

# PERFORMANCE MEASUREMENT TOOLS IN BUSINESS PROCESS MANAGEMENT – A CONTEMPORARY APPROACH

*Associate Professor PhD. VERONICA ADRIANA POPESCU<sup>1</sup>, Professor PhD. GHEORGHE N. POPESCU<sup>2</sup>, Lecturer PhD. Cristina Raluca POPESCU<sup>3</sup>*

## Abstract

*This paper focuses on defining elements of the determinants of performance in contemporary society, according to: (a) the importance concept of "performance" and the history of this concept, (b) multidisciplinary approach to the concept of performance, (c) how to quantify performance, (d) performance, growth and competitiveness, and (e) the role of performance management in the organization. In our opinion, a key step in the exploration of potential strategies for any country interested in developing, in the near future, a strong real estate industry, in this particular matter, including, of course, Romania, is a thorough review of the current available research on real estate industry, without the intent of being in any way a limitative one.*

**Key words:** *management, performance measurement tools, business process management, economics, globalization*

**JEL Clasification:** F44

## 1. INTRODUCTION

### (1) What is the main subject treated in this article?

In the paper we focused on the following issues relevant to our approach. For starters we focused on business processes in the contemporary economy, in the sense of presenting the most representative definitions, later, to highlight the role and importance of business processes in society today. Going forward, we analyzed what are the main characteristics of business processes and also have represented some of the classifications of business processes, such as that relating to: (A) business process management in the public sector, respectively: (B) business process management in the private sector. Performance of the business process management was another key element that we considered in our project development. At this stage, we considered two levels, the first consisting of definitions and characteristics of business process management and second in the ways of understanding and representation of performance and quality in the management of business processes.

### (2) Why is it important to study this subject?

This paper focuses on defining elements of the determinants of performance in contemporary society, according to: (a) the importance concept of "performance" and the history of this concept, (b) multidisciplinary approach to the concept of performance, (c) how to quantify performance, (d) performance, growth and competitiveness, and (e) the role of performance management in the organization.

In our opinion, a key step in the exploration of potential strategies for any country interested in developing, in the near future, a strong real estate industry, in this particular

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<sup>1</sup> Commercial Academy of Satu-Mare, Satu-Mare, e-mail: popescu\_gh\_cafr@yahoo.com

<sup>2</sup> The Bucharest University of Economic Studies, Bucharest, e-mail: popescu\_gh\_cafr@yahoo.com

<sup>3</sup> The Bucharest University of Economic Studies, Bucharest and University of Bucharest, Bucharest, e-mail: popescu\_gh\_cafr@yahoo.com

matter, including, of course, Romania, is a thorough review of the current available research on real estate industry, without the intent of being in any way a limitative one.

**(3) How do the authors try to answer the main issues of this subject?**

The authors' main aim, concerning this article, is to generate a primary look in terms of literature review regarding the vast subject of the business process management. Mainly, this article will address to the academic public, respectively to professors and researchers profoundly concerned by academic writing, and probably less to real estate specialists or even potential investors in this domain, though our study could prove to be an interesting point of referential for their future market prospective and potentially better documented research. In our opinion, the context for the study is extremely complex, but nevertheless, the relevance of the literature review in terms of the real estate field will be just a starting point for us as researchers – economists, and also for other specialists in this field. Moreover, our other future concerns and future subjects of interest are also closely related to but are not limited to globalization in the business process field, competitive advantage in the business process field and even the business process cycles.

**(4) What is the relation between the paper and the already existent specialized literature?**

Business process management, in terms of a great emerging phenomenon, came together with the globalization of the markets.

We consider our duty, as research – economists, to highlight the importance of the already existing specialized literature business process domain, but, in equal manner, to bring our own support in improving the already existing knowledge with furthermore discussions and referential points, without ignoring the fact that the means used by us here are purely didactic and intended to show also new ways of further developing and analyzing this subject, without even merely claiming that our study is limitative in any way.

## **2. LITERATURE REVIEW**

The following literature review is intended to generate the necessary background for other future research and further investigations in terms of real estate field, including, as well, for the authors of this article. Due to this fact, a very important step in the exploration of potential strategies concerning the real estate field is a thorough review of the currently available research, which will include books, peer-reviewed scholarly journals – mainly descriptive articles, rather than evaluative ones, practice guides, official professional sites, professional publications and official documents with an international impact towards real estate industry, economics and management. In most cases, practice guides and descriptive articles are more common in this field. Moreover, there are a few notable research studies in the topic of real estate industry, and in addition to this, there are significant gaps between the literature and the actual research, but all this was once more both a great opportunity and a great challenge for us as researchers - economists.

## **3. PERFORMANCE MEASUREMENT TOOLS**

In this section we have presented some of the most common and useful performance measurement tools:

**A. "Risk Control Matrix"**

The first audit tool business process management is called "Risk control matrix". "Risk Control Matrix" is considered to be a standard template for purposes of auditing business processes for documenting all financial reporting risks and controls related to business processes.

The components of the risk control matrix are (*see link: [655](http://it-audit-</a></i></p></div><div data-bbox=)*

*india.blogspot.ro/2010/08/risk-and-control-matrix.html, accessed on 01.03.2013):*

**1) Control objective:**

- In this case, all targets will be identified financial control needed in the sub-processes.
- The goal is to ensure any transaction that has a financial impact on the company's financial data that are accurate, complete, were approved, are properly represented and then were properly monitored.

**2) Risks:**

- Each control objective should be achieved should weigh the risks and risk control matrix.
- Absolutely all the risks that could have any financial impact on the company must be taken into account.
- Figures incomplete, incorrect or unauthorized calculations transactions likely manual interventions, inadequate separation of duties, are elements that could be identified from this phase.
- All these controls should be mapped so as to mitigate the identified risks.

**3) Description of control:**

- To mitigate risk there may be several controls.
- While each operation control occurs, you must follow the idea that each process has detailed risk control documents, but the type of control that led to the alleviation of specific forms of risk.

**4) Control reference number:**

- Each control performed must be given a reference controls.
- Control reference number should be given in a manner such as: "Location. Process. Sub-process. No control".

**5) Frequency Control:**

- Also frequency or frequency control must be recorded clearly.
- This could be "several times a day", "daily", "weekly", "quarterly", "monthly", "mid", "annual" or "per frequency".

**6) Type of control:**

There are several types of control, namely: "preventive control" or "control detection."

*(A) Preventive controls focus on preventing errors or exceptions, is of the form:*

- a1) standard policies and procedures;
- a2) segregation of tasks;
- a3) levels of authorization or approval.

*(B) Detection checks are designed to identify an error or an exception, having occurred, is of the form:*

- B1) The exceptionally reports;
- B2) Reconciliations;
- B3) Periodic Audits.

**7) Method of control;**

**8) Information processing objectives:**

Objectives of information processing required for recording the identified controls.

Can be recorded four goals of information processing:

- [i] *Completeness*: If all transactions that occurred are input and accepted for processing.
- [ii] *Accuracy*: where all transactions are recorded at fair value in the relevant account on a timely basis in the same period.
- [iii] *Validity*: If all recorded transactions actually occurred (are real), refers to the organization and approved by designated staff.
- [iv] *Restricted access*: If the data are protected against unauthorized modification,

confidentiality is assured and assets are protected.

✓ *Examples of application methods of control:*

**A. Ensure completeness:**

- Reconciliation of accounts payable subsidiary registers the control account in the general ledger.
- Checking order transactions, for example, the computer checks the number of sales invoices to identify missing invoices.
- Reconciliation between control accounts and other records.

**B. Ensuring accuracy:**

- Checks as "one to one" to report data changes approved amendment forms, such as, for example, a verification report has changed selling prices.
- Checks as "one to one" for inputs and outputs, such as, for example, a verification report of hours worked by employees on the cards.
- Reconciliation between control accounts and other records.

**C. Validity:**

- Double signatures required for payments in excess of a certain amount.
- Authorization of credit memos by an officer before customer invoice.
- Review of an exception report, such as a report by a defined percentage reduction of sales director.

**D. Access restricted:**

- Check books should be kept in a safe to prevent unauthorized use.
- Access security, which ensures that only authorized persons have access to payment processing functions.
- Deposits must be kept closed and / or supervised at all times to prevent theft.

**9) Financial statement assertions:**

- Financial statement assertions are statements made by the management, the fair presentation of the financial statements.
- They have an impact on the financial statements.
- There are five types of financial assertions:
  - a) *The existence or frequency:* assets, liabilities and property interests were recorded on a specific date, and recorded transactions represent events that actually took place in a certain period.
  - b) *Accuracy:* All transactions and other events and circumstances that occurred during a specific period.
  - c) *Evaluation and allocation:* assets, liabilities, income and expenses are recorded at the corresponding components in accordance with applicable accounting principles and appropriate transactions are mathematically correct and proper abstracts, and recorded in the books and records of the entity.
  - d) *Rights and obligations:* rights, duties and obligations are obligations of the existing entity as of a specific date.
  - e) *Presentation and disclosure:* financial statement items are correctly described, sorted and classified.

**10) Control components;**

**11) The owner control;**

**12) Proof of control;**

**13) Design deficiency;**

**14) Plan for remedial action.**

**B. "Business Process Mapping"**

The second audit tool business process management is called "Business Process Mapping".

"Business Process Mapping" is considered a standard template for purposes of auditing business processes, which refers to activities involved in defining what a business entity is, identification of the responsible, identifying a business process standard which should be completed and how to determine the success of a business process (*see the following links: [http://www.google.ro/#hl=ro&sclient=psyb&q=business+process+mapping+standard&oq=business+process+map&gs\\_l=serp.1.0.012j0i30l2.8449.24097.0.27881.24.14.2.8.8.0.350.268.8.0j4j6j2.12.0...0.0...1c.1.5.psyab.37ptl5wVftE&pbx=1&bav=on.2,or.r\\_gc.r\\_pw.r\\_qf.&fp=f19a8758ad4f9cd3&biw=1350&bih=665](http://www.google.ro/#hl=ro&sclient=psyb&q=business+process+mapping+standard&oq=business+process+map&gs_l=serp.1.0.012j0i30l2.8449.24097.0.27881.24.14.2.8.8.0.350.268.8.0j4j6j2.12.0...0.0...1c.1.5.psyab.37ptl5wVftE&pbx=1&bav=on.2,or.r_gc.r_pw.r_qf.&fp=f19a8758ad4f9cd3&biw=1350&bih=665) and [http://en.wikipedia.org/wiki/Business\\_process\\_mapping](http://en.wikipedia.org/wiki/Business_process_mapping), accessed on 01.03.2013).*

The main purpose behind the process of mapping business is to help organizations become more efficient. A clear and detailed map of a business process diagram or allow outside companies to improve current business processes.

Business process mapping has a specific goal and helps to measure and compare this goal with objectives throughout the organization to ensure that all processes are aligned with company values and also with its capabilities.

Business process mapping is known as process diagrams, is a much more common in the business world in recent years. Aimed at increasing the efficiency of the organization, process mapping is now used by companies around the world. Thus, it was found that the process maps can be used in every section of life or business.

The four major stages of the mapping process are:

- 1) Identify the process by reaching a complete understanding of all stages of the process.
- 2) Collect information, which includes identifying objectives, risks and controls - key in any process.
- 3) Interviewing and mapping, a step that aims to understand the point of view of the individuals involved in the design and shape of real maps.
- 4) The analysis, using tools and approaches to make more effective process mapping.

Mapping process developed in recent years due to software tools that are closely related to various activities, in order to provide a more complete understanding of the process.

Process mapping is now no longer two-dimensional, but multidimensional and is therefore able to support more important business objectives, such as those below:

- ❖ Process re-engineering of business;
- ❖ Compliance with regulations;
- ❖ Activity analysis;
- ❖ Service level agreement or "Service Level Agreement" (SLA) in view of the role clarity (i.e. "Responsibility assignment matrix", or cool);
- ❖ Simulation;
- ❖ Internal audit, etc.

Software tools can process maps available using a web browser that enables easy communication and facilitate stakeholders. This can improve organizational standards and promote a better understanding of the process by improving the business process departments, for example.

### **C. "Responsibility assignment matrix" or "RACI matrix"**

The second audit tool business process management is called "matrix responsible mission" or "Responsibility assignment matrix" or "RACI matrix". "Mission responsible Matrix" still bears the name of linear responsibility chart (LRC) is a description of the participation of different roles in tasks or deliverables for a project or business process. It is especially useful in clarifying roles and responsibilities in multi projects at a department or a process (*see: [http://www.google.ro/#hl=ro&gs\\_rn=5&gs\\_ri=psyab&pq=risk%20control%20matrix%20definition&cp=6&gs\\_id=o&xhr=t&q=raci+matrix&es\\_nrs=true&pf=p&sclient=psyb&oq=ra](http://www.google.ro/#hl=ro&gs_rn=5&gs_ri=psyab&pq=risk%20control%20matrix%20definition&cp=6&gs_id=o&xhr=t&q=raci+matrix&es_nrs=true&pf=p&sclient=psyb&oq=ra)*

*ci+m&gs\_l=&pbx=1&bav=on.2,or.r\_gc.r\_pw.r\_qf.&fp=f19a8758ad4f9cd3&biw=1350&bih=665, accessed on 01.03.2013 and [http://en.wikipedia.org/wiki/Responsibility\\_assignment\\_matrix](http://en.wikipedia.org/wiki/Responsibility_assignment_matrix), accessed on 01.03.2013).*

RACI is an acronym derived from the four responsibilities - most commonly used key (1) *charge*, (2) *Responsible for something*, (3) *consultants* and (4) *information*.

We present below brief, the main characteristics of the four responsibilities - key method used in the cold.

**(1) Responsible:**

- It considers those who made some work in order to achieve certain tasks.
- At least one role with a participation type of Responsible, although others can be delegated to help work.

**(2) Responsible for something specific:**

- For each activity there must be a charge to sign or approve an activity.
- There should be a single responsible expressly indicated for each task.

**(3) Consultant:**

- It considers opinions sought and offered generally by experts.

**(4) Informed:**

- It takes into account those who are kept abreast of progress, often only on completion of the task and the communication is only in one direction.

**D. "Customer mapping"**

The fourth tool business process management auditing is called "Mapping clients network" or "Customer mapping" or "Customer Journey Mapping".

"Mapping the network of customers" is a map in which an organization can view neighbourhoods and markets where their products are sold. Customer network mapping results are often surprising and shows trends that were otherwise unknown.

In addition, mapping of existing customers can not only be applied to a database full of customers but also selected certain customers, such as (*see: <http://www.altageo.net/feature/customer.html>, accessed on 01.03.2013*):

- Those who buy certain products or certain services;
- Those whose purchases exceed a specified amount.

To put the best in customer value network mapping results, this method can be combined with the analysis of market share, offering the opportunity to discover the most powerful areas that have been penetrated but also not yet reached.

Network mapping is the process of tracking customers and existing customers describing all the experiences that customers have when purchasing a service or set of services, taking into account not only what happens to them but, especially, the answers their experiences. Therefore, this method can be used as a form of consultation to improve a service or to find out how people use the service and how customers interact with the service provider. It provides a map of customer interactions and emotions generated, can help an organization to provide its customers with better products and services. Therefore, this method acts as a strategic tool for the organization to ensure that each customer interaction is positive, giving opportunity to see opinions provider customers.

This method can help organizations understand:

- Opportunities for improvement and innovation;
- How potential customers interact with the staff of the organization and product / service;
- How customers perceive the organization at every interaction;
- How departments and functions within an organization need to work together;
- Potential barriers and obstacles faced by customers;

- The way things are seen from the point of view of the customer;
- How should set specific performance indicators and their standards so that progress can be tracked and measured over time.

Mapping clients' network can be used for the following purposes:

- ✓ to improve efficiency within an organization or service;
- ✓ to get an understanding from the perspective of client / service;
- ✓ processes to identify interdependencies that interact with the customer;
- ✓ to identify different perspectives and priorities of different user groups;
- ✓ to encourage a flexible approach to work to ensure that the process remains aligned with the needs of service users.

In conclusion, mapping customer network is a tool that can contribute to a better understanding of customers, generating new knowledge that can already be embedded in the organization. The idea of this method is that each client starts is a creative tool meant to inspire, opinions and ideas through the organization.

### **E. "Spaghetti Diagram"**

The fifth tool business process management auditing is called "Spaghetti Diagram". "Spaghetti Diagram" is a tool for auditing specific business process management primarily used in hospitals (see: [http://www.institute.nhs.uk/quality\\_and\\_service\\_improvement\\_tools/quality\\_and\\_service\\_improvement\\_tools/process\\_mapping\\_-\\_spaghetti\\_diagram.html](http://www.institute.nhs.uk/quality_and_service_improvement_tools/quality_and_service_improvement_tools/process_mapping_-_spaghetti_diagram.html), accessed on 01.03.2013).

"Spaghetti Diagram" is a tool that helps determine the optimal layout for a department or division based on observations of the distances travelled by patients, staff, etc. "Spaghetti Diagram" expose inefficient layouts and large distances travelled between steps identifies key. Basically, this method provides a useful overview of geography visualization process. This tool is helpful in an organization is able to identify areas where time can be saved by viewing the unnecessary movement of goods, personnel or patients. The time saved can be used differently and therefore may help reduce delays, being used to improve patient care.

Below, we provide a useful example for this form of specific auditing process management:

- ☞ It should be taken first, a decision on the "product" whose chart is to be achieved, such as, for example, staff or patient flow.
- ☞ Moreover, it may decide to examine a number of these steps simultaneously, using lines of different colours to represent each flow.
- ☞ The zone structure is then drawn and lines to be drawn on the chart to represent the main streams of staff or patients.
- ☞ By analyzing the traces can be found all circulation areas proved to be, in the end, unnecessary. This helps staff to decide whether to bring two points closer together and optimize the flow.
- ☞ It will note the time, date and the process will be evaluated, but not name individuals.
- ☞ Plot of effective measures taken.
- ☞ It will pass in the diagram stops occurred with sequential numbers and will make time for each stop.
- ☞ It will be recorded also in line all those odd items taken.
- ☞ It also will mark any interruptions inherent in the process.
- ☞ There will be reported, also stops by facilitating access to necessary materials or obtaining various signatures.

## 7. CONCLUSIONS

In conclusion, this paper focuses on defining elements of the determinants of performance in contemporary society, according to: (a) the importance concept of "performance" and the history of this concept, (b) multidisciplinary approach to the concept of performance, (c) how to quantify performance, (d) performance, growth and competitiveness, and (e) the role of performance management in the organization.

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\*\*\* [http://en.wikipedia.org/wiki/Business\\_process\\_mapping](http://en.wikipedia.org/wiki/Business_process_mapping), accessed on 01.03.2013

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[http://www.google.ro/#hl=ro&gs\\_rn=5&gs\\_ri=psyab&pq=risk%20control%20matrix%20definition&cp=6&gs\\_id=o&xhr=t&q=raci+matrix&es\\_nrs=true&pf=p&sclient=psyb&oq=raci+m&gs\\_l=&pbx=1&bav=on.2,or.r\\_gc.r\\_pw.r\\_qf.&fp=f19a8758ad4f9cd3&biw=1350&bih=665](http://www.google.ro/#hl=ro&gs_rn=5&gs_ri=psyab&pq=risk%20control%20matrix%20definition&cp=6&gs_id=o&xhr=t&q=raci+matrix&es_nrs=true&pf=p&sclient=psyb&oq=raci+m&gs_l=&pbx=1&bav=on.2,or.r_gc.r_pw.r_qf.&fp=f19a8758ad4f9cd3&biw=1350&bih=665), accessed on 01.03.2013

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