

Process Performance Measurement in the Case of a Construction Company

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This paper presents the basic aspects of the procedure of process performance measurement in the company. To realize the diagnostic status of the process, the company's management has to implement certain tools, methods and techniques. Process performance measurement enables the control of the process success and provides useful guidance to the company's management in decision making, as well as the basis for continual improvement. The research focuses on a concrete process of contracting work with investors in a construction company.

Keywords: process performance measurement, construction company.

1. Introduction

Process performances or organization performances are marked as a condition in which a process or an organization is or a state they want to achieve (Armstrong, 2006, pp. 4-6) (Holbeche, 2005, p. 243). These are the achievements or results that a process or organization realises in different areas and aspects of business at a certain time frame. In order to run any process efficiently, today's management must master certain tools, i.e. methods and techniques (De Wall, 2001, p. 8) (Krstić, B., Sekulić, V., 2007, p. 42). Measuring the process performances is the tool which enables managers to control the process success and represents the basis for continual improvement (Bourne, M.C., S., Neely, A.D., Mills, J.F., Platts, K.W., 2003, p. 4). According to Drucker, measuring economic results of the process and organization is one of the most delicate areas of contemporary management. Measuring performances, in general, represents an important part of control and managing activity, because it is through that measurement process that the strength, potential and efficiency of the process or organization become determined. The meaning of measurement lies in the influence upon the relations between the results of the process and investing into the realisation of these results, in order to accomplish as highest quality as possible, i.e. the system of measuring performances represents the process of quantifying effectiveness and efficiency (Kennerley, M., Neely, A., 2003, pp. 213-229). Measuring performances of the process enables the awareness of process success, focus to the critical parts, comparison of general and process goals, as well as identifying deviations, monitoring trends, motivating employees in business improvement and eliminating activities which do not add value itself. The designed system of indicators of the process or organization performances arises from the selected company strategy. The mission (the purpose) of the company is determined as the purpose of the company's existence, whereas the vision represents the future condition which the company wants to achieve. The strategy and goals of the company are based on the elements of that desired condition, followed by defining processes and activities which will lead to it. The degree of goal fulfilment is determined by measuring and comparing with the defined goal. The performance indicator system should support the strategy and goals of the company and encourage the behaviour which leads to the realisation of the strategy, enabling employees to have an insight into their own contribution to the company's success, as well as the stakeholders to have an insight into their expectations (Auginis, 2013, p. 3).

Process performance measurement will be carried out on an example of a construction company. Before we go further into a detailed study of the suggested topic, it is worth briefly looking back into the challenges and specific features of the construction business, since the realised measures of process and organization performances significantly depend on those. Constructing companies are facing numerous challenges. The market requires greater flexibility, shorter period of realisation, better quality and lower price. Business processes in constructing are more complex, prone to changes and more difficult to realise in comparison to the situation in other industries. In many of the processes there are numerous different companies. Within their work

frame, construction companies, can provide a service and/or a product in the form of conducting construction-handicraft work. The specific feature of that activity is that in cases of providing services and producing the output the same kind of activity is performed, but there is a difference in the processes of purchasing and dealing with the material. For example, demolishing of obsolete objects and taking out the remains from the ruins. Production (performance of construction-handicraft work) refers to performing any kind of work where one has to purchase and build in some materials (basic and additional) so by their usage (combining) one gets the output (for example, the sewage system, water pipes, roads, buildings etc.). One of the qualities of this activity is the possibility of providing a service resulting with a product at the end. For example, a street drainage system can be considered as a service because there was no purchase or building in of any kind of material; instead, a special kind of object has been built, i.e. a canal. Constructing activity is mainly seasonal, since it depends immensely on the weather conditions. Due to these circumstances the construction company is limited to performing activities whose dynamics and possibilities of realisation do not depend on bad weather conditions or some higher forces, such as floods, earthquakes etc. Still, it can continue with its activities in the closed objects, or the objects in the open which are protected using certain technology, so that the employees' work and the quality of that work do not depend on bad weather conditions.

2. Defining interest groups and their requests

After the company establishes its vision, mission and strategy, it is necessary to identify the goals of key interest groups in the company. Stakeholders are groups or individuals who influence business activities or are under the influence of the business activities of the company (Mendelow, 1983, pp. 22-24). For each performance of the process that needs to be measured it is possible to determine the interest group that: (1) has "legal" interest to get information on the process or (2) can improve the conducting of the process with its contribution or by taking part in it (Kueng, 2000, p. 72). Based on the principles of the interest groups that participate in the process, it can be said that process performances refer to the degree of satisfying the interest and/or the goals of the beneficiaries. Defined goals have to be realistic and measurable, in order to serve as adequate control standards (Pešalj, 2006, p. 10).

The key stakeholders in a construction company are found to be:

- **Investors** i.e. institutions or companies that have the need for any kind of construction work. Those can be: town communities, municipalities, Provincial and Republic Construction Funds and other legal and private persons. Their interests are connected to the realised quality of work (as high as possible), the timing of work completion (as short as possible), the agreed price etc.
- **Owners** or shareholders of the company demand a highest possible level or realised profits, an adequate level of liquidity, solvency as well as steady sustainable development.
- **Suppliers** are all those companies that deal with production and distribution of construction materials (wood-yards, cement plants, stone pits, gravel pits, distributors of drainage, water and heating-system pipes, distributors of construction material, electro-material and metals, distributors of armatures (steel elements), and in certain cases asphalt base and concrete as well). The demands of the suppliers are, first of all, the timely payment for the ordered goods and continual cooperation with those who order the goods – construction material.
- **Employees** of the company can be divided into two groups: administration and operation sectors. In the operation sector of the construction company there are: engineers, technicians, handymen, assistant workers, machinists, drivers etc. Employees are interested in achieving maximum salary, regular pay-offs and low pressure and stress at work.
- **State** as a beneficiary manifests its role through the tax offices and different inspections. The primary interest of the tax service is tax on profit and eventually tax on the import (in the case of construction material being imported), while the interests of inspections are fulfilment of the safety at work terms, possessing complete documentation prescribed by the law etc.
- **Other beneficiaries** are other construction companies for which the mentioned company would be a subcontractor for some part of their work. In order to fulfil the demands of another company's request, the construction company must own an adequate reference list that shows the quantity and quality of the realised work. Apart from adequate references, a specific construction company must be technically capable and equipped with mechanization and other equipment.

The aim is to fulfil the expectation of all the participants, i.e. company's interest groups, with investors in the first place.

Table 1: Beneficiaries (stakeholders) and their requests in a construction company

Beneficiaries	Investors	Owners	Suppliers	Employees	State	Other beneficiaries
Requests	Quality, time, price etc.	Profit, liquidity, solvency, productivity, sustainable development etc.	Regular placement of orders for materials, payment for the ordered goods within the agreed time	Salary, success, pressure etc.	Tax, fulfilment of safety at work terms, prescribed documentation	References, equipment and abilities to realise the tasks

3. Key business process identification

Business processes describe the way in which something is done in the organization. Nevertheless, there is no unique definition of a business process, because it depends on the context in which it is used. According to Harrington (1991), a business process represents each activity or group of activities that takes the input, adds some value and produces the output, for either external or internal consumers. Within the business process frames resources of the company are being spent in order to achieve the planned results. Hammer and Champy (2004) define the business process as a group of activities by which one or more entry components are being used, therefore creating the result that has a value for the consumer. Based on previously quoted definitions of the business process, it may be concluded that the business process is a structured, inter functional collection of activities that demands continuous improvement. According to the ISO 9000:2000 standard, the process is defined as “a system of activities which are in mutual relation and transform inputs into outputs“. This definition relies on two basic rules: (1) input elements of one process are mostly output elements of another process and (2) processes are run in order to create new value that corresponds to investor’s demands and expectations. In that sense, each process comprises:

- Ingoing data – documents or items that can be documented and which are acted upon during the process itself
- Tools and techniques – mechanisms that are applied to input in order to create output
- Outgoing data – document or items that can be documented, representing the result of the process.

None of the processes is entirely independent from other processes. Through its ingoing and outgoing data processes influence one another. Namely, output data of one process are input data for other processes. Although optimisation should be the goal of all business processes in the company, it does not mean that each business process needs redesigning, because that can lead to a counter effect, i.e. even though the changes have been made, results would remain the same or even decline. In order to avoid the so-called process paradox, it is necessary to stop investing into processes without a previous estimation of their costs and benefits. It is not only important to improve business processes, it is also necessary to select and promote those that create value. The goal is to bridge horizontal boundaries and decrease the costs of promoting “wrong“ processes (Bosilj Vukšić, Hernaus, Kovačić, 2008 , p. 80). In order to create new value that corresponds to demands and expectations of the company’s interest groups, it is necessary to focus on basic and key business processes. Those are the processes that have a greatest impact to the strategic success of an organization (Rummler, G.A., Brache, A.P., 1995, p. 166). Simultaneously, it is necessary to conduct the transition from technical, systematic understanding of work (oriented inwards), to inter-functional understanding (oriented outwards, to the consumers). In practice, there is no list of standard business processes for certain kinds of companies, but each one develops its processes depending on its situation. The non existence of a standard catalogue of business processes is a consequence of great differences in the business practices of companies, different approaches and identification of processes, as well as of a number of established business processes. Organizations can choose different key business processes. Determining key business processes varies from one organization to another, because the one which is a key process for one organization does not necessarily have to be that for another (Bosilj Vukšić, Hernaus, Kovačić, 2008 , p. 82). The focus to key business processes creates an image of an organization units’ teamwork within the frame of entire business of that company, while the work done by individuals increases company’s success. Key business processes are inducers of organizational change - from vertical to horizontal type, the final goal of which is in customer’ satisfaction.

In the specific construction company there are several key business processes. Figure 1 shows five processes that influence the strategic success of the observed company the most.



Figure 1: Key processes in a construction company

Each of the business processes shown above is a key one itself, but in this case we will consider only **the process of contracting work**, because it is the key one from the aspect of its influence to the fulfilment of goals of a specific company and its interest groups. Observing the linear flow of the key processes from Figure 1, it is evident that the realisation of other basic (key) business processes depends on the success in contracting work with the investors. The importance of other key processes grows exponentially after the process of contracting work, i.e. after contracting, each subsequent key process becomes more relevant than the previous one.

4. Identification of key process activities

After identifying key processes and selecting the process of contracting work with the investors for analysis, it is necessary to identify the activities in which those measurements will be conducted. Each of the activities has its result (output), which is the basis for essential measurement data. In order to contract a certain job, the potential investor has to send the request with the subject of work and other terms for their realisation. After that, it is important for a certain company to compose a specific offer in an optimal or the shortest possible time-frame. Furthermore, the offer is being sent to a potential investor, expecting their reply. In case of positive information (answer) from the investor, i.e. if they accept the offer, the contract is being composed and signed.

Table 2: Process of contracting work with the investor

Activities	Results of the activities	Data being established
Acceptance and processing the demand for the offer	Demand for the offer	Number of demands, date of their reception, investor's name
Composing and sending the offer	The offer	Number of the offers, shipment dates and name of investor
Receiving information on acceptance/rejection of the offer	Notification	Status of the offer (accepted/rejected), date of receiving notification, investor's name
Contracting	The contract	Contract's status (closed/open), contract's number, date of closure, name of the investor

5. Defining target performances and their indicators (criteria)

To measure performances means to quantitatively express the degree to which a system, a part or a process possesses the required characteristics (Bosilj Vukšić, Hernaus, Kovačić, 2008 , p. 98). In order to measure the accomplished results of a process or an organization, it is necessary to define the goals of performances or target performances, i.e. the desired level of achievement (Folan, P., Browne, J., Jagdev, H., 2007). Measuring performances is sensible only if there is a certain standard for qualifying realised performances. In the contemporary business environment target performances have multiple role, i.e. are used for (Pešalj, 2006, pp. 14-15):

- 1) communicating the strategy and motivation, therefore representing certain challenge that acts inspiring to the employees so they can direct all of their will and abilities in the same direction, towards its realisation,
- 2) planning and coordination in order to provide an adequate level of necessary resources and adequate level of compliance of activity scopes among key business processes,
- 3) early identification of potential problems, since target performances bound to inputs and outputs represent a kind of standard which enables the signals of early revelation of deviation from the activity's desired direction,
- 4) ex post achievement evaluation.

While the company intends to achieve target performances, it must design certain indicators (criteria) for the desired results. An indicator (criterion) is a quantitative value that can be ranked at a certain scale and used for comparison (Pešalj, 2006, p. 16). An indicator can be defined as a quantitative display of scope, quantity, dimensions, capacity or size of some quality of product or a process (Bosilj Vukšić, Hernaus, Kovačić, 2008, p. 98). Indicators of performances are defined as variables of quantifying efficiency and effectiveness (Neely, 2007). Indicators of performances can be expressed quantitatively or qualitatively. Although measuring is much simpler when certain results can be presented quantitatively, sometimes it is possible to present certain categories by only qualitative, descriptive indicators. Different stakeholders value the same output in different ways; therefore, apart from quantitative, there is a need for a qualitative expression of the performance criteria (Daum, 2004). Based on measuring as a kind of control, discrepancies from the planned results, i.e. realised target performances are being determined; therefore it is necessary to estimate the results of the abovementioned and propose measures for a process or an performances improvement. Apart from control, the criteria for performances also have (Pešalj, 2006, p. 16):

- developmental and directing function, since they represent the basis for formulating and implementing the company's and business processes' strategy
- motivating function, since they encourage stakeholders to realise their goals fully.

Measures and goals of performances of a particular constructing company are shown in Table 3. As measures (indicators) of organization performances the following are defined: the number or received requests for offers, where the goal is to get minimum 15 per month; the average time needed to compose the offer, having in mind that the standard for the reply would be two days; the percentage of prepared and sent offers per month, while it is understood that the aim is to answer every request and the last indicator is the percentage of the accepted offers per month, where it is believed that it is necessary to achieve 40 percent of accepted offers from those sent to potential investors.

Table 3: Performances and their goals in the case of a construction company

Organization performances measures	Calculating process	Measuring unit	Target performance	Measuring dynamics
Number of received requests for the offer per month	Sum of received requests	Request/month	15 requests per month	monthly
Average time needed to prepare the offer	Date of sending the offer – date of receiving the request/number of offers	Day/offer	2 days by the offer	monthly
Percent of prepared and sent offers	Number of desired requests/number of sent offers	%	100%	monthly
Percent of accepted offers per month	Number of accepted offers/ number of sent offers	%	40 %	monthly

After establishing performances and organization performance goals, it is necessary to conduct their translation into performances and goals of process performances. The measures of the performances of the key process, contracting with the investors, are described in Table 4.

Table 4: Performances and goals of performances of the process of contracting work with the investors

Process performances measures	Calculating process	Measuring unit	Measuring dynamics
Number of received requests for the offers per month	Sum of received requests	Request/ month	monthly
Time needed to submit the offer	Date of sending the offer – date of receiving the request	Day/offer	each offer
Number of sent offers per month	Sum of sent offers	Offer/month	monthly
Number of accepted offers per month	Sum of accepted offers	Offer/month	monthly

6. Gathering and clasification of process data

Upon establishing the system for measuring process performances, we proceed to acquiring and classifying the data. The activity of collecting and classifying data in the practical example of the process of contracting work with the investors is described in the tables 5, 6 and 7, respectively, for months June, July and August 2012.

Table 5: Collecting and classifying process data for June 2012

No	Investors	Date of receiveing the request	Date of submitting the offer	Time for composing the offer (days)	Status
1.	Municipality Subotica Construction Fund	02/06/2012	08/06/2012	6	Accepted
2.	PUC Waterworks and Sewerage, Subotica	04/06/2012	--	--	Was not submitted
3.	PC Heating system Subotica, Subotica	04/06/2012	05/06/2012	1	Accepted
4.	TC "Centar III", Subotica	07/06/2012	08/06/2012	1	Accepted
5.	"Phiwa" LTD, Subotica	10/06/2012	--	--	Was not submitted
6.	TC "Palić", Palić	09/06/2012	13/06/2012	4	Rejected
7.	PUC Waterworks and Sewerage, Subotica	08/06/2012	17/06/2012	9	Accepted
8.	Electro distribution Subotica	14/06/2012	17/06/2012	3	Accepted
9.	Municipality of Subotica Building Fund	06/06/2012	17/06/2012	11	Rejected
10.	TC "Prozivka", Subotica	21/06/2012	21/06/2012	0	Rejected
11.	"ATB Sever", Subotica	18/06/2012	24/06/2012	6	Rejected
12.	"Somborputevi" LTD, Sombor	15/06/2012	16/06/2012	1	Accepted
13.	"Rotor", Subotica	19/06/2012	22/06/2012	3	Rejected
14.	Car Dealer „Urošević“, Subotica	20/06/2012	24/06/2012	4	Rejected
15.	PC "Parking", Subotica	20/06/2012	23/06/2012	3	Rejected
16.	Electro distribution Subotica	24/06/2012	26/06/2012	2	Accepted
17.	"ATB Sever", Subotica	19/06/2012	28/06/2012	9	Tender was nullified
18.	PUC Waterworks and Sewerage, Subotica	16/06/2012	28/06/2012	12	Tender was nullified
19.	"8.mart", Subotica	26/06/2012	28/06/2012	2	Rejected

An average time for preparing the offer: from 02/06/2012 till 28/06/2012 = 26 days/17 offers = 1.53 days.

Two of the requests have not been taken into consideration due to:

- disability to fulfill the requested terms by PUC Waterworks and Sewerage, Subotica from 04.06.2012.
- disability to complete more than 50 % of the requested work (due to the nature of the work, there was a need to hire subcontractor(s) for more than 50 % of the work), which is unprofitable for the given constructing company; request by "Phiwa" LTD from Subotica, dated on 0.06.2012.

Table 6: Collecting and classifying process data for July 2012

No	Investors	Date of receiving the request	Date of submitting the offer	Time for composing the offer	Status
1.	"Rotografika", Subotica	06/07/2012	--	--	Was not submitted
2.	Public Warehouses LTD, Subotica	03/07/2012	20/07/2012	17	Accepted
3.	"Yumol" LTD, Subotica	07/07/2012	09/07/2012	2	Accepted
4.	PUC Waterworks and Sewerage, Subotica	13/07/2012	19/07/2012	6	Rejected
5.	"Dental Medic", Subotica	09/07/2012	12/07/2012	3	Rejected
6.	"Rotel", Subotica	11/07/2012	16/07/2012	5	Rejected
7.	Electro distribution Sombor, Sombor	16/07/2012	18/07/2012	2	Rejected
8.	TC "Centar III", Subotica	21/07/2012	23/07/2012	2	Rejected
9.	"Fidelinka" LTD, Subotica	19/07/2012	23/07/2012	4	Rejected
10.	Electro distribution Subotica, Subotica	20/07/2012	22/07/2012	2	Rejected
11.	Municipality of Subotica Building Fund	16/07/2012	21/06/2012	5	Accepted
12.	PUC Waterworks and Sewerage, Subotica	14/07/2012	24/06/2012	10	Tender was nullified
13.	"Birografika", Subotica	24/07/2012	27/07/2012	3	Rejected
14.	"ATB Sever", Subotica	21/07/2012	25/07/2012	4	Accepted
15.	"Europetrol", Subotica	19/07/2012	23/07/2012	4	Rejected
16.	Unicredit Bank, branch in Subotica	22/07/2012	25/07/2012	3	Rejected

Average time for preparing the offer: from 03/07/2012 till 27/07/2012 = 24 days/15 offers = 1.67 days. Request by "Rotografika" Subotica from 06/07/2012. was not taken into consideration due to disability to realise 70 % of the work (the nature of the work requested to hire subcontractor(s) for 70 % of the work), which is unprofitable for the construction company in focus.

Table 7: Collecting and classifying process data for August 2012

No	Investors	Date of receiving the request	Date of submitting the offer	Time for composing the offer	Status
1.	"Nelt" LTD, Belgrade	07/08/2012	11/08/2012	4	Rejected
2.	"ATB Sever", Subotica	10/08/2012	16/08/2012	6	Rejected
3.	"Energomag", Subotica	11/08/2012	--	--	Was not submitted
4.	"Maticco", Subotica	08/08/2012	09/08/2012	1	Accepted
5.	PUC Waterworks and Sewerage, Subotica	11/08/2012	--	--	Was not submitted
6.	"Yumol" LTD, Subotica	14/08/2012	16/08/2012	2	Rejected
7.	"Birografika", Subotica	16/08/2012	--	--	Was not submitted

No	Investors	Date of receiving the request	Date of submitting the offer	Time for composing the offer	Status
8.	"KTC", Subotica	19/08/2012	--	--	Was not submitted
9.	"Phiwa" LTD, Subotica	17/08/2012	--	--	Was not submitted
10.	"Somborputevi" LTD, Sombor	21/08/2012	23/08/2012	2	Accepted
11.	"Telefonija" LTD, Beograd	22/08/2012	--	--	Was not submitted
12.	Municipality of Subotica Building Fund	21/08/2012	23/08/2012	2	Rejected
13.	TC "Čantavir", Čantavir	24/08/2012	--	--	Was not submitted
14.	"Metalshop", Subotica	27/08/2012	--	--	Was not submitted

Average time for preparing the offer: from 07/08/2012 to 23/08/2012 = 11 days/6 offers = 1.83 days. Most of the requests have not been taken into consideration because the conditions of tenders were not fulfilled and due to disability to realise 70 % of the work (the nature of the work requested hiring subcontractor(s) for 70 % of the work), which is unprofitable for the construction company in focus.

7. Realised values of organization and process performances

After gathering and classifying all the data according to previously defined activities, an analysis of the data was conducted, as well as realised values of performances were reported. Tables 8 and 9 show the realised values of organization and process performances for the period June-August 2012.

Table 8: Realised values of organization performances from June to August 2012

Measures of organization performances	JUNE		JULY		AUGUST	
	Realised	Goal	Realised	Goal	Realised	Goal
Number of received requests for the offer monthly	19	15	16	15	14	5
Average time needed for preparing the offer	1.53	2	1.67	2	1.83	2
Percentage of composed and submitted offers	113.33%	100%	100%	100%	120%	100%
Percentage of accepted offers monthly	41.18%	40%	26.67%	40%	33.33%	20%

Target performances within this trimester (June-July-August) are set based on the company's experience from previous years. Basically, constructing season has three trimesters, three periods. The first one (March-April-May) represents the beginning of the construction season and signifies the so-called preparatory period, which is an introduction to the peak of the season, therefore it starts with lower target values. The second trimester (June-July-August) and the first half of the third trimester (September-October-November) represent hyphened months for the construction work, therefore target values reach their maximum as well. There is also the forth trimester (December-January-February) which is the weakest, and, as such, does not count into the construction season. Nevertheless, certain construction work can be done even then – activities which are not influenced by the inauspicious weather conditions for the given period. Target values in that period are minimum or absent. To conclude, it can be said that the purpose of determining the trimesters is reasoned by varying target values of performances.

Table 9: Realised values of process performance: Contracting work with investors

Measures of organization performances	JUNE	JULY	AUGUST
Number of received requests for the offer, monthly	19	16	14
Number of days needed to prepare the offer	1.53	1.67	1.83
Number of sent offers, monthly	17	15	6
Number of accepted offers, monthly	7	4	2

In June the company planned to receive 15 requests for offers from prospective investors. 19 requests have been received, but only 17 answered to, which means that the company has surpassed the target value of prepared and sent offers by 13.33%. Observing this situation, a question can be raised on why more requests than planned, i.e. set as the target value, were answered? As a possible answer, one could say that a company answers more requests than planned out of precaution that a smaller number of offers can be accepted than the target value. After considering each specific offer, investors accepted only 7 offers, which outnumbered the target value of accepted offers monthly by 1.18%. Within this activity, one can raise the question of why the investors accepted only 7 out of 17 offers? The question is very complex, but it can only be assumed which answers to numerous conditions the investor set were not fulfilled by the company. It may be the price, the payment terms, the contractor's references (quality, quantity and complexity of previously built objects, i.e. previous work, liquidity and the possibility of the company to carry out the whole work itself), resources that the company owns, expertise of the employees or, eventually, respecting the deadlines for work completion. Unlike prospective investors that do not know in advance which criteria will be rated when it comes to tenders of municipal, provincial or republic funds, the terms are precisely defined beforehand, as well as rating criteria.

In July, the company planned to receive 15 requests for the offers from prospective investors. It received 16 requests, but it answered only to 15, which means that the company has reached the target value (100%). After reviewing specific offers, investors have accepted 4 offers, downsizing the target value of offers accepted monthly by 13.33%.

In August, the target values were decreased (5 requests) because in July two contracts were signed, engaging in that way 75-85% of company's resources, hiring subcontractors as well. These two jobs were to last for several months, so there were only 15-25% of resources available for the other jobs in this trimester and the following one. It is believed that the realisation of these two jobs will achieve 100% of the company's goals without possible costs and additional work that can enlarge the initial investments into the contracted work.

Therefore, in the whole trimester fewer offers were sent in comparison to the number of requests accepted from the prospective investors, since answering other requests would mean hiring subcontractors for more than 50% of work, which is not profitable for the company and (engaging subcontractors) brings a certain level of risk (non fulfilment of contracted obligations; abandoning work; low quality of work for which the full responsibility, according to the investor, lies upon the specific constructing company). All that can result in a process at court, which is long-lasting and negatively influences the image and reference of the observed construction company.

8. Comparison of realised and target performances of organization and process

The comparison of realised and target performances represents the phase in which we compare the acquired data with the target defined beforehand. Examples of comparison of realised performances with the target ones in case of the process of contacting work with the investors are shown in Figures 2, 3, 4 and 5, whereas the examples of comparison of realised performances of an organization with the goal performances are given in Figures 6, 7 and 8.

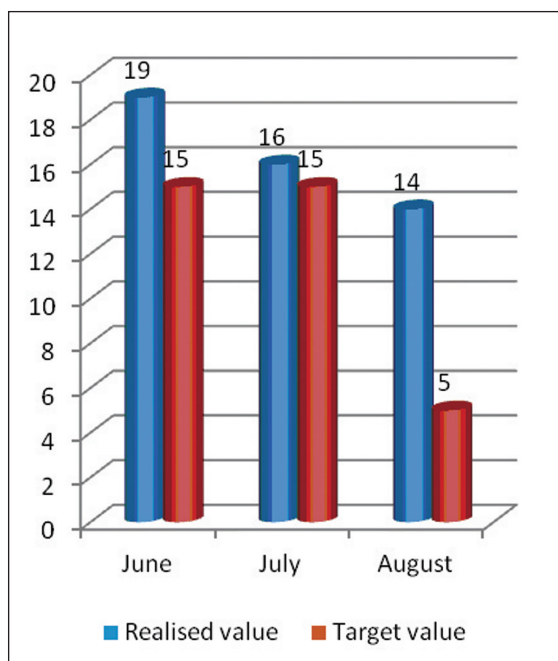


Figure 2: Number of received requests for offers per month

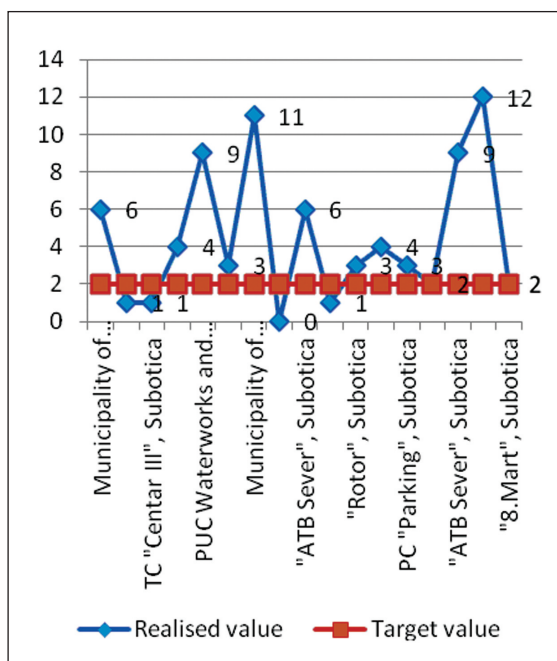


Figure 3: Time of preparing and sending offers (in days) – June 2012

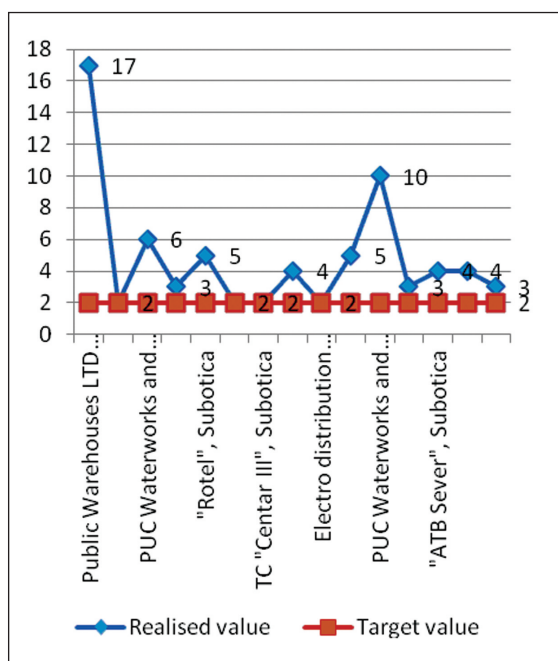


Figure 4: Time of preparing and sending offers (in days) – July 2012

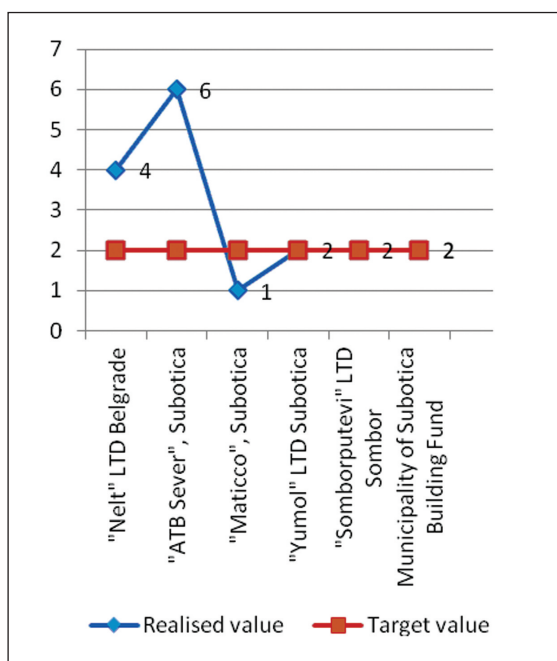


Figure 5: Time of preparing and sending offers (in days) – August 2012

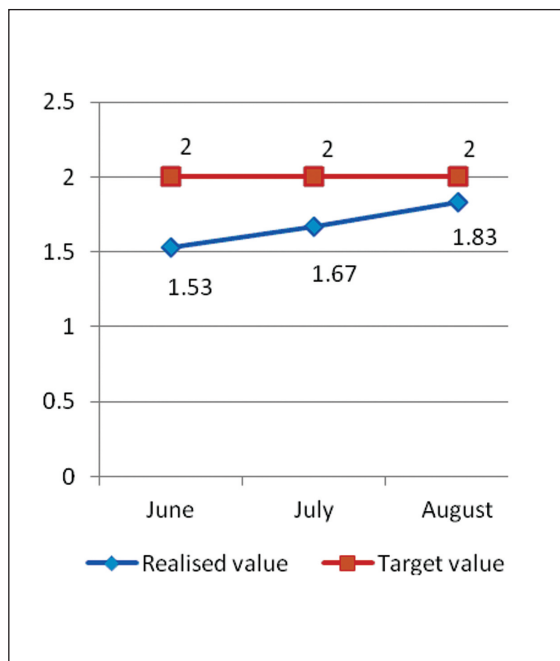


Figure 6: Average time for preparing an offer

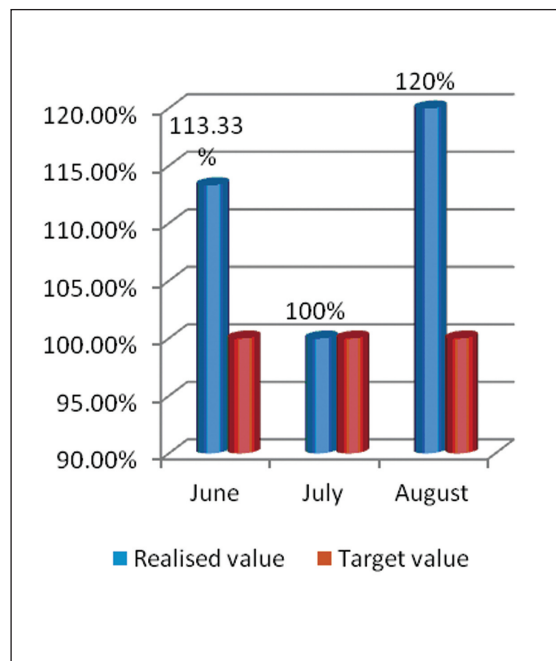


Figure 7: Percentage of prepared and sent offers (in days)

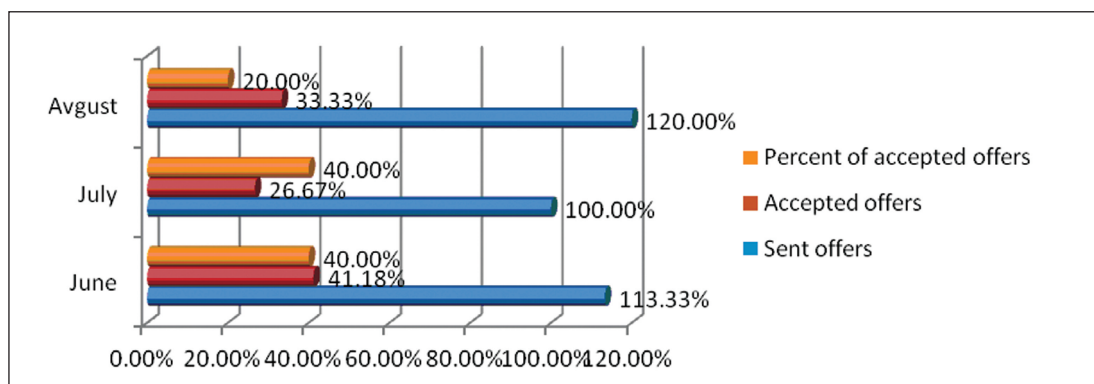


Figure 8: Percentage of sent and accepted offers

9. Measures for process performances improvement

Based on the measurements as a control tool, discrepancies are established between realised and planned values, i.e. realised and target performances, therefore it is necessary to determine their reasons and propose measures for process performance improvement. When speaking of business processes improvement, one has in mind the way business activities are being done in one company, or a rise of organizational success (Bosilj Vukšić, Hernaus, Kovačić, 2008 , p. 92). Taking into account the realised values of the process and the organization performances and the process of contracting work with the investors, it can be seen that there is some room for improvement only as regards the average time needed to complete the offer, as a measure of organization performance. It is evident that realised values are significantly above the desired ones. From the previous two days, the target should be corrected to one day, which means that the offers should be prepared in the shortest time possible, as a reply to the request of the potential investor. As possible measures for improvement, the following could be listed: to appoint the employees that are to be responsible for the completion of each offer and to conduct their training, so they could work on offer preparation faster and with

higher quality. If we look into the percentage of prepared and sent offers as a measure of organization performance, we can conclude that this specific company has entirely realised its target values, i.e. it satisfies all the received requests, therefore no improvements are possible there. As far as the percentage of accepted offers per month, this company cannot influence this measure of performance to a higher extent, because the investors decide whether to accept an offer or not. The company can, nevertheless, improve its reference list, enhance its resources, raise its employees' capabilities to a higher level and so on.

Conclusion

The company can be observed as a large network of processes. Each process can be presented as a sequence of successive activities that transform some input into output (Hammer, M., Champy, J., 2004, p. 37). For the purpose of efficient managing the organization and processes, managers must master certain tools, methods and measuring techniques. Harrington's (1991) famous sentence states that if one cannot measure something, it cannot be controlled either. And if one cannot control it, then one cannot manage it. And if one cannot manage it, then one cannot improve it either. Measuring performances has been done on the example of a construction company, and in more details measures and performances goals have been elaborated in the key process of contracting work with the investors. Measuring process performances has enabled the identification of economic resources available, an overview of key factors that influence the performances and finding the optimum way of acting. In that way, the designed system of measuring performances and control represents the basis for understanding and harmonizing trade-offs between the goals and interests of different stakeholders, being the key connection between the demands for profit in a short timeframe and the necessity of long-term investments into company's growth and development. Once designed, system of measuring performances and control should be continually changed and adjusted, alongside with the changes of managers and business environment.

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