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Petko Yangyozov**ТЕОРЕТИЧЕСКИЕ АСПЕКТЫ ПРИ ДЕФИНИРОВАНИИ БИЗНЕС ПРОЦЕССОВ,
ПРОЦЕССОВ И ДЕЯТЕЛЬНОСТЕЙ****THEORETICAL ASPECTS IN DEFINING BUSINESS PROCESSES, PROCESSES
AND ACTIVITIES**

В настоящей статье анализируются различные определения понятия бизнес–процесса, процесса и активность отзвывы. Вторичная классификация была сделана на основе различных аспектов, на которые авторы делают акцент. Критерии были получены для разграничения этих понятий и установление четких границ между ними.

Ключевые слова: деятельность, процесс, бизнес–процесс, процесс алгоритм, процесс фазы, структура процесса.

The present paper deals with the various definitions of the notions of a business process, the process and activity are reviewed and explained. A secondary classification was done on the basis of various aspects, emphasized by the authors. The criteria have been derived for differentiation of those notions and establishment of accurate borders between them.

Key words: activity, process, business process, process algorithm, business goal, event, process phase, structure, indivisible unit.

Introduction. Each organization should continuously optimize its production cycle in order to satisfy the growing demands of the market and of its contractors. This is of substantial significance in the contemporary conditions of globalization and increasing competition. The optimization consists basically of two directions. One is related to reducing the cost price of the manufactured goods and the other – to the improvement of production’s quality. All activities of the enterprise, from the inputs, through the activities and operations carried out during the progress of factors’ transformation, until the achievement of the ready product/service at the end of the production cycle are characterized as processes. Therefore, the production cycle’s optimization in an enterprise should be directed towards simplification and improvement of each process. In order to improve it, it is necessary to make a description of its structure and contents. To achieve the aim following research objectives must be performed: it must be outline the differences between the notions “activity” and “process”; it must be reveal the differences between the notions “process” and “business process”; it must be indicate the differences between the notions “activity” and “business process”. Research methods used in the study are based on a logical analysis, systemic analysis and comparative analysis.

Literature research. In the present study we have used some of the existing by now literature related to explanation of the activities, processes and business processes. Deckler, Süssenguth, Haist, McDonald, Pourtoyal and Lowenthal present the activities like the smallest, indivisible, constructive unit of a bigger unit. Hevey, Harmon, Aalst and Hee, Kueng and Kawalek, Hammer, Ould, Harrington and Page gives the explanation that they are a phase/step building the process or the business process. Deckler, Harmon, Haist, Harrington, Ould, Lowentay and Spur presents processes as an aggregate of activities and operations, which have been triggered by a given event. Hevey, Osterloh, McDonald, Page and Gaitanides place the emphasis on the presence of an algorithm. Hevey, Page, Harrington, Kueng and Kawal and Lowentha give the definition “achievement of a defined business goal”. Deckler, Harmon, Haist, Osterloh and Frost, McDonald and Gaitanides specify that the structural peculiarity of the business processes.

Aim of the article. The objective of the present paper is to analyse and summarize the various concepts of the essence of the activities, processes and business processes.

Defining Activity. The activity is a step/stage of transformation of certain inputs into a final product. During that transformation, these inputs are processed and value is added thereto. We interpret the input factors as materials, information and energy necessary to achieve a product. The

transformation of the input production factors is done through the resources of the organization. Those are buildings, machines, personnel and consumables. An important element of the production resources is the availability of “know-how”. The activities are presented usually as single working motions or operations and that depends on the selected level of examination. They could be performed one-off or repeatedly, could be of linear or nonlinear succession. That depends on the specifics of the process, to which they are constructive units. Each activity is clearly defined and organized in a way securing physically the easiest and mentally most non-overburdening, fastest performance [7, p.142]. The activities build the process and its planning starts thereof. With them, one can most clearly report and evaluate the preliminary set forth result. The activities are divided into two types: managerial and operative. The managerial ones predetermine the strategic goals of the enterprise and the decisions of the executive management related to them. The operative ones are directly related with the production cycle.

Defining Process. There are many definitions of the notion “process”. Any definition “represents it as an interaction of works (activities or operations), the result of which is a product or a service needed by the customer” [2, p.6]. The process includes all activities that lead to the achievement of a desired, determined in advance, result. According to Deming, “if we cannot describe as a process what we are doing, we probably do not know what we are doing”. The processes follow certain sequence (algorithm), which may not be disrupted. They have a beginning and an end and could be repeated over and over again. Characteristic for the process is the fact that the results of their activity have been set forth in advance. The customer of the process is filing an order, whereby he activates it. After the completion of the process, the result of its progress is evaluated and compared to the preliminary set forth parameters. In case of any difference between the expected and the obtained values, it is necessary to undertake actions for re-designing and improving of the process. The main difference between “activity” and “process” is the presence of a customer of the process. The term “customer” is understood in the broad sense of the word [2, p.7]. It can be internal or external. An internal customer is another production unit within one production entity. It files orders for a certain number of products and thereby it activates a process in the preceding unit. The external customer of the process is available, where the initiator of starting the process is external for the enterprise. Those are suppliers, direct customers or other counteragents, as well as the market itself. The external customers evaluate the process after having received the ready product or service. This is done by comparing the preliminary agreed values (quality, quantity, value, etc.) with the actually achieved ones. The performance of the evaluation on the part of the external customers gives grounds for the presentation of the multifunctional processes as business processes.

Defining Business Process. Where one process is running within a business organization or its existence is helping the achievement of the enterprise’s business objective, it is characterized as a business process. Each business process represents a logical sequence of working operations performed by the employees at their work stations. Those operations transform the input production factors into a product by processing them and adding value thereto. The process, as well as the business process, has a customer. He is evaluating the qualities of the result derived from the business process. The result could be a product, service, knowledge or intellectual property. Business processes are divided into: managerial – managing the other processes in the organization; operating – related to the main activity and creating the organization’s material flow; supporting, which are related to the activities assisting the production process. An important peculiarity is that the result of the business processes is directed towards the performance of the company strategy. They carry “specificity of each organization”. Those are processes, which are leading for achievement of the market position, as well as for obtaining competitive advantage of the enterprise.

Aspects in defining. There is a multitude of definitions for the business processes’ essence, as well as for the differences between “activity”, “process” and “business process”. Each researcher is stressing on different aspect upon their differentiation.

Aspects in defining activity. The notion “activity” is characterized by two aspects of examination. On the one hand, it is the understanding that the activity is the smallest, indivisible, constructive unit of a bigger unit. On the other hand – the activity is presented as a phase/step building the process or the business process. Depending on the aggregation degree, it could carry out the further detail degree of each phase/step and it to be described as a sub-process or activity. Deckler [3, p.5] is presenting the activities as an aggregate of operations in one organization. According to Süssenguth [22, p.18], they are a set of functions for the achievement of a defined objective. Haist [9, p.92] is

adding that they could be exactly measured. Researches [16, p.4; 20, p.22] supplement the definition by the fact that the physical and the informational activities (operations) are interrelated. Lowenthal [15, p.1] is dividing them into two types: managerial and operative. The activities are the phases, the smallest part of a bigger entity (process), according to Hevey [13, p.4], Harmon [11, p.20], Aalst and Hee [1, p.15], Kueng and Kawalek [14, p.20] and Hammer [10, p.34]. Ould [18, p.6], Harrington [12, p.31] and Page [19, p.5] add that they build and form the process. The activities are an aggregate of actions for the achievement of a defined objective. All definitions present the activities as the smallest parts of a bigger entity (Table 1).

Table 1

	Defining Activity	
	indivisible unit	step/phase
Deckler [3, p.5]		All operations from input to output of the production.
Hevey [13, p.4]		A step (phase) in a process.
Harmon [11, p.20]	The smallest part of a bigger unit.	
Haist [9, p.93]	Measurable input factors (input materials) and measurable output factors (production obtained) with measurable value increase determine the notion activity.	
Hammer and Champy [10, p.34]	The constructive elements of the processes are defined as activities.	
Page [19, p.5]	The compound activities of the process.	
Harrington [12, p.31]		The activities are the things that happen within a process. As prompted by the name, they are the actions necessary to achieve given result.
Spur [21, p.27]		
Portougal and Sundaram [20, p.22]	Interrelated working tasks.	
Osterloh and Frost [17, p.87]		
Gaitanides [8, p.1687]		
Ould [18, p.6]		The compound parts including in a process and building it.
McDonald [16, p.4]	All physical and informational activities turning the input elements into output product.	
Lowenthal [15, p.1]		Two types of activities: managerial and operating.
Kueng and Kawalek [14, p.20]		Steps in the process, which create value for a customer.
Aalst and Hee [1, p.15]	Activity is performance of a task by a resource.	
Sussenguth [22, p.19]		An activity represents a set of functions for the achievement of defined result through resources.

Aspects in defining Process. The analysis of the definitions of the notion “process” reveal also two aspects, onto which the authors place the emphasis. The first is presenting the processes as an aggregate of activities and operations, which have been triggered by a given event. their objective is the achievement of a defined final result [3, p.5; 11, p.20; 9, p. 93; 12, p.31; 18, p.6; 15, p.1; 22, p.19]. By contrast with them, Hevey [13, p.4], Osterloh [17, p. 87] and McDonald [16, p.4] place the emphasis on the presence of an algorithm, through which the final result is achieved. Page [19, p.5] and Gaitanides [8, p.1687] unite both characteristics of the process in one definition (Table 2).

Hammer and Champy [10, p.34], Spur [21, p.27], Portougal and Sundaram [20, p.22], Aalst and Hee [1, p.16], Ould [18, p.6] and Süssenguth [22, p.19] identify the notion “process” with the notion “business process” by deducing one and the same definition (Table 3).

Table 2

	Process	
	event	algorithm
Deckler [3, p.5]	Series of actions or operations leading to a final result.	
Hevey [13, p.4]		The basic algorithm or behaviour of activities in one unit.
Harmon [11, p.20]	All smaller units work together to achieve a defined goal and the outcome, which will achieve.	
Haist [9, p.93]	The interaction of persons, machines, materials and methods, which is directed towards the achievement of defined services or defined final product.	
Hammer and Champy [10, p.34]	The production process is defined as a set of activities, which needs one or more input factors in order to achieve a valuable product for the customer.	
Page [19, p.5]	Following a series of actions or steps for the achievement of result. Everything is process.	
Harrington [12, p.31]	Any activity or group of activities, which accept inputs, add value thereto and turn them into an output product for external or internal customers.	
Spur [21, p.27]	A business process is a transformation of natural resources through purposeful organization of creative thinking.	
Portugal and Sundaram [20, p.22]	An aggregate of interrelated working tasks, initiated and driven by an event, through which a defined result for the customer is achieved.	
Osterloh and Frost [17, p.87]	A process is depicting the chronological order, stages and transformation of materials, information, operations and solutions.	
Gaitanides [8, p.1687]	Processes are sequences of activities, which are in logical internal relation and lead to a result – product, which is demanded by a customer (process).	
Ould [18, p.6]	Harmonized set of activities performed by cooperating groups for the achievement of a defined objective.	
McDonald [16, p.4]		Repeated action consisting of three components: input elements, activities and output elements.
Lowenthal [15, p.1]	Structured and defined set of activities designated for production of specific products for a given customer or market.	
Aalst and Hee [1, p.15]	A process consists of a number of tasks that need to be carried out and a set of conditions that determine the order of the tasks.	
Sussenguth [22, p.19]	(Business) process is defined by the common task and the interaction of the production factors for the performance of such task.	

Aspects in defining Business Process. The definitions of a business process could also be grouped. According to Hevey [13, p.4], Page [19, p.5], Harrington [12, p.32], Kueng and Kawalek [14, p.20] and Lowenthal [15, p.1], the achievement of a defined business goal is leading for the definition of a process as a business process. Deckler [3, p.5], Harmon [11, p.21], Haist [9, p.94], Osterloh and Frost [17, p.87] and McDonald [16, p.4] specify that the structural peculiarity of the business processes and the unification of all activities and resources in a logical sequence are leading for the business processes. Gaitanides [8, p.1688] adds that they are the ones that express the specifics of an enterprise.

Research findings. The following conclusions can be drawn from the conducted research of specialized literary sources:

– the structure of the process depends on the selected degree of detail of presentation. In case of bigger degree of detail (smaller aggregation degree), the process is reviewed as an interaction of several sub-processes. Each of them could be described again as a sub-process upon further degree of detail. This will continue until reaching a level, where the simplification becomes impossible. With this approach the activities are presented as steps/phases of the process, which could be additionally fragmented. The bigger degree of detail, the lower aggregation degree and the higher the complexity

of the examination is [6, p.108]. With analysis of low degree of detail, the process is presented as an aggregate of constructive activities. Therefore, universal criteria for differentiation of activity and process cannot be identified. That depends on the selected level of examination and aggregation degree (Figure 1.).

Table 3

Defining Business Process

	Business Process	
	goal	structure
Deckler [3, p.5]		All processes in a business organization.
Hevey [13, p.4]	Activity or behavior which leads to the achievement of predetermined business goal.	
Harmon [11, p.21]		All processes from the production inputs, the production (processing) itself till obtaining the final product.
Haist [9, p.94]		A business process is passing through all organizational units (departments, fields) of a company.
Hammer and Champy [10, p.34]	The production process is defined as a set of activities, which needs one or more input factors in order to achieve a valuable product for the customer.	
Page [19, p.5]	A sequence of processes in business leading to or seeking after a defined business objective.	
Harrington [12, p.31]	Business processes consist of a group of logically related tasks, which use the resources of the organization for securing defined results for the achievement of the organizational objectives.	
Spur [21, p.27]	A business process is a transformation of natural resources through purposeful organization of creative thinking.	
Portougal and Sundaram [20, p.22]	An aggregate of interrelated working tasks, initiated and driven by an event, through which a defined result for the customer is achieved.	
Osterloh and Frost [17, p.87]		Business processes are characterized through uniting in a structured sequence of multifunctional activities with a beginning and an end, as well as clearly specified input and output elements.
Gaitanides [8, p.1688]		The competent profile of the enterprise is expressed through the business processes.
Ould [18, p.6]	Harmonized set of activities performed by cooperating groups for the achievement of a defined objective.	
McDonald [16, p.4]		Activities, which include input elements (knowledge, raw materials) in products or services, which create consumer value.
Lowenthal [15, p.1]	Set of logically related tasks for the achievement of a preliminary defined business objective.	
Kueng and Kawalek [14, p.20]	Set of partially arranged activities for the achievement of defined objective.	
Aalst and Hee [1, p.16]	A process consists of a number of tasks that need to be carried out and a set of conditions that determine the order of the tasks.	
Sussenguth [22, p.19]	(Business) process is defined by the common task and the interaction of the production factors for the performance of such task.	

– the main difference between the processes and the activities is the availability of an informational signal, which triggers them. A characteristic feature of the processes is that they are triggered by an occurring event in the form of customer's order from internal or external customer. The transmission of the order forms an information flow and triggers the process. The presence of an

event and an information flow is a condition for the differentiation of a process. An event is not needed in order to start the activities. The sequence of their performance and the movement of the material and information flow are according a defined algorithm. It is different for each process and each organization.

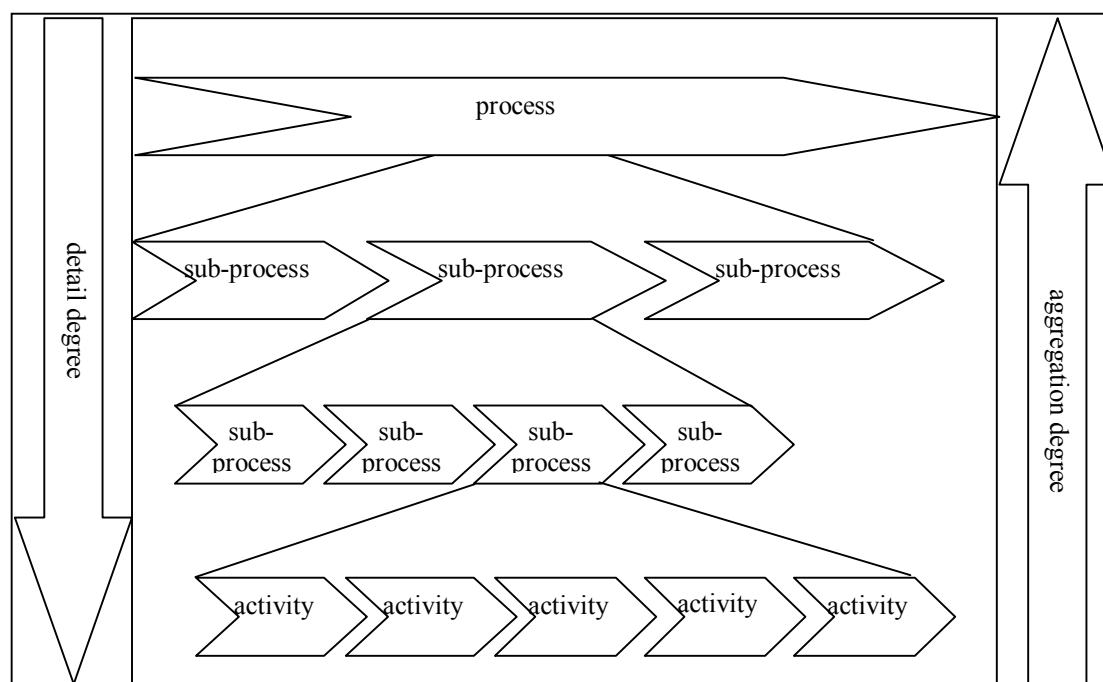


Figure 1. Degree of detail of process

– the business process may be presented as a process crossing the enterprise's borders [4, p.15]. It consists of interrelated processes within the organization. Each process has a supplier and a customer. They can be external and internal. The practice shows the following possible connections: external supplier – internal customer; internal supplier – internal customer; internal supplier – external customer. The business process customers pay certain price for the result they obtain. It “generates incomes” for the organization and helps the achievement of its strategic objectives. The internal customers and suppliers are all processes in the organization. The intersection point between the business process and the external customers and suppliers is located on the border of the organization to the environment. The interaction points between the individual processes are localized only within the organization [6, p. 109].

– the interaction between the individual processes and the material and information flow movement within the business process depends on the combination of the principles of coordinating and starting the process of performance of the order. They are based on the concepts of “pull and push” and “speculation and postponement” used in the logistics chains [5, p.98].

– big part of the examined authors identify the notion “process” with the notion “business process”.

Conclusion. In the present research of literary sources on the problems of the business processes, we found out differences, onto which the authors place the emphasis in defining the notions “activity”, “process” and “business process”.

We have grouped the various aspects in two directions for each notion. We derived common criteria for the differentiation of the activities, processes and business processes in each organization. The criteria established by us lead to their more accurate demarcation and identification of the borders between them. Detailed knowledge of the essence and the differences between activities, processes and business processes is of substantial significance in order to undertake measures for redesigning and bettering of the existing ones or designing new processes.

Accounting for the differences between the notions is substantial for the selection of accurate activities for redesigning and improvement of the business processes. Improvement of the activities, processes and business processes results in increased efficiency and effectiveness of each organization.

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