

Analysis of Basic Terms and Attributes of Process Management

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Abstract:

The theoretical foundations of process management are currently ambivalent and continue developing, which has led to the emergence of a large number of interpretations of the essence of the process approach, many definitions of the concept of "business process" and other concepts of process management, classifications of business processes, opinions about the structural elements of business processes and approaches to their allocation, as well as process management methodologies. All this complicates the study of process issues, slows down the development of process control theory, and leads to certain difficulties in implementing process control in practice. This article discusses the existing definitions of the concept of "business process", the main features of process management, and the structure of business processes. The analysis identified the shortcomings of the existing definitions of the concept of "business process" and made it possible to propose an author's definition that takes into account three most important features: the maximum orientation of all structural elements of business processes to meet market needs; an agile business process management structure when changing customer requirements leads to changing requirements for input products throughout the enterprise's business process network; and higher efficiency compared to organizational management. The author's definition is as follows: a business process is a set of interrelated market-oriented and adaptively-driven structured activities that transform input resources (material, labor, information) into a marketable product in the most efficient way using certain technologies.

Keywords: concept, business process, process structure, analysis.

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I. Introduction

The theoretical foundations of process management have been developing since the middle of the XX century, however, the conceptual apparatus of this area of science is still ambivalent. This is due to the presence of several dominant business process modeling notations (BPMN, ARIS, IDEF, UML); dozens of basic process management methodologies

(Lean Manufacturing, Six Sigma, Lean Manufacturing + Six Sigma, Rummler-Branch, Hammer, SCOR, BPTrends Associates, CMMI; software-laid methodologies); the selection by researchers of a multitude of optimization methods for individual business processes; different understanding of the essence of the process approach to management, the structure of the business process and its main attributes.

II. Main part

Rubtsov S.V., Amirkhanov K.G., Levochkina G.A., Kalianov G.N., Vasiliev R.B., Udalov F.E., Kuznetsov V.P., Garina E.P., Smoliakova N.V. have already listed in their publications the definitions of the concept of "business process" (Rubtsov, 2001; Amirkhanov, 2005; Levochkina et al., 2009; Loginov, 2009; Udalov et al., 2011). Some of the definitions below come from these publications:

➤ A set of different types of activities, which use one or more types of resources "at the input", and create a product "output" that is valuable for the consumer (Hammer M., Champi D.) (Rubtsov, 2001; Levochkina et al., 2009; Smolyakova, 2014; Makhmutov et al., 2016).

➤ A set of logically interconnected actions performed to achieve a certain output of business activity (Davenport T., Short J.) (Rubtsov, 2001).

➤ A structured finite set of activities designed to produce a specific service (product) for a particular consumer or market (Davenport T.) (Rubtsov, 2001; Levochkina et al., 2009; Davenport, 2001).

➤ A specifically ordered set of works, and tasks in time and space, indicating the beginning and end, the exact definition of inputs and outputs (Davenport T.) (Rubtsov, 2001; Levochkina et al., 2009; Smolyakova, 2014; Davenport, 2001).

➤ A structured, measurable set of actions created to produce a specific output for a specific client or market (Davenport T.) (Rubtsov, 2001; Levochkina et al., 2009; Davenport, 2001).

➤ An essence defined through input and output points, interfaces and organizational devices, partially including devices of a consumer of services/goods, in which there is an increase in the cost of the service/product (Porter M., Millar V.) (Rubtsov, 2001).

➤ Many internal steps (types) of activity, starting with one or more inputs and ending with the creation of products necessary for the client and satisfying them in terms of cost, durability, service, and quality (Oikhman E.G., Popov E.V.) (Rubtsov, 2001; Levochkina et al., 2009; Smolyakova, 2014).

➤ Logical series of interdependent actions that use the resources of an enterprise to create or obtain, in the foreseeable or measurably predictable future, a customer-friendly output, such as a product or service (Zinder E.Z.) (Rubtsov, 2001; Levochkina et al., 2009).

➤ A horizontal hierarchy of internal and interdependent functional actions, the ultimate goal of which is the production of products or its individual components (G. Vernikov) (Rubtsov, 2001; Levochkina et al., 2009).

➤ Any activities in the organization (Deming W.) (Rubtsov, 2001).

➤ Operations to change the state of intangible assets, tangible assets, and financial flows (Deming W.) (Deming, 1995; Amirkhanov, 2005).

➤ Systematic sequential execution of functional operations that bring a specific result (TeleManagement) (Rubtsov, 2001).

➤ A set of interconnected resources and activities that transforms input elements into output ones (Gosstandart, 1997) (Rubtsov, 2001).

➤ A stable, targeted set of interrelated activities that, according to a certain technology, converts inputs into outputs valuable for the consumer (standard ISO 9000:2000) (Rubtsov, 2001; Levochkina et al., 2009).

➤ A series of interrelated types of activity transforming inputs into outputs (ISO/IEC, 2001) (Rubtsov, 2001).

➤ An action that turns the input of a system object into an output (Iu. Nikanorov) (Rubtsov, 2001).

➤ Hierarchy of internal and interdependent functional actions, the ultimate goal of which is

the production of products or its individual components (Telnov Iu.F.) (Telnov, 2005; Amirkhanov, 2005).

➤ A set of interrelated activities for the manufacture of finished products or the implementation of services based on resource consumption (T. Rodkina) (Rodkin, 2001; Amirkhanov, 2005).

➤ A set of interrelated business procedures (activities) that consume resources and as a result of which a certain group of products is produced (industrial products, constructed facility, information products, management decision), goods and services valuable to the consumer (Mazur I.I.) (Mazur & Shapiro, 2001; Amirkhanov, 2005).

➤ A structured sequence of actions to carry out a certain type of activity at all stages of the life cycle of the subject of activity - from creating a conceptual idea through design to implementation and result (Mazur I.I.) (Mazur & Shapiro, 2001; Amirkhanov, 2005).

➤ The flow of work, passing from one person to another, and for large processes - from one department to another (Robson M., Wallach F.) (Robson & Wallach, 1997; Amirkhanov, 2005).

➤ A related set of repetitive actions (functions) that transform the source material and information into the final product (service) in accordance with pre-established rules (Sheer A.V.) (Scheer, 1999; Amirkhanov, 2005).

➤ The processes carried out at the enterprise that can be identified throughout the value chain, aimed directly at achieving success in the market and characterized by measurable input information, value creation, and measurable output information (Girkhake M.) (Levochkina et al., 2009).

➤ A related set of functions that implies consumption of certain resources and creation of a product (a tangible or intangible result of human labor: subject, service, scientific discovery, idea) valuable for the consumer

(Kalashian A.N., Kallianov G.N.) (Levochkina et al., 2009; Smolyakova, 2014).

➤ The purposeful, stable, structured, regulated sequence of actions that transform resources into results demanded by the consumer (Amirkhanov K.G.) (Amirkhanov, 2005).

➤ Hierarchy of functional actions, including planning and management processes, resource processes, processes of transformation of structure, technologies (Maimina E.V.) (Maimina, 2009; Udalov et al., 2011).

➤ A set of interconnected technological transitions limited in space and combined with the aim of obtaining a finished product (Udianova O.B.) (Udyanova, 2009; Udalov et al., 2011).

➤ Change of the process object by transforming material and information flows, carried out by the functional entities of the process using a certain technology with the ultimate goal of creating new consumer value or bringing consumer value to the consumer (Loginov K.V.) (Loginov, 2009; Udalov et al., 2011).

➤ A stable targeted set of interrelated activities that, according to a certain technology, converts inputs into outputs valuable for the consumer (Eliferov V.G., Repin V.V.) (Smolyakova, 2014; Eliferov & Repin, 2012).

We shall consider the main features of a business process in these definitions:

1. A set of activities (work, functions, activities, operations, actions, business procedures).
2. Conversion of input resources and information into some output product (goods, finished products, services, specific results).
3. Transformation technology, which is a certain purposeful sequence of interdependent functions (actions) performed and providing a predictable, standardized result.
4. The output product (result) is valuable for the consumer (consumer value; the result demanded by the consumer) and satisfies it in terms of cost, quality, and service.

Let us consider in more detail these basic features of process control:

The set of activities.

If we consider the company in the context of process management, then it will be a combination of interconnected business processes. The input resources to this network of business processes will be all the material, technical, labor resources and information received by the enterprise.

The existing classifications of business processes and signs of their outstanding from the totality of functions (actions) performed at the enterprise are the most interesting.

Repin V.V. and Elifero V.G., Becker J., Vilkov L., Taratukhin V., Kugeler M., Rozemann M., as well as specialists of the NTNU/SINTEF subdivide all business processes into main and auxiliary according to the “added value obtained”. Repin V.V. and Elifero V.G. note that the main business processes, as a rule, include the processes of production, marketing, and procurement. At the same time, a reservation is made that, strictly speaking, the main business processes should include all processes that add value (marketing, procurement, production, storage, supply and maintenance of products). Supporting business processes, in their opinion, do not directly add value but increase the cost of the product (service, information): personnel management, documentation management, equipment maintenance, budget management, administrative and economic activities, etc (Björn, 2003; Becker et al., 2008; Borovkov, 2007).

However, such a grouping is difficult to implement in practice, as V.V. Repin and Elifero V.G. [8, 8] noted, emphasizing the conventions of dividing business processes into main and auxiliary. This circumstance is due to the following reasons: firstly, the concept of “consumer value” is subjective, and secondly,

the composition of the processes in the organization depends on its specifics, therefore, the organization itself must decide which business processes should be allocated for its normal functioning (Repin&Elifero, 2008). The authors of (Becker et al., 2008), note that a clear separation of business processes based on this criterion is complicated by the fact that “in different contexts and for different enterprises, the same process can be both main and auxiliary”.

“Converting input resources and information into some output product” and “Transformation technology, which is a certain purposeful sequence of interdependent functions (actions) performed and providing a predictable, standardized result”.

The resources, energy, and information specified in clause 1 participate in the performance of business processes as an object of influence, providing process components or control elements. Material objects of influence, moving along the technological chain from one business process to another, are modified according to certain technologies, while obtaining consumer value.

The output product (result) is valuable for the consumer.

This point does not cause disagreement and discrepancy among researchers and practitioners of the process approach to management. In a market economy, enterprises are forced to focus on solvent demand and the needs of consumers with a view to their maximum satisfaction.

III. Methods

The study applied the following methods:

1. A selective analysis of specialized literature with a high citation index for the topics indicated in the title of the article. In particular, information was collected on the definitions of

the concept of "business process", its structural elements, and attributes.

2. The generated array of information was systematized for the purpose of further analysis. In particular, on the basis of the analysis, the author's definition of the term "business process" is proposed.

3. The authors interpreted the results of the study and made conclusions.

IV. Results And Discussion

In our opinion, the above-mentioned and considered signs of business processes do not fully reflect the differences between process management and organizational management because they are also inherent in organizational management:

1. Almost identical functions are performed at the enterprise both before and after the implementation of process management.
2. In organizational management, the enterprise also converts input resources into marketable products and services to meet market needs.
3. Organizational management also uses technology to transform resources into products and services.
4. The product produced by the enterprise must meet the requirements of the market in both organizational and process management.
5. The management structure in the organizational approach is also hierarchical (for example, department – division – office – workplace).

Summary

Subject to the foregoing, in our opinion, in order to more fully reflect the essence of process management, the existing definitions should be supplemented with the following features:

1. The maximum orientation of all structural elements of business processes to meet the market needs.

2. An adaptive business process management structure when changing customer requirements leads to changing requirements for input products throughout the enterprise's business process network.

3. Higher efficiency compared to organizational management.

Based on the above comments, we offer the following author's definition of the concept of "business process":

A business process is a set of interrelated market-oriented and adaptively-driven structured activities that transform input resources (material, labor, information) into a marketable product in the most efficient way using certain technologies.

V. Conclusions

1. There is plenty of definitions of the concept of "business process".
2. The analysis of the existing definitions identified the following main features of the business process: a) a set of activities; b) the conversion of input resources and information into some output product; c) the transformation technology, which is a certain purposeful sequence of interdependent functions (actions) performed and giving a predictable, standardized result; d) the output product (result) is valuable for the consumer, and satisfies it in terms of cost, quality, and service; e) hierarchical structure of business processes.
3. The above signs, in our opinion, do not fully reflect the essence of the process approach. For this reason, the definition of "business process" should be supplemented in accordance with the above characteristics.

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