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# How to use Fibonacci retracement to predict forex market

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**Abstract:** *In the material below I have tried to explain how can be used Fibonacci Retracement as an important tool to predict forex market. In this article I have included some graphic formats such as Fibonacci arcs, fan, channel, expansion, wich are created also with Fibonacci retracement and also rules to perfect chart plotting. I have analyzed some examples of Fibonacci retracements pattern in a downtrend and in an uptrend. In this article I have used and combine material from different sources trying to create a start point for those one of you that are interested.*

**Keywords:** *Fibonacci ratios, downtrend, uptrend, suport and resistance levels*

“Fib numbers” (as they are often referred to) also appear in many aspects of nature such as the arrangement of leaves on a stem and the branching of trees. Some day traders, swing traders and investors therefore say that the nature of the financial markets also manifest themselves in the structure of Fibonacci numbers.

Now the big question: Do Fibonacci numbers have a dramatic influence on the financial markets? Should you use Fibonacci trading in your trading system to help with your stock market analysis? Therefore Fib numbers are indeed significant in trading if for no other reason than they become a self-fulfilling prophecy through their use by a massive number of Fibonacci Forex, stock and futures traders. And those numbers can be used to calculate Fibonacci retracement levels. How? we will find together in the material below.

## History and mathematics

*Fibonacci*(1175-1240) was one of the greatest mathematicians of the Middle Ages. He was born in Italy in Pisa town. In 1202 after a trip to Egypt, he come back in Italy where it publishes a treatise on arithmetic and algebra named “*Incipit Liber Abacci*”(compositus a *Leonardo filius Bonacci Pisano*). In this treaty introduces for the first time Arabic numeral system in Europe, and the numbers we use today: 0,1, 2, 3,...,9. Leonardo da Pisa, is rightly considered the first great original mathematician of Europe.

In his many trips (Egypt, Syria, Greece, Sicily) he takes contact with Greek and Arabic culture. The story of numbers appears in Italy in 1202, with the advent of the book *Liber Abaci*, written by Leonardo Pisano, by then 27 years old. The book has 15 sheets heads, and are written entirely by hand, the pattern appeared 300 years later. Fibonacci book begins with notions about the identification numbers of the units digit of tens, hundreds, of thousands, etc. In the last chapters we find calculations with integer numbers and fractions, proportions rules, extraction of square roots and higher order, then presents the solutions of linear and quadratic equations. *Liber Abaci* was filled with practical examples: calculation of financial accounting, corporate income, money exchange, conversion of weights, and the calculation of loan with interest.

In terms of mathematic, Fibonacci numbers  $f_n$  are given by the following recurrence:

$$f_0 = 0, f_1 = 1, f_{n+1} = f_{n-1} + f_n, n \geq 1.$$

Theorem 1. If  $\chi^2 = \chi + 1$ , then we have:  $\chi^n = f_n \chi + f_{n-1}$ ,  $n \geq 2$ .

Argument: We will prove by induction after  $n$ .

For  $n = 2$  the relationship is trivial. We suppose that  $\forall n > 2$  we have  $\chi^{n-1} = f_{n-1}\chi + f_{n-2}$ . Then  $\chi^n = \chi^{n-1} \cdot \chi = f_{n-1}(\chi + 1) + f_{n-2}\chi = (f_{n-1} + f_{n-2})\chi + f_{n-1} = f_n\chi + f_{n-1}$ .

Theorema 2. (Binet formula). The  $n$ -th term of the Fibonacci sequence is given by:

$$f_n = \frac{1}{\sqrt{5}} \left( \frac{1+\sqrt{5}}{2} \right)^n - \left( \frac{1-\sqrt{5}}{2} \right)^n, n \geq 0.$$

Argument: Equation roots  $\chi^2 = \chi + 1$  are  $\varphi = \frac{1+\sqrt{5}}{2}$  and  $1 - \varphi = \frac{1-\sqrt{5}}{2}$

From theorem 1., we have:  $\varphi^n = \varphi f_n + f_{n-1}$  and  $(1 - \varphi^n) = (1 - \varphi)f_n + f_{n-1}$

Forward  $\varphi^n - (1 - \varphi)^n = \sqrt{5}f_n$ , from where result the Binet formula.

### **Fibonacci sequence in forex market**

Fibonacci retracement is a very popular tool used by many technical traders to help identify strategic places for transactions to be placed, target prices or stop losses. The notion of retracement is used in many indicators such as Tirone levels, Gartley patterns, Elliott Wave theory and more. After a significant price movement up or down, the new support and resistance levels are often at or near these lines.

The Fibonacci sequence is simply beginning with the numbers 0 and 1, and then each number after that is the sum of the previous two.

So ...

$$0 + 1 = 1$$

Then you take the sum of the last 2 numbers of the above equation and add them:

$$1 + 1 = 2$$

Then you take the sum of the last 2 numbers of the above equation and add them:

$$1 + 2 = 3$$

Then you take the sum of the last 2 numbers of the above equation and add them:

$$2 + 3 = 5$$

Then you take the sum of the last 2 numbers of the above equation and add them:

$$3 + 5 = 8$$

Then you take the sum of the last 2 numbers of the above equation and add them:

$$5 + 8 = 13$$

Then you take the sum of the last 2 numbers of the above equation and add them:

$$8 + 13 = 21$$

... and on it goes to infinity!

The Fibonacci sequence of numbers is as follows: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, etc. Each term in this sequence is simply the sum of the two preceding terms and sequence continues infinitely. One of the remarkable characteristics of this numerical sequence is that each number is approximately 1.618 times greater than the preceding number. This common relationship between every number in the series is the foundation of the common ratios used in retracement studies.

### **Fibonacci ratios**

Fibonacci ratios are mathematical relationships, expressed as ratios, derived from the Fibonacci sequences.

The key Fibonacci ratios are 0%, 23.6%, 38.2%, 50%, 61.8% and 100%.

$$F_{100\%} = \left( \frac{1+\sqrt{5}}{2} \right)^0 = 1$$

The key Fibonacci ratio of 0.618% - also referred to as "the golden ratio" or "the golden mean" - is found by dividing any number in the sequence by the number that immediately follows it. For example: 8/13 is approximately 0.6154, and 55/89 is approximately 0.6180.

$$F_{61,8\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^{-1} \approx 0,6180$$

The 0.382 ratio is found by dividing any number in the sequence by the number that is found two places to the right. For example: 34/89 is approximately 0.3820.

$$F_{38,2\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^{-2} \approx 0,381966$$

The 0.236 ratio is found by dividing any number in the sequence by the number that is three places to the right. For example: 55/233 is approximately 0.2361.

$$F_{23,6\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^{-3} \approx 0,236068$$

The 0 ratio is :

$$F_{0\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^{-\infty} = 0$$

The 0.500 ratio is derived from dividing the number 1 (third number in the sequence) by the number 2 (fourth number in the sequence).

$$F_{50\%} = \frac{1}{2} = 0,500000$$

The 50% retracement level is not really a Fibonacci ratio, but it is used because of the overwhelming tendency for an asset to continue in a certain direction once it completes a 50% retracement.

Fibonacci retracement is created by taking two extreme points on a chart and dividing the vertical distance by the key Fibonacci ratios. 0.0% is considered to be the start of the retracement, while 100.0% is a complete reversal to the original part of the move. Once these levels are identified, horizontal lines are drawn and used to identify possible support and resistance.

### **Other ratios**

The 0.764 ratio is the result of subtracting 0.236 from the number 1.

$$F_{76,4\%} = 1 - \left( \frac{1 + \sqrt{5}}{2} \right)^{-3} \approx 0,763932$$

The 0.786 ratio is:

$$F_{78,6\%} = \left( \frac{1 + \sqrt{5}}{2} \right)^{-\frac{1}{2}} \approx 0,786151$$



Fig. 1. Fibonacci ratios. Graphic representation

For reasons that are unclear, these ratios seem to play an important role in the stock market, just as they do in nature, and can be used to determine critical points that cause an asset's price to reverse. The direction of the prior trend is likely to continue once the price of the asset has retraced to one of the ratios listed above.

The following chart illustrates how Fibonacci retracement can be used. Notice how the price changes direction as it approaches the support/resistance levels.



Fig. 2. Fibonacci retracement to the 23.6% level on the EURUSD

### Fibonacci Retracements Pattern

Stocks will often pull back or retrace a percentage of the previous move before reversing. These Fibonacci retracements often occur at three levels – 38.2%, 50%, and 61.8%.

The use of Fibonacci retracement levels in online stock trading, stock market analysis (as well as futures, Forex, etc.) serves to help determine how far one expects a market to retrace before continuing in the direction of the trend.

It is often used with other technical analysis indicators such as a moving average, stochastics, RSI, candlestick patterns, etc. When using Fibonacci Forex, stocks, futures and commodities can all be traded using the Fibonacci retracement of a trend.

The first thing you should know about the Fibonacci tool is that it works best when the market is trending.

The idea is to go long (or buy) on a retracement at a Fibonacci support level when the market is trending up, and to go short (or sell) on a retracement at a Fibonacci resistance level when the market is trending down. In order to find these retracement levels, you have to find the recent significant Swing Highs and Swings Lows.

Then, for downtrends, click on the Swing High and drag the cursor to the most recent Swing Low. For uptrends, do the opposite. Click on the Swing Low and drag the cursor to the most recent Swing High.

### Uptrend

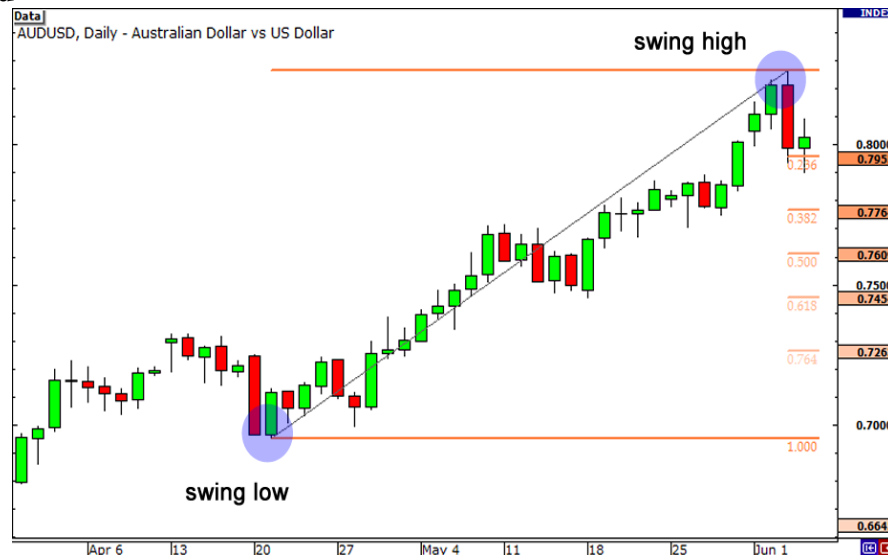


Fig. 3. A daily chart of AUD/USD

Here we plotted the Fibonacci retracement Levels by clicking on the Swing Low at .6955 on April 20 and dragging the cursor to the Swing High at .8264 on June 3. Tada! The software magically shows you the retracement levels.

As you can see from the chart, the retracement levels were .7955 (23.6%), .7764 (38.2%), .7609 (50.0%), .7454 (61.8%), and .7263 (76.4%).

Now, the expectation is that if AUD/USD retraces from the recent high, it will find support at one of those Fibonacci levels because traders will be placing buy orders at these levels as price pulls back.

In theory Fibonacci retracement in an uptrend can also be represented as in the picture below:

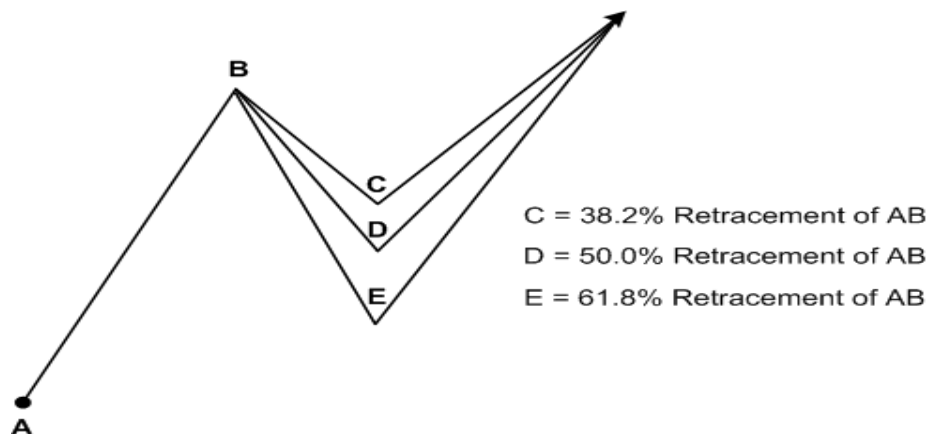


Fig. 4. Representation of an uptrend in theory

Now, let's look at what happened after the Swing High occurred



Fig. 5. A daily chart of AUD/USD

Price pulled back right through the 23.6% level and continued to shoot down over the next couple of weeks. It even tested the 38.2% level but was unable to close below it. Later on, around July 14, the market resumed its upward move and eventually broke through the swing high. Clearly, buying at the 38.2% Fibonacci level would have been a profitable long term trade!

## Downtrend

Now, let's see how we would use the Fibonacci retracement tool during a downtrend. Below is a 4-hour chart of EUR/USD.



Fig. 6. A daily chart of EUR/USD

As you can see, we found our Swing High at 1.4195 on January 26 and our Swing Low at 1.3854 a few days later on February 2. The retracement levels are 1.3933 (23.6%), 1.3983 (38.2%), 1.4023 (50.0%), 1.4064 (61.8%) and 1.4114 (76.4%). The expectation for a downtrend is that if price retraces from this low, it will encounter resistance at one of the Fibonacci levels because traders will be ready with sell orders there.

In theory Fibonacci retracement in an downtrend can also be represented as in the picture below:

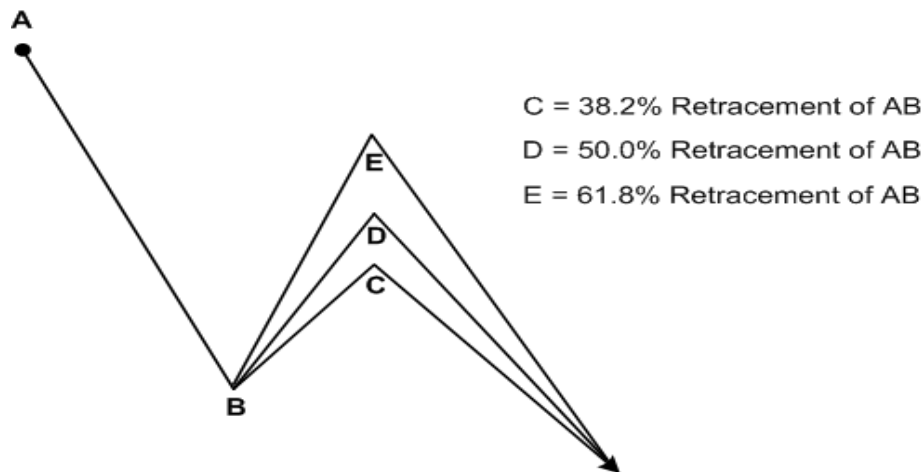


Fig. 7. Representation of an downtrend in theory

Let's take a look at what happened next.



Fig. 8. A daily chart of EUR/USD

The market did try to rally, stalled below the 38.2% level for a bit before testing the 50.0% level. If you had some orders either at the 38.2% or 50.0% levels, you would've made some mad pips on that trade. In these two examples, we see that price *found* some temporary support or resistance at Fibonacci retracement levels.

### Fibonacci Arcs

Fibonacci Arcs are built as follows: first, the trend line is drawn between two extreme points, for example, from the trough to the opposing peak. Then three arcs are built having their centers in the second extreme point and intersecting the trend line at Fibonacci levels of 38.2, 50, and 61.8 per cent.





Fig. 9. Fibonacci arcs

Fibonacci arcs are considered to be potential support and resistance levels. Fibonacci Arcs and Fibonacci Fans are usually plotted together on the chart, and support and resistance levels are determined by the points of intersection of these lines. It should be noted that the points of intersection of Arcs and the price curve can change depending on the chart scale since an arc is a part of a circumference, and its form is always the same.

### Fibonacci Fan

Fibonacci Fan as a line instrument is built as follows: a trend line — for example from a trough to the opposing peak is drawn between two extreme points. Then, an "invisible" vertical line is automatically drawn through the second extreme point. After that, three trend lines intersecting this invisible vertical line at Fibonacci levels of 38.2, 50, and 61.8 percent are drawn from the first extreme point.

These lines are considered to represent support and resistance levels. For getting a more precise forecast, it is recommended to use other Fibonacci instruments along with the Fan.



Fig. 10. Fibonacci Fan

### Fibonacci Time Zones

Is a sequence of vertical lines having Fibonacci intervals of 1, 2, 3, 5, 8, 13, 21, 34, etc. Significant price changes are considered to be expected near these lines.

To build this instrument, it is necessary to specify two points to determine the length of a unit interval. All other lines are built on base of this unit interval according to Fibonacci Numbers.



soon as the fifth wave finishes, correction in the direction opposite to the trend can be expected.

It is necessary to remember for a correct Fibonacci Channel building: base line limits the upper part of the channel when trend is ascending, and the lower part of it when trend is descending.



*Fig. 13. Fibonacci channel*

### **Rules to Perfect Fibonacci Chart Plotting**

Fibonacci retracements represent an excellent tool for investors, identifying reversal points on a historical price chart. Anyone can see that on any historical price chart, trading prices will inherently pull back or retrace a percentage of the previous movement before reversing again and then proceeding in the direction of the overall long-term trend.

Historical observations demonstrate that these retracement percentages seem to follow a Fibonacci ratio pattern. By carefully plotting these retracement possibilities on a historical price chart, a trader improves his or her probability towards successful investing. Certain rules are recommended to improve the likelihood of identifying successful entry and exit points.

#### **Rule 1: Identify the High and Low**

In order to use Fibonacci retracements, it is important to identify relative high and low prices on a historical chart. The longer the term that is utilized, the more likely the Fibonacci retracement lines plotted will identify significant levels demonstrated support and resistance.

#### **Rule 2: Plot the Fibonacci Retracement Levels**

Once a high and low for a time period has been chosen, it will be possible to draw the Fibonacci retracement percentage levels onto the chart. The low point would represent 0%, and the high point represents 100%.

Between these two extremes, one can plot the most significant Fibonacci percentage plot lines of 38.2%, 50%, and 61.8%. It is also beneficial to plot these percentages below and above the high and low. In other words, plot lines that would be 138.2%, 150%, and 200% on the up side above the high, and -30.2%, -50%, and -61.8% on the down side below the low. It should be noted that software exists that will allow you to automatically plot these Fibonacci levels.

#### **Rule 3: Observe Historical Behavior**

Once the plot lines have been placed on the chart, it is important to observe at which Fibonacci levels in the historical period under consideration has demonstrated support

and resistance. These areas will be objectively seen to show that when approached, retracement clearly resulted.

#### **Rule 4: Forecast Future Movement**

The appropriate Fibonacci retracements will vary from investment market to investment market and be a function also of the trading character at any particular time. Consequently, successful use of Fibonacci techniques will be highly dependent on the accurate interpretation of previous price movement activity within the range identified. When the proper Fibonacci retracements have been observed, entry and exit points can be forecasted for position-taking based upon the clearly demonstrated historical record.

#### **Rule 5: Always Have Confirmation**

Through study and observation, many successful traders have mastered the techniques necessary for the use of Fibonacci retracement ratios. As anyone can see, however, the support and resistance represented by these levels do not automatically appear at all times. In other words, after the 38.2% retracement, the price may continue in that direction and not stop or reverse itself until perhaps it reaches 61.8%. What is clear, however, at a certain Fibonacci point, a retracement will occur. As a result of this, the use of Fibonacci techniques is most successful when used in conjunction with other technical analysis tools that confirm what has been identified.

#### **Conclusions**

Fibonacci Retracement trading is used in all markets – online stock trading, Fibonacci Forex trading and also in the futures markets.

Whether or not one believes the Fibonacci trading numbers have any special significance, the fact that they are so pervasively used creates a self-fulfilling prophecy to the levels. Thus, for whatever reason you choose to believe, Fibonacci retracement levels are an important part of technical analysis and should be incorporated into your trading system.

Using Fibonacci retracements in your trading will not make you a professional swing trader, day trader or investor overnight. But used in conjunction with other technical analysis tools such as stochastics, RSI, MACD, moving averages, candlestick patterns, etc., they can be a very valuable addition to any traders tool box. , Fibonacci retracement levels are the basis for Fibonacci trading and an important part of technical analysis and stock market analysis.

#### **References**

- [1] Alexander Elder, *Trading for a living*, Ed. John Wiley & Sons, Canada 1993
- [2] Neculai Stanciu, May 2010, Revista Electronică MateInfo.ro, [online], [http://www.mateinfo.ro/problema\\_saptamanii%20concurs\\_matematica\\_web/mai2010/mai2010\\_stanciu\\_n/MAI2010\\_stanciu\\_n.xht](http://www.mateinfo.ro/problema_saptamanii%20concurs_matematica_web/mai2010/mai2010_stanciu_n/MAI2010_stanciu_n.xht)
- [3] Mark Whistler, May 12, 2010, How to Profit from Fibonacci Retracements in Forex Trading, [online], [read in 10 february, 2011], [http://www.tradingmarkets.com/.site/forex/how\\_to/articles/-75248.cfm](http://www.tradingmarkets.com/.site/forex/how_to/articles/-75248.cfm)
- [4] <http://www.investopedia.com/terms/f/fibonacciretracement.asp>
- [5] <http://www.fibonacciretracement.net/fibonacci-trading/>
- [6] <http://www.babypips.com/school/support-and-resistance.html>
- [7] [http://en.wikipedia.org/wiki/Fibonacci\\_number](http://en.wikipedia.org/wiki/Fibonacci_number)
- [8] [http://stockcharts.com/school/doku.php?id=chart\\_school:technical\\_indicators](http://stockcharts.com/school/doku.php?id=chart_school:technical_indicators)
- [9] <http://www.fibonaccigenius.com/index.html>
- [10] <http://ta.mql4.com/linestudies/fibonacci>

# MONITORING THE MANAGEMENT QUALITY OF THE PUBLIC ADMINISTRATION AREA BY USING THE COMPUTER APPLICATIONS

VĂTUIU VIRGINIA ELENA<sup>1</sup>, VĂTUIU TEODORA<sup>2</sup>

**ABSTRACT:** *Achieving fundamental management in public organizations involved in the public office holders and posts of leadership and execution in this area adds responsibility in managing all types of resources available to the public sector, namely human resources, information, material and financial. The main aim of the management process is to focus human efforts to coordinate joint work. An important role in this process, is upgrading the quality of organizational management and delivery of public services, improving public services through the implementation of innovative tools, leading to government-oriented processes and results-oriented public service.*

**KEY WORDS:** *public service quality, modernization of organizational management, results-oriented public service, computer applications.*

## 1. The modernization of public administration and improvement of service quality by the implementation of innovative tools

Public sector modernization and improvement of quality of public services is essential for the public sector reform. Whatever the management model chosen, quality of public service remains a key issue for the modernization and reform program of the government. Quality management offers solutions to problems of inefficiency and low quality of services delivered, but also reduces costs in times of financial crisis.

An important role in this process is modernizing the organizational management and the quality of public services delivery or the institution's activities, leading to more efficient public services by implementing innovative tools, and to a government driven process and a results-oriented public service such as for example:

- Promote modernization of organizational management in the administration through innovative measures, through specialization of civil servants, their motivation and mobilization towards innovation, etc.
- Use computer applications in monitoring the quality of services from public administration.
- Minimize losses and maximize the wins (eg more efficient use of staff time).
- Improving cooperation between institutions and initiatives to create collaborative networks.
- Background choices / decisions based on evidence.
- Implementing and monitoring the enforcement procedures to govern the institution's current business.
- Recovery of outstanding quality management results in terms of organizational culture.
- Reduce the financial government.

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- Improving services (equipment, materials, personnel, finance).
- Simplification of administrative procedures and measures to reduce bureaucracy.
- Improve security of public documents.
- Reduce delays in obtaining deliverables and response time to public service users and focus on service delivery outcomes.
- Promotion of electronic solutions, etc.

## **2. Public sector efficiency by increasing the integrity, transparency and accountability in the civil service**

Romania, like all other European countries are in the stage of implementation and strengthening of ethical standards and other legal instruments and administrative measures to ensure the integrity of government. Successful implementation requires the introduction of major new changes in the institutions and their organizational cultures. All stakeholders-governments, private sectors and civil societies are facing this challenge at all levels. In this context, one needs to promote and encourage best practices on this topic and to meet this challenge and strengthen the capacity for cooperation between all parties involved.

An efficient public administration implies the existence of citizen trust. Citizens expect public servants to serve the public interest fairly and with decency and to manage public resources every day.

Actions that may lead to the proper application of the concepts of integrity, ethics, transparency and accountability are:

- Practices and measures to promote ethical conduct in public office.
- Methods of recovery of advisers and their business ethics.
- Measures to prevent and combat corruption.
- Positive and innovative solutions identified and investigated to prevent and combat corruption.
- Analysis and assessment of situations of risk and vulnerability to corruption and real achievements as a result of these actions.
- Instrumental integrity standards and indicators.
- Anti-corruption strategies / action plans implemented.
- Measures to avoid infringement regime of incompatibilities and conflicts of interest.
- Establish measures of motivation and retention of qualified personnel in the system.
- Identify the necessary skills and effective use of staff.
- Take steps necessary to achieve a more efficient management of career civil servants. (Connections with training need mobility etc.).

## **3. Monitoring and evaluating the implementation of public service quality management strategy by using informatic applications**

Monitoring will be an ongoing process and is based on the evaluation process which also provides the necessary adjustment of both the strategy itself and its implementation and will be undertaken by a working group established by order of the prefect. It will produce one monitoring report, according to its / their own operational procedures.

Evaluation will be done by the same working group on monitoring reports and other tools (such as questionnaires, interviews, internal and external audit reports, etc.). Following each assessment they will produce a report that will be presented to the leadership of the institution to identify and implement necessary corrections and

corrective actions. Evaluation will be based on operational indicators set by the procedure above.

### **3.1 Proposed Objectives**

- Determining the degree of motivation of civil servants.
- Identifying issues in career management functionality of the Gorj County Prefect Institution.
- Identifying the advantages and disadvantages experienced by civil servants.
- Determining whether the legislation applies to career civil servants.
- Identifying the methodology by which subjects become civil servants and promotion opportunities.

Guide approach includes:

- Discussion about the status of civil servant
- Story of the last time the subject was assessed
- Promote discussion on the Gorj County Prefect Institution
- Discussion of legislation related to civil servants
- Talk about the subjective perception of their careers

The topics will be raised only if the subject agrees to their exposure or deepening.

Interviews will be conducted at the workplace of each subject (Gorj County Prefect Institution), and each interview will take 3-5 minutes.

### **3.2 Design research**

This research aims to study attitudes, opinions and perceptions of public officials on human resources management in the Gorj County Prefect Institution. The marketing research is an analysis that is applied to the evaluation of career civil servants. The questionnaire was based on the research objectives and contains 12 questions. Questions are closed because providing the respondents with one or more possible answers will simplify the processing and interpretation of data obtained. The questionnaire contains both single-choice questions and multiple choice questions.

For the formulation of questions simple, easily understood words were chosen, avoiding questions that suggest or imply some answers. Question wording was a direct manner to facilitate the responses of subjects and to avoid certain misinterpretations.

The questionnaire has a certain dynamic, a certain order of arrangement of questions. The questionnaire begins with simple questions, general questions; then there are questions which directly reach the issue of research and the most difficult questions that require more time for thinking.

### **3.3. Planning work on sample of 60 civil servants**

As the main method of communication with subjects we chose facing investigations that are more complex, and could thus obtain a better control over the conditions for interviews. During the interview, questions were read slowly, clearly, respecting the rules on how to pose the questions. We can assume from experience that the subjects will be happy to bring their contribution in carrying out this research. Also some questions with a greater degree of complexity will be clarified, offering explanations and guidance for the subjects without any influence on their opinions.

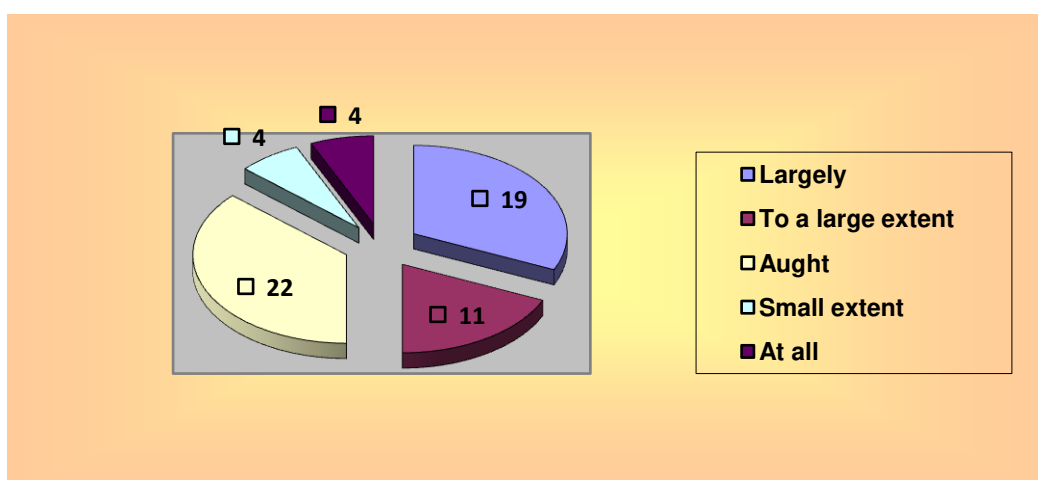
		Market research on a sample of 60 civil servants
23.06.10-25.06.10	2 days	Planning activities
28.06.10-02.07.10	5 days	Questioning sample
05.07.10-09.07.10	5 days	Centralizing data collected
12.07.10-14.07.10	3 days	Data analysis and conclusions drawn

### 3.4 Using Excel 2010 in processing questionnaire results

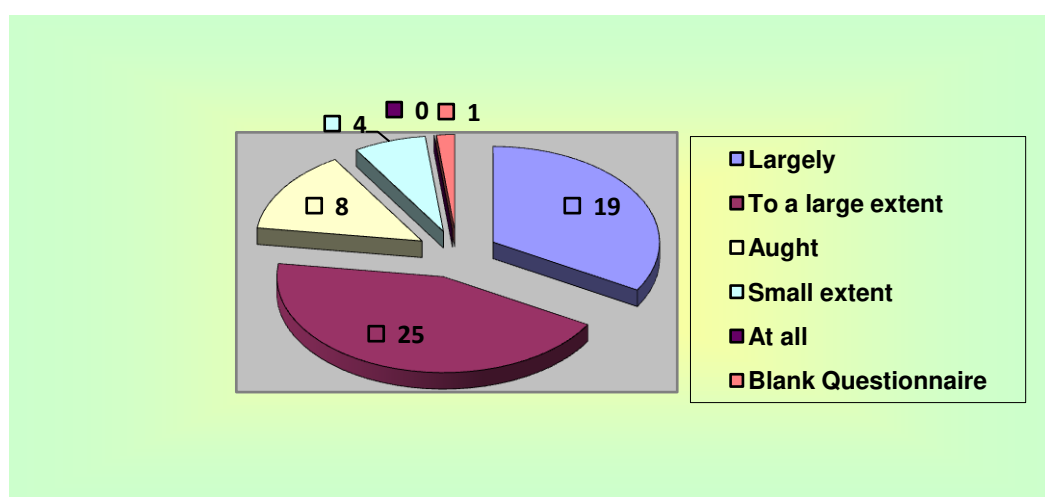
Processing the results of the questionnaire was developed by using Excel 2010 application from the MS Office package.

We present below some of the results after the centralization of the responses on the assessment of the functioning of the Gorj County Prefect Institution:

1. *Would it be necessary to improve the internal work of the institution?*

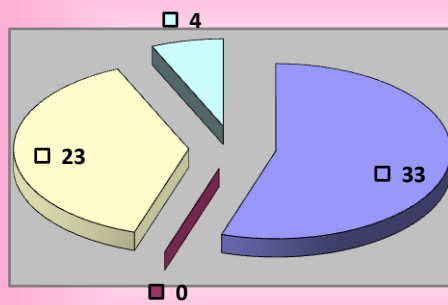


2. *Do you consider that the activities you carry out are the tasks of your job?*



3. *Do you consider that the job duty from your job description is consistent with the Rules of Organization and Functioning of the institution?*

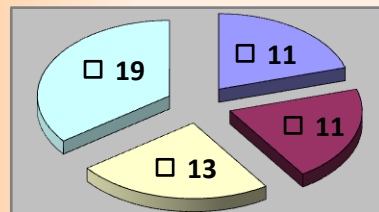




- ☒ Yes
- ☒ No
- ☐ Comments without a concrete answer
- ☐ Blank Questionnaire

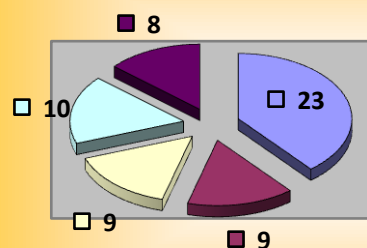
4. Note the transparency of the institution, with scores of 1-5 (1 designating lowest degree of transparency, and 5 designating the highest) on:

**- Annual Assessment**



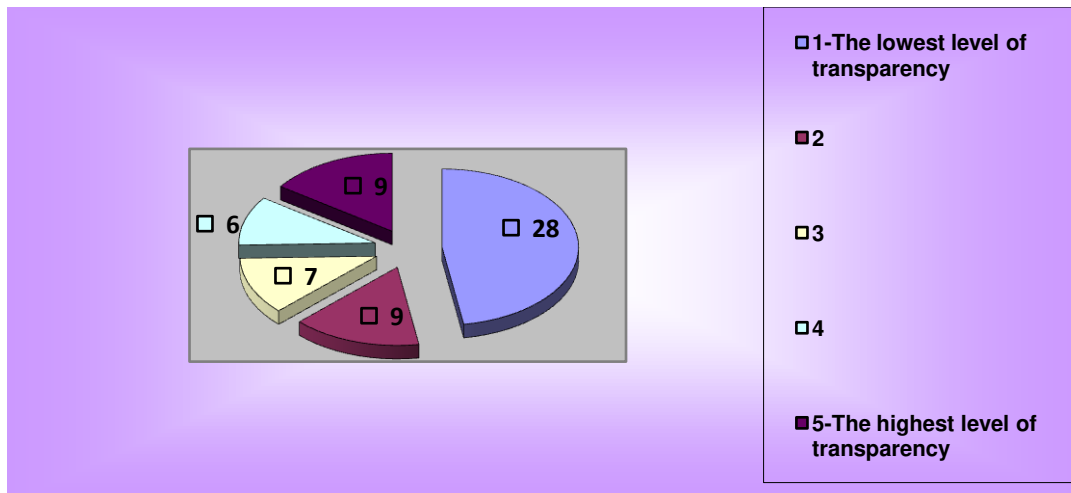
- ☒ 1-The lowest level of transparency
- ☒ 3
- ☐ 4
- ☐ 5-The highest level of transparency

**- Establishing training needs of staff**

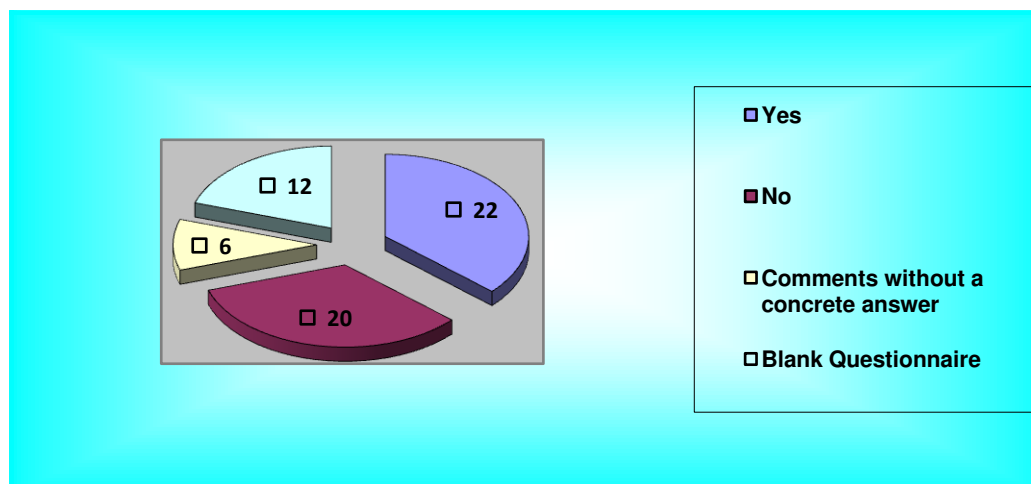


- ☒ 1-The lowest level of transparency
- ☒ 2
- ☐ 3
- ☐ 4
- ☒ 5-The highest level of transparency

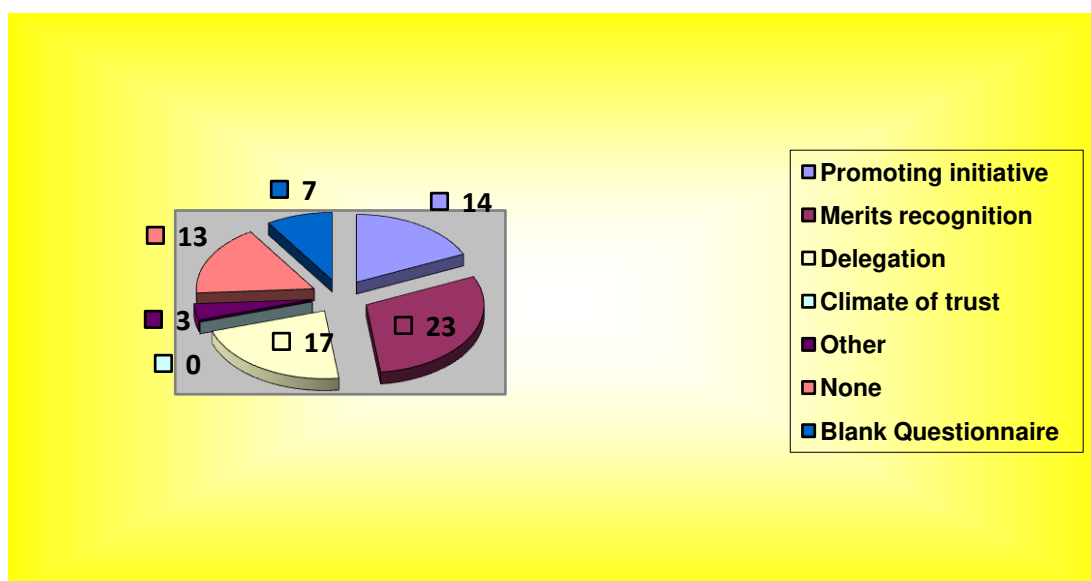
**- The financial balance reasons**



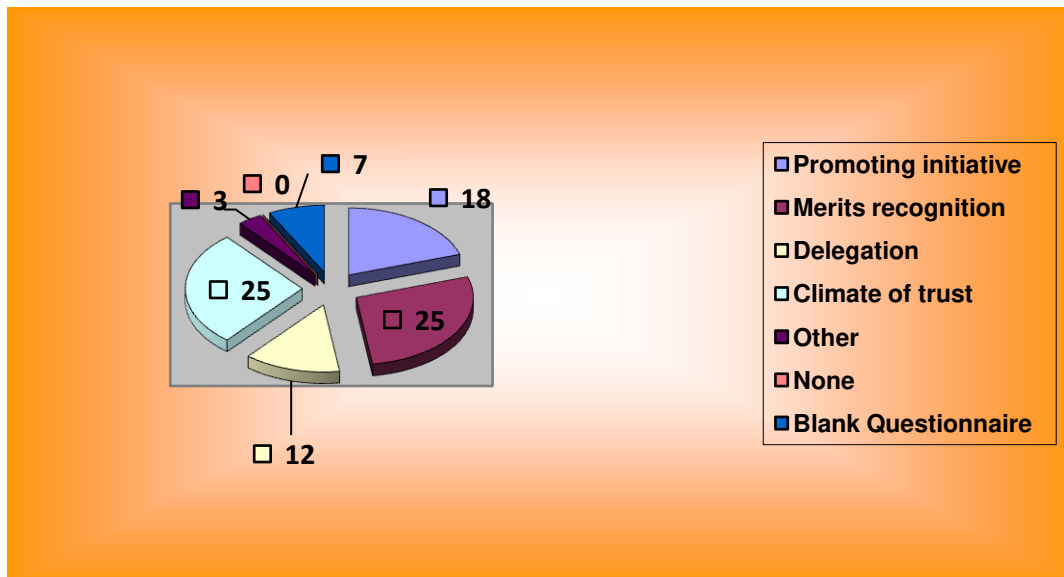
5. Indicate whether the assessment system used in the institution is based on objective criteria for assessing the professional performance and ensuring staff motivation to meet goals.



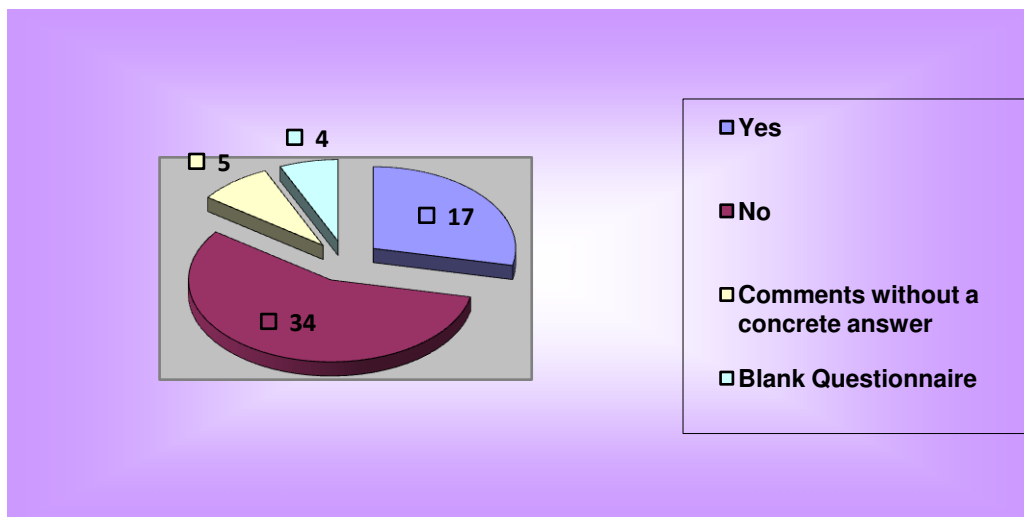
6. What non-financial motivation methods are applied to the institution? (You can answer by selecting more options)



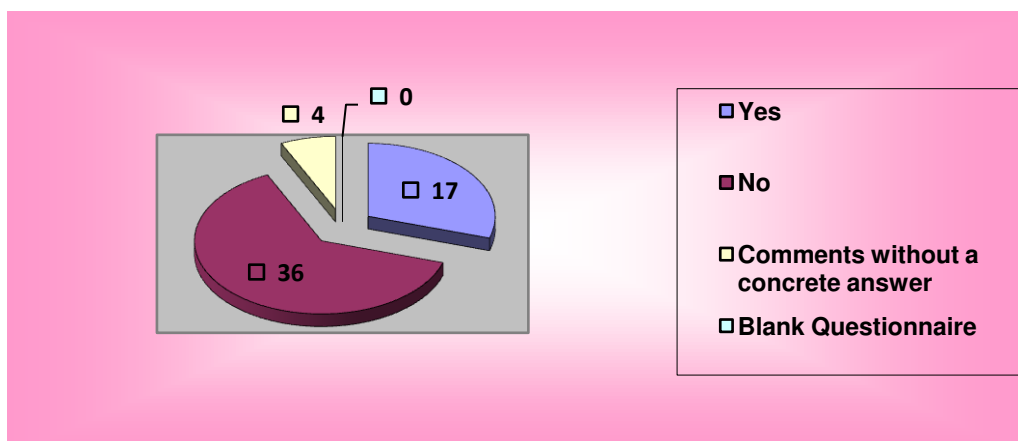
7. What methods of non-financial reasons you want to be applied within the institution?



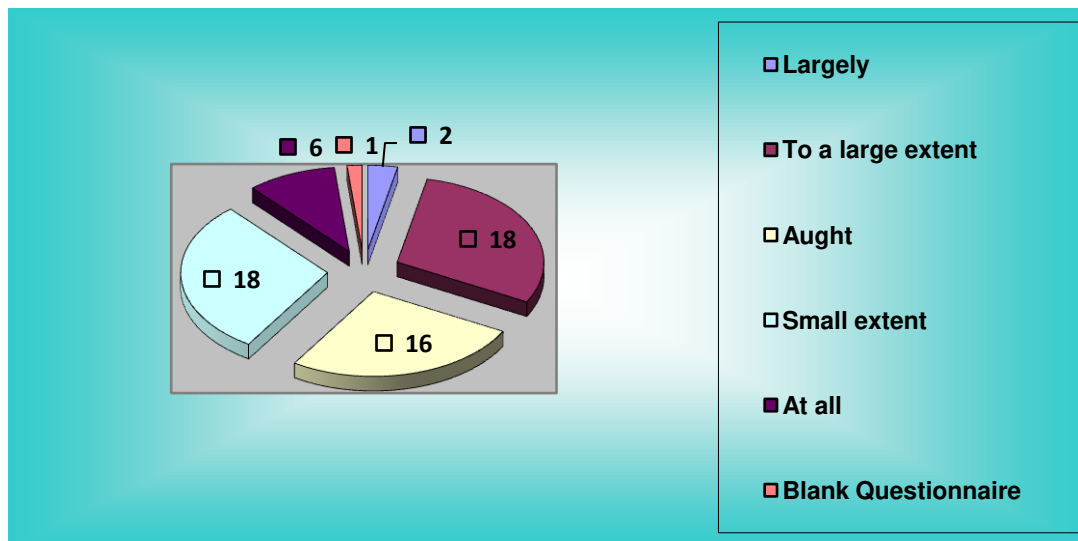
8. Do you consider that the system used in professional training is based on actual needs arising out of your job description?



9. Do you consider that the system tries to motivate people in achieving their objectives?

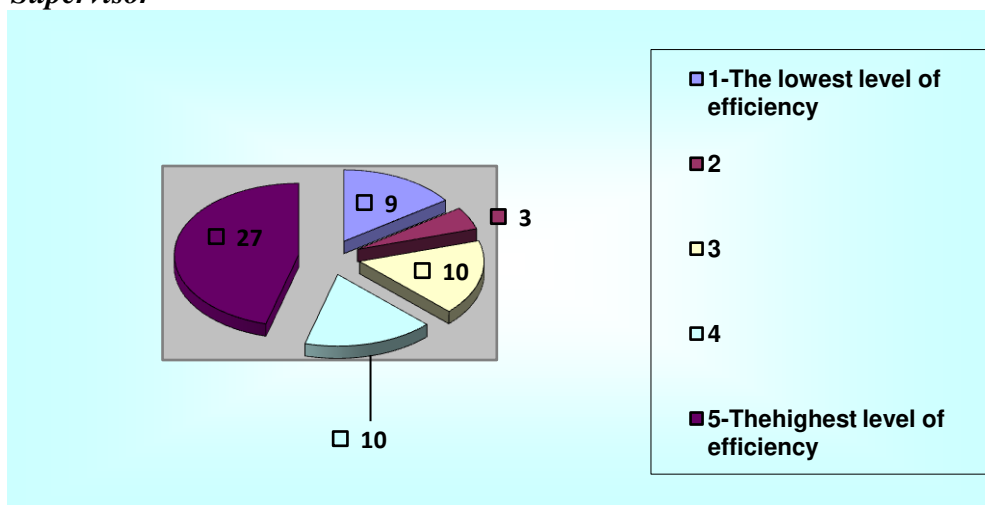


**10.** Do you consider that the material resources offered are enough in order to effectively ensure that the objectives are met (individual and the general of the institution)?

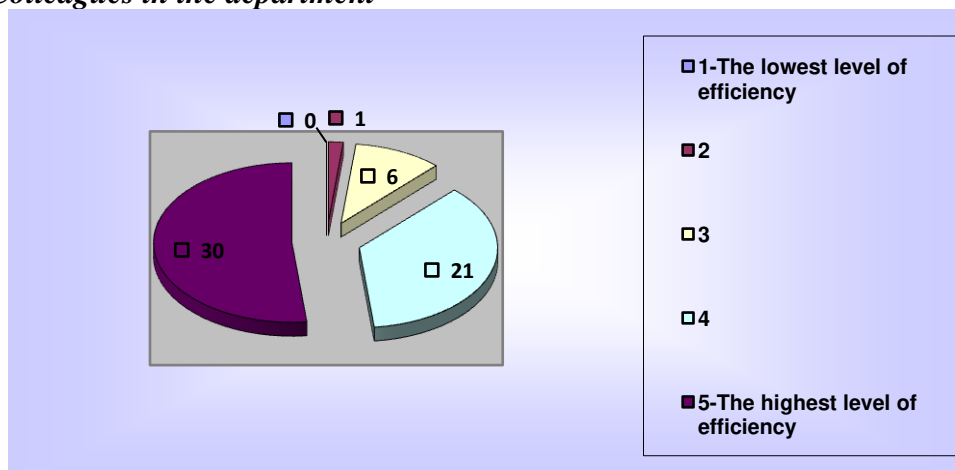


**11.** Note 1 to 5 (1 being the lowest and level 5 the highest degree) the effectiveness of your communication with your:

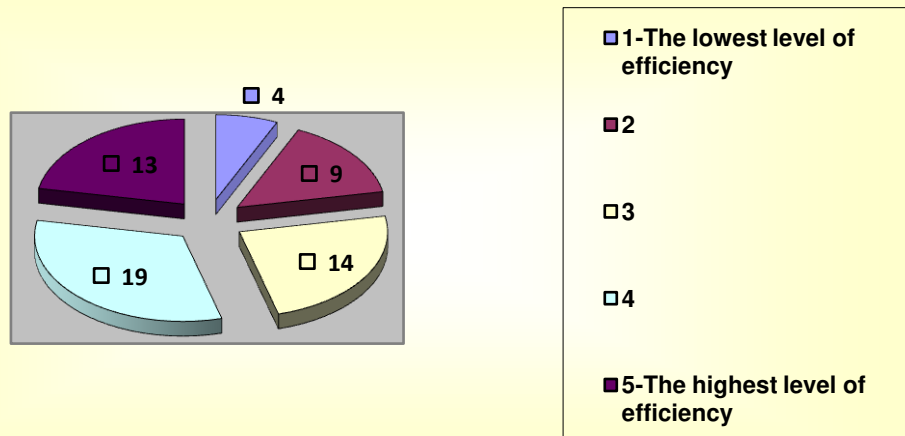
**Supervisor**



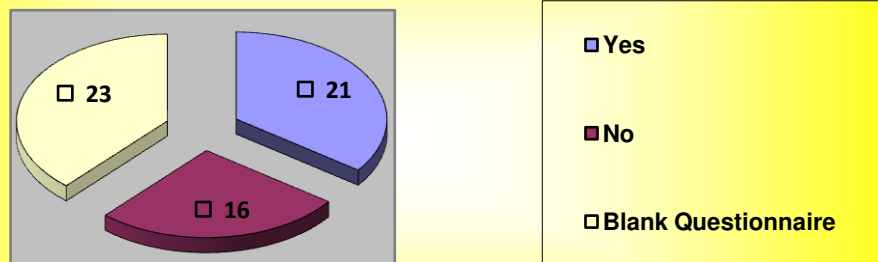
**Colleagues in the department**



### *Colleagues from other departments*



*12. Do you consider that a risk register would help the proper management of service activities / objectives related to the compartment?*



### **Conclusions**

The organizational assessment questionnaire is the beginning of the institution's most important resource: human resource. Among the 60 questionnaires collected, there are a significant number of questionnaires which were left blank on some questions or where undue negative aspects were reported.

In this way, it created the foundations for designing an effective management system for ensuring and maintaining high quality internal activities and services provided to citizens seeking:

#### ➤ **Internal IP activity**

To assess the activity of the internal Gorj County Prefect Institution employees one considered responses to questions 1, 2, 3 and 12.

#### ➤ **Evaluation, training, motivation, communication**

For the analysis of activities and assessment, training and motivation of human resources, one considered the answers to questions 4, 5, 6, 7, 8, 9, 11.

➤ **Resources**

To identify needs relating to material resources one considered the responses to question 10.

➤ **Activities**

To identify the proposed activities of employees one considered responses to questions 1, 3 and 4.

For efficiency, human resources work at the Gorj County Prefect Institution was conducted based on core principles and has proven practical values, such as:

- sustained concentration and targeting capabilities and individual efforts to achieve effective objectives of the institution;
- link in an integrated manner policy and human resources systems with the mission and strategy of the institution;
- assessing the human factor as a key resource.

Recognizing that human resources management's mission is to participate in the institution's objectives by creating, maintaining and developing a flexible body of highly skilled public servants, capable of providing high quality services, Human Resources Department has pursued and achieved the following specific objectives:

- ensuring the functioning of human resource management activities;
- providing career development for civil servants;
- objective assessment of professional performance of public officials;
- concern presented for professional development.

The impact of the main results expected from implementing the strategy in the public administration area are:

- improve the efficiency of the institution, by applying the elements of strategic management and building and maintaining a quality culture;
- reduce non-quality costs, by reducing / eliminating errors and streamlining the work of the institution;
- increased quality of services provided by the Gorj County Prefect Institution;
- full involvement of the management team and executive staff in achieving quality, due to increased awareness and training on quality management;
- motivated human resources attached to the institution, due to the awareness of their roles, missions and objectives included in the Institution of the Prefect;
- customers with a high degree of knowledge regarding areas of competence of the Gorj County Prefect Institution;
- needs, requirements and expectations;
- improved image of and increased confidence in the Gorj County Prefect Institution.

Objectives for 2011 have been completed; work in human resources being limited, but requiring new activities daily, according to priorities. Analyzing recruitment questionnaires based on the application submitted, I noticed the lack of a specific mechanism for public servants. Some suggestions would include:

- Creating a specialized recruitment mechanism possibly managed by Regional Training Centre in Local Public Administration or outsourced as a service;
- Recruitment should be a task of the manager / human resource manager, which maintains a constant connection with these resource centers so that the Regional service that consistently provides information about public institutions contests offers qualified personnel in an existing time on a particular specialty;

- Identifying and creating specialized facilities (wage) to attract and retain highly skilled professionals in the system in the majors;
- Establishing a national testing system with the minimum criteria for those who want to become civil servants, with different requirements depending on the category of public official who is organizing the competition (eg for leading officials, should be surprised that such tests psychological profile, the managerial skills of the person, etc.).
- Creating and applying uniform criteria to organize competitions at local / regional level
- Organizing contests for similar functions within regions (districts 2-3)
- Testing of persons to be appointed by NACS, to avoid replication of mediocrity in the system (ie, an evaluator who himself knows a foreign language can automatically test the candidate in this field).

*Training and continuing education:*

- A preliminary assessment of training needs of civil servants in order to harmonize the supply of courses (National Institute of Administration, the Regional Centre, etc.);
- Reduce training costs by establishing a system of training hours / officer, and training days;
- The popularization and widespread use of advanced methods of e-learning;
- Establish an objective and uniform system of selection of public officials to receive training courses based on results of preliminary assessments of training needs of the institution;
- Training services liberalization and encouraging the markets (where these services are provided by nonprofit organizations accredited to the account of government funding for training of civil servants through their agency training providers);
- Differentiated approach to the concept of training of civil servants:
- Initial training - conditions for entry into the system (entry to competitions) -
- Continuous training - improvement during their careers mandatory.

*At evaluation stage it is necessary:*

- Adapting the assessment criteria for each type of function to specific operations;
- Legal prerequisites to enable assessment outsourcing to specialized companies like the National Agency of Civil Servants (NACS)
- Expanding the pilot project evaluation plan, the NACS representatives should train human resources departments in making this type of evaluation, following that the procedure will be applied regularly;

*At control stage it is necessary:*

- More effective monitoring of implementation of Law no. 7 / 2004 on the code of conduct for civil servants;
- Strengthening the disciplinary committee's active role in the control / sanctions in cases of deviation from the rules currently governing the performance of the civil service;
- Organizing a committee of discipline at the county level to avoid the risk of interpersonal ties that could affect the procedure, in small communities.

*Motivation means:*

- Creating a more flexible system of prize / award of wage increases at local government level, adapted to the capacity of institutions / local authorities to attract and manage funds, together with transparency mechanisms and criteria for the granting of such premiums;
- Civil incompatibilities make such public office unattractive, especially for youth;

- With the limited funds allocated, the head of the institution should have more flexibility in setting priorities - including a separate system for those poorly motivated (in administration, a specialty of computer scientists is poor).

*Promotion is an incentive for providing an efficient activity, and therefore must be considered:*

- Reassessment of the civil service promotion system so that the basic criterion is competence, not seniority basis;
- Establish performance indicators for the institution.

In conclusion, the civil servant status in its present form creates all the premises for a public service, similar to European governments and marks a setback in the process of no politicization administration.

Regarding the case of the Gorj County Prefect Institution, the main step necessary at this point would be to strengthen and improve the human resources team. The activity of the department is currently limited to the interpretation and application of truncated existing legislation.

One problem is the ambiguity of some of the laws and the fact that they leave room for subjective interpretations.

Training civil servants and motivating them to engage effectively in highly complex administrative processes and have an impact on the public should be the priority objectives of any public institution.

The Statute of Civil Servants Act includes provisions that, properly applied, could lead to improved work and performance. However, the law is not fully applied and not in a uniform manner.

Human resource management is very limited and comes primarily in the power ministries. There is a horizontal view on existing problems and any strategic plan to address them. Reassessment is needed of the allocation of human resources at central government level and an appropriate allocation of their priority areas. This could help reduce problems caused by restructuring in many sectors of government.

Interpretation of results using Excel application is fast and very suggestive. Microsoft Excel 2010 makes it possible to analyze, manage and share information in more ways than before, helping you make better decisions, offering new visualization and analysis tools to trace and highlight trends in data analysis. Also, it allows easy access to important data, even if we are away from almost any Web browser or Smartphone. It is possible to upload files to the Web to work together with others online.

Regardless of reports or analysis performed, Excel 2010 provides more flexibility and efficiency to achieve your objectives by delivering new tools to help discover patterns or trends that may lead to more informed decisions, improving the ability to analyze data sets at large.

## REFERENCES

- [1] Androniceanu, A., (2007) *Noutăți în managementul public*, Ed. ASE, București, p.206
- [2] Chivu, I. (2007) *Dimensiunea resurselor umane*, Editura Luceafărul, București
- [3] Drucker, P.F., (2000) „*Management: Tasks, Responsibilities, Practices*”, Eight Edition, Butterworth Heinemann, Oxford,
- [4] Gorun, A. (2007), *Considerații privind conceptul de administrație publică*, Revista de Științe Juridice
- [5] Gorun, A. coord (2010), „*Gorjul-repere strategice. Orizont 2030*”, Ed. Academica Brâncuși



- [6] Lefter, V.; Deaconu A.; Marinaș C., Puia R. (2008), *Managementul resurselor umane. Teorie și practică*, Editura Economică, București
- [7] Johns G. (2007), *Comportament organizațional*, Ed. Economică, București
- [8] Plumb I. (2007) – *Managementul serviciilor publice*, ASE București ;
- [9] Stanciu I.- (2007) „*Managementul calității totale*”, Ed. Cartea Universitară, București, 2003
- [10] Manolescu A.; Lefter V.; Deaconu A., coord. (2007), *Managementul Resurselor umane*, Editura Economică, București
- [11] Matei, L. (2007), *Management public*, ed. a II-a, Editura: Economica, București,
- [12] Plumb, I. (2007). – *Managementul serviciilor publice*, ASE București
- [13] Stancescu I., Popeanga V., (2008), *The pressures on the human resources management within the public sector*, [www.upet.ro/en/anale/economie/](http://www.upet.ro/en/anale/economie/)
- [14] Tomescu I. R., (2007), *Managementul instituțiilor publice*, Editura „Academica Brâncuși” Tg-Jiu
- [15] Vedinaș, V. (2009) *Statutul funcționarilor publici*, Ed.Universul Juridic, București
- [16] [www.prefecturagorj.ro](http://www.prefecturagorj.ro)

## **Cooperation in banking between the national bank of Romania and competent authorities in the European Union**

Pirvu Elena Daniela , Titu Maiorescu University, Romania

### **Abstract**

*In Romania, the legal framework which regulates the legal regime of credit institutions is Government Emergency Ordinance no. 99/2006 on credit institutions and capital adequacy, amended and approved by Law no. 227/2007.*

*This regulation includes also the legal framework for the activity of the authority competent in the field, as well as the legal relations established between the national authority and the competent authorities in other European Union member states. Pursuant to provisions of Art. 4 par.(1), the authority competent as regards the regulation, licensing and prudential supervision of credit institutions in the National Bank of Romania. Moreover, this institution provides this activity as one of its main responsibilities stipulated in Art.2 par. (2) of Law no. 312/2004 on the Statute of the National Bank of Romania. In support of this competence, Art.25 par.(1) of the law expressly mentions that “the National Bank of Romania has exclusive competence to license credit institutions and is in charge with the prudential supervision of the credit institutions which it has authorised to operate in Romania”; in the next paragraph, the article stipulates the empowerment limits for the authority, with the declared purpose of assuring the operating and viability of the banking system.*

**Keywords:** *competent authorities, banking system, credit institutions*

Taking into account the social and economic importance of the prudential supervision of credit institutions in Romania, as well as the strong presence of foreign equity participations in these institutions – following the globalization of the banking system the close relationship which must exist between the national supervisory authority and the competent authorities in other states is an intrinsic must, particularly in the case of the countries where the credit institutions in the domestic banking system come from. That is why, Art. 3 par.(6) of Law no. 312/2004 sets the legal grounds for the National Bank of Romania to collaborate with competent authorities in EU member states, so as to be empowered to provide “ the conditions needed for the fulfilment of information exchange with these authorities”. But, this information exchange must be conducted under the terms set forth in Art.3 par.(10) of the law, complying with the following three minimal requirements:

1. This information is subject to the requirements regarding keeping professional secrecy. In this respect, this requirement is set forth in the provisions of Art. 52 in Law no.312/2004 which regulates professional secrecy in the field. So, as regards providing such information, it can be done only with the signature of the governor of the National Bank of Romania or other people empowered in this respect.

The wording “ in this respect” reflects the will of the legislator according to whom the empowerment of these people by the National Bank of Romania governor – who, pursuant to Art. 35 par. (3) of the same normative act “represents the National Bank of Romania in relation to third parties”, is conducted precisely in order to provide information under the terms set forth in Art.52 of the law. Therefore, we can make the

distinction between empowerment in this case and the one set forth in Art.35 par.(3) on empowerment given for signing treaties and conventions on behalf of the National Bank of Romania; and, at the same time, the distinction as regards the delegation of responsibilities to the first-vice-governor and vice-governors as set forth in Art.35 par.(1) of the law, on the concrete attributions which are delegated “under the terms established by the Board”.

In the same rationale, the legislator expressly established in Art.2 par.(4) that, when exercising its duties as regards licensing, regulating and prudentially supervising credit institutions, the National Bank of Romania can utilize the information received pertaining to professional secrecy, only in one of the following cases :

- a) checking the fulfilment of the conditions regarding the establishment of credit institutions;
- b)supervising, at individual and consolidated level, the business of credit institutions; c) applying sanctions;
- d) the credit institutions' disputing the administrative acts issued by the National Bank of Romania.

Consequently, the National Bank of Romania shall not be in the capacity to utilize the information received under the conditions of Art.3 of the law from other competent authorities in other situations which exceed the scope of Art.52 par.(4), since the interpretation of this law text is *stricto sensu*.

2. The information provided by the National Bank of Romania shall be utilized by the competent authorities to whom it has been exclusively communicated solely for the purpose of fulfilling their duties. The formulation “fulfilling their duties” refers to the duties of competent authorities as set forth in the relevant regulation in the legislation of that respective country; the express provision in this regulation cannot be extended, at one's own discretion. Moreover, our view is that the expansion of this scope by a competent authority damages the grounds of getting this information, namely the agreement concluded between parties.

3. The information received from a member state can be provided only with the express agreement of the competent authority who has sent it and only for the purposes for which there is an agreement in this respect. Here, we have a situation similar to the above mentioned one, which, in this case, concerns the information received by the National Bank of Romania and refers to its behavioural regime. The central bank must obtain the express agreement of the competent authority which has provided the information, an agreement which must be obtained before the information utilization and which must be express as regards the respective utilization for the purposes for which this information was obtained.

Only if the minimal legal requirements are cumulatively fulfilled, the provided information can be utilized by parties as set forth by the law and the contracts concluded by them at the negotiation and conclusion of the bilateral collaboration document. As we can see, the Law on the National Bank of Romania Statute sets the legal grounds for the establishing of the collaboration between this institution and competent authorities, in order to conduct an adequate prudential supervision of credit institutions.

Romania's joining the European Union on 1 January 2007 brought about the adopting of new regulations for credit institutions at the very end of the year 2006.

In this respect, we must mention Government Emergency Ordinance no.99/2006 on credit institutions and capital adequacy, published in the Romanian Official Gazette

no.1027/27 December 2006. This normative act represents a transposition in the Romanian legislation of the relevant Community directive adopted by the European Parliament and the European Union Council, in the same year. That is why, the principles set forth in the Community act are to be found in the Romanian normative act as well.

Firstly, we must mention that both normative acts stipulate the wording “competent authorities”, defined under point 4 of Art.in Directive 2006/48/CE of 14 June 2006 on the initiation and exercising of the business of credit institutions, as meaning the national authorities empowered – on the grounds of an act binding as a law or an administrative norm, to supervise the business of credit institutions, and under point 2 of Art.7 par.(1) of the Government Emergency Ordinance no.99/2006 as being the national authority empowered by law or other regulations to prudentially supervise credit institutions. Apparently, the two definitions are identical, but, in reality, they are suitable for a comparative analysis. It is obvious that both refer to the national authorities who exercise such a power – prudential supervision of credit institutions, on the national territory, having their competence set forth in a normative act adopted in that respective state. What actually differs is the fact that, in the first definition, they mention the authority empowered based on an act binding as a law or an administrative norm, while in the second definition they refer, in a much more concrete manner, to an empowerment by law or other regulations. After analysing these wordings, we can reach the conclusion that if the notion “act binding as a law” has a wider scope than the law, the notion “other regulations” includes a much wider scope than the “administrative norm” mentioned in the European Directive. If we were to mention the example of the Romanian regulation of the competent authority, we could say that it has found expression – in conformity with the Romanian law, in Law no.312/2006, both in Art.2 and in Art.25.

Nevertheless, we must remark that the normative act which regulates the entire activity related to the prudential supervision of credit institutions is a Government ordinance which is not a law-stricto sensu-but an act binding as a law from a constitutional point of view, in conformity with its formulation, thus answering the definition in the European Directive, but also the wide scope which the notion “other regulation” implies in the Romanian legislation. Moreover, we consider that, taking into account the socio-economic importance and the effects implied by the activity of such a national authority, its empowerment is justified only by its inclusion in a law or an act binding as a law, which could offer it the power and legal authority that such a normative act brings about.

Passing now to the legal framework offered by the Romanian law as regards the collaboration between competent authorities in EU member states, we shall try to point out the scope of this collaboration. As concerns regulation, the national authority benefits from the European directives in the field, which implies the fact that all competent authorities in EU states shall regulate the field having as grounds the same European normative acts, as regards licensing and prudential supervision of credit institutions – inspired by the same source, they will regulate, but at the same time resorting to the possibilities offered by the collaboration with competent authorities in other EU member states.

In this spirit, we think, should be read the provision in Art.37 of Government Emergency Ordinance no.99/2006 referring to the consultations of the National Bank of Romania with the competent authorities of a member state involved, before licensing a credit institution, Romanian legal person. Such consultation should take place only if it refers to one of the situations requesting this consultation. The

situations are expressly set forth by law and refer to the fact that the respective credit institution, Romanian legal person, is either an affiliate of a credit institution licensed in the respective member state, or an affiliate of the parent company of the credit institution licensed in that state, or is controlled by the same persons who control a credit institution in the respective member state.

This consultation, requested by law, is justified by the fact the competent authority in the member state has useful information, resulting from its own process of licensing and supervision of the credit institution which is in one of the mentioned relations with the credit institution Romanian legal person that is to be licensed, as well as from the common interest of both competent authorities regarding the supervision of the credit institution on the national territory of each one. Moreover, in par. (3) of the same article, in support of this rationale, it is mentioned expressly that the information exchange is relevant not only for being granted a license by the National Bank of Romania but also for the ongoing assessment of compliance with business conditions. The same law text refers also to the information content for which the consultation takes place, stipulating that the authorities must be consulted especially in the context of assessing the shareholders' quality and the reputation and experience of the persons involved in administering and managing another entity in the same group, who are to be entrusted duties in the operative administering or management of credit institution, Romanian legal person.

In the chapter on the regime of credit institutions in other member states, the collaboration between competent authorities plays an essential role. Thus, considering the license granted by the competent authority in the home member state, the respective credit institution can deploy, in conformity with Art. 45 par. (1) in the Government Emergency Ordinance no.99/2006, in Romania, the business permitted by the Romanian legislation, by establishing branches and by providing services directly, on condition that this business be mentioned in the license granted by the competent authority of that state and that compliance with the Romanian legislation adopted to protect general interest be assured. Concretely, Art.46 sets forth that, when establishing a branch by such a credit institution, there is no need to get a license from the National Bank of Romania or to provide endowment capital for that branch. In this case, the National Bank of Romania will register it in its credit institution' Register, based on the notification set forth in Art. 48, notification submitted by the competent authority of the home member state, accompanied by the data and information requested by the provisions of par. (2) of the same article.

Similarly, any intention to change this information must be notified to the National Bank of Romania by the respective credit institution, at least one month before the date when the change is to be made.

Based also a notification submitted to the National Bank of Romania by the competent authority of the home member state – including the lines of business that a credit institution licensed and supervised by it intends to deploy in Romania, the respective credit institution will be able to provide services directly on our national territory. Moreover, credit institutions from other member states shall notify the National Bank of Romania when opening representative offices in Romania, in conformity with Art.53.

The natural consequence of a notification regarding a branch or providing services directly in Romania is the provisions of Art. 60, according to which, in case the respective credit institution does not comply with the Romanian regulations in the field the National Bank of Romania – after having requested that credit institution to take measures to remedy the situation within a certain time limit and the latter has not

complied, can inform the competent authority of the home member state to dispose the measures deemed appropriate. If the credit institution keeps breaching the Romania legislation in force, the National Bank of Romania – after informing the competent authority in the home member state, can dispose measures for the prevention or sanctioning of the law breaches, including preventing the delinquent credit institution to initiate new transactions on the territory of Romania.

Similarly, the same regime is applied to credit institutions licensed and supervised by the National Bank of Romania, when they intend to deploy lines of business allowed by law in other member states, by establishing branches or by providing services directly. In these cases, the National Bank of Romania – based on the request of the credit institution Romanian legal person, accompanied by the data and information as set forth in Art.81, submits them to the competent authority in the host member state, together with information on the level of the equity and the capital requirements of the credit institution.

The provision in Art. 85 must be contemplated as a provision similar with the one in Art. 60, namely when the competent authority in the host member state informs the National Bank of Romania that a credit institution Romanian legal person that deploys business in that state, though warned, has not complied with the legal provisions of that state; then, the Romanian competent authority will take, at once, the appropriate measures for the ceasing of the facts mentioned, measures which it communicates to the competent authority in the host member state as well.

We must read – as an acknowledgement of the cooperation of the competent authorities in the two states and observance by the Romania legislation of the community directive, the provision of par. (3) of Art.85, setting forth that the acts issued by the competent authorities in the host member state – about which the National Bank of Romania has been informed, through which measures are taken or sanctions applied on the credit institution Romanian legal person, are recognised and produce legal effects in Romania. Such a provision demonstrates that the Romanian law applies appropriately the express provisions of Art.30 par. (3) of Directive C.E. no. 48/14, June 2006 on the powers of competent authorities in the host member state. We must read with a similar approach the imperative provision in Art.86 of the Government Emergency Ordinance no.99/2006, according to which „the credit institution Romanian legal person deploying business on the territory of another member state in subject to the legal provisions in force in the host member state, adopted to protect general interest and to the measures or sanctions ordered by the authorities of that respective member state”.

The expression of the cooperation of competent authorities as regards the prudential supervision of credit institutions is reflected also in the provision of Title III of the emergency ordinance on prudential supervision. Thus, Art. 172 setting forth that the National Bank of Romania assures the prudential supervision of credit institutions Romanian legal persons deploying business in other member states, stipulates that this principle does not exclude the right of the competent authority in the host member state to exercise its competence as regards implementing its own monetary policy, reporting requirements for statistics purposes or liquidity requirements. Moreover, Art.173, strengthening the principle of collaboration between the National Bank of Romania and competent authorities in host member states in such situations, stipulates in par. (2) that during this collaboration, the exchange of all information regarding the management and the shareholders of the credit institution Romanian legal person is assured in order to facilitate its supervision and assess its compliance with the conditions set at the time of the licensing as well as the exchange

of all information, in order to facilitate the ongoing verification of the business of that credit institution, particularly as regards liquidity, solvency, the deposit guarantee scheme, limiting large exposures, administrative and accounting procedures and the internal control mechanisms. In order to verify the business of the branches set up in other member states by credit institutions Romanian legal persons, the National Bank of Romania can, according to Art. 174, conduct verifications at the premises of these branches, after having previously informed the competent authorities in the host member states or it can request the performing of verifications by these authorities, when exercising their competences, situation in which, the National Bank of Romania, via its supervisors, can take part to the performing of verifications, if it deems it necessary.

The collaboration with the competent authorities in other member states is carried out also as regards consolidated supervision, including in the cases when parties can decide jointly not to apply the criteria in the field included in the provisions of Art. 176 par. (1) let.c) – e), cases when, before taking a decision, the competent authorities must grant the possibility to express their opinion on that respective decision to the parent credit institution from the European Union, or to the holding parent financial company from the EU, or to the credit institution with the biggest total balance sheet assets, as the case may be. Moreover, the legislator stipulates that any agreement concluded in this respect by competent authorities must be notified to the European Commission.

Aspects of the cooperation of the National Bank of Romania with competent authorities in home member states as regards exercising the supervision of credit institutions from other member states deploying business in Romania are included in the provisions of Art. 208 – 211, where we find the position of the National Bank of Romania as the competent authority in the host member state, with a role identical with the one that the competent authorities in member states had in relation with the National Bank of Romania when they were host member states. Also, the emergency ordinance sets forth the rights and obligations of competent authorities as regards the exchange of information and professional secrecy.

On the other hand, Art. 43 sets forth, as the effect of withdrawal of the credit institution license or, as the case may be, of the termination of its validity, the submission of notifications by the National Bank of Romania, without delay, to both the European Commission as well as to the competent authorities in host member states. Such communication is extremely important for these authorities, who, being informed, in due time, about the measure taken, will be able to act so as to considerably limit the consequences if the respective credit institution conducts operations on the territory of these states. Moreover, the legal grounds which allow and, at the same, oblige the National Bank of Romania to inform the competent authorities in host member states as regards such an event are represented by Art. 88, which supplements the provisions of Art. 43, by stipulating that the National Bank of Romania's informing will refer to „including the consequences of the license withdrawal”, which can have an even greater importance for the respective authorities that monitor the credit institution in the situation mentioned, concerning the operations conducted on the territories of these states.

In the same line of thought we must also read Art. 259 which strengthens the celerity character of the information submitted by the National Bank of Romania to the competent authorities in host member states by the wordings „informs without delay, by any available means .... on the adopted decisions, their legal consequences and the effects they involve” (par. 1) or „the National Bank of Romania assures the

informing set forth in par. (1) immediately after adopting the decision” (par.2). On the other hand, from Art. 64, we can infer the similar obligation of the competent authority in the home member state when such an event takes place , i.e. being obliged to inform the National Bank of Romania, while the latter is empowered – based on this law text, to take „the measures necessary to prevent the credit institution from initiating new transactions on the territory of Romania and to assure protection of the interests of depositors and other creditors”. If we consider only the obligation of mutual informing in such a case and it is enough to appreciate how important for a competent authority in a member state can be to know the moment and consequences when a foreign credit institution acting on its territory does not hold a valid license any longer.

Moreover, in principle, Art. 215 of the Government Emergency Ordinance no. 99/2006, and Art. 3 of Law no. 312/2004 on the Statute of the National Bank of Romania offer this institution, considering its quality of authority competent to license, regulate and prudentially supervise credit institutions on the territory of Romania, the possibility to exchange information with the competent authorities in the other member states. Nevertheless, the text stipulates that this exchange can happen only „according to the provisions of this emergency ordinance and other normative acts applicable to credit institutions” This information is subject to, in conformity with par. (2) of Art. 215, the requirements regarding professional secrecy set forth in Art. 214 and, of course, to the conditions set by the provisions of Art. 52 of Law no. 312/2004.

In this very spirit, the National Bank of Romania has concluded agreements with the competent authorities of other member states, especially with those in the home or host states of the credit institutions operating in Romania.

## **Conclusion**

The beneficial character of legal provisions quoted is reflected in the daily business of competent authorities who, thus, hold information and use the means needed to assure a qualitative prudential supervision of credit institutions, being able to prevent negative consequences for the viability of the banking system and protecting the interests of depositors and other creditors.

## **References:**

- [1] Asociația consilierilor juridici din sistemul financiar-bancar (București), ”LEGAL ISSUES IN BANKING FIELD”, Editura “Wolters Kluwer”, Romania
- [2] Universitatea “Babes-Bolyai”(Cluj-Napoca) Facultatea de Drept, ”LEGAL ISSUES IN BANKING FIELD”, Editura: “Wolters Kluwer”, Romania
- [3] ”STATUTE OF NATIONAL BANK OF ROMANIA”, Law no.312/2004
- [4] ”GOVERNMENT EMERGENCY ORDINANCE no.99/2006



# Monetary Policy and Economic Policy

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**Abstract:** *There is widespread agreement that monetary policy matters, but there is disagreement about how it should be conducted. Behind this disagreement lie differences in theoretical understandings. The paper contrasts the New Classical, Neo-Keynesian, and Post-Keynesian frameworks, thereby surfacing the differences. The New Classical model has policy only affecting long run inflation. The Neo-Keynesian has policy impacting inflation, unemployment, and real wages. The Post-Keynesian model also impacts growth, so policy implicitly picks a quadruple. Inflation targeting is a sub-optimal policy frame because it biases decisions toward low inflation by obscuring the fact that policy also affects unemployment, real wages, and growth.*

**Keywords:** *monetary policy, inflation targeting, New Classical, Neo-Keynesian, Post-Keynesian*

## Introduction

Monetary Policy involves changes in the base rate of interest to influence the rate of growth of aggregate demand, the money supply and ultimately price inflation.

Monetarist economists believe that monetary policy is a more powerful weapon than fiscal policy in controlling inflation. Monetary policy also involves changes in the value of the exchange rate since fluctuations in the currency also impact on macroeconomic activity (incomes, output and prices).

Changes in short term interest rates affect the spending and savings behaviour of households and businesses over time and therefore feed through the circular flow of income and spending. The transmission mechanism of monetary policy works with variable time lags depending on the interest elasticity of demand for different goods and services – e.g. the demand for interest-sensitive consumer goods and services bought on credit or the demand for capital investment from private sector businesses. Because of the time lags involved in setting an appropriate level of short-term interest rates, the Bank of England sets nominal interest rates on the basis of hitting the inflation target over a two year forecasting horizon.

## Theory

Monetary policy is the process by which the government, central bank, or monetary authority of a country controls the supply of money, availability of money, and cost of money or rate of interest to attain a set of objectives oriented towards the growth and stability of the economy. Monetary theory provides insight into how to craft optimal monetary policy. Monetary policy rests on the relationship between the rates of interest in an economy, that is the price at which money can be borrowed, and the total supply of money. Monetary policy uses a variety of tools to control one or both of these, to influence outcomes like economic growth, inflation, exchange rates with other currencies and unemployment. Where currency is under a monopoly of issuance, or where there is a regulated system of issuing currency through banks

which are tied to a central bank, the monetary authority has the ability to alter the money supply and thus influence the interest rate (to achieve policy goals).

It is important for policymakers to make credible announcements. If private agents (consumers and firms) believe that policymakers are committed to lowering inflation, they will anticipate future prices to be lower than otherwise (how those expectations are formed is an entirely different matter; compare for instance rational expectations with adaptive expectations). If an employee expects prices to be high in the future, he or she will draw up a wage contract with a high wage to match these prices. Hence, the expectation of lower wages is reflected in wage-setting behavior between employees and employers (lower wages since prices are expected to be lower) and since wages are in fact lower there is no demand pull inflation because employees are receiving a smaller wage and there is no cost push inflation because employers are paying out less in wages. To achieve this low level of inflation, policymakers must have credible announcements; that is, private agents must believe that these announcements will reflect actual future policy. If an announcement about low-level inflation targets is made but not believed by private agents, wage-setting will anticipate high-level inflation and so wages will be higher and inflation will rise. A high wage will increase a consumer's demand (demand pull inflation) and a firm's costs (cost push inflation), so inflation rises. Hence, if a policymaker's announcements regarding monetary policy are not credible, policy will not have the desired effect.

If policymakers believe that private agents anticipate low inflation, they have an incentive to adopt an expansionist monetary policy (where the marginal benefit of increasing economic output outweighs the marginal cost of inflation); however, assuming private agents have rational expectations, they know that policymakers have this incentive. Hence, private agents know that if they anticipate low inflation, an expansionist policy will be adopted that causes a rise in inflation. Consequently, (unless policymakers can make their announcement of low inflation credible), private agents expect high inflation. This anticipation is fulfilled through adaptive expectation (wage-setting behavior); so, there is higher inflation (without the benefit of increased output). Hence, unless credible announcements can be made, expansionary monetary policy will fail.

Announcements can be made credible in various ways. One is to establish an independent central bank with low inflation targets (but no output targets). Hence, private agents know that inflation will be low because it is set by an independent body. Central banks can be given incentives to meet targets (for example, larger budgets, a wage bonus for the head of the bank) to increase their reputation and signal a strong commitment to a policy goal. Reputation is an important element in monetary policy implementation. But the idea of reputation should not be confused with commitment.

While a central bank might have a favorable reputation due to good performance in conducting monetary policy, the same central bank might not have chosen any particular form of commitment (such as targeting a certain range for inflation). Reputation plays a crucial role in determining how much would markets believe the announcement of a particular commitment to a policy goal but both concepts should not be assimilated. Also, note that under rational expectations, it is not necessary for the policymaker to have established its reputation through past policy actions; as an example, the reputation of the head of the central bank might be derived entirely from his or her ideology, professional background, public statements, etc.

In fact it has been argued that to prevent some pathologies related to the time inconsistency of monetary policy implementation (in particular excessive inflation),

the head of a central bank should have a larger distaste for inflation than the rest of the economy on average. Hence the reputation of a particular central bank is not necessarily tied to past performance, but rather to particular institutional arrangements that the markets can use to form inflation expectations.

Despite the frequent discussion of credibility as it relates to monetary policy, the exact meaning of credibility is rarely defined. Such lack of clarity can serve to lead policy away from what is believed to be the most beneficial. For example, capability to serve the public interest is one definition of credibility often associated with central banks. The reliability with which a central bank keeps its promises is also a common definition. While everyone most likely agrees a central bank should not lie to the public, wide disagreement exists on how a central bank can best serve the public interest. Therefore, lack of definition can lead people to believe they are supporting one particular policy of credibility when they are really supporting another.

### **History of monetary policy**

Monetary policy is primarily associated with interest rate and credit. For many centuries there were only two forms of monetary policy: Decisions about coinage; Decisions to print paper money to create credit. Interest rates, while now thought of as part of monetary authority, were not generally coordinated with the other forms of monetary policy during this time. Monetary policy was seen as an executive decision, and was generally in the hands of the authority with seigniorage, or the power to coin. With the advent of larger trading networks came the ability to set the price between gold and silver, and the price of the local currency to foreign currencies. This official price could be enforced by law, even if it varied from the market price.

Paper money called "jiaozi" originated from promissory notes in 7th century China. Jiaozi did not replace metallic currency, and were used alongside the copper coins. The successive Yuan Dynasty was the first government to use paper currency as the predominant circulating medium. In the later course of the dynasty, facing massive shortages of specie to fund war and their rule in China, they began printing paper money without restrictions, resulting in hyperinflation.

With the creation of the Bank of England in 1694, which acquired the responsibility to print notes and back them with gold, the idea of monetary policy as independent of executive action began to be established. The goal of monetary policy was to maintain the value of the coinage, print notes which would trade at par to specie, and prevent coins from leaving circulation. The establishment of central banks by industrializing nations was associated then with the desire to maintain the nation's peg to the gold standard, and to trade in a narrow band with other gold-backed currencies. To accomplish this end, central banks as part of the gold standard began setting the interest rates that they charged, both their own borrowers, and other banks who required liquidity. The maintenance of a gold standard required almost monthly adjustments of interest rates.

During the 1870-1920 period, the industrialized nations set up central banking systems, with one of the last being the Federal Reserve in 1913. By this point the role of the central bank as the "lender of last resort" was understood. It was also increasingly understood that interest rates had an effect on the entire economy, in no small part because of the marginal revolution in economics, which demonstrated how people would change a decision based on a change in the economic trade-offs. Monetarist macroeconomists have sometimes advocated simply increasing the monetary supply at a low, constant rate, as the best way of maintaining low inflation and stable output growth. However, when U.S. Federal Reserve Chairman Paul

Volcker tried this policy, starting in October 1979, it was found to be impractical, because of the highly unstable relationship between monetary aggregates and other macroeconomic variables. Even Milton Friedman acknowledged that money supply targeting was less successful than he had hoped, in an interview with the Financial Times on June 7, 2003. Therefore, monetary decisions today take into account a wider range of factors, such as:

- short term interest rates;
- long term interest rates;
- velocity of money through the economy;
- exchange rates;
- credit quality;
- bonds and equities (corporate ownership and debt);
- government versus private sector spending/savings;
- international capital flows of money on large scales;
- financial derivatives such as options, swaps, futures contracts, etc.

A small but vocal group of people advocate for a return to the gold standard (the elimination of the dollar's fiat currency status and even of the Federal Reserve Bank). Their argument is basically that monetary policy is fraught with risk and these risks will result in drastic harm to the populace should monetary policy fail. Others see another problem with our current monetary policy. The problem for them is not that our money has nothing physical to define its value, but that fractional reserve lending of that money as a debt to the recipient, rather than a credit, causes all but a small proportion of society (including all governments) to be perpetually in debt.

In fact, many economists disagree with returning to a gold standard. They argue that doing so would drastically limit the money supply, and throw away 100 years of advancement in monetary policy. The sometimes complex financial transactions that make big business (especially international business) easier and safer would be much more difficult if not impossible. Moreover, shifting risk to different people/companies that specialize in monitoring and using risk can turn any financial risk into a known dollar amount and therefore make business predictable and more profitable for everyone involved. Some have claimed that these arguments lost credibility in the global financial crisis of 2008-2009.

### **Trends in central banking**

The central bank influences interest rates by expanding or contracting the monetary base, which consists of currency in circulation and banks' reserves on deposit at the central bank. The primary way that the central bank can affect the monetary base is by open market operations or sales and purchases of second hand government debt, or by changing the reserve requirements. If the central bank wishes to lower interest rates, it purchases government debt, thereby increasing the amount of cash in circulation or crediting banks' reserve accounts. Alternatively, it can lower the interest rate on discounts or overdrafts (loans to banks secured by suitable collateral, specified by the central bank). If the interest rate on such transactions is sufficiently low, commercial banks can borrow from the central bank to meet reserve requirements and use the additional liquidity to expand their balance sheets, increasing the credit available to the economy. Lowering reserve requirements has a similar effect, freeing up funds for banks to increase loans or buy other profitable assets.

A central bank can only operate a truly independent monetary policy when the exchange rate is floating. If the exchange rate is pegged or managed in any way, the central bank will have to purchase or sell foreign exchange. These transactions in foreign exchange will have an effect on the monetary base analogous to open market purchases and sales of government debt; if the central bank buys foreign exchange, the monetary base expands, and vice versa. But even in the case of a pure floating exchange rate, central banks and monetary authorities can at best "lean against the wind" in a world where capital is mobile.

Accordingly, the management of the exchange rate will influence domestic monetary conditions. To maintain its monetary policy target, the central bank will have to sterilize or offset its foreign exchange operations. For example, if a central bank buys foreign exchange (to counteract appreciation of the exchange rate), base money will increase. Therefore, to sterilize that increase, the central bank must also sell government debt to contract the monetary base by an equal amount. It follows that turbulent activity in foreign exchange markets can cause a central bank to lose control of domestic monetary policy when it is also managing the exchange rate.

In the 1980s, many economists began to believe that making a nation's central bank independent of the rest of executive government is the best way to ensure an optimal monetary policy, and those central banks which did not have independence began to gain it. This is to avoid overt manipulation of the tools of monetary policies to effect political goals, such as re-electing the current government. Independence typically means that the members of the committee which conducts monetary policy have long, fixed terms. Obviously, this is a somewhat limited independence.

In the 1990s, central banks began adopting formal, public inflation targets with the goal of making the outcomes, if not the process, of monetary policy more transparent. In other words, a central bank may have an inflation target of 2% for a given year, and if inflation turns out to be 5%, then the central bank will typically have to submit an explanation. The Bank of England exemplifies both these trends. It became independent of government through the Bank of England Act 1998 and adopted an inflation target of 2.5% RPI (now 2% of CPI). The debate rages on about whether monetary policy can smooth business cycles or not. A central conjecture of Keynesian economics is that the central bank can stimulate aggregate demand in the short run, because a significant number of prices in the economy are fixed in the short run and firms will produce as many goods and services as are demanded (in the long run, however, money is neutral, as in the neoclassical model). There is also the Austrian school of economics, which includes Friedrich von Hayek and Ludwig von Mises's arguments, but most economists fall into either the Keynesian.

### **Developing countries**

Developing countries may have problems establishing an effective operating monetary policy. The primary difficulty is that few developing primary difficulty is that few developing countries have deep markets in government debt. The matter is further complicated by the difficulties in forecasting money demand and fiscal pressure to levy the inflation tax by expanding the monetary base rapidly. In general, the central banks in many developing countries have poor records in managing monetary policy. This is often because the monetary authority in a developing country is not independent of government, so good monetary policy takes a backseat to the political desires of the government or are used to pursue other non-monetary goals. For this and other reasons, developing countries that want to establish credible monetary policy may institute a currency board or adopt dollarization. Such forms of

monetary institutions thus essentially tie the hands of the government from interference and, it is hoped, that such policies will import the monetary policy of the anchor nation. Recent attempts at liberalizing and reforming financial markets (particularly the recapitalization of banks and other financial institutions in Nigeria and elsewhere) are gradually providing the latitude required to implement monetary policy frameworks by the relevant central banks.

### Types of monetary policy

In practice, to implement any type of monetary policy the main tool used is modifying the amount of base money in circulation. The monetary authority does this by buying or selling financial assets (usually government obligations). These open market operations change either the amount of money or its liquidity (if less liquid forms of money are bought or sold). The multiplier effect of fractional reserve banking amplifies the effects of these actions.

Constant market transactions by the monetary authority modify the supply of currency and this impacts other market variables such as short term interest rates and the exchange rate. The distinction between the various types of monetary policy lies primarily with the set of instruments and target variables that are used by the monetary authority to achieve their goals.

Monetary Policy:	Target Variable:	Market	Long Term Objective:
Inflation Targeting	Interest rate on overnight debt		A given rate of change in the CPI
Price Level Targeting	Interest rate on overnight debt		A specific CPI number
Monetary Aggregates	The growth in money supply		A given rate of change in the CPI
Fixed Exchange Rate	The spot price of the currency		The spot price of the currency
Gold Standard	The spot price of gold		Low inflation as measured by the gold price
Mixed Policy	Usually interest rates		Usually unemployment + CPI change

The different types of policy are also called monetary regimes, in parallel to exchange rate regimes. A fixed exchange rate is also an exchange rate regime; The Gold standard results in a relatively fixed regime towards the currency of other countries on the gold standard and a floating regime towards those that are not. Targeting inflation, the price level or other monetary aggregates implies floating exchange rate unless the management of the relevant foreign currencies is tracking exactly the same variables (such as a harmonized consumer price index).

### Inflation targeting

Under this policy approach the target is to keep inflation, under a particular definition such as Consumer Price Index, within a desired range. The inflation target is achieved through periodic adjustments to the Central Bank interest rate target. The interest rate used is generally the interbank rate at which banks lend to each other overnight for cash flow purposes. Depending on the country this particular interest rate might be

called the cash rate or something similar. The interest rate target is maintained for a specific duration using open market operations. Typically the duration that the interest rate target is kept constant will vary between months and years. This interest rate target is usually reviewed on a monthly or quarterly basis by a policy committee.

Changes to the interest rate target are made in response to various market indicators in an attempt to forecast economic trends and in so doing keep the market on track towards achieving the defined inflation target. For example, one simple method of inflation targeting called the Taylor rule adjusts the interest rate in response to changes in the inflation rate and the output gap. The rule was proposed by John B. Taylor of Stanford University. The inflation targeting approach to monetary policy approach was pioneered in New Zealand. It is currently used in Australia, Brazil, Canada, Chile, Colombia, the Eurozone, New Zealand, Norway, Iceland, Philippines, Poland, Sweden, South Africa, Turkey, and the United Kingdom.

### **Price level targeting**

Price level targeting is similar to inflation targeting except that CPI growth in one year over or under the long term price level target is offset in subsequent years such that a targeted price-level is reached over time, e.g. five years, giving more certainty about future price increases to consumers. Under inflation targeting what happened in the immediate past years is not taken into account or adjusted for in the current and future years.

### **Monetary aggregates**

In the 1980s, several countries used an approach based on a constant growth in the money supply. This approach was refined to include different classes of money and credit (M0, M1 etc.). In the USA this approach to monetary policy was discontinued with the selection of Alan Greenspan as Fed Chairman. This approach is also sometimes called monetarism. While most monetary policy focuses on a price signal of one form or another, this approach is focused on monetary quantities.

### **Fixed exchange rate**

This policy is based on maintaining a fixed exchange rate with a foreign currency. There are varying degrees of fixed exchange rates, which can be ranked in relation to how rigid the fixed exchange rate is with the anchor nation. Under a system of fiat fixed rates, the local government or monetary authority declares a fixed exchange rate but does not actively buy or sell currency to maintain the rate. Instead, the rate is enforced by non-convertibility measures (e.g. capital controls, import/export licenses, etc.). In this case there is a black market exchange rate where the currency trades at its market/unofficial rate. Under a system of fixed-convertibility, currency is bought and sold by the central bank or monetary authority on a daily basis to achieve the target exchange rate. This target rate may be a fixed level or a fixed band within which the exchange rate may fluctuate until the monetary authority intervenes to buy or sell as necessary to maintain the exchange rate within the band. (In this case, the fixed exchange rate with a fixed level can be seen as a special case of the fixed exchange rate with bands where the bands are set to zero.) Under a system of fixed exchange rates maintained by a currency board every unit of local currency must be backed by a unit of foreign currency (correcting for the exchange rate). This ensures that the local monetary base does not inflate without being backed by hard currency and eliminates any worries about a run on the local currency by those wishing to convert the local currency to the hard (anchor) currency.

Under dollarization, foreign currency (usually the US dollar, hence the term "dollarization") is used freely as the medium of exchange either exclusively or in parallel with local currency. This outcome can come about because the local population has lost all faith in the local currency, or it may also be a policy of the government (usually to rein in inflation and import credible monetary policy). These policies often abdicate monetary policy to the foreign monetary authority or government as monetary policy in the pegging nation must align with monetary policy in the anchor nation to maintain the exchange rate. The degree to which local monetary policy becomes dependent on the anchor nation depends on factors such as capital mobility, openness, credit channels and other economic factors.

### **Gold standard**

The gold standard is a system in which the price of the national currency is measured in units of gold bars and is kept constant by the daily buying and selling of base currency to other countries and nationals. (i.e. open market operations, cf. above). The selling of gold is very important for economic growth and stability.

The gold standard might be regarded as a special case of the "Fixed Exchange Rate" policy. And the gold price might be regarded as a special type of "Commodity Price Index". Today this type of monetary policy is not used anywhere in the world, although a form of gold standard was used widely across the world between the mid-19th century through 1971. Its major advantages were simplicity and transparency. (See also: Bretton Woods system). The major disadvantage of a gold standard is that it induces deflation, which occurs whenever economies grow faster than the gold supply. When an economy grows faster than its money supply, the same amount of money is used to execute a larger number of transactions. The only way to make this possible is to lower the nominal cost of each transaction, which means that prices of goods and services fall, and each unit of money increases in value. Deflation can cause economic problems, for instance, it tends to increase the ratio of debts to assets over time. As an example, the monthly cost of a fixed-rate home mortgage stays the same, but the dollar value of the house goes down, and the value of the dollars required to pay the mortgage goes up. William Jennings Bryan rose to national prominence when he built his historic (though unsuccessful) 1896 presidential campaign around the argument that deflation caused by the gold standard made it harder for everyday citizens to start new businesses, expand their farms, or build new homes.

### **Policy of various nations**

- Australia - Inflation targeting
- Brazil - Inflation targeting
- Canada - Inflation targeting
- Chile - Inflation targeting
- China - Monetary targeting and targets a currency basket
- Colombia - Inflation targeting
- Eurozone - Inflation targeting
- Hong Kong - Currency board (fixed to US dollar)
- India - Multiple indicator approach
- New Zealand - Inflation targeting
- Norway - Inflation targeting
- Singapore - Exchange rate targeting



- South Africa - Inflation targeting
- Switzerland - Inflation targeting <sup>[16]</sup>
- Turkey - Inflation targeting
- United Kingdom - Inflation targeting, alongside secondary targets on 'output and employment'.
- United States - Mixed policy (and since the 1980s it is well described by the "Taylor rule," which maintains that the Fed funds rate responds to shocks in inflation and output)

## **Monetary policy tools**

### **Monetary base**

Monetary policy can be implemented by changing the size of the monetary base. This *directly* changes the total amount of money circulating in the economy. A central bank can use open market operations to change the monetary base. The central bank would buy/sell bonds in exchange for hard currency. When the central bank disburses/collects this hard currency payment, it alters the amount of currency in the economy, thus altering the monetary base.

### **Reserve requirements**

The monetary authority exerts regulatory control over banks. Monetary policy can be implemented by changing the proportion of total assets that banks must hold in reserve with the central bank. Banks only maintain a small portion of their assets as cash available for immediate withdrawal; the rest is invested in illiquid assets like mortgages and loans. By changing the proportion of total assets to be held as liquid cash, the Federal Reserve changes the availability of loanable funds. This acts as a change in the money supply. Central banks typically do not change the reserve requirements often because it creates very volatile changes in the money supply due to the lending multiplier.

### **Discount window lending**

Discount window lending is where the commercial banks, and other depository institutions, are able to borrow reserves from the Central Bank at a discount rate. This rate is usually set below short term market rates (T-bills). This enables the institutions to vary credit conditions (i.e., the amount of money they have to loan out), thereby affecting the money supply. It is of note that the Discount Window is the only instrument which the Central Banks do not have total control over. By affecting the money supply, it is theorized, that monetary policy can establish ranges for inflation, unemployment, interest rates, and economic growth. A stable financial environment is created in which savings and investment can occur, allowing for the growth of the economy as a whole.

### **Interest rates**

The contraction of the monetary supply can be achieved indirectly by increasing the nominal interest rates. Monetary authorities in different nations have differing levels of control of economy-wide interest rates. In the United States, the Federal Reserve can set the discount rate, as well as achieve the desired Federal funds rate by open market operations. This rate has significant effect on other market interest rates, but there is no perfect relationship. In the United States open market operations are a relatively small part of the total volume in the bond market. One cannot set

independent targets for both the monetary base and the interest rate because they are both modified by a single tool — open market operations; one must choose which one to control.

In other nations, the monetary authority may be able to mandate specific interest rates on loans, savings accounts or other financial assets. By raising the interest rate(s) under its control, a monetary authority can contract the money supply, because higher interest rates encourage savings and discourage borrowing. Both of these effects reduce the size of the money supply.

### **Currency board**

A currency board is a monetary arrangement that pegs the monetary base of one country to another, the anchor nation. As such, it essentially operates as a hard fixed exchange rate, whereby local currency in circulation is backed by foreign currency from the anchor nation at a fixed rate. Thus, to grow the local monetary base an equivalent amount of foreign currency must be held in reserves with the currency board. This limits the possibility for the local monetary authority to inflate or pursue other objectives. The principal rationales behind a currency board are threefold:

1. To import monetary credibility of the anchor nation;
2. To maintain a fixed exchange rate with the anchor nation;
3. To establish credibility with the exchange rate (the currency board arrangement is the hardest form of fixed exchange rates outside of dollarization).

In theory, it is possible that a country may peg the local currency to more than one foreign currency; although, in practice this has never happened (and it would be a more complicated to run than a simple single-currency currency board). A gold standard is a special case of a currency board where the value of the national currency is linked to the value of gold instead of a foreign currency. The currency board in question will no longer issue fiat money but instead will only issue a set number of units of local currency for each unit of foreign currency it has in its vault. The surplus on the balance of payments of that country is reflected by higher deposits local banks hold at the central bank as well as (initially) higher deposits of the (net) exporting firms at their local banks. The growth of the domestic money supply can now be coupled to the additional deposits of the banks at the central bank that equals additional hard foreign exchange reserves in the hands of the central bank. The virtue of this system is that questions of currency stability no longer apply. The drawbacks are that the country no longer has the ability to set monetary policy according to other domestic considerations, and that the fixed exchange rate will, to a large extent, also fix a country's terms of trade, irrespective of economic differences between it and its trading partners.

Hong Kong operates a currency board, as does Bulgaria. Estonia established a currency board pegged to the Deutschmark in 1992 after gaining independence, and this policy is seen as a mainstay of that country's subsequent economic success (see Economy of Estonia for a detailed description of the Estonian currency board). Argentina abandoned its currency board in January 2002 after a severe recession. This emphasized the fact that currency boards are not irrevocable, and hence may be abandoned in the face of speculation by foreign exchange traders. Following the signing of the Dayton Peace Agreement in 1995, Bosnia and Herzegovina established a currency board pegged to the Deutschmark (since 2002 replaced by the Euro).

Currency boards have advantages for small, open economies that would find independent monetary policy difficult to sustain. They can also form a credible commitment to low inflation.

### **Unconventional monetary policy at the zero bound**

Other forms of monetary policy, particularly used when interest rates are at or near 0% and there are concerns about deflation or deflation is occurring, are referred to as unconventional monetary policy. These include credit easing, quantitative easing, and signaling. In credit easing, a central bank purchases private sector assets, in order to improve liquidity and improve access to credit. Signaling can be used to lower market expectations for future interest rates. For example, during the credit crisis of 2008, the US Federal Reserve indicated rates would be low for an “extended period”, and the Bank of Canada made a “conditional commitment” to keep rates at the lower bound of 25 basis points (0.25%) until the end of the second quarter of 2010.

## **ECONOMIC POLICY**

Economic policy refers to the actions that governments take in the economic field. It covers the systems for setting interest rates and government budget as well as the labour market, national ownership, and many other areas of government interventions into the economy. Such policies are often influenced by international institutions like the International Monetary Fund or World Bank as well as political beliefs and the consequent policies of parties.

### **Types of economic policy**

Almost any aspect of government has an economic aspect and so many terms are used. A few example of types of economic policy include:

- Macroeconomic stabilization policy tries to keep the money supply growing, but not so quick that it results in excessive inflation.
- Trade policy refers to tariffs, trade agreements and the international institutions that govern them.
- Policies designed to create Economic growth
  - Policies related to development economics,
- Redistribution of income, property, or wealth
- Regulation
- Anti-trust
- Industrial policy
- Technology-based Economic Development Policy

### **Macroeconomic stabilization policy**

Stabilization policy attempts to stimulate an economy out of recession or constrain the money supply to prevent excessive inflation.

- Fiscal policy, often tied to Keynesian economics, uses government spending and taxes to guide the economy.
  - Fiscal stance: The size of the deficit
  - Tax policy: The taxes used to collect government income.
  - Government spending on just about any area of government

- Monetary policy controls the value of currency by lowering the supply of money to control inflation and raising it to stimulate economic growth. It is concerned with the amount of money in circulation and, consequently, interest rates and inflation.
  - Interest rates, if set by the Government
  - Incomes policies and price controls that aim at imposing non-monetary controls on inflation
  - Reserve requirements which affect the money multiplier

### **Tools and goals**

Policy is generally directed to achieve particular objectives, like targets for inflation, unemployment, or economic growth. Sometimes other objectives, like military spending or nationalization are important. These are referred to as the policy goals: the outcomes which the economic policy aims to achieve.

To achieve these goals, governments use policy tools which are under the control of the government. These generally include the interest rate and money supply, tax and government spending, tariffs, exchange rates, labour market regulations, and many other aspects of government.

### **Selecting tools and goals**

Government and central banks are limited in the number of goals they can achieve in the short term. For instance, there may be pressure on the government to reduce inflation, reduce unemployment, and reduce interest rates while maintaining currency stability. If all of these are selected as goals for the short term, then policy is likely to be incoherent, because a normal consequence of reducing inflation and maintaining currency stability is increasing unemployment and increasing interest rates.

### **Demand-side vs. supply-side tools**

This dilemma can in part be resolved by using microeconomic, supply-side policy to help adjust markets. For instance, unemployment could potentially be reduced by altering laws relating to trade unions or unemployment insurance, as well as by macroeconomic (demand-side) factors like interest rates.

### **Discretionary policy vs policy rules**

For much of the 20th century, governments adopted discretionary policies like demand management designed to correct the business cycle. These typically used fiscal and monetary policy to adjust inflation, output and unemployment.

However, following the stagflation of the 1970s, policymakers began to be attracted to policy rules. A discretionary policy is supported because it allows policymakers to respond quickly to events. However, discretionary policy can be subject to dynamic inconsistency: a government may say it intends to raise interest rates indefinitely to bring inflation under control, but then relax its stance later. This makes policy non-credible and ultimately ineffective. A rule-based policy can be more credible, because it is more transparent and easier to anticipate. Examples of rule-based policies are fixed exchange rates, interest rate rules, the stability and growth pact and the Golden Rule. Some policy rules can be imposed by external bodies, for instance the Exchange Rate Mechanism for currency.

A compromise between strict discretionary and strict rule-based policy is to grant discretionary power to an independent body. For instance, the Federal Reserve Bank,

European Central Bank, Bank of England and Reserve Bank of Australia all set interest rates without government interference, but do not adopt rules.

Another type of non-discretionary policy is a set of policies which are imposed by an international body. This can occur (for example) as a result of intervention by the International Monetary Fund.

### **Economic policy through history**

The first economic problem was how to gain the resources it needed to be able to perform the functions of an early government: the military, roads and other projects like building the Pyramids. Early governments generally relied on tax in kind and forced labour for their economic resources. However, with the development of money came the first policy choice. A government could raise money through taxing its citizens. However, it could now also debase the coinage and so increase the money supply. Early civilizations also made decisions about whether to permit and how to tax trade. Some early civilizations, such as Ptolemaic Egypt adopted a closed currency policy whereby foreign merchants had to exchange their coin for local money. This effectively levied a very high tariff on foreign trade. By the early modern age, more policy choices had been developed. There was considerable debate about mercantilism and other restrictive trade practices like the Navigation Acts, as trade policy became associated with both national wealth and with foreign and colonial policy. Throughout the 19th Century, monetary standards became an important issue. Gold and silver were in supply in different proportions. Which metal was adopted influenced the wealth of different groups in society.

### **The first fiscal policy**

With the accumulation of private capital in the Renaissance, states developed methods of financing deficits without debasing their coin. The development of capital markets meant that a government could borrow money to finance war or expansion while causing less economic hardship. This was the beginning of modern fiscal policy. The same markets made it easy for private entities to raise bonds or sell shares to fund private initiatives.

### **Business cycles**

The business cycle became a predominant issue in the 19th century, as it became clear that industrial output, employment, and profit behaved in a cyclical manner. One of the first proposed policy solutions to the problem came with the work of Keynes, who proposed that fiscal policy could be used actively to ward off depressions, recessions and slumps. The Austrian school argues that central banks create the business cycle.

### **Summary and Conclusion**

As countries move toward market-based policies, it is important for them to have effective competition policy. The cornerstones of competition policy include a statute, enforcement agency, and adjudicating body. Although there are basic principles that are useful to follow when designing new competition policy, the specific context of each economy should be taken into account when preparing a policy. Simply copying an approach used elsewhere will not guarantee effectiveness. Establishing this basic framework is the first step in implementing competition policy. Once it is in place, adequate funding and appropriate enforcement choices are essential to protect the competitive forces on which a market economy is based.

The lessons we have learned from helping some developing countries implement their competition policies, as well as the antitrust laws and policies of the United States and other mature market economies, are useful references for designing an effective competition policy for China. The successful implementation of such a policy will prove crucial to the success of China's ongoing market reform.

## References

- [1] *Monetary Policy*". Federal Reserve Board. January 3, 2006. <http://www.federalreserve.gov/policy.htm>.
- [2] B.M. Friedman, "Monetary Policy," *Abstract*". *International Encyclopedia of the Social & Behavioral Sciences*. 2001. pp. 9976–9984.
- [3] Rogoff, Kenneth, 1985. "The Optimal Commitment to an Intermediate Monetary Target", *Quarterly Journal of Economics* 100, pp. 1169–1189
- [4] Forder, James (December 2004). "'Credibility' in Context: Do Central Bankers and Economists Interpret the Term Differently?" (pdf). Econ Journals Watch. <http://www.econjournalwatch.org/pdf/ForderComment1December2004.pdf>.
- [5] "Bank of England founded 1694". BBC. March 31, 2006. [http://www.bbc.co.uk/history/timelines/britain/stu\\_eng\\_bank.shtml](http://www.bbc.co.uk/history/timelines/britain/stu_eng_bank.shtml).
- [6] "Federal Reserve Act". Federal Reserve Board. May 14, 2003. <http://www.federalreserve.gov/generalinfo/fract/>.
- [7] Friedman, Milton (1960). *A Program for Monetary Stability*. Fordham University Press.
- [8] Bernanke, Ben (2006). "Monetary Aggregates and Monetary Policy at the Federal Reserve: A Historical Perspective". Federal Reserve. <http://www.federalreserve.gov/newsevents/speech/bernanke20061110a.htm>.
- [9] Nelson, Edward (2007). "Milton Friedman and U.S. Monetary History: 1961-2006". *Federal Reserve Bank of St. Louis Review* (89 (3)): 171. <http://research.stlouisfed.org/publications/review/07/05/Nelson.pdf>.
- [10] "Blog: Favorite Friedman quotes" Friedman, Milton quotes, Wikiquote <http://bryanbrandenburg.blog.com/2032327/>.
- [11] "Exchange Rates". The Library of Economics and Liberty. March 31, 2006. <http://www.econlib.org/library/ENC/ExchangeRates.html>.
- [12] "The Case Against the Fed". June 5, 2009. <http://mises.org/daily/3480>.
- [13] Orphanides, Athanasios. *Taylor rules (Abstract)*. *The New Palgrave Dictionary of Economics*, 2nd Edition. v. 8. pp. 200–04. [http://www.dictionaryofeconomics.com/article?id=pde2008\\_T000215&q=taylor%20rules&topicid=&result\\_number=1](http://www.dictionaryofeconomics.com/article?id=pde2008_T000215&q=taylor%20rules&topicid=&result_number=1).
- [14] Abdel-Monem, Tarik. "What is The Gold Standard?". University of Iowa Center for The Center for International Finance and Development. [http://www.uiowa.edu/ifdebook/faq/faq\\_docs/gold\\_standard.shtml](http://www.uiowa.edu/ifdebook/faq/faq_docs/gold_standard.shtml).
- [15] Olivei, Giovanni P. (2002). "Switzerland's Approach to Monetary Policy". *New England Economic Review* (Federal Reserve Bank of Boston) (Second Quarter): 57–60. <http://www.bos.frb.org/economic/neer/neer2002/neer202l.pdf>.
- [16] "Monetary Policy Framework". Bank Of England. 2006. <http://www.bankofengland.co.uk/monetarypolicy/framework.htm>.
- [17] "U.S. Monetary Policy: An Introduction". *Federal Bank of San Francisco*. 2004. <http://www.frbsf.org/publications/federalreserve/monetary/>.

# Analysis and processing - introduction to knowledge management

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**Abstract:** *Although the essential theoretical knowledge of marketing concepts is not enough for a person involved in the management and marketing planning. To be competitive in the labor market in the area of marketing interest must possess specific information analysis tools in order to capture those aspects of the marketing environment necessary for development decision making. Using the analytical capabilities resulting from technological boom of the last decades, especially those pertaining to information technology is vital for the competitiveness of the marketing activities of a modern organization.*

**Keywords:** *analysis, knowledge management, processing*

In recent years there has been a global revolution in marketing information, a revolution based on data warehouses, modeling and logistic support came from the area tehnologiei information. In the normal course of business specific to banks, investment funds, direct marketing companies, and other organizations that generate an enormous volume of data about their customers and their transactions, and a tool of analysis is competent method perfect way to transform it into a strategic asset for your organization part. By training and experience, accumulated knowledge and skills man. In the process of communication (inter-human, public, in writing or through the media) to disseminate information (derived - derived from knowledge transmitter). Receiver, assuming they interpret information (comprehension, analysis, storage, or rejection), transforming them into their own knowledge. Accelerated evolution of society in recent centuries due to continuous improvement of the media, implicitly teaching methods (training) and ways to store accumulated knowledge. Pattern and organization of modern libraries and archives, with catalogs and processes for indexing, search and retrieval of information, computer and electronic databases (support on disk), electronic library, and finally the World Wide Web, "the led to what today we call the vision of Information Society and the so-called knowledge society. Public access to the most recent results in all fields of knowledge, simplification of inter-human communication (telephone, fax, e-mail), leading to coagulation of work teams (quite common) without territorial restrictions, the possibilities for cooperation difficult imagined in the past. And the results are visible even in the pace of scientific and technical developments, the pace of accumulation of new knowledge.

## General information:

- Knowledge communicated or received, relating to facts or circumstances, the news (in Romanian: information, but English is defective plural noun);
- Knowledge acquired through study, communication, research, training, etc, Evidence (in Romanian: info);
- The act or activity information (in Romanian: Information);
- Office or office - public information service (in Romanian in the plural, as a proper name "Information");
- Information theory is a function attached to each message size as defined by Shannon in the logarithm base 2;

- In computer science, that is input or output (the computer), or stage of processing (memorizing information, information transmission);
- Information and knowledge (and shares information and knowledge) are terms (relative equivalents - synonymous in some contexts and terms: data, facts, or tips). Describe human acquisition through reading, study, experiments. Information (information) relating to facts told, read, or communicated, which may be non-organized and even unrelated. While the body of knowledge is organized - the correlated information, or adequate understanding of "assimilation";
- As a manifestation, in expressions like: information processing, information retrieval, information theory or science.

Information is usually defined as the study of information processing, is now a term synonymous with computer science. However, the computer remains a tool for the computer, a tool is under study. Outstanding issues highlighted by one of the leading computer scientists, Dijkstra, who said the information is about as much to do with computers as astronomy is the telescope.

As a particular item of information we use the term "data", that names and individual factors or statistics, specific information - private. Data processing is an expression equivalent to processing. Instead, talk about data structures and, especially, about the database. From sender to receiver, information travels in the form of packaged messages. Along the lines of a letter, the header includes shipping and destination addresses, time of issue, subject and, possibly, the urgency of the message, encoding mode, etc.

### **Types of information**

But to return to information, and try to classify the types that we encounter around, or about which we hear people speaking. We attempt a classification by form, content (background), or by how they perceive - Receive the information. Or by type elements - symbols composing it: in talking about how the computer coding of the message transmitting. (Digit - numeral system, letters and words - Formula or written text, images - grimacing, musical sounds, smells - taste flavors, tactile elements - nudges) ... We can analyze the complexity of information, classifying it as level of development - the complex (raw data, unprocessed data analysis and reports are processed and discussed works are being developed theories, predictions, or new working methods, and artistic works or interpretations).

Finally, written information, we can talk about the device they are stored - held: note - transcripts, manuscripts, printed documents (books, articles in magazines, brochures, leaflets), electronic documents (on tapes, video cassettes, diskettes or Compact discs - CDs, Web documents - available through the internet). And especially to eventually occur and language, typing elements (presentation), the utilization of graphics and imaging. The person receiving the information may mean or not. That depends on the cultural and language knowledge (code) in which information is transmitted. But the consistency of information. Returning to the classification of information by content, by level of processing and the mode of perception, we distinguish:

- Quantitative information (numerical) of measurements, costs, assessments = raw information - data:

1. numeric (accounting, financial, experimental)
2. calendar



3. geodesic (geometric, trigonometric)
  4. astronomical
  5. demographic
  6. statistics.
- Information (interpretation) = written documents (texts)
    1. letters, press releases, news
    2. reports (accounting, scientific, technical ,...)
    3. scientific publications (articles, books)
    4. textbooks, teaching texts role,
    5. literature (novels, short stories, essays, poems)
    6. legislative
    7. Historical
  - Audio-visual:
    1. verbal communication, conference
    2. music
    3. sketches, drawings
    4. images, animation, movies
  - Psychics:
    1. genetic
    2. subconscious (dreams, nightmares, telepathic messages)

The studies that were done recently, commercials, and various educational messages touch, formulated and packaged as information content in many forms, writing text accompanying sounds, images, charts, and animations. It talks about using multi-media resources for a stronger impact as the target group (recipients).

### **Consistency and reliability**

Fairness and consistency of message received, as mentioned above, not only elements but also depend on the status of formal address (the skills and knowledge). The ability to decode, read and understand the message, to extract information from him. This still does not mean assimilation of information, adding it to the set of knowledge that the receiver already has. The message may be understandable even if one includes information that is false or contradictory. To accept and assimilate information, most times it need to convince us, to believe, to accept as true. So talking about the reliability of information. Ability to challenge information, to analyze her credibility depends on critical thinking rather than the receiver. In the absence of critical spirit all information will be accepted and assimilated in part. What will inevitably lead to contradictions and confusion. Effective organization and use the knowledge base depends heavily on the existence and depth of critical thinking. Most of the commercials have the appearance of reliable information (and based on the credibility, to make us remember the product name and look for him, or at least buy it when we see happening). Only critical thinking and experience in commercials, we can help you not run soon to order - buy product. But the news, but statistical data on different channels that you receive is credible it or not? An illustrious editor of a European electronic publications, theorized that the news story, and he specialized agencies, as publisher, do not care whether or not credible!

## **Conclusion**

We are in a world awash in information, assailed by offers and ads on every channel, radio, TV, phone, movies or on the street, and especially on the Internet. For some instinct or because we avoid the critical spirit, the other must be systematized and summarize them somehow. They fit the tables, make diagrams or draw graphs. Or simply to "statistically" to better understand, track progress, basically to do with the situation.

## **References:**

- [1] ASIS KM Website <http://www.asis.org/SIG/sigkm/index.html>
- [2] Brint.com Knowledge Portal <http://www.brint.com/ym.html>
- [3] Knowledge Management Research Center  
<http://www.cio.com/research/knowledge/>
- [4] Karl-Erik Sveiby and Knowledge Associates <http://www.sveiby.com.au/>
- [5] University of Arizona [http://www.cmi.arizona.edu/research/kno\\_mgmt/](http://www.cmi.arizona.edu/research/kno_mgmt/)

# Aspects of the design of distributed databases

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**Abstract:** *Distributed data - data, processed by a system, can be distributed among several computers, but it is accessible from any of them. A distributed database design problem is presented that involves the development of a global model, a fragmentation, and a data allocation. The student is given a conceptual entity-relationship model for the database and a description of the transactions and a generic network environment. A stepwise solution approach to this problem is shown, based on mean value assumptions about workload and service. A management system of a distributed database (SGBDD) is a software system that enables management and distributing BDD transparent to the user. A SGBDD consists of a single database which is decomposed into fragments, possibly some fragments are multiplied, and each fragment or copy kept on one or more sites under the control of a local DBMS. Each site is capable of processing user queries in the local system, independently of the rest of the network, or is able to participate in the processing of data in other sites in the network. To say that a DBMS is distributed CLE should be less global demand.*

**Keywords:** *databases, DBMS, SGBDD, distributed databases, design*

## Introduction

Distributed database systems (SBDD) are two approaches to meeting the data processing which may seem diametrically opposed: technology systems and the database of computer networks. Database systems have evolved from data processing in which each application to define and maintain their own data, to one in which the data are defined and managed centrally. This new orientation leads to independent data, such applications become immune to changes in physical or logical data organization and vice versa. A major motivation in using database systems is the integration of data and provide a centralized and controlled access to data. On the other hand, the technology of computer networks promotes a thing that is against all efforts of centralization. It can be so difficult to understand how these two contrasting approaches can be summarized in a technology that is stronger and more promising than both. The key to understanding is the realization that the most important objective of database technology is not centralized, but integration. It is important to note that none of these terms do not implicate the other. Perhaps no integration without centralization, it is the very purpose of distributed databases.

## Distributed Data Processing

Distributed Processing is one of the most abused terms in computer science in recent years. It was used to refer to various systems such as multiprocessor systems, distributed data processing and computer networks. Distributed processing is a concept that is difficult to give a rigorous definition, so we give a definition in terms of distributed database systems. A distributed computing system consists a number of autonomous processing elements (not necessarily homogeneous) that are interconnected by a network of computers and cooperate in performing tasks (task) them. By "processing element" means a computer that can run their own programs. In this context, the question: What is distributed? Processing logic is something to be distributed. The definition of a computer system given above implies that the logic processing or processing elements are distributed. Another may be the distribution

functions. The various functions of a computer system can be performed by different parts of hardware or software. Another may be that according to data distribution. The data used by a number of applications can be distributed to multiple processing nodes. Finally, and control can be distributed. Control execution of different tasks can be distributed instead of being executed by a single computer. From the point of view of distributed databases, these methods of distribution are necessary and important.

Another question that can be asked is: Why distribute? Classical answers to this question said that better reflects the distributed processing of large enterprise organizational structure today, and that such a system is safer and better. From a global perspective, however, can be said that the main reason for distributed processing is large and complicated problems we face today, using variations of the well known rules divide et impera. If the required software distributed processing can be created, then it is possible to solve these complicated problems simply by sharing their smaller parts that can be solved by different software groups, located on different computers, producing a system that runs on more many processing elements, but can effectively perform a common task.

### **What is a distributed database system?**

We define a distributed database as a collection of logically interrelated databases distributed over a computer network. A distributed database management is defined as a software system that enables management of distributed databases and makes the distribution transparent to users. There are two important terms in this definition: logically related in a distributed computer network. Distributed database is a virtual character. Its components are stored on separate databases, located on separate nodes of a network. Each node is a database system, with its own database, its users and the local DBMS. Distributed system can be viewed as a partnership between the local DBMS and a new component in each node. It provides the functions necessary for pairing. A distributed database system (SBDD) is not only "a collection of files" that can be stored individually on each node of a network of computers.

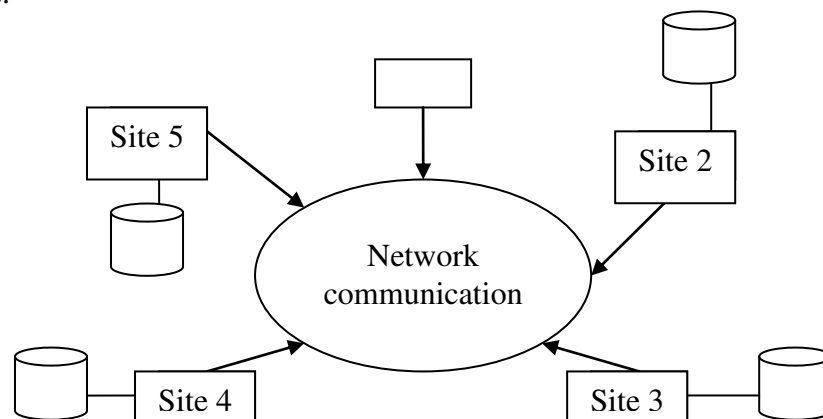


Figure 1.1 Environment SBDD

### **Advantages and disadvantages of distributed database**

#### **Advantages:**

Local autonomy. Users of the database is on a certain station in the network have local control of data, due to the decentralized organization. Local data is kept locally, where they belong logically in most cases is in executing their processing node are

stored. Performance Improvement. The parallel execution of multiple tasks in different stations, it can reduce data access conflicts and can improve both speed of execution of operations on the database and speed access to stored information. Improving safety and availability. If the data is replicated on multiple nodes, the unavailability of one of them or a network problem is not that the data can not be accessed. Economic. If you are geographically dispersed databases and applications that are running in place and data, improves communication costs. Expandability. In a distributed environment is much easier to increase the database size. Partajabilitate. Organizations that have geographically distributed operations and data stores normally in the same manne.

### **Disadvantages:**

Complexity. Problems in the SBDD are more complex than centralized ones, including problems they shared, and the still unresolved in the centralized environment. The problem is the complexity of the programmer and not the user.

Cost: Distributed systems require additional hardware and software, which increases costs.

Distribution control. This point, which is also an advantage, cause problems of timing and coordination.

Security. It is well known difficulty in maintaining adequate control of network security, so in distributed databases.

Adoption of technology difficult. Many companies have invested heavily in their database systems that are not distributed. Currently there are no tools or technologies that help users to convert the centralized databases distributed databases.

### **Distributed database design**

Designing a distributed computing system involves taking decisions on the placement of data and programs in a computer network nodes, and network design itself. In the case of distributed databases, assuming that the network has been designed already and there is a copy of the DBMS software on each node in the network where data are stored, it remains to focus our attention on the distribution of data.

#### *Alternativ design strategia*

There are two major strategies for the design of distributed databases: top down design and bottom-up design. As the name indicates, these strategies are very different approaches to the design process. But most applications are not so simple that it fits completely in one of these strategies, so it is important to know that these strategies should be used together as a complement to each other.

#### *Top down design*

The work begins with the analysis of requirements that define the system environment. The document is the entrance requirements for two parallel activities: conceptual design and design views. Visual design activity defines interfaces for end users. Conceptual design is the process by which the system is examined to determine its component types of entities and relationships between them. Conceptual design can be interpreted as the integration of user views. This is very important because the conceptual model must not only support existing application , but also future onest Global Conceptual Schema and information about access patterns collected as a result of design views are distributed design step inputs. The objective is now to design conceptual schemes through local distribution entities across nodes of the distributed system. In a relational model, entities corresponding relationships. Rather than

distributing their relations division subrelatii is used, called fragments, and they are distributed. So distributed design activity consists of two steps: fragmentation and allocation. The last step in the design process is the physical design, which makes connections between conceptual schemes and local physical storage devices on the nodes corresponding data. Entries in this process are the local conceptual schemes and patterns of access to information.

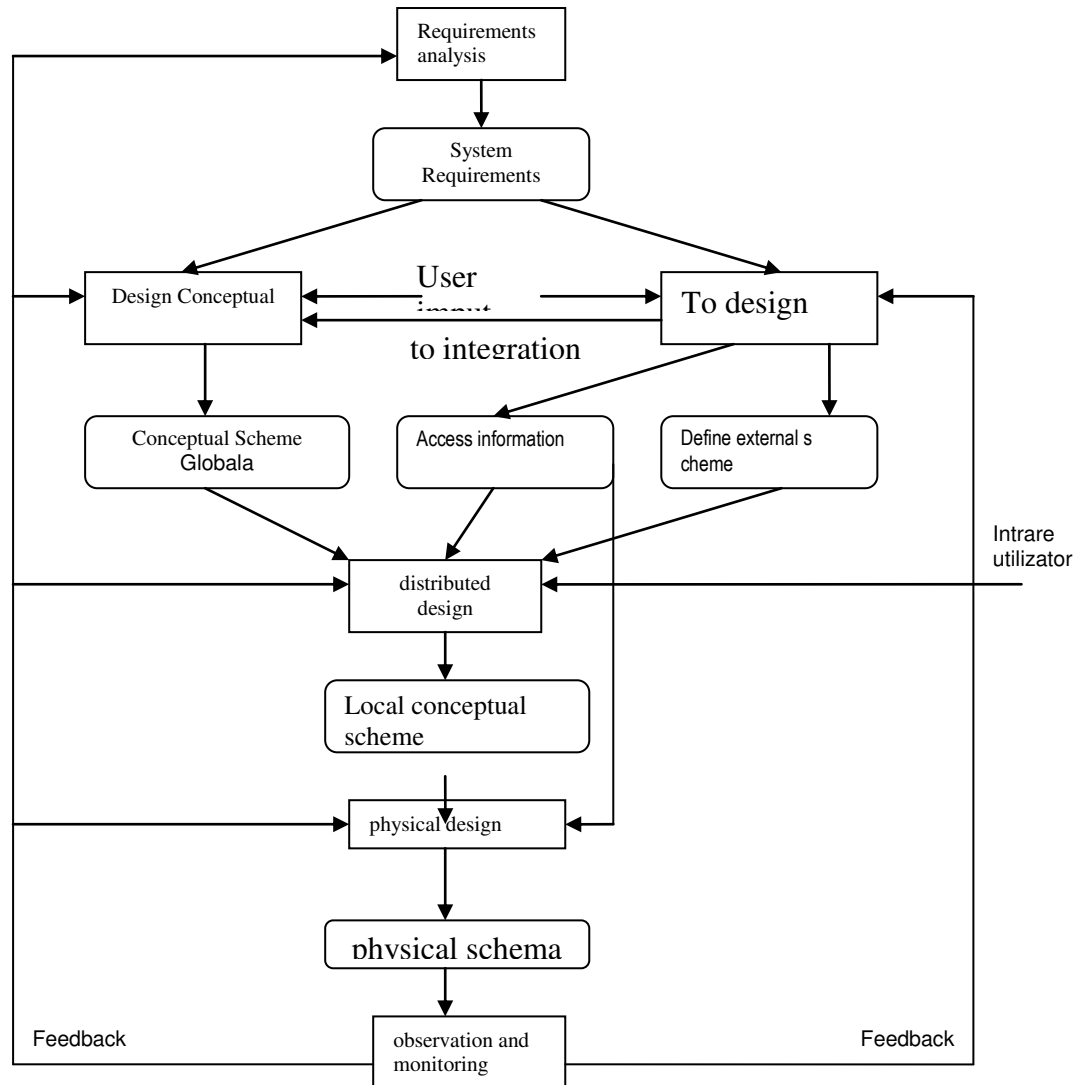


Figure 1.2 Top-Down design process

### Bottom-Up Design

Top-down approach is suitable when we are designing a BDD starting from scratch. But it often happens that some databases already exist, and design activities must realize and integration. Bottom-up approach is suitable for such environments.

The starting point in designing bottom-up is local conceptual schema. The process consists in the integration of local schemes in the global conceptual schema.

Transparency SGBDD. SGBDD Transparency refers to the separation of high-level semantics of an implementation system at a low level. In other words, hide the implementation details transparent to users. Advantages of DBMS transparent sites are portability, reconfigurabilitatea, providing a development environment for complex applications.

### *Data Independence*

Independence of data is a fundamental form of SGBDD transparency. It refers to the immunity of applications to change user in defining and organizing data, and vice versa. You can highlight the two types of independent data:

Logical data independence refers to the immunity of user applications from changes in the structure of the database logic. If an application works with a subset of attributes of a relationship, it will not hurt to add a new attribute to the same relationship. Physical data independence refers to hiding details of storage structure for user applications. The application does not need to be modified whenever there are changes in the organization of data.

### *Network Transparency*

The media management of distributed databases is an asset that must be managed: the network. Preferably, a user will be protected by the network's operational details. If possible, the existing network should be hidden. Then there will be no difference (in terms of the user) between applications using centralized databases and those that use distributed databases. This type of transparency is called network transparency. Transparency in replication. It is necessary that the data is distributed by a replicative manner between machines on a network. So the same data will be found on many cars. This improves system performance since different and competing demands of users can be more easily satisfied. For example, data are often accessed by a user can store his car, and that of other users with similar access requirements. If a network node is unavailable, data can be accessed from other locations. What data should be replicated in many children depends largely on the applications that access them. Data replication but causes some problems updating. The fact that the user does not know how many copies were made and does not know anything about their existence, we can call the transparent replication (replication Transparency). Transparency to fragmentation. It is intended that each database object to be divided into small fragments and each fragment to be treated as a separate object database. This is caused by reasons of performance, availability and reliability. Also, fragmentation can reduce the negative effects of replication.



Figure 1.3: Levels of transparency

### **Conclusion**

Internal management of distributed databases is demanding and generally difficult, because we have ensured that:

- Distribution is transparent (invisible and unobtrusive) - users must be able to interact with the system as if they were a non-distributed (monolithic)
- Transactions must also have a transparent structure (invisible and unobtrusive).

Course each transaction must maintain database integrity, despite the multiplicity of partitions. For this they are usually divided subtranzacții, each of them working with only one partition.

## References

- [1] Elmasri and Navathe, *Fundamentals of database systems* (3rd edition), Addison-Wesley Longman, [ISBN 0-201-54263-3](#)
- [2] M. T. Ozsu and P. Valduriez, *Principles of Distributed Databases* (2nd edition), Prentice-Hall, [ISBN 0-13-659707-6](#)
- [3] O'Brien, J. & Marakas, G.M.(2008) Management Information Systems (pp. 185-189). New York, NY: McGraw-Hill Irwin
- [4] O'Brien, J. & Marakas, G.M.(2008) Management Information Systems (pp. 185-189). New York, NY: McGraw-Hill Irwin.



# Information Technology Management

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**Abstract:** *Most of the Information technology management programs are designed to educate and develop managers who can effectively manage the planning, design, selection, implementation, use, and administration of emerging and converging information and communications technologies. The IT Manager and the Project Manager are not at odds. The Project Manager's ability to focus knowledge, skills, tools and techniques on the temporary endeavor frees the IT Manager to focus on keeping the wheels of commerce turning. The IT Manager supports the project by providing staff resources and by lending authority to the Project Manager.*

**Keywords:** *management, IT, project, technology*

The definition of Information Technology Management, derived from the definition of Technology Management is as follows: Information Technology Management is concerned with exploring and understanding Information Technology as a corporate resource that determines both the strategic and operational capabilities of the firm in designing and developing products and services for maximum customer satisfaction, corporate productivity, profitability and competitiveness. IT Management is a different subject from Management Information Systems. Management Information Systems refer to information management methods tied to the automation or support of human decision making. IT Management, as stated in the above definition, refers to the IT related management activities in organizations. MIS as it is referred to is focused mainly on the business aspect with a strong input into the technology phase of the business/organization.

The concept of Information Technology Management includes considering the value creation that is created through technology. It is heavily dependent upon the alignment of technology and business strategies. While the value creation for an organization is a network of relationships between internal and external environments, technology plays an important role in improving the overall value chain of an organization. However, this increase requires business and technology management to work as a creative, synergistic, and collaborative team instead of a purely mechanistic span of control according to Bird. In the U.S. students have the opportunity in order to gain more formal education in several universities and others educational institutions, including Bachelor's, Master's and PhD degrees.

Those practicing Information Technology Management are commonly referred to as IT Managers. IT Managers have a lot in common with Project Managers but their main difference is one of focus: IT Managers are responsible and accountable for an ongoing program of IT services while the Project Managers' responsibility and accountability are both limited to a project with a clear start and end date.

## IT Manager's Role

Most of the Information technology management programs are designed to educate and develop managers who can effectively manage the planning, design, selection, implementation, use, and administration of emerging and converging

information and communications technologies. The program curriculum provides students with the technical knowledge and management knowledge and skills needed to effectively integrate people, information and communication technologies, and business processes in support of organizational strategic goals.

1. Graduates will explain the important terminology, facts, concepts, principles, analytic techniques, and theories used in the field of information technology management.

2. Graduates will be able to effectively apply important terminology, facts, concepts, principles, analytic techniques, and theories in the field of information technology management when analyzing complex factual situations.

3. Graduates will be able to effectively integrate (or synthesize) important facts, concepts, principles, and theories in the field of information technology management when developing solutions to information technology management multifaceted problems in complex factual situations.

### **IT Managers and Project Management**

The IT Manager, or any functional manager, and the Project Manager have a lot in common. Both work to achieve organizational goals by directing the activities of people. They employ many of the same knowledge sets, skills, abilities and personal traits to plan, organize, staff, direct and control their teams, including:

- Strong leadership and interpersonal skills
- Ability to manage people, time and resources
- Ability to develop people
- Excellent communication and presentation skills
- Good organizational and problem solving abilities
- Good negotiation, conflict resolution and decision making skills
- Talent to handle clients
- Knowledge/awareness of the requirements of the relevant legislation and regulations
- Honesty and integrity

Although most managers have similar skills sets, there are some differences between the roles of IT Managers and Project Managers. The main difference is one of focus. The IT Manager is responsible for an ongoing program of IT services, while the Project Manager's accountability and authority last only for the life of the project. In fact, it is the time-limited nature of projects that makes the role of Project Manager so important.

Despite such similarities and differences, it is important for the IT Manager to know the basics of formalized project management. Why? Because every organization needs to be able to implement change, and almost all important changes are defined or implemented through project teams. Does everyone in the organization (or in IT) need

to know project management, or is it safe to leave it in the hands of a highly trained few? Spread the knowledge around!

Project teams are frequently cross-functional with members from many parts of the organization. Project teams must be able to interact successfully with people throughout the organization in order to plan and complete the project. Everyone in the organization will be affected by what the project teams do, so the more members of the organization understand about project management, the better they will be able to support, guide, and interact with the project team.

While many organizations have trained Project Managers or a Project Management Offices, IT Managers without these resources can still benefit from project management frameworks that describe best practices such as the Project Management Institute's PMBOK® (Project Management Book of Knowledge) and the United Kingdom government's PRINCE2 (PRojects IN Controlled Environments). It is not necessary or possible for everyone in an organization to be project management professionals. But that doesn't mean that they should be ignorant of the essentials of project management. The important thing for the entire organization is to select an approach to managing projects and socialize it in the organization.

Let's talk a little more about projects themselves. We've said that change is reason for projects. Changes in the business are naturally reflected, or anticipated, in the technology supporting the business. We agree on where they come from, but what is a project? A project is a one-time, multitask job with clearly defined starting and ending dates, a specific scope of work to be performed, a budget, and a specified goal or outcome to be achieved. You can easily understand that the amount of time, energy and focus required to get a project done would place an unacceptable burden on any IT manager if added to current responsibilities. Enter the project team.

When the need for a change is identified, the search is on for a Project Manager. Someone is needed to focus on the initiation, planning, executing, monitoring and controlling, and closing the work of the project. However, the Project Manager does not perform the activities that make up the project; this is the purpose of the project team. The IT Manager supports the project by providing staff resources and by lending authority to the Project Manager. Unlike IT Managers who have positional authority, Project Managers derive their authority from the project charter. This can lead to confusion among team members when normal workload and project activities conflict. The IT Manager can facilitate project success by adjusting workloads and priorities to free up project team members.

The PMBOK defines Project Management as "the application of knowledge, skills, tools and techniques to project activities to meet project requirements." Simply stated, it is a process-oriented approach to defining, doing and measuring the work required to get the desired outcome. It is in the familiarity and facility with the tools and techniques of formal project management that the Project Manager diverges from other managers in the organization. The professional Project Manager has devoted significant time and effort to learning and applying the best practices appropriately, and the ability to match the framework to the organizational style and culture is the result of both training and experience.

What every IT Manager needs to know about Project Management is that there are best practices which when socialized into an organization can greatly enhance the success of projects. Project Management is a serious, professional field of interest with its own practices and attainments. Adopting Project Management will make the work of effectively managing change in the IT environment easier and more

consistent. It is important to remember that any framework or tool is only as good as the people who use it. Picking a framework and tools that suit your organizational culture, familiarizing the entire organization with the chosen framework, and training staff in the use of and reasons for the tools can make the handling of changes more consistent, efficient and successful. The IT Manager and the Project Manager are not at odds. The Project Manager's ability to focus knowledge, skills, tools and techniques on the temporary endeavor frees the IT Manager to focus on keeping the wheels of commerce turning.

#### **References:**

- [1] Bird, M. (2010). Modern Management Guide to Information Technology. Create Space. <http://harvardbookstore.biz>
- [2] CIO Wisdom: Best Practise from Silicon Valley's Leading IT Experts, Lane, D. (ed), Prentice Hall 2004
- [3] M.K. Badawy (1998), Technology Management Education: Alternative Models. California Management Review. 40 (4), pp. 94–115
- [4] McKeen, James D., and Smith, Heather A., Making IT Happen: Critical Issues in IT Management, Wiley Series in Information Systems, 2003
- [5] O'Brien, J (1999). *Management Information Systems – Managing Information Technology in the Internetworked Enterprise*. Boston: Irwin McGraw-Hill. ISBN 0071123733.
- [6] Thomas, Rhané (June 15, 2009). "IT Managers and Project Management". PM Hut. Retrieved December 13, 2009.

# **The marketing entrepreneurship and the SMEs competitiveness**

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**Abstract:** *The marketing - entrepreneurship interface at corporate level has generated many debates and studies in the last two decades, both in marketing and entrepreneurship fields. Certain elements of marketing orientation and approach may be used in the development of entrepreneurial processes, while entrepreneurial orientation and behaviour enhance the marketing performance of a company which operates in a dynamic environment. This paper presents the concept of entrepreneurial marketing, a proposed entrepreneurial marketing model, as well as the partial result of a preliminary test of this model.*

**Keywords:** *entrepreneurship, entrepreneurial market orientation, marketing, organisational learning, SMEs.*

## **The concept of entrepreneurial marketing**

Entrepreneurship has been defined as the process of creating value by bringing together a unique set of resources, an opportunity to exploit. The process includes the set of activities to identify opportunities, business definition, evaluation and acquiring the necessary resources, management and getting results. Entrepreneurship is the main mediator of change. The events leading to the elimination of economic equilibrium entrepreneurial phenomenon Schumpeter termed "creative destruction" (Schumpeter, 1971). In addition, entrepreneurship is seen as an organizational orientation, which emphasizes the three dimensions: innovation, taking calculated risks and proactive orientation. Innovation refers to the generation of creative solutions to problems facing the company and new customers' latent needs. Taking calculated risk involves the willingness to devote significant resources to projects that shows a probability of failure considered to be reasonable, but at the same time, ensure risk diversification.

There is growing evidence to support the idea that, over time, companies that have been most successful are those engaged in entrepreneurial activities of character. The need for an entrepreneurial approach is high in situations where firms are faced with these situations: rapid changes in the technology, needs consumer and social values, decision-making situations in which reaction time is reduced, reduced possibility of long-term control of environmental variables. Businesses operate in an environment characterized by a high risk and low possibilities of anticipating changes, the new competitive characterized by four categories of factors: a change, complexity, chaos and contradiction.

Marketing Entrepreneurship is approached as an integrative concept marketing approach to adapt to new environmental conditions in which the enterprise operates. Marketing of entrepreneurial marketing and entrepreneurship synthesize a comprehensive concept, in which marketing is a process the company can make the mindset. The first interface research in marketing / entrepreneurship started in University of Chicago in 1982 and in 1997 the first symposium was held American Marketing Association on "Marketing and Entrepreneurship."

Interface marketing - entrepreneurship is needed in two situations:

- market characteristics are discontinuous, entrepreneurial orientation represents a useful support in identifying needs yet uncollected;
- market with features continue, enterprise guiding marketing strategy in the direction of the current needs in an environment that presents new features.

Marketing and entrepreneurship presents three areas of interface (Collinson and Shaw 2001): orientation to change; identifying and exploiting opportunities; orientation towards innovation.

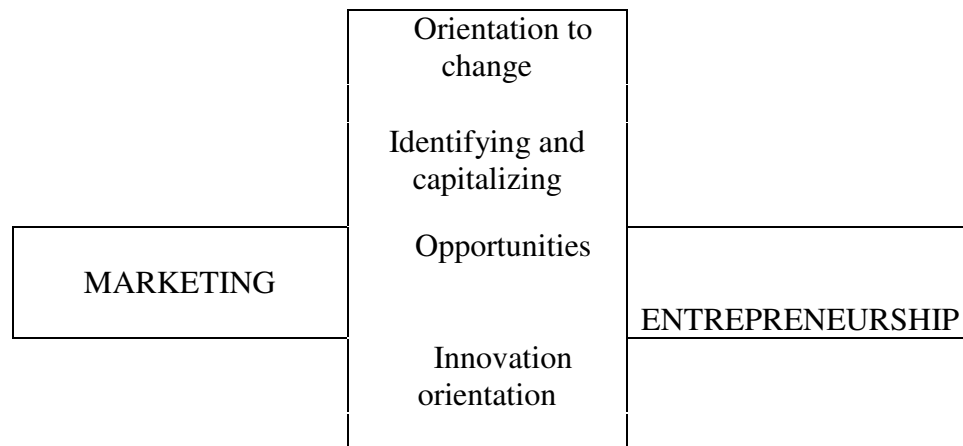


Fig.1 Marketing Entrepreneurship Interface

### **A proposed model of entrepreneurial marketing**

Entrepreneurial marketing model that we propose is a development from the perspective of organizational learning theory, the model of Morris, Schindehutte and LaForge (2002), based on the following assumptions:

a) environmental conditions determine the need and extent of manifestation of the spirit entrepreneurial marketing processes;

b) entrepreneurship event marketing processes is conditioned by three factors: entrepreneurial orientation towards the enterprise market; organizational climate and communication system based on ICT, in particular ERP (Enterprise Resource Planning) collaborative;

c) entrepreneurship event marketing processes induces a higher level of performance marketing.

In substantiation construct "entrepreneurial orientation towards the market" I started to critically examine the concept "market orientation" (Kohli and Jaworski 1990, Narver and Slater 1990) and "entrepreneurial orientation" (Covina and Slevin 1989). From the perspective of the positivist theory the discovery of entrepreneurial opportunities (Schumpeter 1971) and social constructivist theory (Kirzner 1997), orientation Entrepreneurial to the market was conceptualized based on three dimensions: innovativeness in exploring (recognition / construction) business opportunities, pro-entrepreneurial opportunities in experimenting, networking (network integration partners) in order to exploit business opportunities.

One of the major challenges in adopting ERP systems is to ensure flexibility, organizations must constantly integrate new modules useful in conducting business

processes in the shortest time (Gupta 2000). Flexibility refers to the extension of ERP systems by which an ERP system can be dynamically reconfigured to define new business models and processes (Stedman 1999). We recommend that the implementation of the proposed model of marketing entrepreneurship to be held in four major stages as follows:

1. development and learning of a value system in the entrepreneurial top management;
2. developing a vision and an entrepreneurial organizational missions;
3. development of an entrepreneurial type of organizational climate, which includes:
  - development of an entrepreneurial style of leadership;
  - modifying the structure to become an entrepreneurial type;
  - developing an entrepreneurial culture;
  - develop a system of evaluation, reward and control Type entrepreneurship.
4. development of an entrepreneurial type of organizational invtare which include:
  - a system of knowledge generation and storage;
  - a system to disseminate knowledge within the organization;
  - entrepreneurial skills development system;
  - a communication / collaboration through networks intra and inter-organizational knowledge.

### **SMEs competitiveness and influence factors**

Romanian Government was fully committed to strengthening the competitiveness of Romanian companies in accessing the Internal Market perspective in accordance with the European Charter for Small Enterprises adopted at Lisbon in 2000. Lisbon Charter was designed to help improve the competitiveness of European SMEs in the context of globalization and knowledge-based economy.

Moreover, in 2002 Romania has signed with other candidate countries, at the time, Maribor Declaration which commits to harmonize policies to support domestic firms competitive with the Charter of Lisbon. As expression of these international commitments assumed by Romania, directions and measures that define the national strategy for supporting and promoting SMEs for 2004-2008 reflect internal needs of the horizon of small businesses, but also respond to European concerns. National Agency for Small and Medium Enterprises and Cooperatives (operatives), as a governmental body is responsible for implementing the Government Strategy for SME support and development approved by GD. 1280/2004, for which aims to substantiate its decisions and proposals for SME support policy analysis, including qualitative, stage of development, needs and priorities of SMEs and cooperatives. Given these considerations, investigative tool used, that the questionnaire and analyze the results closely follow the action steps and direction of national strategy.

These priority B SME strategy aims at increasing competitiveness. The main factors which influence the light was reviewing the competitiveness of SMEs are:

- (A) the ability to invest;
- (B) the ability to create and bring new products to market, noting that during the acceptance of new product research is not limited to single product or product trademark, but the question any further targeted improvement of product renewal process;
- (C) ability to compete both domestically (with a focus on participation in public procurement) as well as international markets.

In the following we present briefly the results and findings on the issues listed above. Mention that users of this research report may go to more detailed analysis and consultation and analysis and more detailed, depending on the needs of specific analysis, the full survey data presented in the attached tables.

### **Introducing new products**

Innovation capacity of SMEs is one of the special characteristics of this sector with focus on flexibility and market needs. The success of innovative activities undertaken by SMEs is materialized, both in developing markets by introducing new or improved products, and through improvement and innovation in organizational processes and technologies of each company, including distribution processes. From this perspective, the investigation stops only to analyze the capacity of SMEs to create sites and introduce new products on the market. In this approach, the new product is treated with a single product, no new product is not restricted to the trademark. The new product, the acceptance of the methodology, it is understood in the context of this research, a product so completely new and substantially improved products. Analysis highlighting categories are widening the sources of new products.

### **SME capacity to introduce new products**

Only one third of SMEs have succeeded in introducing new products to market in 2004. While the other two thirds that 68.2% of SMEs have introduced new products. SMEs active in the industry recorded the highest percentage of new products introduced in Chapter market in 2004, 37.3% respectively. SMEs in this industry are followed by those in the trade with a share of 35.1%. All records in other sectors as different as the average total weight (30.3%). Mostly, these differences are explained by specific sectors in the sense that they are sectors such as construction or transport where innovation of new products is slower. In contrast in the services sector, an area suitable for innovation, new services introduced weight is below average overall. Based on the foregoing, it can highlight the reduced capacity to innovate and create new services to SMEs active in this field. This is worrying, more so as the cost of creating new services are generally lower than the costs involved in innovation and creation in industry, for example, or in communications. It still took into account that telecommunication infrastructure is underdeveloped in some cases what is not allowed to support performance of firms. The reduced capacity of SMEs to introduce new products on the market and keep the block size analysis. Regardless of size, most SMEs reported that they have brought new products on the market in 2004. Their percentage varies from 69.4% to small enterprises, to just 61.5% for the middle category of enterprise.

### **Origin of new products introduced to the market**

Although only a third of SMEs have succeeded in the market introduction of new products, though those who have done so have used almost equally from three sources: imported products (45.5%) and product creation other companies in Romania (46.0%). In last place was created by the company's own products (40.8%). There were significant differences between SMEs according to sector. 89.9% of SMEs in the industry have reported putting new products on the market claim that these products are their own creation. Trading firms have introduced new products in almost equal measure, both imports (66.0%), and products developed by other companies in Romania (68.8%). The weights given illustrates the fact that most SMEs



in the trade use both sources of new products. Following the share of SMEs which have made imported products compared to those who have introduced new products created by other companies in Romania, one can observe a certain direction in some sectors (construction, industry and other services) to more than to import products from other companies in the country. This shows that innovation in these sectors is still poor as well as assimilating new technologies that allow businesses to respond to market demands.

In contrast, undoubtedly, the ability of SMEs to introduce new products on the market as a result of their own creation, increases with the size category. Micro-enterprises are proving to be the least capable of innovation in new products, only 37.2% have created these products, while small in percentage of 63.5% and medium-sized ones at a rate of 74.3% said that new products were brought to market its own creation. Orientation bias of new products imported from those created by other companies in the country is preserved and largest category of analysis.

## **Conclusion**

The potential for innovation, business process integration, climate collaborative creative, entrepreneurial spirit and the manifestation of the propensity of ERP implementation are factors that provide the conditions necessary for developing processes entrepreneurial marketing and increase business performance. The methodology of implementing a model of entrepreneurial marketing management guidance, structure schimbai Make behavior of all members of an organization involved in the processes of entrepreneurial nature. This work does not detail the relationship between behavior type entrepreneurship and the firm's marketing performance. Three major research directions required in the future: analysis of relationships between entrepreneurial orientation of the company and its performance, identify the factors mediating environmental influences on the relationship between entrepreneurial orientation and marketing performance, identifying the role of organizational learning processes in the development of entrepreneurial behavior in marketing.

## **References:**

- [1] Ambler, T., Kokinakki, F. (1997). Measures of Marketing Success, *Journal of Marketing Management*, 13, p. 665-678
- [2] Bruner, G., James, K.E., Hensel, P.J. (2001), *Marketing Scales Handbook: A Compilation of Multi-Item Measures*, Vol. III. Butterworth Heinemann
- [3] Burns, P. (2004). *Corporate Entrepreneurship: Building an Entrepreneurial Organization*, Macmillan.
- [4] Clark, H. Bruce (1999). Marketing Performance Measures: History and Relationships, *Journal of Marketing Management*, 1999, 15
- [5] Collinson, E., Shaw, E. (2001). Entrepreneurial marketing – a historical perspective on development and practice, *Management Decision*, Vol. 39(9), 761-767
- [6] Covin, J.G., Slevin, D.P. Strategic management of small firms in hostile and benign environments, *Strategic Management Journal*, 1989, 10, pp.75-87
- [7] Damanpour, F. (2001). The dynamics of the adoption of product and process innovations in organizations, *Journal of Management study*: 38:1, 45-65
- [8] Deshpande, R. (1999). Foreseeing marketing, *Journal of Marketing* 63(3), 164-167

- [9] Doyle, P. (1995). Marketing in the new millennium, *European Journal of Marketing*, 29 (12), 23-41
- [10] Drury, D. H., Farhoomand, A. (1999). Innovation diffusion and implementation, *International Journal of Innovation Management*, 3:2, 133-57
- [11] Kohli, A.K., Jaworski, B.J. (1990). Market orientation: the construct, research proportions and managerial implications, *Journal of Marketing*, 54, 1-18
- [12] Palmer, A. (1994). Relationships marketing: back to basics?, *Journal of Marketing Management*, pp. 571-57
- [13] Pohlman, R., Gardiner, G. (2000). *Value Driven Management: How to Create and Maximize Value over Time for Organizational Success*, New York: AMACOM
- [14] Robinson, A. G., Stern, S. (1997). *Corporate Creativity. How Innovation and Improvement actually happen*, San Francisco: Berrett-Koehler Publishers
- [15] Schumpeter, J.A. (1971). The fundamental phenomenon of economic development, in Kilbey (Ed.), *Entrepreneurship and economic development*, New York: Free-Press, pp.43-70
- Sheth, J.N., Sisodia, R.S. (1999). Revisiting marketing's lawlike generalizations, *Journal of the Academy of Marketing Sciences*, 17 (1), 71-87

# **Banking system in Romania and implementation of electronic payment**

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**Abstract:** *Romania's banking system is a two-tier system, including the National Bank and credit institutions. This system was introduced in December 1990, the first step of the banking reform. The legislative framework governing the banking system comprises: Law on National Bank of Romania - Law no. 312 of 28 June 2004 Ordinance on credit institutions and capital adequacy - Government Emergency Ordinance no. 99 of 6 December 2006; Law for the approval of Government Emergency Ordinance no. 99 of 6 December 2006 - Law no. 227 of 4 July 2007. On the Romanian market also operates non-bank financial institutions such as mutual assistance funds, pawnshops, financial leasing companies, credit companies for individuals, micro-finance companies, mortgage companies, companies offering factoring operations, finance companies specializing in commercial transactions, and others.*

**Keywords:** *banking system, electronic payment*

**National Bank of Romania (NBR)**, established in 1880, the central bank. Independent public corporation with headquarters in Bucharest, Romania's National Bank is the only institution authorized to issue currency in the form of banknotes and coins as legal tender in Romania. According to Law no. 312/2004 on the Statute of the NBR, the NBR's main tasks are: development and implementation of monetary policy and exchange rate policy; licensing, regulation and prudential supervision of credit institutions, promote and oversee the smooth operation of payment systems for ensuring financial stability; issue banknotes and coins as legal tender in Romania; Exchange arrangements and supervise its observance; Romania's international reserve management.

Deposit Guarantee Fund in the banking system was established in 1996, the Government Ordinance no. 39/1996, being constituted as a legal entity of public law. The main objective of the Fund is a money back guarantee deposits in credit institutions by individuals, legal persons or entities without legal personality, under the conditions and limits set by the Law on the Fund and as special administrator activity, or as interim manager liquidator of the credit institutions, if his appointment in one of these qualities. Since the establishment of the Deposit Guarantee Fund in the banking system, representatives of the Romanian Association of Banks have played an active role in the development and implementation of regulations on deposit guarantee and the mechanism of the payout to depositors in the event of bankruptcy banks. ARB is represented by the President and Secretary General of the Board of Trustees of the Fund guarantee deposits in the banking system.

## **Credit Bureau**

Founded on the initiative of the banking community in Romania, Credit Bureau is a joint stock company, which has 24 banks as founding members. Currently, the credit bureau has 27 banks as shareholders. Became operational in August 2004, Credit Bureau currently manages positive and negative data, from banking and non-bank sources. The purpose of the Credit Bureau was to provide truthful information to

participants in the banking system, updated and consistent units for individuals who have taken loans from banks or financial companies, have bought a lease to have been insured against risk of default by an insurance company. The activity of the credit bureau include: Collection / data processing portfolio of clients - individuals of participants; Participants provided information and analysis to identify and quantify credit risk, increased credit quality, reduce risk of fraud and protection of creditors; Establish uniform criteria for assessing the customer (scoring); Banking and financial consultants.

### **TransFond**

As a result of special efforts made both by the central bank and the banking community for a structural reform of payment and settlement systems in Romania, Romania currently has a modern payment system, the existing European Union. Electronic Payment System Operator in Romania is TransFonD - Society Funds Transfer and Settlement, a private company founded by the banking community in Romania, with shareholders National Bank of Romania (33.33%) and 25 commercial banks (66.67%). Main activity of TransFonD is to provide clearing and settlement services to non-cash payments in local currency, for institutions, National Bank, Treasury and other financial institutions. The main tasks of TransFond are: administration and operation of SENT (automated clearing house); technical management and operation ReGIS (gross settlement system in real time), as mandated by the National Bank of Romania; technical operation of the system SAFIR (the storage and settlement of securities transactions); Providing support for participants in the three systems.

Romanian Banking Institute is mainly focused on professional development, training and specialization of banking staff in accordance with the requirements of credit institutions and the National Bank of Romania, in cooperation with the Romanian Association of Banks and programs approved by the Board of Directors. Relationship and collaboration with the Romanian Association of Banks of the Romanian Banking Institute is performed by the position ARB founding member and member of the Board. In recent years, cooperation with the Romanian Banking Institute has increased by direct contact with specialists of the institute permanent representatives of the specialized committees of the Romanian Association of Banks, which will debate the current issues on each segment of banking activity, and resulting in need to organize courses, seminars, workshops have been organized by the Romanian Banking Institute Banking system employees.

### **Payment Incident Bureau**

Established in 1997 the National Bank, Central Payment Incident is a mediation center that manages information specific incidents of payment instruments (checks, bills, promissory notes), both in terms of banking (in the drawing discovered account), and from a social perspective (lost / stolen / damaged). Incident Information to the Central Payments are made electronically, using the Interbank Communication Network linking all central banks' central bank with power. Established in 2000 under the National Bank of Romania, CCR is a specialized structure in the collection, storage and centralize information on the exposure of credit institutions in the Romanian banking system to those borrowers who received loans and / or commitments whose rate cumulatively exceed the reporting threshold or delays in payments, as well as information on card frauds produced by the owners. Users of the information in the database CIB are reporting entities - credit institutions

and mortgage companies - National Bank of Romania. Credit risk information exchange is done electronically through the Interbank Communication Network.

## **ROMCARD**

ROMCARD is a limited company, founded in 1994 by the five largest banks in Romania, with the object of processing credit card transactions. ROMCARD provide services on bank card transactions, including field work authorization card transactions, database administration, national and international switching, settlement and card transaction processing, security solution for accepting and issuing banks for e-commerce. ROMCARD processing system is carried out and certified by international standards. Streamlining and simplification of reporting credit institutions by the National Bank of Romania Project to streamline and simplify the reporting system, developed by the National Bank of Romania and the Romanian Banks Association, started in late 2004 with objectives, milestones, activities and organizational framework of the project. Project coordination is provided by the National Bank of Romania.

The primary objective of this project is to ensure optimum data and information necessary for performing his duties by the central bank. Objectives are derived a set of basic indicators that each credit institution will have to report to the National Bank of Romania and making a database of basic indicators, as the sole source for obtaining aggregated indicators underlying rationale and implementation policies. Infrastructure project will be the computer system for reporting to the National Bank of Romania. Data and information submitted by reporting entities will be structured as primary indicators, which will be determined in a unique way of reporting entities, as required by National Bank of Romania. Primary indicator is a basic concept, process or phenomenon associated with a financial - banking. Each indicator is associated with metadata to describe the existing system, eliminating redundancy, data validation and addition of new indicators. Primary indicators will be transmitted electronically to the Central Bank, using a single reporting channel. Based on the primary indicators transmitted by reporting entities will be calculated - the central bank - aggregate indicators. Existing system will eliminate redundancies in the current reporting system and will mean achieving a centralized database, support for decision making performance. Credit institutions will have access to their primary indicators and aggregate information as the banking system. Flexible system allows adding new message types to meet new reporting requirements and the modification of existing messages, depending on changes in current reporting requirements. The introduction of new indicators or modify existing ones will be made but only with opinion mixed methodology, after a preliminary analysis of requirements, to avoid redundancies and duplication.

Stage of project is as follows:

In the analysis phase, completed in September 2005, were established optimal information requirements of departments reporting the central bank manages as object of activity in conjunction with current and future requirements in the regulations - application of International Financial Reporting Standards (IFRS) new Basel II Capital Accord, the European Union integration. These requirements have been integrated - at the primary indicators - the principle of uniqueness indicator.

A key activity during the analysis phase was to evaluate the current system of reporting and indicators, in terms of information requirements and proposals optimal credit institutions, eliminating outdated indicators and the reporting and introducing

redundancy and - where appropriate - new indicators.

He developed an important activity reports documenting the knowledge systems implemented in the central banks of France, Belgium, Netherlands, Spain, Italy and Germany. Have been reviewed and revised legal acts issued by the National Bank of Romania in accordance with relevant Community rules and requirements for credit institutions. Completion of the analysis phase has resulted in the development of reports list, the list of indicators, reporting schedules and records indicators. The design phase has been developed a logical model of the database structure from the primary and secondary indicators, process models based on process requirements set out in the analysis phase, was designed computer system architecture and were developed applications. It was developed in conjunction with approved credit and Norma NBR on the transmission through the primary indicators Reporting System on National Bank of Romania. For complete information on project status and continuous exchange of views with experts credit institutions have been held since March this year a series of seminars on architecture of the new reporting system, the implications and challenges of the new reporting system and simulation of reports - practical exercise. Starting September, pilot tests were conducted with a limited number of banks, followed by all banks in the system tests.

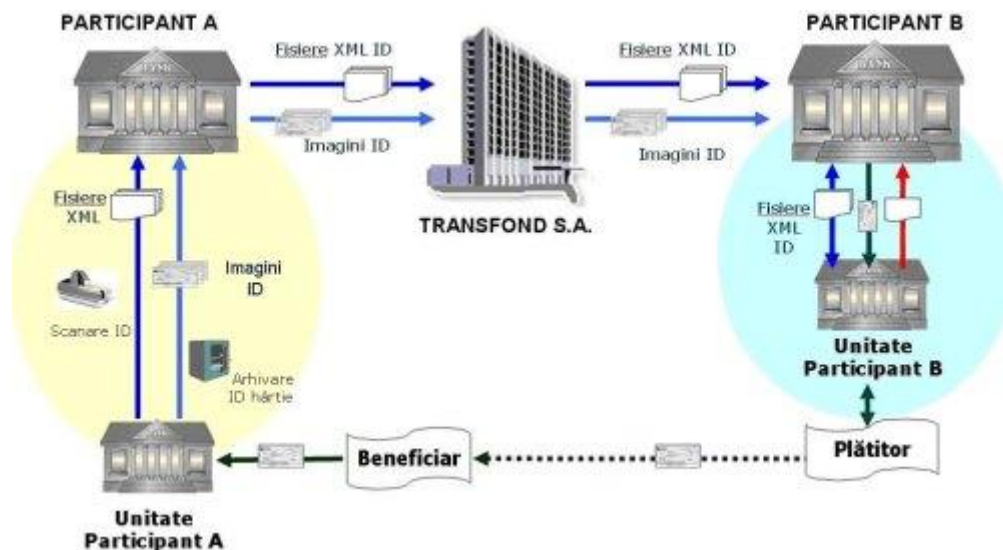


Fig. 1. Electronic Payment System Developments

Implementing Electronic Payment System, a project that lasted two and a half years, was completed in 2005 and involved the efforts of the banking community in Romania, Romanian National Bank, Treasury, Funds Transfer Society and Settlement- TransFonD, as operator of the funds transfer system in Romania. Starting from the second quarter of 2005 came into operation Electronic Payment System components: large-value payment system ReGIS SENT automated clearing house system and sapphire securities registration and settlement issued by the Ministry of Finance. Entry into service of new electronic payment system has led to better risk management and liquidity, increase business effectiveness and efficiency of payments and the security level of interbank transactions. Payment infrastructure in Romania has been steadily replaced almost entirely, as follows: In April 2005, came into operation ReGIS for large-value payments, the processing and settlement on a gross basis in real time, owned and operated by the National Bank of

Romania. ReGIS processed safely and with minimal risk of settlement of high value or urgent payments, which represent over 90 percent of all funds handled by payment and settlement systems in Romania. In May 2005, entered into service SENT, automated clearing house, which took over the processing of all interbank payment orders. The system, owned and operated by TransFonD automatically processes retail payments. They remained just outside the debit instruments, that checks, drafts and promissory notes. As an authorized agent of the National Bank of Romania, TransFonD done through the 42 branches, manual clearing of payment instruments and settlement of paper flow in the net positions ReGIS; the third component of the system - the system for processing securities transactions, SAFIR - went into operation in October 2005. SAFIR, the registration system and settlement of transactions in securities issued by the Ministry of Finance and managed by the central bank as its agent, is owned and operated by the National Bank of Romania. Number and value of transactions processed by the system are still low, but the system is significant in that it provides support to the other two systems of interbank payments, the collateral management for settlement.

It should be noted that the implementation of Electronic Payment System created the possibility of integrated processing of payments from the originator to the beneficiary and thus generated a process of reforming the payment systems of credit institutions by automating the processing of payments and termination of agreements between a technical of participants. Some developments of the system are considered by the banking community, as follows:

Automation SENT processing of debit instruments - checks, bills, promissory notes, Using SWIFTNet network and system services SENT Implementing a new help-desk applications, Automation in certificates of deposit issued by National Bank of Romania, SaFIR, Depository, settlement and processing operations in government securities in the benchmark SaFIR, Secondary market by creating an electronic trading platform, Collateral management, The indirect holdings, cross-border connections Project on automating the processing of debt instruments - checks, bills, promissory notes - the system's objectives SENT total elimination of paper flow by using digital image interchange, clearing and settlement through the automated electronic messages.

The solution initially proposed as a definitive solution PHARE project involves immobilization and dematerialization of debit instrument to drive the bank where the beneficiary is first presented for collection. Dematerialization is the capture and transfer all information contained on the physical instrument, with its scan in a standardized electronic message that is sent to the beneficiary bank and then to drive SENT payer's bank for checking and clearing. Electronic message processing is done on a similar procedure to that used direct debit instructions SENT. E-mail, secured electronic signature has the same legal value as the physical instrument. The solution provides automated processing, integrated processing creates the possibility of such tools and provide a reduced processing time. To be applied to such a solution is necessary to amend the legislative framework on checks, bills of exchange and promissory notes, which requires the presentation of the physical instrument for payment. Given the current restrictions of the legal framework, a solution was proposed in two stages. The first is the movement of paper debt instruments at central level in parallel with electronic messages, accompanied optional scan physical support. Thus email has probative value with the physical instrument, with payment to be made based solely on his presentation. In stage two, after changing the legal framework would be implemented final solution for digital image exchange

processing of debt instruments.

### **Processing solution to debt instruments instead of digital images (Source: TransFonD)**

After numerous meetings and debates in the banking community, the Romanian Association of Banks has made a proposal in two stages:

In a first stage, immediately applicable, to centralize the physical exchange TransFonD debt instruments and settlement shall be made SENT using direct debit interchange mechanism and XML message formats adapted for each payment instrument in hand. This solution was approved by the National Bank, which drafted a regulation, analyzed within the banking community.

In the second stage, based on studies to be conducted by a joint team composed of experts from the Romanian Banking Association, the National Bank of Romania and TransFonD could decide on legal amendments and that the investments required for processing circuit and debt instruments to make a modernized and efficient manner, or possibly even the solution to the total or partial use of the check payments between companies, the model applied by countries in the region (eg Poland).

Another project high-interest credit institutions since the start of the new system is the use of SWIFTNet services network and transfer files SENT. SWIFTNet Bulk Payments solution, which will exchange the files representing the low-value payments through the SWIFTNet network using FileAct services, provides a secure platform for the exchange of payments representing lots of files in any format. Current users of the solution are clearing houses, banks and corporations correspondent.

Adopting this solution enables reuse investment in SWIFTNet infrastructure for sharing files and retail payments can mean a substantial reduction in cost per message for credit generated by the increasing volume of messages sent via SWIFTNet, as well as operating costs and infrastructure maintenance. SWIFTNet enables connection to all potential players involved: corporations, banks, clearing houses, standardize transaction end-to-end integrated processing and increasing.

### **Conclusions**

Evolution of the banking system, taken together, can not be detached from the general situation of national economy, its fluctuations, both at micro and macro. Thus, specific transformations of the transition period, inflationary economic environment, banking legislation and the nature of managerial problems recorded at certain banking companies have contributed to maintaining a low level of financial intermediation, mainly due to the following phenomena:

Maintaining a high level of risks in lending, due to the economic environment and low inflation since the economic agents to adapt to the demands of the market economy, which led to incomplete commitment by banks to increase the resources economic.

Saving-the intensification of Romanian economy, together with its inability to absorb resources, not as respected equality between savings and investments, the rule of development.

Failure-recovery in the savings credit and availability of selected banks, the intermediary role of which is partially materialized Domestic and international money market developments in the last period of time characterized by high volatility of interest rates and exchange rates, coupled with increasing competition, reducing the volume of assets and profit margins, due to credit institutions in the Romanian sector



of the realization stimulated a prudent management of banking assets and liabilities in order to reduce variability in net interest income with major impact on the financial performance of the bank. Maintaining solvency is one of the fundamental objectives of bank performance diagnosis, because the smooth functioning of banking institutions, and lack of liquidity or the inability of buying it equates failure of a bank. For bankers, bank liquidity is breathing.

Lack of liquidity can significantly affect the current activity, resulting in significant financial costs and image. If the bank has an adequate level of own funds to finance a significant proportion of bank assets, meeting the liquidity is not a difficult problem because an adequate level of own funds generated large profits are made by those banks be of sufficient quality to generate credits that certainly due to incoming flows. Position and reputation of banks in the banking system profitability measured by past and future influence on bank liabilities and assets management. Bank profitability can be appreciated only by static analysis, conducted with the financial statements of the bank's financial performance, but by analyzing the maturity profile of assets and liabilities, the latter highlighting the mismatch due to sudden change of the bank's balance sheet structure . Evolution of the banking system can not be detached from the general situation of national economy, its fluctuations both macroeconomic and microeconomic level. Electronic Payment System aligns the Romanian banking sector to European standards in terms of settlement payments, the main benefit is the significant reduction in the duration of settlement, but only for financial institutions that have a modern information infrastructure, proven practices, in some banks in Romania, where the computer system is not developed enough, the introduction of electronic payment system led to a slowdown even settlements. In recent years, Romania's banking sector engagement exhibit increasingly higher lending activity, with an explosion of funding for population. Banking companies increasingly diversify its portfolio and enter the population segments and categories of firms less concerned. In this respect, 2005 and 2006 were dominated by transactions in the retail market, services market where banks have diversified greatly, leading to lower costs.

## References:

- [1] Basno Cezar, Nicolae Dardac, „*Moneda, credit, banci*”, Editura Didactica si Pedagogica, Bucuresti
- [2] Nanu Roxana Maria, „Reforma sistemului bancar din România”, Editura Universitara, Craiova
- [3] Nicolae Danila, „Privatizarea bancilor”, Editura Economica, Bucuresti
- [4] [www.transfond.ro](http://www.transfond.ro)
- [5] [www.romcard.ro](http://www.romcard.ro)

## **Business intelligence**

Cebotarean Elena, Titu Maiorescu University, Romania

**Abstract:** *Business intelligence (BI) refers to computer-based techniques used in spotting, digging-out, and analyzing business data, such as sales revenue by products and/or departments, or by associated costs and incomes. BI technologies provide historical, current, and predictive views of business operations. Common functions of business intelligence technologies are reporting, online analytical processing, analytics, data mining, business performance management, benchmarking, text mining, and predictive analytics. Business intelligence aims to support better business decision-making. Thus a BI system can be called a decision support system (DSS). Though the term business intelligence is sometimes used as a synonym for competitive intelligence, because they both support decision making, BI uses technologies, processes, and applications to analyze mostly internal, structured data and business processes while competitive intelligence gathers, analyzes and disseminates information with a topical focus on company competitors. Business intelligence understood broadly can include the subset of competitive intelligence.*

**Keywords:** *business intelligence, data, support system*

In a 1958 article, IBM researcher Hans Peter Luhn used the term business intelligence. He defined intelligence as: "the ability to apprehend the interrelationships of presented facts in such a way as to guide action towards a desired goal." Business intelligence as it is understood today is said to have evolved from the decision support systems which began in the 1960s and developed throughout the mid-80s. DSS originated in the computer-aided models created to assist with decision making and planning. From DSS, data warehouses, Executive Information Systems, OLAP and business intelligence came into focus beginning in the late 80s.

In 1989 Howard Dresner (later a Gartner Group analyst) proposed "business intelligence" as an umbrella term to describe "concepts and methods to improve business decision making by using fact-based support systems." It was not until the late 1990s that this usage was widespread.

### **Business intelligence and data warehousing**

Often BI applications use data gathered from a data warehouse or a data mart. However, not all data warehouses are used for business intelligence, nor do all business intelligence applications require a data warehouse. In order to distinguish between concepts of business intelligence and data warehouses, Forrester Research often defines business intelligence in one of two ways: Typically, Forrester uses the following broad definition: "Business Intelligence is a set of methodologies, processes, architectures, and technologies that transform raw data into meaningful and useful information used to enable more effective strategic, tactical, and operational insights and decision-making." When using this definition, business intelligence also includes technologies such as data integration, data quality, data warehousing, master data management, text and content analytics, and many others that the market sometimes lumps into the Information Management segment. Therefore, Forrester refers to data preparation and data usage as two separate, but closely linked segments of the business intelligence architectural stack. Forrester defines the latter, narrower

business intelligence market as "referring to just the top layers of the BI architectural stack such as reporting, analytics and dashboards."

### **Business intelligence and business analytics**

Thomas Davenport has argued that business intelligence should be divided into querying, reporting, OLAP, an "alerts" tool, and business analytics. In this definition, business analytics is the subset of BI based on statistics, prediction, and optimization. Applications in an enterprise. Business Intelligence can be applied to the following business purposes (MARCKM), in order to drive business value.

1. Measurement – program that creates a hierarchy of Performance metrics (see also Metrics Reference Model) and Benchmarking that informs business leaders about progress towards business goals (AKA Business process management).
2. Analytics – program that builds quantitative processes for a business to arrive at optimal decisions and to perform Business Knowledge Discovery. Frequently involves: data mining, statistical analysis, Predictive analytics, Predictive modeling, Business process modeling
3. Reporting/Enterprise Reporting – program that builds infrastructure for Strategic Reporting to serve the Strategic management of a business, NOT Operational Reporting. Frequently involves: Data visualization, Executive information system, OLAP
4. Collaboration/Collaboration platform – program that gets different areas (both inside and outside the business) to work together through Data sharing and Electronic Data Interchange.
5. Knowledge Management – program to make the company data driven through strategies and practices to identify, create, represent, distribute, and enable adoption of insights and experiences that are true business knowledge. Knowledge Management leads to Learning Management and Regulatory compliance/Compliance

### **Business Intelligence – Requirements Gathering**

According to Kimball business users and their requirements impact nearly every decision made throughout the design and implementation of a DW/BI system. The business requirements sit at the center of the business core, and are related to all aspects of the daily business processes. They are therefore extremely critical to successful data warehousing. Business requirements analysis occurs at two distinct levels:

- Macro level: understand the business's needs and priorities relative to a program perspective
- Micro level: understand the users' needs and desires in the context of a single, relatively narrowly defined project.

### **Approach**

There are two basic interactive techniques for gathering requirements:

1. Conduct interviews.

You need to talk to the users about their jobs, their objectives, and their challenges. This is either done with individuals or small groups

#### 1. Facilitated sessions

Can be used to encourage creative brainstorming

Methods to avoid: Non-interactive alternatives such as sending out surveys and questionnaires is not an effective requirements gathering technique!

### **Preparation**

#### **Identify the interview team**

- Lead interviewer – directing the questioning
- Scribe – take copious notes during the interview

A tape recorder may be used to supplement the scribe, since it is useful as a backup

- Observers – optional part of the team. A good possibility for other team members to gain knowledge about interviewing techniques. It is advisable that there is no more than two observers present.

#### **Research the organization**

Reports, review of business operations, part of the annual report to gain insight regarding organizational structure. If applicable, a copy of the resulting documentation from the latest internal business/ IT strategy and planning meeting.

#### **Select the interviewees**

Select a cross section of representatives. Study the organization to get a good idea of all the stakeholders in the project. These include:

- Business interviewees (to understand the key business processes)
- IT and Compliance/Security Interviewees (to assess preliminary feasibility of the underlying operational source systems to support the requirements emerging from the business side of the house.

#### **Develop the interview questionnaires**

Multiple questionnaires should be developed because the questioning will vary by job function and level.

- The questionnaires for the data audit sessions will differ from business requirements questionnaires
- Be structured. This will help the interview flow and help organize your thoughts before the interview.

#### **Schedule and sequence the interviews**

Scheduling and rescheduling takes time, so make sure you prepare these a good time in advance! Sequence your interviews by beginning with the business driver,

followed by the business sponsor. This is to understand the playing field from their perspective. The optimal sequence would be:

- Business driver
- Business sponsor
- An interviewee from the middle of the organizational hierarchy
- Bottom of the organizational hierarchy

The bottom is a disastrous place to begin because you have no idea where you are headed. The top is great for overall vision, but you need the business background, confidence, and credibility to converse at those levels. Also if you are not adequately prepared with in-depth business familiarity, the safest route is to begin in the middle of the organization.

### **Prepare the interviewees**

Make sure the interviewees are appropriately briefed and prepared to participate. As a minimum, a letter should be emailed to all interview participants to inform them about the process and the importance of their participation and contribution. The letter should explain that the goal is to understand their job responsibilities and business objectives, which then translate into the information and analyses required to get their job done. In addition they should be asked to bring copies of frequently used reports or spreadsheet analyses.

The letter should be signed by a high ranking sponsor, someone well-respected by the interviewees. It is advisable not to attach a list of the fifty questions you might ask in hopes that the interviewees will come prepared with answers. The odds are that they won't take the time to prepare responses, and even get intimidated by the volume of your questions. Issues with requirements gathering and interviews The process of conducting an interview may seem exhaustive at first, but the ground rule is to be well prepared in all steps. Techniques for questioning may be a good idea to investigate before conducting the interview. Ask open-ended questions such as why, how, what-if, and what-then questions. Make sure you ask unbiased questions. Wrongfully asked questions can lead to wrong answers and in worst case; wrong requirements are gathered. The whole process is valuable in time and resources, and the wrong data can slow down the development of the whole BI installation. Be sure that everyone in the interviewee team is aware of their role to support that everything goes as planned. The next part is to synthesize around the business processes

Prioritization of business intelligence projects

It is often difficult to provide a positive business case for Business Intelligence (BI) initiatives and often the projects will need to be prioritized through strategic initiatives. Here are some hints to increase the benefits for a BI project.

- As described by Kimball you must determine the tangible benefits such as eliminated cost of producing legacy reports.
- Enforce access to data for the entire organization. In this way even a small benefit, such as a few minutes saved, will make a difference when it is multiplied by the number of employees in the entire organization.
- As described by Ross, Weil & Roberson for Enterprise Architecture, consider letting the BI project be driven by other business initiatives with excellent business cases. To support this approach, the organization must have Enterprise Architects, which will be able to detect suitable business projects.

### Success factors of implementation

Before implementing a BI solution, it is worth taking different factors into consideration before proceeding. According to Kimball et al. These are the three critical areas that you need to assess within your organization before getting ready to do a BI project:

1. The level of commitment and sponsorship of the project from senior management
2. The level of business need for creating a BI implementation
3. The amount and quality of business data available.

### **Business Sponsorship**

The commitment and sponsorship of senior management is according to Kimball et al. The most important criteria for assessment. This is because that having strong management backing can be able to shortcomings elsewhere in the project. But as Kimball et al state: “even the most elegantly designed DW/BI system cannot overcome a lack of business [management] sponsorship”. It is very important that the management personnel that participate in the project have a vision and an idea of the benefits and drawbacks of implementing a BI system. The best business sponsor should have organizational clout and should be well connected within the organization. It is ideal that the business sponsor is demanding but also able to be realistic and supportive if the implementation runs into delays or drawbacks. The management sponsor also needs to be able to assume accountability and to take responsibility for failures and setbacks on the project. It is imperative that there is support from multiple members of management so the project will not fail if one person leaves the steering group. However, having many managers that work together on the project can also mean that there are several different interests that attempt to pull the project in different directions. For instance if different departments want to put more emphasis on their usage of the implementation. This issue can be countered by an early and specific analysis of the different business areas that will benefit the most from the implementation. All stakeholders in project should participate in this analysis in order for them to feel ownership of the project and to find common ground between them. Another management problem that should be encountered before start of implementation is if the Business sponsor is overly aggressive. If the management individual gets carried away by the possibilities of using BI and starts wanting the DW or BI implementation to include several different sets of data that were not included in the original planning phase. However, since extra implementations of extra data will most likely add many months to the original plan. It is probably a good idea to make sure that the person from management is aware of his actions.

Implementation should be driven by clear business needs.

Because of the close relationship with senior management, another critical thing that needs to be assessed before the project is implemented is whether or not there actually is a business need and whether there is a clear business benefit by doing the implementation. The needs and benefits of the implementation are sometimes driven by competition and the need to gain an advantage in the market. Another reason for a business-driven approach to implementation of BI is the acquisition of other organizations that enlarge the original organization it can sometimes be beneficial to implement DW or BI in order to create more oversight.

### **The amount and quality of the available data.**

This ought to be the most important factor, since without good data – it does not really matter how good your management sponsorship or your business-driven motivation is. If you do not have the data, or the data does not have sufficient quality any BI implementation will fail. Before implementation it is a very good idea to do data profiling, this analysis will be able to describe the “content, consistency and structure [...]” of the data. This should be done as early as possible in the process and if the analysis shows that your data is lacking; it is a good idea to put the project on the shelf temporarily while the IT department figures out how to do proper data collection. Other scholars have added more factors to the list than these three. In his thesis “Critical Success Factors of BI Implementation” Naveen Vodapalli does research on different factors that can impact the final BI product. He lists 7 crucial success factors for the implementation of a BI project, they are as follows:

1. Business-driven methodology and project management
2. Clear vision and planning
3. Committed management support & sponsorship
4. Data management and quality
5. Mapping solutions to user requirements
6. Performance considerations of the BI system
7. Robust and expandable framework

### **The user aspect of Business Intelligence**

Some considerations must be made in order to successfully integrate the usage of business intelligence systems in a company. Ultimately the BI system must be accepted and utilized by the users in order for it to add value to the organization. If the of the system is poor, the users may become frustrated and spend a considerable amount of time figuring out how to use the system or may not be able to really use the system. If the system does not add value to the users’ mission, they will simply not use it. In order to increase the user acceptance of a BI system, it may be advisable to consult the business users at an early stage of the DW/BI lifecycle such as for example at the requirements gathering phase. This can provide an insight into the business process and what the users need from the BI system. There are several methods for gathering this information such as e.g. questionnaires and interview sessions. When gathering the requirements from the business users, the local IT department should also be consulted in order to determine to which degree it is possible to fulfill the business’s needs based on the available data.

Taking on a user-centered approach throughout the design and development stage may further increase the chance of rapid user adoption of the BI system. Besides focusing on the user experience offered by the BI applications, it may also possible to motivate the users to utilize the system by adding an element of competition. Kimball suggests implementing a function on the Business Intelligence portal website where reports on system usage can be found. By doing so, managers can see how well their departments are doing and compare themselves to others and this may spur them to encourage their staff to utilize the BI system even more.

In a 2007 article, H. J. Watson gives an example of how the competitive element can act as an incentive. Watson describes how a large call centre has

implemented performance dashboards for all the call agents and that monthly incentive bonuses have been tied up to the performance metrics. Furthermore the agents can see how their own performance compares to the other team members. The implementation of this type of performance measurement and competition significantly improved the performance of the agents. Other elements which may increase the success of BI can be by involving senior management in order to make BI a part of the organizational culture and also by providing the users with the necessary tools, training and support. By offering user training, more people may actually use the BI application. Providing user support is necessary in order to maintain the BI system and assist users who run into problems. User support can be incorporated in many ways, for example by creating a website. The website should contain great content and tools for finding the necessary information. Furthermore, helpdesk support can be used. The helpdesk can be manned by e.g. power users or the DW/BI project team.

### **Marketplace**

There are a number of business intelligence vendors, often categorized into the remaining independent "pure-play" vendors and the consolidated "megavendors" which have entered the market through a recent trend of acquisitions in the BI industry. Some companies adopting BI software decide to pick and choose from different product offerings (best-of-breed) rather than purchase one comprehensive integrated solution (full-service).

Independent BI market surveys and analyses include:

- Gartner's "Magic Quadrant for Business Intelligence"
- Business Application Research Center (BARC)'s "The BI Survey" and "The BI Verdict" (formerly "The OLAP Report")
- Forrester Research study

### **Industry specific**

Specific considerations for business intelligence systems have to be taken in some sectors such as governmental banking regulations. The information collected by banking institutions and analyzed with BI software must be protected from some groups or individuals, while being fully available to other groups or individuals. Therefore BI solutions must be sensitive to those needs and be flexible enough to adapt to new regulations and changes to existing laws.

### **BI and Semi-structured (or unstructured) data.**

Businesses create a huge amount of valuable information in the form of e.g. e-mails, memos, notes from call-centers, news, user groups, chats, reports, web-pages, presentations, image-files, video-files, marketing material and news etc.. However, organizations often only use these documents once. According to Merrill Lynch, more than 85 percent of all business information exists as the before-mentioned information types. These information types are called either semi-structured or unstructured data. The management of semi-structured data is recognized as a major unsolved problem in the information technology industry. According to projections from Gartner (2003), white collar workers will spend anywhere from 30 to 40 percent of their time searching, finding and assessing unstructured data. BI uses both structured and unstructured data, but where the latter is easy to search, the former contains a large quantity of the information needed for analysis and decision making. Because of the



difficulty of searching, finding and assessing unstructured/semi-structured data properly, organizations don't draw on these vast reservoirs of information, which could influence a particular decision, task or project. This ultimately leads to uninformed decision making .

Therefore, when designing a Business Intelligence/DW-solution, the specific problems associated with semi-structured/unstructured data, must be accommodated for, as well as those for the structured data .

### **Unstructured data vs. Semi-structured data**

Unstructured/Semi-structured data has different meanings, depending on the context it is viewed in. In the context of relational database systems, it refers to data that can't be stored in columns and rows. It must be stored in a BLOB (binary large object), a catch-all data type available in most relational database management systems. But many of these data types, like e-mails, word processing text files, ppt's, image-files, and video-files, conform to a standard that offers the possibility of meta data. Meta data can include information such as author and time of creation, and this can be stored in a relational database. Therefore it may be more accurate to talk about this as semi-structured documents or data, but no specific consensus seems to be agreed upon.

### **The problems with semi-structured/unstructured data and BI**

There are several problems/challenges when trying to develop BI with semi-structured data, and according to (Inmon & Nesavich, 2008) some of those are:

1. Physically accessing unstructured textual data – unstructured data is stored in a huge variety of formats.
2. Terminology – Among researchers and analysts, there is a need to develop a standardized terminology.
3. Volume of data – As stated earlier, up to 85% of all data exists as semi-structured data. Couple that with the need for word-to-word and semantic analysis..
4. Searchability of unstructured textual data – A simple search on some data, e.g. apple, results in links where there is a reference to that precise search term. (Inmon & Nesavich, 2008) gives an example: “a search is made on the term felony. In a simple search, the term felony is used, and everywhere there is a reference to felony, a hit to an unstructured document is made. But a simple search is crude. It does not find references to crime, arson, murder, embezzlement, vehicular homicide, and such, even though these crimes are types of felonies.”

### **The use of Metadata**

To solve the problem with the searchability and assessment of the data, it is necessary to know something about the content. This can be done by adding context through the use of metadata. A lot of system already captures some metadata, e.g. filename, author, size etc. But much more useful could be metadata about the actual content – e.g. summaries, topics, people or companies mentioned. Two technologies designed for generating metadata about content is automatic categorization and information extraction.

## **Conclusions**

A 2009 Gartner paper predicted these developments in the business intelligence market:

- Because of lack of information, processes, and tools, through 2012, more than 35 percent of the top 5,000 global companies will regularly fail to make insightful decisions about significant changes in their business and markets.
- By 2012, business units will control at least 40 percent of the total budget for business intelligence.
- By 2010, 20 percent of organizations will have an industry-specific analytic application delivered via software as a service (SaaS) as a standard component of their business intelligence portfolio.
- In 2009, collaborative decision making emerged as a new product category that combines social software with business intelligence platform capabilities.
- By 2012, one-third of analytic applications applied to business processes will be delivered through coarse-grained application mashups.

A 2009 Information Management special report predicted the top BI trends: "green computing, social networking, data visualization, mobile, predictive analytics, composite applications, cloud computing and multitouch."

According to a study by the Aberdeen Group, there has been increasing interest in Software-as-a-Service (SaaS) business intelligence over the past years, with twice as many organizations using this deployment approach as one year ago – 15% in 2009 compared to 7% in 2008.

An article by InfoWorld's Chris Kanaracus points out similar growth data from research firm IDC, which predicts the SaaS BI market will grow 22 percent each year through 2013 thanks to increased product sophistication, strained IT budgets, and other factors.

## **References:**

- [1] [http://en.wikipedia.org/wiki/Business\\_intelligence](http://en.wikipedia.org/wiki/Business_intelligence)
- [2] <http://www2.sas.com/proceedings/forum2007/207-2007.pdf>

## Unemployment in Romania during the crisis

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**Abstract:** *Unemployment in Romania during the crisis has increased significantly from 7.2% in March 2008 to 10.1% in March 2010. To cover the debt caused by the economic crisis in Romania, the Government has fired over 100,000 employees, but also in the private sector have been fired over 150,000 workers. To combat unemployment there are 3 methods, but in many cases, these measures do have the effect of increasing the number and intensity of labor market barriers, increasing unemployment.*

**Keywords:** *technical unemployment, economic crisis, the active population, GDP*

Unemployment is the term used if no paid occupation (job) for forces capable and qualified to work properly. This phenomenon is characterized by the fact that a majority of citizens in search of a job. When this proportion has serious economic problems in the region or State, by raising social spending for maintenance of the unemployed.

Measures to combat:

1. Unemployment caused by the economic situation, when demand is reduced economic market can be a flexible fiscal policy to offset the losses caused by reduced sales.

2. A measure to combat structural unemployment is the establishment of flexible wage rates through better cooperation between unions and management firm that rates be adjusted to the level of inflation rate. Method extension school students and employees early retirement proved a longer period of time that a costly measure and ineffective. Another measure to reduce unemployment was to create services that are shorter than 8 hours for a post to be occupied by two employees.

3. Active policy measures to reduce unemployment are:

- to new employees is a time trial, during which they receive a lower salary, working time flexibility, ease -- of termination and flexible wage rates as the economic situation
- an unemployed training and how to look for a job
- an integration process of those who live in the country and a foreign nationality
- a higher level of skill and training to schools.

In many cases, active measures have the effect of increasing the number and intensity of labor market barriers, increasing unemployment.

Unemployment in Romania during the crisis:

1. The state workers were the most affected by the crisis, the Government made a budgetary restructuring of over 100.000:
  - a. *Staff in education:* in the years of crisis was taking reduced salaries by 25%, but were eventually fired more than 16.000 teachers. "This measure we believe it to be unfair given that the Minister has promised it will not be restructuring in education even if the economic crisis. We can not dispense with service people in our schools, maintenance workers and unqualified teachers nor the students can not remain without education. Because where qualified teachers do not go, do not

agree to accept positions at distances the schools remain without teachers. My indications that the union representative was in the sense that where people can retire, and even to retire early than to remain without a job, and teachers who were to cancel the extended work," said Maria Țiprișan, Pre-University Education union leader.

- b. *Medical personnel:* over 2.000 medical staff was restructured in Romania during the crisis. "It should be unlocked items in the system because we have great need of teachers, doctors, nurses, nurses. We have reorganized the program because the workload is greater. Many employees are working overtime. If we will not know how teachers will retire may ensure all shifts. Maybe by the end of the year will unlock the jobs. We have made several statements, but did not do anything until now," said Dr. Elijah Manole.
- c. *Public Officials:* More than 82.000 civil servants have been restructured because Romania can be fit in agreement with the IMF. "We hope the Government will make a budget amendment sometime in September, so we do not get in the situation he could not pay on our operation," said Ciomacenco.
- d. *Dignitaries:* more than 2.000 officials have been recruited. "It is the chief decision . They are without competition. The same criteria that we had in regard to employment will be in demand and restructuring," said Emil Boc.

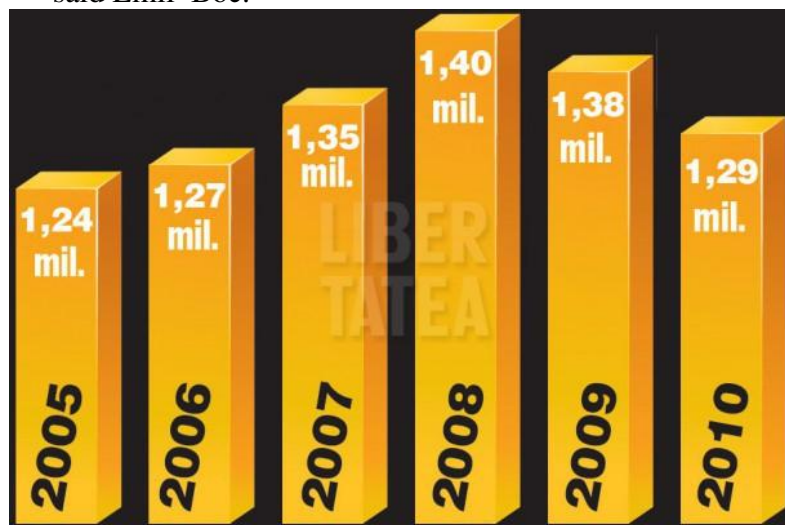


Fig.1 The number of public sector performance by Romania during the crisis.

2. **Private Sector:** Approximately 150,000 people have been fired from the private sector referred to the reasons:
  - enough money to pay salaries
  - business Bankruptcy

During the global economic crisis, unemployment in the euro area has expanded from 7.2% in March 2008 to 10.1% in March 2010. Exceed the average level of the Organization for Economic Cooperation and Development, where the unemployment rate reached 8.7% in March 2010. The historical record in absolute terms, the 15.8 million unemployed in the euro area in May 2010 came after a fall of 6,000 in April, according to Eurostat. Next month, however, brought an extra 35,000 unemployed. The resumption of slow economic growth in the last months seems to be insufficient yet to determine an increased volume of employees in the euro zone. According to a

theory of labor market specialists, to resume only after a minimum of 2% GDP growth starting to create new jobs. Ronald Jansen, an economist at the European Trade Union Confederation, even raises the threshold at 2.5-3%. Or, after the deep recession in the euro area, an increase of less than 1.5% of GDP, as at present, it helps to restore labor market. At the beginning of economic recovery, employers develop their production without hiring new workers, only increasing the working hours of existing employees.

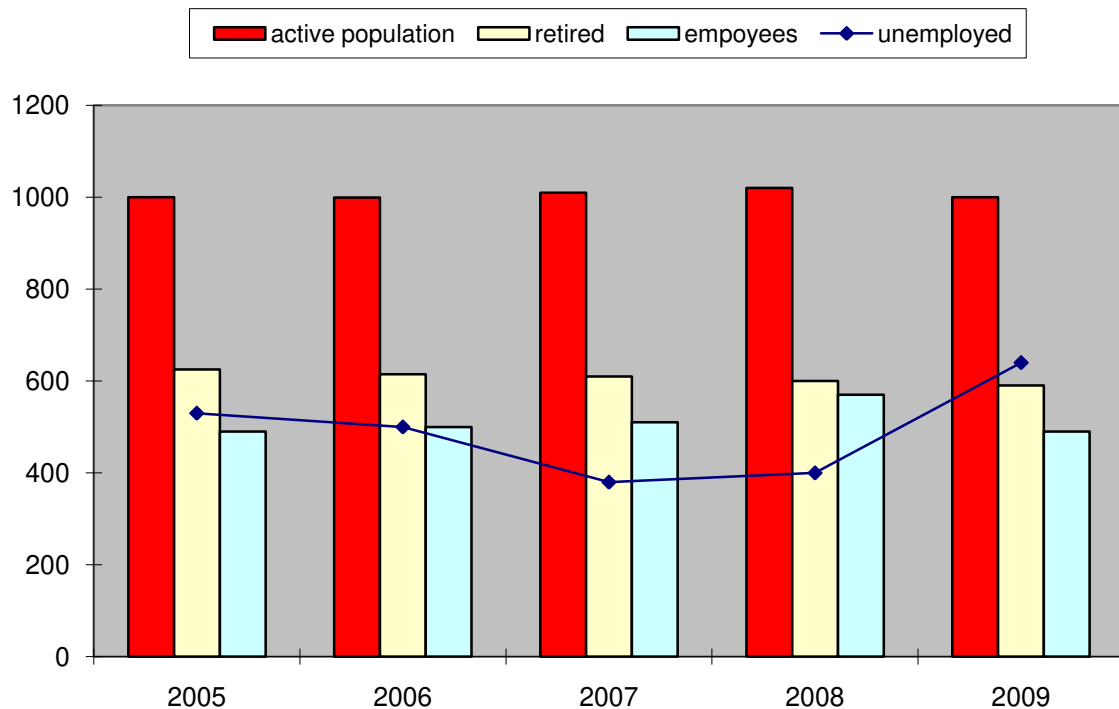


Fig.2 the unemployed during the crisis of the Romanian active population, retirees and employees.

### Economic crisis on unemployment

At the international level, according to press estimates given by Juan Somavia (Director General of the International Labour Office), the number of unemployed could rise from 190 million in 2007 to approximately 210 million at the end of 2009. In Romania, union officials estimate that unemployment will exceed 8% in 2009 and the number of unemployed will move 1.2 million people, given that nearly 500,000 romanians will return to Spain and Italy and in the context of doubling number of unemployed in Romania. Until now, our country has suffered greatly from economic recession. However, some companies have begun to lay off its staff in order to prevent any possible losses. The number of unemployed in the private sector rose to 150,000, the most affected areas as textile industries, chemical, mechanical and of furniture. The counties hardest hit by the economic crisis are those in northern Moldova, in particular Botosani and Suceava. One of the most powerful companies in Romania, Dacia Pitesti, announced that company for 17 days will come "in a forced vacation," the roughly 11,000 employees were temporarily laid off. Rest period coincides with winter holidays and therefore it is possible that until 1 January next year factory activity is restarted. The measure was imposed in circumstances where car sales have dropped dramatically, and production stock could further jeopardize the economic situation of the company. People who stay home will receive 85% of salary.

In this way the company management to ensure that when the plant is restarted, employees will return to work. Dacia technical unemployment effects chain, other companies that supply the companies being forced to cease activity. Also and Nokia Romania leadership decided to halt production at the village Jucu between December 22, 2008 to January 5, 2009. Nokia has decided to lay the passage of at least 100 people employed on a fixed period of three months, two subcontractors firms. Silvania factories and RomSteel Cord Zalau, owned by Michelin, will stop operating in or around 12 December and will resume work in January, and the outside public holidays, the approximately 1,600 workers of the two units is temporarily laid off. The decision to extend the winter holidays for factories and RomSteel Silvania Cord Michelin Romania was taken because of the global economic crisis, the company being forced to adjust production. Integrated Chemical fertilizers Azomureş from Tirgu Mures to temporarily laid off about 2,000 employees. However, ArcelorMittal has used other methods to resolve the crisis, namely the layoffs on request. So, about 1,500 contract employees have decided to stop working.

As every crisis is a definite opportunity, economic crisis favors reforms in the euro area, boosting unemployment and subsequent revival of the market opportunity by providing labor for the benefit of European competitiveness. More labor market reforms will be beneficial, and their direction does not seem to be hard to decipher. Typically, when inflation exceeds wage increases, salary adjustments are made automatically. When inflation is rising more slowly than wages, the adjustment is omitted, and thus the long term, productivity is losing ground. More rigor and accountability will restore the competitiveness of the euro area. Reforms differ from country to country, and how different labor markets. Those workers who held jobs even during the crisis, the price of lower wages as occurred in Britain (a phenomenon known by economists as "labor hoarding" in English "labor hoarding"), will react more slowly restore growth. If it knows how to reform the euro area will emerge from the crisis more productive, with sound lean and efficient operation, after it crossed the period of record unemployment.

## Conclusions

Romanian economy will know the phenomenon of structural unemployment - people who want to work, but have minimum qualification required for available jobs. As a corollary of the previous conclusion, we have unemployment and lack of labor force - the current methodology for calculating the unemployment rate simply does not contemplate this. To reduce the distance between the two Romanians (urban and rural) have found a means for national training program. The problems of economic restructuring, an important place occupies the industrial sector. The main reasons why the problem occurs in this sector are chronic lack of efficiency, capacity dimensioning and the government's intention to retain employees.

From my point of view, unemployment is inevitable, aggravated by economic problems of the modern world, which probably will never disappear. However, unemployment is a negative phenomenon, whose costs far outweigh its benefits.

## References:

- [1] [Dan Popa](http://danpopa.hotnews.ro), HotNews.ro Marți, 9 noiembrie 2010, „Restructurarile din BNR continua. O parte din angajati trec in privat ca urmare a scaderilor salariale, altii vor fi disponibilizati iar altii vor fi mutati in alte directii din banca“, [Online], [http://economie.hotnews.ro/stiri-finante\\_banci-8020317-restructurarile-din-bnr-](http://economie.hotnews.ro/stiri-finante_banci-8020317-restructurarile-din-bnr-)

[continua-parte-din-angajati-trec-privat-urmare-scaderilor-salariale-altii-vor-disponibilizati-iar-parte-mutata-alte-directii-din-banca.htm](#)

[2] Ioana Ene, [ziare.com](#), 15 ianuarie 2010, „100.000 de bugetari someri - capcanele unei restructurari necesare”, [Online], <http://www.ziare.com/politica/guvern/100-000-de-bugetari-someri-capcanele-unei-restructurari-necesare-987397>

[3] Ioana Ene, [ziare.com](#), 18 noiembrie 2010, „Cresterea salariilor bugetarilor, cu sau fara efect asupra economiei”, [Online], <http://www.ziare.com/articole/restructurare+bugetari>

[4] Ioana Ene, [ziare.com](#), 15 iulie 2009, „Restructurari la Guvern: Personalul din cabinetele demnitarilor, redus cu 20%”, [Online], <http://www.ziare.com/emil-boc/guvern/restructurari-la-guvern-personalul-din-cabinetele-demnitarilor-reducu-20-la-suta-820881>

[5] Ion Andrei, [evenimentul.ro](#), 17 iunie 2010, „Guvernul începe restructurarea. Oamenii de afaceri: 200.000 de birocrați sunt în plus”, [Online], <http://www.zf.ro/eveniment/guvernul-incepe-restructurarea-oamenii-de-afaceri-200-000-de-biocrati-sunt-in-plus-6428682>

[6] <http://www.ziaruldevrancea.ro/index.php?articol=49291>

[7] Ioana Ene, [ziare.com](#), 14 octombrie 2010, „Protest la Ministerul Educatiei: Zeci de profesori cer demisia lui Funeriu (Video)”, [Online], <http://www.ziare.com/articole/restructurari+invatamant>

[8] Ana Batca, [capital.ro](#), 09 iulie 2010, „De ce scade șomajul în România a treia lună la rând”, [Online], <http://www.capital.ro/detalii-articole/stiri/de-ce-scade-somajul-in-romania-a-treia-luna-la-rand-136864.html>