation of the quality of life*”, the Publishing House of the Academy of Romanian Socialist Republic, Bucharest, 1984, p. 87-108

² See Zamfir, Cătălin, “Quality of life” magazine, The Publishing House of the Romanian Academy, no. 3-4 / 1992, p. 219-229

of rooms in a dwelling, family income, etc.), the subjective ones “have the capacity to express the global quality of different spheres of life – family, work, free time – or even life in general.

On the other hand, he says, if the objective indicators reveal the exact image of the state of life of an individual, “of the conditions” or the “related components” in which life develops (objective welfare), subjective indicators of measuring the quality of life represents a process of evaluating them, a perception of the “life conditions and the components of life”, which is compulsorily “filtered by expectations, values, aspirations (subjective welfare).¹

It is hard to imagine an equation which will integrate all key variables involved at a certain time in the explanatory construction of an individual’s quality of life, responsible to a large degree by his quality of life. On the other hand, as emphasized in the *Strategy of relaunching the quality of life in the perspective of 2035*, published in 2016 by the Romanian Academy, “there has not been any accepted procedure to assemble the partial indicators of the quality of life in a global indicator”.²

This constraint possesses an explanatory instrument sufficiently well grounded.

On one hand, the individuals evaluate and define their life conditions according to the opportunities / limits that these are offering, by the socio-economic context (internal / external) to which they are connected.

On the other hand, the capacity to optimize the process of capitalizing the set of opportunities and to build viable strategies for increasing the quality of life represents for every specific case a product of a process of individual construction.

This makes any human action objectified in the functional matrix of increasing the quality of life to represent a sum of the combination of the two: socio-economic context and particular life strategies.

In the last decade it has been developed an European system of measures the indicators of the quality of life, with a common standardized

¹ Ibidem

² See Zamfir, Cătălin; Cace, Sorin (coordinators), „*A strategy of relaunching the quality of life in the perspectives of 2035: Directions. Objectives. Targets. Restrictions. Opportunities. Priorities*”, ICCV, Romanian Academy, 2016, p. 6

methodology, which has instruments of “monitoring the collective evolution” as regards the following spheres of the quality of life:

- a) **Economy** (revenues – as a fundamental element of the living standard, occupation – opportunities of economic activity),
- b) **State, politics of a nation** (economic policy, social policy– redistribution of economic resources, quality of public system),
- c) **Quality of the human environment** – indicators referring to the quality of others: trust, fairness,
- d) **Quality of the constructed environment** – construction referring to the joint past efforts as regards territorial organization,
- e) **Quality of the natural environment** – transformed in good / bad by the past generations,
- f) **Quality of the world** – influence which is felt due to the connection to the global world.¹

II. The perceived life quality of Romanians – history of a transitions without a strategic horizon

The life satisfaction indicator (perceived quality of life), as single global indicator of the quality of life, which evaluates subjectively “the entire life context” of an individual, included in the European statistical programs, correlated in a positive way, as expected both with the „financial available resources”, but especially with the “structural conditions that the society is offering”: rational political system and oriented towards national interest, adequate and motivating social, quality public and education services, people you trust and with whom you live well.² In this key note, how does the picture of the dynamic of the perception of the quality of life for Romanians look like, if we were to carry on a short time-scale of its evolution?

More than a quarter of a century since the Revolution in 1989, Romania seems it is still confronting with a dilemma having its source from the sum of the multiple strategic hesitations form the transition period: what is our country project? Do we have at this moment such a project? How should the Romanian state function? What role should it be attributed? How should this answer to the big demographical problems? How about the excessive polarization or the disparities in the regional development? How were and how are the economic resources redistributed? Which was the offer as regards the quality of the public system? How much has the economic and

¹ Ibidem, pag. 2-5

² Ibidem, pag. 6

social policy of the Romanian state influenced the quality of life of Romanians?

Most of the difficulties that the Romanian society has and is still confronting largely have their origin not so much in the arguable quality of the strategic decisions in the transition period, but rather in the lack of strategic horizon which was unfortunately present in the entire transition period. For an important segment of the Romanian population, the absence of the strategic public policies or the strategic country project has fueled and indirectly stimulated the discontents as regards the perception on the quality of life, but also the state of distrust in the public institutions in Romania. Which was under these circumstances the global picture of the quality of life of Romanians in the last 27 years?

In the *Public Opinion Barometer 1998-2007*, based on the data supplied in the last 20 polls carried out through the opinion Barometer of Soros Romania Foundation, professor Dumitru Sandu carried out in 2007 an excellent picture of the evolutions as regards the morale of the Romanian population after 17 years of transition¹:

- Under European context, Romanians were “**dissatisfied, but optimistic**”² - 47% of the Romanians declared themselves as dissatisfied with the life they carry, which was 28% higher than the EU average of dissatisfied people;
- Under national context, Romanians were “**dissatisfied and polarized**” (professor Dumitru Sandu emphasizes that in the spring of year 2007 “to be young under 30 years, mature between 30-59 or old over 60 years means a great deal for the morale”, this being influenced not so by the age, which has “its specific biologic resources”, but especially on the “resources of material, human or relational capital which are associated”);
- For the public opinion there was a “**lasting dissatisfied towards the Government**”³ (“the discontent towards the Government”, the analysis

¹Sandu, Dumitru, “*The avatars of the social discontents in Romania of years 1998-2007*”, in Barometer of public opinion 1998-2007, Soros Foundation, Romania, October 2007

² According to professor Dumitru Sandu the particular segment of “discontented optimists” (approximately 20% of the Romanian population) was constituted as a result of a “combination of challenges given, on one hand, by poverty and, on the other hand, by opening opportunities associated with the accession to the European Union”, Ibidem, p. 33

³ What is interesting is the data which indicate the segment of the population which declare in general their satisfaction towards the government: “the relatively poor women, without

shows, represents “one of the strongest indicators of the morale that the population has towards the public institutions”;

- As regards the “dissatisfaction of the daily life”, even if the “average life of the Romanians is more and more colorful”, in general “**the predominant moral remains the dissatisfaction**”¹.

Professor Dumitru Sandu makes an inventory, based on the data obtained and a few consequences of the morale of the Romanian population at the level of year 2007²:

- The double dependency of the Romanians, both by resources and by the morale of the persons, **are influencing the structuring of their life projects, which in most part are on short term**;
- As we are getting further from the moment of the Revolution in December 1989, Romanians **are starting to weigh more closely on the structural real conditions that life has to offer**, remodeling step-by-step the image about the political leaders which had a role in the history of Romania (Nicolae Ceaușescu, Ion Iliescu and Carol I were considered in the spring of 2007 “the best political leaders”);
- Even if a certain tendency of a decrease in the dissatisfaction was signaled, **the average Romanian is definitely installed in the top of the most “discontented Europeans”**, probably also due to the dissatisfaction with the incomes obtained (Romanians tend to be “contented with their own family”, but “discontented with the money they possess”);
- **“The discontented do not believe in institutions”**, the rank of year 2007 establishing a top of distrust in which the Government, the Parliament, the president, the political parties, the banks and the unions are on the firsts positions (professor Sandu Dumitru states that the “dissatisfaction with the people’s lives propagates to the institutions”, the majority of which are political, the banks and trade unions being also perceived as social level as strongly politically influenced.

The last Social Report of the Institute for Quality of Life Research (IQLR) - Social conditions in Romania - Quality of Life: current situation and

foreign travel experience, but with a consistent stock of social network”, respectively “the ones who carry Government”, professor Sandu Dumitru concludes.

¹ Ibidem, p. 44

² Ibidem, p. 45-54

perspectives for 2038¹ published in early 2017, envisages a series of official data relevant for the understanding of the current perception of Romanians regarding the quality of their lives.

Glancing over the most important factors that influenced the evolution of the social status of Romania starting with 1990, by comparison with the EU member states or other former communist European countries, we are able to see a very interesting picture:

- Between 1989-2000 Romania underwent **the worst economic collapse of the entire European area** (economic decline) and between 1989-2016 recorded **the lowest economic growth within the EU**:

Table 1 Economic results in the period of transition: GDP in bilion euro²

Indicator	Poland	Czech Republic	Hungary	Bulgaria	Romania
GDP in 1989	64,4	26,9	22,6	11,1	42,6
GDP in 2000	186,4	66,6	51,2	14,3	40,8
GDP in 2016	432,4	170,7	113,5	45,1	169,4
Degree of multiplication GDP 1989 -2016	6,7	6,3	5,0	4,1	4,0

Source: GDP data: *** 2016, Statistical Annex of European Economy, SPRING 2016, European Commission, Directorate-General for Economic and Financial Affairs. Gradul de multiplicare al PIB – calculations by Mariana Stanciu (Quality of Life Research Institute)

- Throughout the transition what was dominant in Romania was "**the policy of the small State**", meaning that Romania was ranked first in terms of low level of financing as a share of government spending from GDP:

Table 2 The share of government spending in GDP³

¹ See Zamfir, Catalin (et al.), *Social conditions in Romania - Quality of Life: current situation and perspectives for 2038*, IQLR Social Report, the Romanian Academy, 2017 (<http://www.iccv.ro/node/579>)

² See Zamfir, Cătălin (coord.), "*Romania's social status - quality of life: current situation and prospects for 2038*", Social Report of the *Quality of Life Research Institute*, Romanian Academy, 2017 (<http://www.iccv.ro/node/579>)

³ Ibidem, pag. 10

EU 15 ¹	48,5%
EU 28	47,3%
EU 8 ²	42,4%
Romania	35,7%

Source: Eurostat

- By 2015, compared to other European countries (except only Bulgaria), "the satisfaction with life of Romanians indicator" is placed still on a negative path:

Table 3 Satisfaction with life: the percentage of people very satisfied + satisfied³

EU 15	83%
EU 28	80%
EU 8	76%
Romania	59%
Bulgaria	47%

Source: Eurobarometer 83 (2015)

- The highest impact of the transition has been recorded in the area of employment opportunities and employment structure (8.1 million jobs in 1990, about 4.6 to 5 million jobs within 2000-2015)

Table 4 Employment rate: population 20-64 years (2015)⁴

EU 28	70%
EU 15	70,5%
EU 8	71,3%
Romania	66%

Source: Eurostat

- According to data received from Eurostat, in 2015, the **annual income per capita** (basic source for standard of living) ranks Romania **on the last position in Europe** at a considerable distance from other European countries:

Table 5 Per capita annual income available, Euro (2015)

¹ Highly developed European countries (eurozone)

² The eight group other former communist countries (except Bulgaria) - who have experienced a better transition (Czech Republic, Estonia, Latvia, Lithuania, Poland, Slovakia, Slovenia and Hungary)

³ Ibidem, pag 11

⁴ Ibidem, pag. 12

EU 15	32.938 Euro
EU 8	13.962 Euro
Romania	8.531 Euro
Romania % from EU 8	61,1%
Romania % from EU 15	25,9%

Source: The European Commission, based AMECO

- By 2015, "the share of wage incomes from total incomes in Romania" was 55.7%, while gross minimum wage (2015) or the gross average wage (2014) were located far from the average of all other European countries :

Table 6 Minimum wage and average¹

	Minimum gross salary (2015)	Average gross salary (2014)
EU 15	1.276	3.994
EU 8	411	1.270
EU 15 + EU 8 / 2	843	2.623
Romania	217	661
Romania % from EU 8	588%	604,2%
Romania % from EU 15	188,4%	192,1%
România % from EU 15 + EU 8	388,5%	398,2%

Source: Eurostat [tps00155] UNECE Gross Average Monthly Wages by Country and Year. The average salary was converted from dollars into euros

- **Low wage policy** (more pronounced decrease of minimum wage compared to the average wage) led to impoverishment and high wage polarization, the analysis of the first 26 years after 1989 Revolution leading to a pessimistic conclusion regarding the hope for a future increase of the Romanians' standard of living: GDP growth has not automatically followed a similar dynamics in terms of wage increase:

Table 7 Dynamics of GDP and average wage: 1990 to 2015²

¹ Ibidem, pag. 15

² Ibidem, Pag. 17

GDP in EURO	400%
The average real wage	143,3%

Source: National Institute of Statistics, Tempo based

- Data from Eurostat show that Romania has chosen the "**minimalistic social policy**" compared to financing as GDP share, of other European countries in related field.
- Overall, all the social functions of the Romanian state were subjected, during the transition, to under-financing (including the demography field, where problems are more than serious, the spending allocated by the Romanian state for the social protection of families and children was in 2014 - 0,8% of GDP, well below other European countries: EU-15 – 2,1%, EU 8 - 1,5%):

Table 8 The share of spending on social protection from GDP, 2014 (pensions, unemployment, social assistance)¹

EU 15	19,9%
EU 8	14,7%
EU 15 + EU 8 / 2	17,3%
Romania	11,4%

Source: Eurostat

Table 9 Public expenditures on education and health from GDP (2014)²

	Education	Health
UE – 15	5,3%	7,2%
UE – 8	5,3%	5%
Romania	3%	4%

Source: Eurostat

III. Welfare Aspects: implications on institutional changes

At eight years away (please see the analysis conducted by Professor Dumitru Sandu in 2007) apparently things do not seem to have changed very much. Official data available for 2015 in terms of quality of governance (*Eurobarometer 83*) describe a picture in which the level of confidence of Romanians in institutions still remains very small:

Table 10 Trust in institutions

Institution	Trust – Ro	Trust EU - 8	Trust EU – 15	Trust EU - 28
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¹ Ibidem

² Ibidem, Pag 19

Justice	48%	40%	62%	52%
Police	49%	58%	75%	69%
Army	76%	64%	73%	71%
Public authorities	42%	45%	52%	47%
Political Parties	13%	11%	21%	16%
Parliament	18%	21%	40%	31%
Government	27%	28%	38%	31%

Source¹: Eurobarometer 83, 2015

It is more than obvious that within the public perception, politics is the key-factor responsible for the current socioeconomic situation. Basically, 87% of Romanians do not have trust in political parties regardless of doctrine / political color, 82% do not trust the legislature (parliament), and 73% are dissatisfied with the country's established executive (government). Throughout the transition period, more than 50% of the population has consistently stated that the direction where Romania is heading towards was wrong.

Table 11 Direction it goes society²

	2010 (ICCV)	DEC. 2015 (INSCOP)	DEC. 2016 (IRES)
Wrong direction	80%	52%	61%
Right direction	10,5%	34%	34%

Source: ICCV, 2017

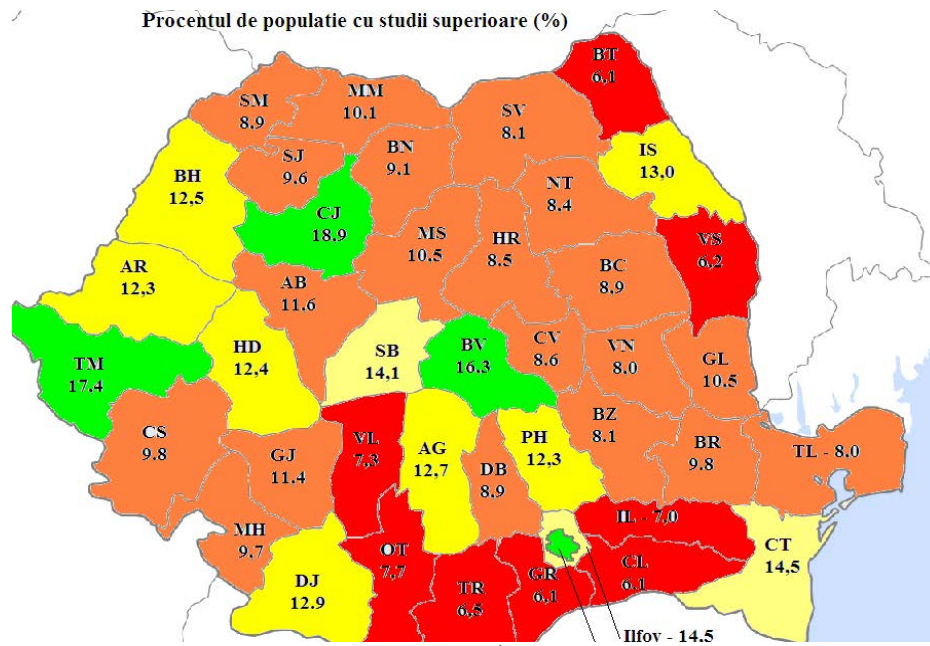
At the beginning of 2017, the Romanians were still concerned regarding the functioning of the judicial system (52% distrusted the Justice) or of the one ensuring public order and safety (51% distrusted the Police).

After 27 years since the Revolution of December 1989, Romania does not yet meet all five convergence criteria for adopting the euro and now has a very large disparity index - 62.2% (the difference between the regions and national level), and the chances of a rapid recovery are not placed near certainty. This is because large disparities are mentioned also in the field of education at the counties level. As economic growth rate can not be discussed outside a strong correlation with the quality of education, the data in Figure 1, presented by the National Institute of Statistics, are more than revelatory.

Fig. 1 Population with higher education (%)

¹ See http://ec.europa.eu/public_opinion/archives/eb_arch_en.htm

² Ibidem, pg. 19



Source: National Institute of Statistics (2015)¹

The absence of governmental interest in developing certain mechanisms for monitoring and evaluating of the manner in which the public system works in Romania, the development of crony-like recruitment system for administration personnel, lack of interest in terms of measuring the effectiveness of public policies in Romania have structured gradually in the collective conscience the perception of **the corrupt state** responsible for mismanagement of the country's process of economic and social development.

There are more than few experts who believe that the Romanian state was made available for certain mechanisms "of public resources exploitation by interest groups, with a wide tolerance for various forms of corruption"²

This is mainly the Romania's socioeconomic background in early 2017 when, just two weeks after the investiture of the government led by Prime Minister Sorin Grindeanu, street protests began as a result of the government's intentions for changing amnesty conditions and amend the Criminal Procedure Code.

According to the data that we have, after the Revolution of December 1989, this was the largest social movement, both in scale (level of participation), as well as in national coverage (level of dissipation). What was the trigger

¹ See <http://cursdegovernare.ro/analiza-cele-4-romanii-si-drumul-fiecareia-pana-la-euro-divergenta-interna-severa.html>

² Ibidem

of this great social movement? Was it true that Romanian society has changed? If so, what has fundamentally changed? Who were the rioters? What were the streamer regions/counties that maintained the phenomenon? Can we draw their social, economical and cultural profile? Although the data from Table 12 are only useful in finding answers that apply to a certain stage, they can also help us to bring out a few **general conclusions**:

Table 12 Socio-economic profile of the county - social movement in January 2017

Locality	GDP per capita (euro) ¹	% Population with higher education ²	Number of participants ³
București	22.323	30,5%	150.000 – 300.000
Cluj	10.655	>15%	50.000
Timișoara	10.926	>15%	40.000
Sibiu	8.880	12-15%	40.000
Iași	6.289	12-15%	30.000
Brașov	10.528	>15%	13.000
Constanța	10.246	12-15%	12.000
Craiova	6.957	12-15%	10.000
Galați	6.278	9-12%	8.000
Bacău	5.697	7-9%	6.000
Tg. Mureș	6.757	9-12%	6.000
Baia Mare	5.850	9-12%	5.000
Oradea	6.444	9-12%	5.000
Arad	8.805	9-12%	5.000
Prahova	8.008	12-15%	5.000
Hunedoara	8.622	12-15%	3.000
Alba Iulia	8.569	12-15%	2.000

Source: Author, official data acquisition

- The data in Table 12 point out that we are talking about a **major social movement, involving all regions of the country**.
- The fact that its coverage was very large indicates **the presence on the public agenda of a problem considered fundamental for society**, but still unsolved by authorities;
- The ethical component is an independent variable only in the equation explaining the grounds for the social movement outbreak; it changes its

¹ Data of the National Commission for Prognosis, 2016

² Data of the National Institute of Statistics, 2015

³ See https://ro.wikipedia.org/wiki/Protestele_din_Rom%C3%A2nia_din_2017

meaning in the broader context of the resonance that the social movements wished to convey: **diminishing the level of public tolerance to corruption;**

- The assumption that we want to launch is that for a significant proportion of the Romania's population **the institutional change has become a priority of the public agenda;**

- From the central core of the social movement claims two messages were very firmly sent:

- **The public system from Romania has influenced, by the quality of governance, the current state of affairs,** and part of Romanian society is no longer willing to tolerate corruption and bureaucratic incompetence;
- The quality of life represents for all Romanians the degree in which life generates satisfaction, **also in the conditions that we possess and for the quality and efficiency of the public services,** which we are compelled daily to connect.

- **An important part of the Romania's population is already very well connected to Western institutions** (either by intersections of professional nature, or by migration, tourism or visits to Romanian families already established abroad).

- In short, **many Romanians became in the last 27 years good connoisseurs of the manner in which the Western institutions work** and require from authorities of public system in Romania quality and efficiency.

- Even if the latest data provided by the National Commission for Prognosis describe a Romania characterized by multiple regional and economic disparities, in some counties/areas the development has accelerated.

- For those counties/areas, *GDP per capita* is continuously increasing, affecting the objective and subjective welfare indicators (in 2017, Bucharest is already situated at the same level with Berlin or Lisbon in terms of *GDP per capita*, with more than 23,000 euros).

- In this context, it is expected that future trends to change the Romania's formal institutions to concertedly and continuously exhibit, starting with these development center poles of Romania.

- Actually, Table 12 indicates that the protests from Bucharest benefited from the serious national support of precisely the most dynamic regional centers in Romania, with a high level of *GDP per capita*;

- The exception represented by Moldavia region can be interpreted in another key: massive participation in protests can be explained by the effect of migration experience in an area of high migration reserve¹;
- Table 12 also shows the not-at-all accidental presence of a new component in the social background of the social movement in Romania, namely **education**.
- The liveliest protesters districts/areas were those that currently have an important stock of population with higher education (graduates).
- From this perspective, we can advance the hypothesis that the social movement occurred earlier this year had the support of a well-educated segment of the population, connected to the West, with a high level of objective and subjective welfare, migration experience, involved in an increased process of economic development, intolerant to corruption and that puts pressure towards institutional change.
- Certainly we are not talking about two Romanians. As the data show, almost the entire population of Romania has consumed the entire trust stock against political parties and public institutions from Romania.
- From this perspective, **the public agenda themes are the same for all Romanians**. But strong social polarization in the past 27 years ranks them distinctly: relevant for the poor public are now public policies of social protection (pension, unemployment, health insurance), while for the other part of population the pressure for institutional change seems to structure itself in the top list of the public agenda.
- Romanian society has changed in the last 27 years. An important segment of the population has already started to put pressure for changing of the formal institutions in Romania, as a first step in the process of changing political practices. As outlined by Robert Putnam, "the performance of an institution depends on its social, economic and cultural background". This segment is now apparently ready to develop a constant pressure to change the background. And while the development area advances, it is expected that its reservoir will resize.

¹ See <https://pressone.ro/sociologul-dumitru-sandu-politicienii-judeca-strada-ca-si-cum-ar-fi-cea-de-acum-10-20-de-ani/>, interview with Professor Dumitru Sandu, PressOne, February 19th, 2017

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GOVERNANCE IMPACTS ON BANKING PERFORMANCE

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Abstract

The importance of corporate governance and the essential role of banks as important financial institutions in a free capital market attract more attention of researchers and academicians to identify the relationship among corporate governance and banking performance. In the light of that, the paper seeks to specify the variables of corporate governance and banking financial performance through measuring the governance impacts variables on banking performance through an empirical study on banks during 2005-2014 in the Middle East. A strong relationship between these variables and banking financial performance is determined where is a positive relationship among the return on assets and the board of directors and on another hand a negative relationship is found between the banking performance and owner concentrations.

Keywords: Corporate Governance, Banking system, Financial Performance, Board of directors.

JEL Classification: M4, M2, M11

1. Introduction

The corporate governance has been highlighted and pointed as a high discussed topic due to the tragedy events that the global economy has had. Due to the Asian financial crisis in 1997 and later the Enron scandal in 2003 reaching to the high potential of another global financial crisis due to certain changes in the American financial structures, the corporate governance has earned its importance as a comprehensive perspective that solves the drivers of financial crisis and determines the prevention possibilities of other crises' factors. The majority of researchers commonly agree on the role of corporate governance in sustainability, low risk and high performance of any financial bodies as owned by states or private corporations. In addition, the impacts of corporate governance over banks

gain more importance especially the transactions in the banking system are ramified and more complicated in front of other financial institutions, therefore, the concept of corporate governance becomes widely discussed and is considered as a complex combine between several factors of management corruption, the internal policies, the state codes and other concerned factors. Due to that, there is a statistic clue on the governance impacts and banking performance that proves a positive relationship between the impacts and board of directors and the general financial performance; the return on the equity is increased as a result of adopting corporate governance.

2. Corporate Governance

Till nowadays, there is no a single definition about governance, a few institutions such as the International Finance Corporation (IFC) defines it as the system that helps executives to manage and control their companies. Besides that, The Organization for Economic Cooperation and Development (OECD) defines corporate governance is as mechanisms that connects between several parties; executives, management council and boards, shareholders and others. In the light of that, corporate governance is more about a run-method of the corporation and about mechanisms that deal with stakeholders in order to achieve the objectives of these stakeholders. Due to the general perspective, governance refers to the existence of certain systems that control the relationship among stakeholders especially the board of directors, executive council and shareholders in order to achieve transparency, justice and reduce corruption in the firm, also, it ensures accountancy over directors' activities to make sure that the corporation is going to achieve its objectives and strategies in the long term and to reach sustainability.

The appearance of corporate governance in the last few decades is due to financial crises and economic collapses in the twenty century certainly in Eastern Asia and former communist countries besides United States of America and Europe. The first crisis occurred in the Eastern Asia; Japan, Korea and Malaysia in 1997 and at that time, huge corporation had a serious problem with liquidity and faced a high risk of collapsing. Due to that, certain governance standards were issued to assure the right of all stakeholders besides the rights of shareholders. The importance of governance standards are increased when several countries adopt a free market and switch to capitalism and that is based on big corporations in order to achieve a continued growth in economy. The free market encourages the capital mobilization among countries, which leads to increase the corporations' volume and its turn lead to separate the management from the equity. That separation generates certain important

issues presented in the weakness of monitoring system and controlling tools over the managers and executives. That reflects clearly throughout corporations' corruption and financial crisis such as Enron scandal which was directly related to the lack of accuracy of financial reports and in the light of that Sarbanes-Oxley Act was issued in 2002. Accordingly, the positive relation between governance and firm performance is witnessed and that is the motivation of determine the relationship between corporate governance and bank performance since banks have an important role in pushing the economic wheel, also, the transaction among banks affect the micro and the macro economies.

3. Banking Sector

As a historical view, the international banks are back to 4000 years, when letter of credit was used beside exchange bill across sovereign boundaries to fiancé trades. In plus, bank as a word, has been used since fifteenth century. International banking is a need based on global economy since it provides liquidity and finance resources around the world. Starting with 1990, the international banks gain their importance to develop economies in Capitalism countries and to be used as a political method to involve in the economies of the former communist countries. During that period, the international banks become important financial institutions and to be changed massively in the light of international competition with other global international institutions, and after then years, Hughes and MacDonal said that the definition of bank is taken to be studied again to be redefined again. The banking sector in developed countries has been experienced radical scandals and improvements besides events such as mergers, privatization and competition. Due to that, the German and Canadian banking sectors are ones of strongest and efficient at the global level to be copied in the United States of America and Gulf Area in the Middle East. Nowadays, this sector has involved more in the economy at micro and macro levels in the light of free capital market to easy global credits, even so, the base of this sector is the same base of any firm that have conflicts between owners and managers due to the agency theory and more complicated when the interests of stakeholders are affected with the issued strategies and policies.

3. Governance in banking sector

The financial crisis of 2008 was known as a credit crisis represented the need of good governance to improve bank performance through highlighting the conflicts of agency theory and adopting stakeholder theory. Banks as firms concern on the investors protection where corporate governance has codes and mechanisms to be processed and that enables

banks to access capital markets due to better terms (Doidge; 2004), in addition, good governance improve the performance at higher market value to increase the returned earning on shares (Gompers, Ishii & Metrick; 2003). Therefore, corporate governance is affected by the manners of bank business which is governed, and corporate governance contents relationships among the bank departments; management, board, shareholders and other internal and external stakeholders.

In accordance to the banking perspective, governance is represented in the possibilities of managing the issues in the banking management structure which are related directly to the bank's objectives in according with other stakeholders interests. The importance of adapting corporate governance in the banking sector is high increased comparing with other financial institutions, since bankruptcy impacts are not limited on the direct stakeholders; clients, owners, management; but they affect the performance of other banks and that is called *interbank market*, that means the financial performance of banking sector is affected and consequently, a crisis on the macro economy takes a place. Besides that, the widely adapting information technology and free mobile- capitals forces the issues to be at an international level.

In addition, this relation between governance and banking sectors are more complicated since this sector has its specialties through dealing with assurance on deposits, risk invest management, the loan capital and loan conditions, and capital structure. Therefore, the monitoring mechanisms of corporate governance is more strict comparing with other financial institutions since there are huge integrated relations inside banking sectors. Here, the importance of adopting corporate governance in this sector is presented, especially; it increases the quality of banking services and reduces the risk management.

In the light of that, applying corporate governance in this sector is related to certain factors which can be divided to internal and external factors.

- Internal factors: are presented in principles and rules that control the procedures of making decisions and distribute the responsibilities between the equity council and board of directors. Thus, corporate governance through its mechanisms reduces the internal conflicts.
- External factors: are presented in organization factors related to the investment atmosphere in a country, the states codes and legalizations, competition in the banking sector and the relationships with other financial institutions. Therefore, corporate governance concern at this level on the external conflicts.

In accordance with that, the role of central banks is essential in encouraging banks to adopt corporate governance throughout monitoring and controlling mechanisms and assuring high internal auditing quality.

4. Briefly empirical study

The typical measure includes variables depend on the return earning on the equity which expresses the financial performance for selected banks in Gulf area. Besides these variables, there are five independent variables related to corporate governance: the board of directors' size and the number of independent directors, board committees, percentage of shares owned by big owners and the bank activities volume.

Variables	Name	Symbol	Measurement
Dependent	Performance	ROA	Earning return on equity = net profit / total asset
Independent	BOD size	BSZ	Numbers of managers and executives
Independent	Independent directors	BCM	Numbers of independent directors
Independent	Equity percentage of owners	OCN	Shares owned by big owners
Independent	Bank activities	SZE	Total bank assets
$\beta_1 - \beta_5$	factors of independent variables		
ϵ_{it}	Random error		

The formulations:

$$\underline{ROA_{it} = \alpha_0 + \beta_1 BCM_{it} + \beta_2 BSZ_{it} + \beta_3 CBD_{it} + \beta_4 OCN_{it} + \beta_5 SSB_{it} + \beta_5 SZE_{it} + \epsilon_{it}}$$

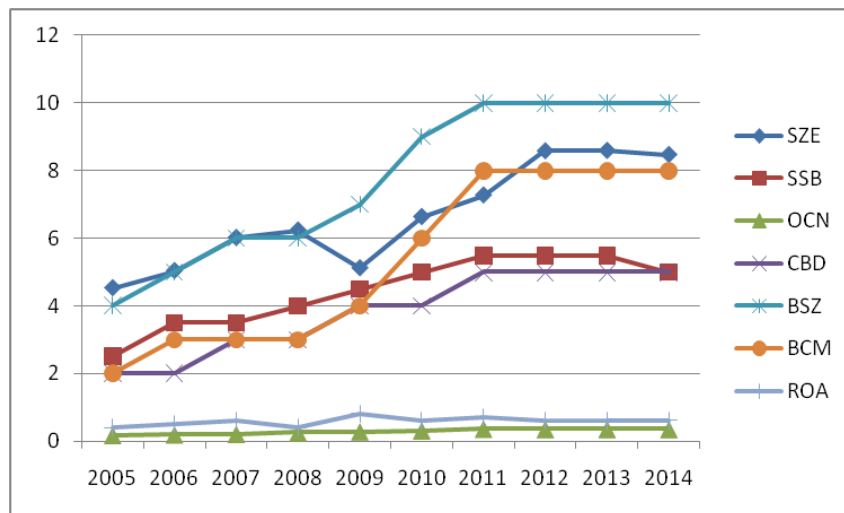
The samples are selected randomly and collected data from ZAWYA, the medium of developing in the banking sector is as the following:

SZE	SSB	OCN	CBD	BSZ	BCM	ROA	
4.53	2.5	0.17	2	4	2	0.4	2005
5.04	3.5	0.19	2	5	3	0.5	2006

6.02	3.5	0.21	3	6	3	0.6	2007
6.24	4	0.25	3	6	3	0.4	2008
5.12	4.5	0.28	4	7	4	0.8	2009
6.64	5	0.31	4	9	6	0.6	2010
7.28	5.5	0.36	5	10	8	0.7	2011
8.59	5.5	0.36	5	10	8	0.6	2012
8.61	5	0.37	5	10	8	0.6	2013
8.65	6	0.37	5	10	8	0.7	2014

Resource: Chawki & Halimgherbi; 2014, Auditor 2017

The volume of selected banks' activities is increased besides other variables are increased continuously; the number of independent directors of board of directors are increased to meet the increased of independent executives in committees. Over all highlights the increased percentage of the performances of selected banks to assure the role of adopting corporate governance in the banking sector.



The chart based on the previous table

In accordance of that, the analyzed data ensures the positive relationship between governance impacts and banking performance, especially, autocorrelation is not determined in the study since the Durbin Watson factory is 2.53.

Conclusion

The stakeholder theory of corporate governance finds its own way to involve in the bank performance to reduce the conflicts among stakeholders' interests since the internal stakeholders; owners, executives, directors; and the external stakeholders; depositors, states, concerned institutions.

Basically, the main concern is about the major party own more shares in the bank capital to affect the bank's strategies and policies that may affect others of stakeholders. Besides that, owners, directors and executives in banks show their efforts to implement good governance in order to increase the market credibility of their banks; consequently, they will bring funds to their banks at lower cost and lower risk that definitely refers to the positive relationship between corporate governance and bank performance.

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APPLICATIONS FOR BUSINESSES THAT USES RELATIONAL DATABASES

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Abstract

The paper presents a database production model designed as a warehouse star that contain dimensions like deposits, raw materials, stocks, products, producer, locations, time and a fact table with foreign keys and measures. This model optimize the activity of a business based on a production activity in the way that it can store large amount of data in a historical way that can be the base for future scenarios with key values changed by the decision maker. The decision maker analyses a large spectrum of reports and choose what indicators to observe and what measures to display and so it's easy to decide based on large amount of data and trends. Database applications for business improve the efficiency in managing large quantity of data in the sense for storage, updates, queries, interaction with the users and also getting answers through reports. The schema specific to a database is very flexible and permits adding or removing columns and also adding and removing entities. This feature is very useful when the relational database schema is transformed in a data warehouse shaped as a star with dimensions and a fact table. This model permits advanced queries and the usage of rollup and drill down objects specific to the business intelligence tools that offer quick responses to the complex answers. To a production business the choice of a database application designed and implemented as data warehouse star model, bennefits from all the advantage of storage and also a superior and complex tool for building queries.

Keywords: *Database storage, business intelligence tools, business production model, data warehouse star model, SQL queries and reports, rollup and drill down objects.*

JEL Classification: C23, C26, C38, C55, C81, C87

1. Introduction

A database application for a production business involves storage of a large amount of data and the management of entities like products, stocks, raw material, deposits, producers and locations. This model also permits the interaction with the users and allow to the decision makers to build complex queries and reports that respond to a various questions. The architecture of a system aimed at its components and how they interact, types and operations allocated to each component. For an interactive decision support system architecture includes the following subsystems: data management subsystem, management subsystem models and sub-dialog user. Data management subsystem consists of the following elements: database management system database oxidase, data dictionary and declarative query language.

The database is built to meet the information requirements of the system and data is a collection of interrelated operated by one or more users in one or more applications. The database is no internal data, external data and personal data [1], [5].

Internal data from the current activities of the organization and operations of the various functional departments image. Data external economic information circulated nationally and internationally and usually come from the industrial sector of which the company, the legal regulations. Personal data is data that relates to the behavioral aspects of decision-makers in making decisions. Whatever their nature, data is stored in relational databases (transactional system data) or data warehouse, built on subjects of interest. In current systems, the company's intranet, are increasingly present data accessible through web browsers and multimedia objects, such as maps, images, sounds.

The data source, internal or external, data is extracted and managed by a management system database. The management of the database depends on the data organization. In most cases there is a system SGBS transactional relational data management system and a database for multidimensional data warehouses created. The data dictionary is a catalog of all the data in the database. It contains data definitions, data sources and their intrinsic significance. The data dictionary operations are allowed to add new data, deletion or retrieval of existing information according to certain criteria. Most often the data dictionary used in the first phase of decision-making, data mining to identify their problems and opportunities. Declarative query language offer data interrogation facilities. The SQL language is used, which accepts requests for data from other systems [2], [4].

2. The specification of data storage in databases managed by the DBMS's

Subsystem management model consists of the following components: base models, the management models, dictionary models and processor execution and integration patterns

Base models kit contains models that enable analysis of the facts and the solution choice under the conditions required by the user. It is the component that differentiates interactive decision support systems from other systems. The models are domain-specific (financial, statistical, forecasting) models and can be classified into strategic, tactical and operational models. The models assist strategic decision-maker in developing the overall strategy of the firm, on the development issues of corporate objectives, choice of location of the equipment; analyze the impact of environment on activity of the organization.

Tactical models are applied to the organizational subsystems and assist the user in taking decisions regarding allocation and management of resources of the subsystem, planning model for promoting products. The models are used currently operational and transactional system aims of the organization, credit approval of a plan of production, quality control.

Base management system allows creating new models using programming languages, update and modify existing models, establish interdependencies between models. Manage in a logical manner a variety of models to consistency of the data model and provides integration of system information components in the application [3], [6].

The dictionary is a catalog of all models containing the definitions used, the main functions of their scopes. The processor execution and integration of models must be viewed through the prism functions performed by him, thus:

- Processors execution models interpret instructions received from the user and sends management system models; check the conduct of the programs that are built models.
- Combines processor integration operations in several models depending on the requirements of decision making and decision support system integrates other applications.

The subsystem contains a dialog with the user management system user interface and a processor that takes inputs through outputs and provides command languages through language presentation. It is the only system component with which the user works directly.

Defining an effective interface should consider choosing devices Input / Output, design screens, the format of the data and information. Generators interactive decision support systems provide multiple interface styles: menu-driven interaction design, question-answer style, dialogue

based on natural language processing, graphical user interface. Choice is an option team decision and depends on the method that ensures information management; the real complexity of the system will be implemented.

Decision support requires a permanent dialogue with the user, so that the interface has a much greater importance than other systems. The user, person or group of persons through the role they play in making the decision, is considered part of the system. It is involved in all phases. Studying the specific context, correctly defining the problem and lead to choosing an alternative from a set of possible solutions. Quality and efficiency of decision depends on how they react in the context of decision-making, how the adopted solutions [2], [4].

Managers or specialists in various professional fields, expects the system conclusions or details. It is working in teams constituted for a period of time, according to some temporary tasks. In complex situations there are analysts arrange the connections with managers that use the decision support systems, being the persons who have knowledge about managerial problems, but experience in decision support technologies. Harmonization with the environment in which they work, transferring responsibility to lower levels, seeks the participation of all the success of the business.

Communication between managers and other employees, communicating with other sources of information is achieved precisely by this component dialog. And so, interactive decision support systems are no longer used only for planning, organization and coordination but also for inter-personal communication, establishment and execution of daily tasks.

The functionality of these systems relies on the use of data stored in the database. Existing data are organized, coordinated, integrated and stored to give the user a complete view of reality.

Operational data, subject of daily transactions are stored in relational databases. Management systems using relational databases, data are processed to obtain information.

Synthesis, analysis and interpretation of data are necessary to support decisions involving merging, categorizing, grouping data correlation and existing in accordance with its intended purpose. Synthesis is a process intermediate turn data into information, a process by which data is centralized by certain criteria.

The analysis highlights the relationship to structures, causal and functional between data synthesized. The simplest form of analysis is comparing the data with similar data synthesized. In addition, information can acquire quality when using techniques of graphical representation that makes these correlations, observation techniques analytical data based on mathematical theories, comparing actual data with the theoretical products of a hypothetical model or observation techniques automatic based on data.

Interpretation follows the descriptive power of the model. Calls on knowledge of general and specific fundamental associated with the domain and existing expertise [1], [3].

Systems architecture components of interactive data-driven decision support, the most important is the data management subsystem. Data from internal and external sources make up an analytical database, which contains analytical indicators which reflect the performance of the analyzed system, which allows evaluation of the system analyzed in a multidimensional manner. By performing a diverse set of operations on transactional data, custom views are provided to the user on the stored data.

Decision support systems are a natural progression from reporting information systems transaction processing systems. These systems are interactive, accounting information systems, ICT-using decision models and specialized databases to assist managers in decision-making processes. Thus, they are different from transaction processing systems, which focuses on the processing of transactions and data generated by business. They also differ from information reporting systems that focus on providing pre-specified reports for managers, reports that help for making complex decisions.

Instead, decision support systems provide managers information in an interactive session or in an ad hoc way. Such a system provides analytical modeling, data retrieval systems and information presentation capabilities that allow managers to generate the information needed to make decisions in an interactive computerized. For example, spreadsheet applications allow a manager to receive interactive responses to ad hoc requests for sales or profit forecasts formulated within analytical models.

The answers differ from those pre-specified information reporting systems.

When using a decision support system, managers investigate experimental alternatives and receives information based on a set of alternative assumptions. Thus, policymakers should not specify a priori information requirements, the system interactively assisting them to find the information they need.

System information executive management systems are built on strategic management information needs. Managers procure the necessary information from several sources, including letters, notes, journals and reports made manually or through computer systems, in meetings, telephone conversations and social activities. The main purpose of information systems is to provide executive decision makers of the organization that provides strategic management quick and easy access to information about critical factors in achieving the strategic objectives. Such schemes involve the use of graphic representations and fast access to content databases for information about the current status and trends of components designed. A

database containing all the necessary information about objects involved in a lot of applications, logical relations between this information and the proper processing techniques. Databases and integration of data occurs, meaning that many files are taken together, eliminating redundant possible that information. It also allowed simultaneous access to the same data, which are found in the same place or are, distributed spatially more persons of different preparations, each with personal working style [2], [6].

When analyzing the information needs of an organization, we have mainly focused on the identification of entities, attributes and relationships.

We can look at an entity as a separate object such as a person, a department, a concept or event that belongs to an organization to be represented in the database. The attribute is a property that describes some aspect of the object that we want to record and the relationship refers to an association between various entities. Thus we can say that the database contains entities, attributes, and relationships that are logical linked.

Depending on what is highlighted graphically, use two types of architectures:

- Component architecture - offers an insight into the elements that form a system database, but also the inter-dependencies between them.

Specific components of the architecture components are:

- data - are organized in a database, comprising:
 - Databases themselves;
 - Dictionary data (data structure, integrity constraints, views, etc.);
 - Attachments, as the index.
- software - is for the establishment and operation of the database and contains:
 - System and database;
 - Application programs developed for the most part, a management system databases.

- Auxiliaries - are components contributing to the functioning of the entire system and database:

- a set of automatic procedures (routines) and manuals;
- legal and administrative regulations;
- hardware means used;
- persons involved in the categories of users;

Architecture tiered structure database system on three levels and offers an insight into the organization and its functioning.

- Conceptual level - is given by the database administrator vision on the data. Related to this level, we can mention the following:
 - administrator performed the conceptual structure of the database, possibly using the tools provided by a DBMS;

- conceptual structure is obtained using a specific data model for the database, and a design technique as appropriate;
- conceptual structure within the system is a representation of reality that database transcribed;
- vision of the database administrator is independent of applications to be developed (logical independence);
- conceptual level is the result of conceptual schema;
- realization of the scheme corresponds to a modeling activities because it is a transposition in abstract terms of real world entities;
- once defined conceptual schema must be confronted with the real world for identifying and resolving inconsistencies or omissions; because of its comprehensive, unitary, it is recommended that the conceptual scheme to be managed by a single person;

The logic is given by the programmer's view of the data. Related to this level may present the following:

- scheduler performs application programs for describing and manipulating data written in a DBMS;
- implements programs external structure (logic) data;
- external structure is derived from the conceptual structure;
- external structure of the vision of the database programmer for a particular application;
- vision programmer is independent of technical support information (physical independence);
- logical level is the result of external schema as part of the conceptual scheme, implemented using a DBMS;

The physical level - is given the vision of the analyst, engineer, and system on the data and is intended to describe how the data are stored in the database. Related physical level we can mention the following:

- system analyst whose responsibility it is to achieve internal structure (physical);
- internal structure is inferred from external according to techniques and methods for allocation on a physical medium;
- described the internal structure of information data on physical media;
- physical Layer is the result of internal diagram (physical) which is defined in terms of files and records;
- scheme implementation is done using internal file management system within the DBMS's and / or operating system, the management of physical peripherals;

3. Developing an informatics system based on a relational database for production designed as a data warehouse

The process of building a data warehouse involves the analysis of data. Extract information in order to obtain information for decision making. Basically there are two steps: designing and populating data. Design is the stage where the data warehouse model is chosen, depending on the complexity of the system real user requirements and data structure existing in the company such as databases, Excel spreadsheets and so on [3], [5].

Building a data warehouse there are three models: type star, snowflake patterns type and constellation type models. Conceptual models are multidimensional and designed to organize data necessary decision-making process on issues. The models may change depending on the context, presenting the data in a structure bed, easily designed and accessible to end users.

In such a model is highlighted:

- quantitative data centralized called measures of activity
- quantitative criteria for centralized aggregation, referred sizes
- relational table that stores the measures identified by the facts dimensions is called table
- Tables where aggregation criteria has explicit codes, called type tables list. Facts associated table.

The star is the type of aggregation criteria when codes are explained in type tables list. Using data from lists, star type structure enables higher levels of aggregation on the initial size [4], [6].

Data warehouse star

The eastern type constellation when several schemes that use the same type star catalogs. The advantage is that the same warehouse can store different facts that have certain common coordinates and therefore share the same lists.

Deposit constellation

The type is snowflake if any alternative classifications for the same code by integrating undersize and alternative dimensions. To analyze the evolution of the value of Supplies Company based on several criteria required of users, you can define a data warehouse type star.

In figure 1 is described a star warehouse model for production:

In such a model the dimensions have a corresponding key in the fact tables (ex. Id_producer – primary key from Producers has a corresponding key in Fact production – foreign key). This model permits to create complex query by simply choose the attributes from dimensions and a measure from the fact table. It also is possible to create graphics based on queries that contain attributes from dimension tables and measures from the fact table.

Inserting data into dimensions can be made through an insert SQL command:

```
INSERT INTO PRODUCERS (ID_PRODUCER, PRODUCER_NAME,
PRODUCER_TYPE, PRODUCER_DETAILS, PRODUCER_RATE) VALUES (1,
'PRODUCER 1', 'TYPE 1', 'DETAIL 1', 5);
```

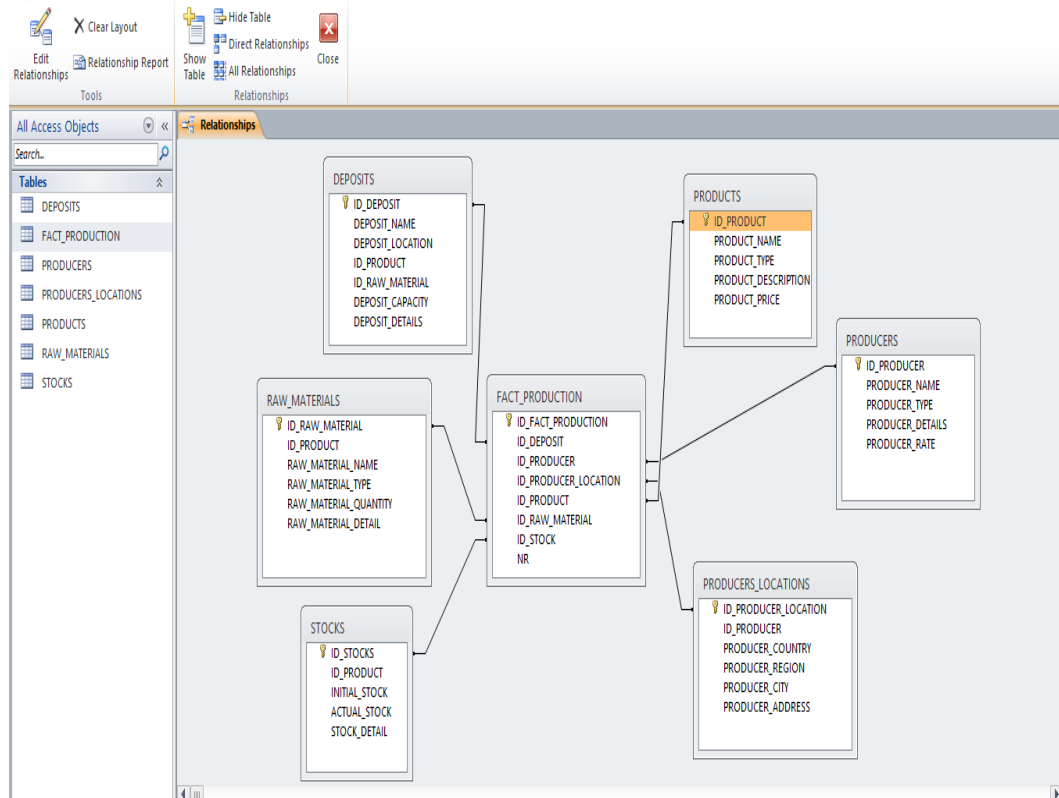


Figure 1 – A star warehouse model for production

Inserting data into the fact table is made also through an insert SQL command based on a trigger fired when inserted data into dimensions is:

```
INSERT INTO FACT_PRODUCTION (ID_FACT_PRODUCTION, ID_DEPOSIT,
ID_PRODUCER, ID_PRODUCER_LOCATION, ID_PRODUCT, ID_RAW_MATERIAL,
ID_STOCK, NR) VALUES (1, 1, 4, 5, 3, 1, 2, 1);
```

Creating a query into a star model warehouse:

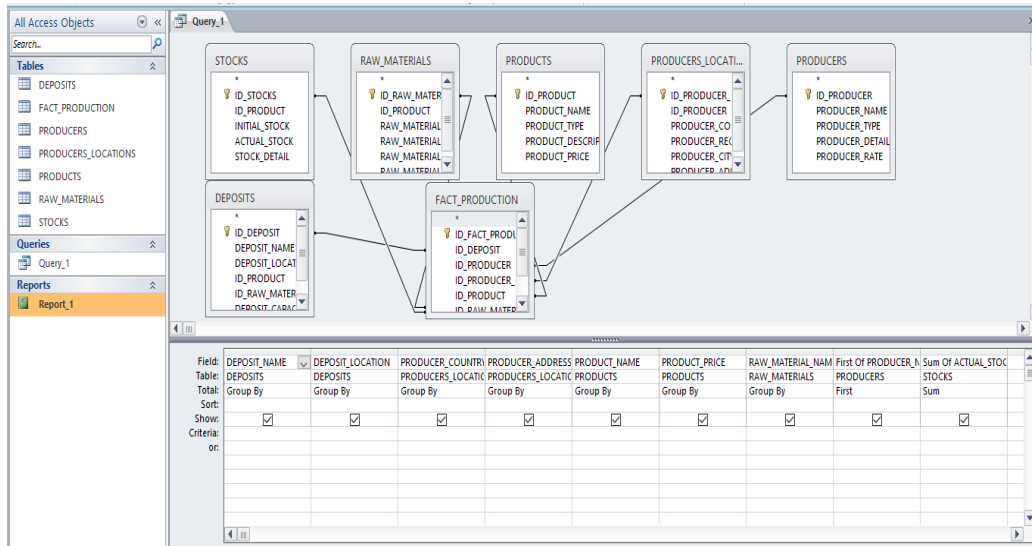


Figure 2 – Building a query in a star warehouse model for production

The query code:

```

SELECT DISTINCTROW DEPOSITS.DEPOSIT_NAME,
DEPOSITS.DEPOSIT_LOCATION,
PRODUCERS_LOCATIONS.PRODUCER_COUNTRY,
PRODUCERS_LOCATIONS.PRODUCER_ADDRESS, PRODUCTS.PRODUCT_NAME,
PRODUCTS.PRODUCT_PRICE, RAW_MATERIALS.RAW_MATERIAL_NAME,
First(PRODUCERS.PRODUCER_NAME) AS [First Of PRODUCER_NAME],
Sum(STOCKS.ACTUAL_STOCK) AS [Sum Of ACTUAL_STOCK]
FROM STOCKS INNER JOIN (RAW_MATERIALS INNER JOIN (PRODUCTS INNER
JOIN (PRODUCERS_LOCATIONS INNER JOIN (PRODUCERS INNER JOIN
(DEPOSITS INNER JOIN FACT_PRODUCTION ON DEPOSITS.[ID_DEPOSIT] =
FACT_PRODUCTION.[ID_DEPOSIT])) ON PRODUCERS.[ID_PRODUCER] =
FACT_PRODUCTION.[ID_PRODUCER]) ON
PRODUCERS_LOCATIONS.[ID_PRODUCER_LOCATION] =
FACT_PRODUCTION.[ID_PRODUCER_LOCATION]) ON
PRODUCTS.[ID_PRODUCT] = FACT_PRODUCTION.[ID_PRODUCT]) ON
RAW_MATERIALS.[ID_RAW_MATERIAL] =
FACT_PRODUCTION.[ID_RAW_MATERIAL]) ON STOCKS.[ID_STOCKS] =
FACT_PRODUCTION.[ID_STOCK]
GROUP BY DEPOSITS.DEPOSIT_NAME, DEPOSITS.DEPOSIT_LOCATION,
PRODUCERS_LOCATIONS.PRODUCER_COUNTRY,
PRODUCERS_LOCATIONS.PRODUCER_ADDRESS, PRODUCTS.PRODUCT_NAME,
PRODUCTS.PRODUCT_PRICE, RAW_MATERIALS.RAW_MATERIAL_NAME;
    
```

Based on the queries it can be built reports that helps the decision makers to choose what direction should have their actions. An example of a report based on the query above is represented in the image bellow:

DEPOSIT_NAME	PRODUCER_COUNTRY	DEPOSIT_LOCATION	PRODUCER_ADDRESS	PRODUCT_NAME	PRODUCT_PRICE	RAW_MATERIAL_NAME	FIRST OF PRODUCE
							Sum OF ACTUAL_STOCK
DEPOSIT 1	COUNTRY 1	LOCATION 1	ADDRESS 1	PROD 1	107	RAW MATERIAL 1	PRODUCER 55
Summary for 'DEPOSIT_NAME' = DEPOSIT 1 (1 detail record)							
Sum							55
DEPOSIT 2	COUNTRY 2	LOCATION 2	ADDRESS 2	PROD 2	132	RAW MATERIAL 2	PRODUCER 35
Summary for 'DEPOSIT_NAME' = DEPOSIT 2 (1 detail record)							
Sum							35
DEPOSIT 3	COUNTRY 3	LOCATION 3	ADDRESS 3	PROD 3	154	RAW MATERIAL 3	PRODUCER 24
Summary for 'DEPOSIT_NAME' = DEPOSIT 3 (1 detail record)							
Sum							24
DEPOSIT 4	COUNTRY 4	LOCATION 4	ADDRESS 4	PROD 4	165	RAW MATERIAL 4	PRODUCER 48
Summary for 'DEPOSIT_NAME' = DEPOSIT 4 (1 detail record)							
Sum							48
DEPOSIT 5	COUNTRY 5	LOCATION 5	ADDRESS 5	PROD 5	172	RAW MATERIAL 5	PRODUCER 72
Summary for 'DEPOSIT_NAME' = DEPOSIT 5 (1 detail record)							
Sum							72
Grand Total							234

Figure 3 – A report based on a query in a star warehouse model for production

This kind of warehouse for production can improve orders and the stocks are always supplied with raw material. The responsible person with supply can choose what column should appear in the report and see what supplier has the raw material he needs for production. This flexibility is offered by the business intelligence tools in obtaining various results and create many types of reports for choosing the proper solution [4], [6].

Conclusions

Using databases for information systems that apply to businesses environments has advantages in managing production, financial, accounting and provisioning subsystems. Having data stored in a history of time in a database helps to build scenarios based on the knowledge accumulated and allows the decisions to avoid blocking and bad management based on previous experiences [1], [3]. The SQL language permits to query historical data in different periods of time that are useful in building future strategies in which the supply chain is not interrupted and hasn't dysfunctionality. An

information system for production has an physical architecture that mirrors all the main components, from raw materials to products and also has an interaction layer that may possible to evaluate an before situation and also to build scenarios that make possible future production that indicate the growth. A star warehouse model for production is flexible at the physical level in the sense that offer the posibility to add new dimensions or new measures and at the presentation level permits to build numerous reports that can reflect different scenarios by simply changing some key values an give other perspectives to the decision maker [2], [5]. This type of information system is interoperable with other system for financial, sales, accounting, marketing and management, and so it has inputs from other external environments, such as other companies that provide raw materials and offer outputs for the internal structures of an company such as sales or to the external markets and other companies that are competitive in the business environment.

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CRIMES RELATED TO THE PROFESSION OF MEDIC

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Abstract

A comparative study on the penal responsibility of the medical profession in respect of the form of employment, privat practice or employed by the government.

Keywords: *medical profession, rights, obligations, penal responsibility*

JEL Classification: I30, I39, K14, K31

Exercising the profession of medic is the right of an individual, of romanian citizenship, who has a medical diploma, issued by medical university from Romania or from abroad, recognised and validated by Law¹. Exercising the profession of medic is endorsed by the Board of Medics from Romania and licensed by the Ministry of Health, accordingly to the procedures stated by Law².

The profession of medic must prevent diseases, promote, maintain and recover individual and community health as its main task is to insure public health³.

In the same time, by exercising his/her profession, the medic must prove availability, honesty, devotion and respect to human being⁴.

Line 2 of art. 6 states that the medic is not a public employee due to its humane and liberal exercise.

As the Law states, the medic must be graduated of a university degree medical institution, recognised by Law, and the professional freedom

¹The medical profession can be performed in Romania by foreign medics, in they fullfill the legal prerequisites and bases on reciprocal agreement between Romania and other countries (art. 370 of the Law n.95/2006, Title XII regarding the exercise on the medical profession, organisation and function of the Board of Medics from Romania)

² Law n.95/2006, Title XII regarding the exercise on the medical profession, organisation and function of the Board of Medics from Romania, published in the Official Journal of Romania, Part I, n. 372 of 28.04.2006.

³ Law n.95/2006, Title XII regarding the exercise on the medical profession, organisation and function of the Board of Medics from Romania, art. 374, pct.1.

⁴ Ibidem, art. 374, pct.2

gives the opportunity to the medic to take initiative and decision and to assume full responsibility during the exercise of the medical act¹.

Exercising the medical profession can be done only with the prior liberal profession licensing by the Ministry of Health, only if certain prerequisites of the Law are fulfilled².

The legislator established in the content of the Law certain aspects in respect of the incompatibility and unworthy of the exercise of medical profession, also in respect of the liberal practice license of medical profession and in respect of the initiation, organisation and function of the Board of Medics from Romania.

The Law regarding the exercise of the medical profession impeaches as a criminal act, punishable by penal law, the exercise of the medical profession by an individual without the proper qualifications.

This article does not include certain proper penal sanctions, but it refers to other penal law regulations³.

In respect to the sanction regime, it should be emphasized that the punishment for this type of criminal behavior, is the one established by the Penal Law, better said, the punishment for "illegal exercise of a profession"⁴

The crime in question is considered committed only at the point when it's proven that such medical profession was exercised by an individual without the proper qualifications and such danger for the social relations defended by the Law, was produced, underlining the importance of the need for several acts to be fulfilled in order to consider them as an act of exercise⁵.

The juridical object of the criminal act stated by the Law is the social relationship regarding the regime of exercising the medical profession only under the strict legal prerequisites, the penal protection reflecting over the initiation and development of these relations.

Also, under certain circumstances, the protection includes the social relationship over the physical integrity and health of the individuals to whom the profession incriminated is exercised.

The juridical object will exist only if the action in question is illegally exercised by a medic to an individual (for example, when an individual is operated on by an unauthorized person)

¹ Ibidem, art. 375, pct.1

² Ibidem, art. 379, pct.1

³ Eliodor Tanislav, Nicolae Conea, Constantin Gheorghe, Mihail Conea, Crimes punished by penal special law, Publisher Semne, Bucuresti, 2000, pag. 388

⁴ art. 281 of the Penal Code

⁵ Ibidem 7

The author (the immediate active subject) of the crime is clearly stated by art. 41 as any individual, since the Law does not stipulate any special prerequisites for him/her, and so it is not circumstanced. However, the author of this crime can be a generalist medic, if he/she will perform gynaecology manoeuvre or naturist medicine without being certified in the field, or the medicine plant sellers¹.

In order for the crime to be committed, certain acts are required, specific only for the profession of medic, to be fulfilled by a person without the proper certification, even if they are committed by a nurse or a biotherapist.

If several individuals agree to exercise this profession although they do not fulfill the legal prerequisites, in the same place, at the same moment, each one will be prosecuted for separate offence and author of the same crime, and not as coauthor of the other offenders.

The passive subject is the state, as the representative of the society concerned by the exercise of the medical profession under certain legal conditions, and in the event of abusive and illegal exercise towards an individual, he/she will be the secondary passive subject.

The objective aspect of the offence, regarding the material element, will consist in the actions of the offender to perform medical acts without holding this official charge. Practising this profession by an individual without prior licensing means he/she performs typical acts of the medical profession (treatments, surgeries etc.)².

From the legal provisions referring to the term "practice" we draw the conclusion that isolated acts that have slight connection to the medical profession do not fulfill the material element of the offence. (for example, medical hygiene advice or direction served as part of a friendship communication or the prescription of medicine that will be later administered)³.

The immediate consequence under the objective aspect of the offence is made of the danger situation for the social relationships, shown in the impeachment of the offence by the special Law, consequence directly related to the crime.

The subjective aspect is the culpability, demonstrated by a direct or indirect intention; respectively, the offender envisages the result of his/her future actions and he/she pursues it (direct intention) or he/she will only accept the outcome of the actions. (indirect intention). The text of the Law

¹ Ibidem 7, pag. 387

² Ibidem 7, pag. 579

³ Eliodor Tanislav, Georgeta Opreşan, Romanian Labour Law Magazine, n.6/2007, pag. 72.

does not envisage no requirements in respect of the purpose to the offender nor to the motive that determined such action¹.

Although the crime presumptively can be fulfilled in all imperfect forms, the Law does not punish the preparation acts nor the attempt.

From the procedural point of view, the impeachment can be initiated ex officio, the judicial police body bearing the investigative jurisdiction, and first instance will be carried out by the City Courts.

An important issue that should be thoroughly analysed is the antithesis between the prerequisites of the medical profession Law and the ones stated in the art. 147 of the Penal Code.

First of all, the medic is not a public employee during the exercise of the medical profession, due to its humane and liberal nature, but the Penal Code refers to public employee as any individual that exercise permanently or temporarily, for any purpose, regardless of the nomination, with a commission of any nature, paid or not, within an institution mentioned by art. 145 of the Penal Code. Line 1 of art. 147 of the Penal Code refers to the "employee" also as any worker, employed by a company, other than the ones mentioned in the previous line.

From the two lines arises the question if the medic is either a public employee or just a worker and if the art. 147 of the Penal Code is mandatory for him/her.

On one hand stands the opinion that the medic is not a public employee, based on the law that regulates the exercise of the medical profession, thus the humane and liberal nature of the profession.

The humane nature of the profession clearly emerges from the art. 374, point 2, but it is not optional, since the medic is bound by the oath to performe such duty, sworn at the graduation from the medical university.

The liberal side of the profession reflects in the option given by the legislator for the medic to perform his/her duties either in an institution under the control of the Ministry of Health or other minister's own medical service, or in the private sector.

On the other hand, a completely different opinion, emerged from the previous Law (Law nr. 74/1995 regarding the exercise of the medical profession), in art. 12, line 3, stated that the medic is a public employee and can performe either in the private sector or in an institution under the control of the Ministry of Health or other minister's own medical service.

The issue of the medics that exercise their profession in the private sector is pretty clear in its self. However, the medics that performe in an institution under the control of the Ministry of Health or other minister's

¹ Eliodor Tanislav, Nicolae Conea, Eliodor Tanislav jr., Crimes punished by penal special law – Legislation, doctrine, jurisprudence, Publisher Semne, București 2006.

own medical service, are public employees, since they sign a labour contract and for their activity receive a regular pay.

Under these circumstances, the medic can be active subject of the felony of receiving bribe, regardless of the means to commit it¹.

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