

COMPLEX AUTOMATION OF ENTERPRISE BUSINESS PROCESSES

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Abstract

Process automation approach is changing during the last years. The task of traditional process automation systems suppose the business processes modeling of an enterprise. Currently, the required systems must provide direct execution of business processes in the computer environment medium in real time. Such systems development and implementation became problematic, traditional theory does not give solutions to the process approach. This article represents the concept and examples of so kind of solutions.

Key words: automation, business processes

JEL CLASSIFICATION: C61, C63

Business process management systems and administrative regulations (later BPMS) generates tasks for executors and control their execution. These allows to exclude routine operations from employee's actions, inefficient procedures, related to the search and delivery of information, significantly increase the speed of interaction between employees. Using BPMS employees can execute the tasks they have received, without distracting themselves from receiving information from other employees related for the current task, transferring the results of their work to other employees, studying job descriptions. All the necessary information appears in front of the employee on the computer screen.

BPMS approach allows a quick rebuild of business processes and administrative regulations of the organization. In many cases, task executors cannot be informed about the change in the business process, since this will not affect the nature of their work. This way it makes it easier and faster to change the execution of processes. Thus, the enterprise can respond more effectively to changes in internal or external conditions.

The concept of the solution is based on building a tool that includes a comprehensive model of business processes, on the bases we build a management tool that is consisting of:

- Chains of information flow, documents, finance, commodities and materials, etc.
- Regulations and instructions for the implementation of processes.
- Check points.
- Applied accounting and analytical information systems.
- Technological equipment and tools.

Schematically, the concept of the solution is presented in Fig.1

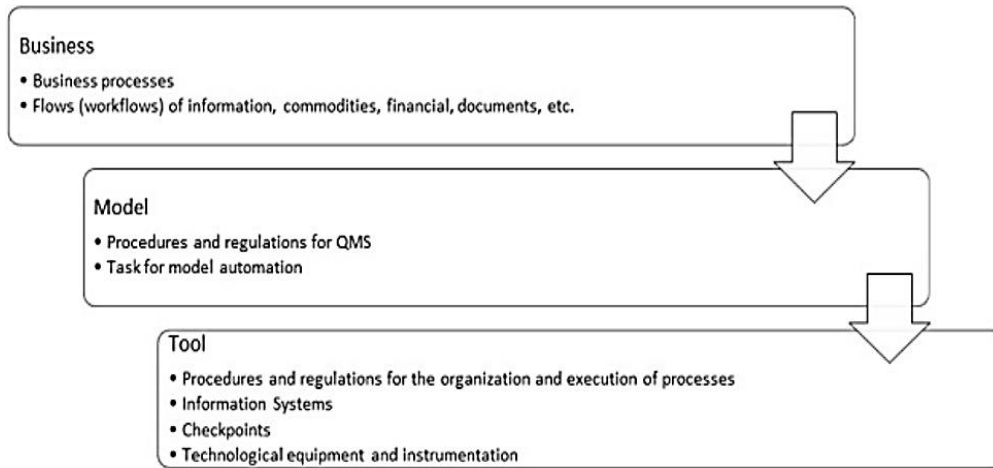


Figure 1. The concept of the suggested solution.

Source: elaborated by author

Management of business processes is built on the following principle (Figure 2):

1. All the rules for the execution of processes and the information flows that serve them are regulated and controlled on the **business process management level**. At this level, functions initiation takes place, and implementation information is collected. The system automatically monitors the execution of business rules and does not allow the transition to the next steps until the execution of the previous ones are done. The actual execution of the functions descends to the next, applied level.
2. The **application layer** provides the execution of a specific function in the business process. For example, accounting transaction, task generation for shipping goods or working hours' time tracking, etc. The execution of the function at this level returns the result to the level of business process management.
3. If in the business-process exists a technological process (for example, automatic packing line, dispenser, truck scales etc.), then the work assignments are descended from the application level in the form of a plan, or routine task to the **automated control systems (ACS)**, and then returns as systems state or as operational result.

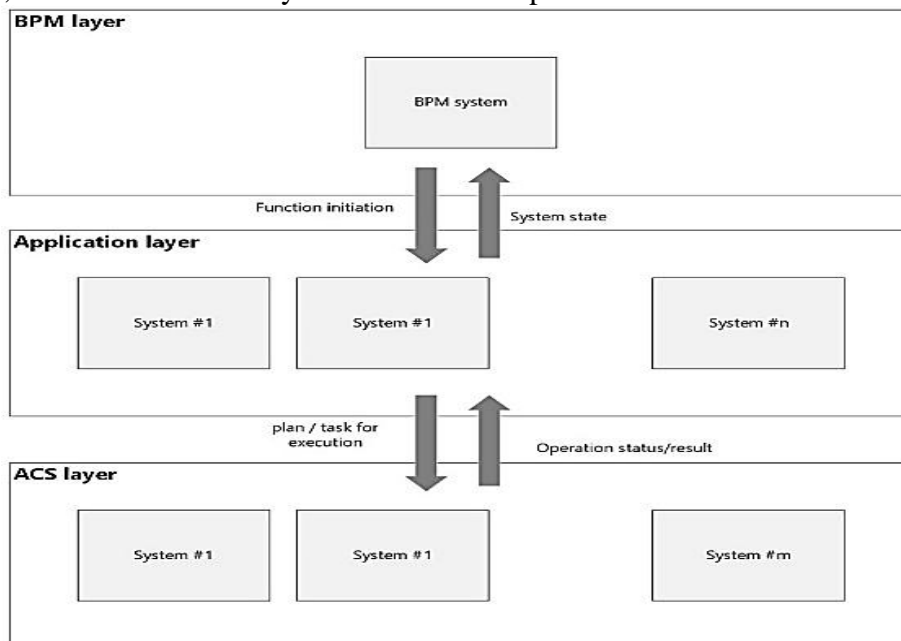


Figure 2. Information flows

Source: elaborated by author

CONCLUSION

The difficulties in implementing such an approach are that at the levels of business process management the automated management model must be processed very detailed, which in turn requires the involvement of highly qualified specialists. The model should include and consider the movement of commodity-material values, transport, packaging, documents, money, information, the operation of instruments and tools, the activity of performers at each site, *necessary and sufficient conditions for guaranteed process flow*, control points and control values. In other words, it is necessary to describe the entire system fully with all objects, the external environment and the subjects of management, and all communications in such a way that, by going through the checkpoint everything, and the inventory and documents, and information about it meant the same thing. As soon as the streams of objects move will be unsynchronized - this automatically means the opportunity to change the course of the process from the established order, which in turn can lead to errors in accounting, as well as abuse and corruption schemes.

The advantage of introducing such systems in the enterprise is the *guaranteed* performance of all regulated actions, the receipt of data in accounting and analytical systems in *real time*, and the guaranteed exclusion of the notorious «*human factor*».

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