The Process-based View of a Company -

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Key Assumptions and Concepts

Activities and Resources. Contemporary companies are incredibly complex entities. They are very difficult to manage and to change when you need to improve their performance. To do that, one has to comprehend as much as possible what is going on inside them. Unfortunately, there is no single point of view (and probably cannot be) that captures organizational life and behavior in all its complexity. However, there should be a view that captures at least the most important elements, and neither the Activity-based View (ABV) nor the Resource-based view (RBV) has that virtue.

Each perspective has its own merits; each also has its limitations. Activities cannot be fully separated from the resources required for their execution, except for highly abstract dependency and interaction considerations. Without resources, activities obviously cannot be performed, and the way they are performed is shaped by resources. On the other hand, some resources can happily exist independently of their being used, but without use, they are worthless. Even valuable and rare resources can be underutilized or applied improperly, leading to their deterioration and waste.

Therefore, it looks like the truth lies in between, as it always does. A careful look reveals that each of the two views addresses conceptually only a part of the most crucial business performance success factors. In real life, however, leaders do something better or different, because they have something others do not have. What they do is enabled by what they have. Some say both views are complementary or that each one can be extended to include some concepts of its competition. Nevertheless, we posit that it is better to integrate them partially to form a Process-Based View as their intersection, or common ground.

Process-Based View. From a Process-Based View, the company is neither a collection of activities nor a bundle of resources. It is both at the same time, perceived as a system of processes and activities, enabled by resources and capabilities. In brief, the Process-Based View (PBV) rests on the following key concepts:

- Processes are composed of structured, coordinated activities
- An activity is performed by one or more people
- An activity is composed of tasks, elementary units of work
- A task is performed by one person, software transaction or functional module
- Resident resources provide an execution platform for processes and activities
- Process and activity execution is driven by capabilities

The keyword within PBV is coordination. The need to coordinate activities is the result of interdependencies, i.e., links between them. One activity is linked explicitly to another if it is connected to it via input or output flows – physical and/or informational. For example, an activity Receive Product performed by the Customer is linked explicitly and directly to a Ship Product activity via shipped product flow and shipment documentation. It is also explicitly and indirectly linked to activity Load Product and Generate Shipping Documents, which precedes product shipment on the execution path.
On the other hand, however, some activities cannot be coordinated, yet still have an impact on other ones. While processes are composed of activities with explicit links, not all activities can be conveniently aggregated within processes. Some of them are performed parallel to execution of processes and are not coordinated. Therefore, sets of coordinated activities are surrounded by parallel ones. One can say a process is like a shark surrounded by its pilot fish. That does not mean, however, that autonomous activities can be treated as fully stand-alone, as we shall see later. That would be a grave mistake.

![Diagram of a core process](image)

**Figure 1** Generic Input/Output elements of a core process

**Anatomy of a Sample Process.** The basic principles of PBV are illustrated on the diagram above, with elements of a process that begins and ends in the environment. Let us elaborate on them using a simplified customer service process, composed of activities such as

- Perform after sales installation
- Receive Customer inquiries
- Route Customer inquiries
- Respond to Customer inquiries
- Register Customer complaints
- Route Customer complaints
- Resolve Customer complaints
- Perform product repairs

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To perform those activities, resident resources of various categories are required. First of all, tangible resources, such as office furniture, diagnostic and repair equipment, telephones, network, computers, application software, and many other physical items are needed to provide work infrastructure for customer service personnel. Data on customers, complaints, repair service tickets, and products, as such, is stored within databases.

Employees perform their tasks guided by policies procedure manuals, and product manuals as well. In the first place, however, to install products, answer inquiries, and perform repairs, employees apply specialized and valuable know-how kept in their heads and gained through training, personal experience, and tutoring. They also use general skills to that end, such as communication and problem-solving. The way they interact with customers depends to a great extent on an organizational culture and motivation system too. In general, operational capability to perform customer service is derived from the human and organizational resources involved in process execution. Those resources are also updated during the process, for example, thanks to the resolution of new problems or new ways of solving the old ones.

Information is provided primarily by customers, while the vendors provide consumable resources as well. Spare parts are needed for repairs. Electricity is needed to power computers and other equipment, while coffee is needed as a mandatory fuel for humans. All those inputs, thanks to the combined efforts of customer service personnel and equipment, result in installed or repaired products, as well as increased customer knowledge. Finally, the reputation of the company is either enhanced or damaged, depending on the cumulative results of customer service.

PBV Details

End-to-end. Processes that begin with an input from, and end with, an output to the company’s environment are called end-to-end processes. Such long-running and comprehensive processes, like Order-to-Cash, are of a cross-organizational nature and have the highest impact on the company’s performance.

To illustrate this concept, let’s take a closer look at the Order-to-Cash process, probably the most comprehensive among end-to-end ones. It begins with the acceptance of a purchase order received from the customer and ends with the delivery of goods, followed by a payment. Departments, jobs, and application systems required to perform all of the activities would be different in each company. Nevertheless, the process structure would be similar at any company that fulfills orders from inventory. The following elements of the process are carved out of a generic activity pool for such a company:

- Accept and validate sales order
- Determine stock availability
- Determine logistics and transportation
- Enter order into system
- Pick, pack, and ship product for delivery
- Plan, transport, and deliver outbound product
- Generate Customer billing data
- Transmit billing data to Customer
- Receive/Deposit Customer payment

The sample process zigzags across activity categories and, in any company, would run across several functional units. Its constituent activities are sequenced up to product shipment; later on, financial activities enter their own path.

In the example above, activities such as Collect and Maintain Customer Information, Handle Order Inquiries, or Resolve Customer Billing Inquiries are performed parallel to the sample process. They can happen at any time and are not sequentially coordinated with activities.
combined within the process. Nevertheless, in an indirect way, they affect its performance and, ultimately, the company’s business results, due to implicit relationships between activities. In this case, a relationship is based on a common resource – that is, customer order and invoice data stored in a database. There are also many generic managerial activities, like **Handle Process Exceptions** or **Resolve Process Problems**, which can happen at any point in time on demand.

**Routine processes.** By definition, every process has an internal structure in terms of relationships between activities. However, there may be a great difference, depending on whether this structure and other attributes can be prescribed in advance or can be described after process execution. For a routine process, it is known in advance why and when it is invoked, who participates in its execution, and how it will be performed. For a so-called emergent process, in an extreme case nothing may be known beforehand, except for its generic name. Everything else is known ex-post facto, after completion of process instance, when it is possible to look back at what was achieved and how. To put it slightly differently, routine processes can be prescribed before and described after their execution, whereas emergent processes can only be described ex-post facto.

Routine processes are repeatable, with identical or very similar activity contents and structures, as well as predefined participants and results. Decomposition into activities is known a priori; each activity also has its predefined result. Explicit links exist between all activities within routine processes, since, precisely because of them, activities have to be coordinated and aggregated into processes. The processes below, in addition to Order-to-Stock, can be definitively described in that way:

- Forecast-to-Stock
- Procure-to-Pay
- Perform General Financial Accounting
- Process Employee Payroll

Execution of a routine process is driven by its predefined end-result and guided by its pattern that prescribes what actually needs to be done to achieve it. This distinction between a pattern that guides execution and the actual execution of process instance is very important and useful. The pattern is used as a template, a prescription to enable and facilitate recurrence of activities, as well as interactions between multiple participants. Patterns of routine processes remain generally stable over a reasonable period of time, but evolve in the long run, as a result of the impact of many factors. For various reasons, execution of a routine process may also differ from its prescription.

The templates to guide the routine processes can exist solely as knowledge in human memory. In most cases, however, they are at least partially codified as formal rules, process maps, and procedures. The latter belong to the organization’s resources. If a process is supported by an IT application, parts of the template can also be embedded within the application configuration parameters or the software source code.

**Emergent Processes.** For emergent processes, outcomes are not obvious, and the participants must continuously decide which steps should be taken next. They can be triggered for a variety of reasons, some of them unique. The end result is specified a priori in general terms or may be vague. Moreover, it may even change during process execution and in that case, would not provide a clear direction. Instead, emergent processes are guided by prior explicit or the tacit knowledge of their participants, as well as the knowledge generated or gained during its execution.
Participants in an emergent process continuously collaborate to define the intermediate results and the ways to achieve them throughout process instance. As for participants, the decision on their involvement is usually part of an emergent process, and, again, it may change during its execution. An archetypical example is a new product development process, but there are others such as

- Define Business Strategy
- Promote New Products
- Manage Public Relations
- Protect Intellectual Property

Prescribing in detail how an emergent process should be executed is sometimes neither possible nor even desirable, because an emergent process has an inherent need for creativity and flexibility. There are also other reasons to avoid formalization in such a case. An emergent process is improvised, shaped dynamically by process and performance knowledge — that is, by knowledge of what has been achieved thus far and how effectively the activities have been performed. Such processes evolve over time and so it is no wonder each execution is like no other or only somewhat similar to others at best.

The structure of emergent processes is decided upon, or improvised, during execution. It can also arise spontaneously as a by-product of collaboration between process participants. Regardless, on a detailed level it is complex, with lots of parallel activities, reciprocal dependencies between participants, and iterations. Each execution of such a process is unique in terms of results, participants, activity content, and structure.

**Routine versus Emergent.** The largely contradictory attributes of routine and emergent processes are presented in Table 1. In real life, however, very few things are purely black and white, and processes are no exceptions. Most of the processes performed by humans can be placed on a continuum between completely routine and purely emergent. It is impossible to prescribe a procedure to guide process execution down to the smallest operation, except, of course, for a completely automated process where humans are irrelevant. Exceptions inevitably occur even in the case of seemingly fully controlled and repeatable processes, and an improvised, varied response, based on human judgment, forms part of the actual process instance path in such cases.

In the end, the nature of a process depends on its constituent activities. In some processes, most of the activities may be routine; in others, most may be improvised. Therefore, processes may be mostly routine but partially emergent, or vice versa. Finally, even the seemingly pure emergent processes have a generic, high-level structure that sanctions their decomposition into phases with intermediate objectives.
Table 1. Comparison of properties of routine and emergent processes.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Routine process</th>
<th>Emergent process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timing/trigger</td>
<td>Recurrent, predefined trigger(s) or schedule</td>
<td>Usually not predefined</td>
</tr>
<tr>
<td>Objective/End-result</td>
<td>Stated in detail, fixed, predictable</td>
<td>Initial high-level end-result may be refined or mutated during process execution</td>
</tr>
<tr>
<td>Guided by</td>
<td>Objective/End-result</td>
<td>Process and performance knowledge</td>
</tr>
<tr>
<td>Activity content</td>
<td>Predefined, repeatable and predictable</td>
<td>Determined at execution time, ad-hoc</td>
</tr>
<tr>
<td>Structure</td>
<td>Unconditional or conditional sequences of steps</td>
<td>Parallel asynchronous, reciprocal dependence of steps, iterations</td>
</tr>
<tr>
<td>Participants</td>
<td>Predetermined allocation of work to individuals</td>
<td>Selected as needed evolved</td>
</tr>
</tbody>
</table>

Summary

An Activity-based View (ABV) is focused on activities performed within companies. A Resource-based View (RBV) emphasizes strategically relevant resources and capabilities. Neither of those views alone, however, is entirely satisfactory in practice to facilitate the achievement of competitive advantage and superior business performance.

The Process-based View combines the best of both worlds. The new view is nonetheless much more than a simple integration of concepts. It takes from the Activity-based View the notion of an activity as a basic building block of competitive advantage. Contrary to the ABV, however, the PBV places primary emphasis on dependencies between activities, both explicit and implicit, as well as their aggregation into processes and subsequent coordination issues.\textsuperscript{xiii}

As for the Resource-based View, the concept of resources is assimilated by the PBV. Relevant resident resources and capabilities are, in turn, allocated to activities. Resident resources underlie activities and enable their execution, the same goes to whole processes. However, whereas the RBV is focused only on strategically relevant resources on the company level, the PBV takes into account all resources required to perform activities. The set of resources on the company level is built bottom-up in a way similar, in a sense, to the processes, with resource requirements of activities as a springboard.

The PBV differs also in three ways from the classic approaches to business processes. Firstly, it acknowledges the fact that some of the important activities cannot be coordinated within processes. At the same time, one should not lose sight of these activities since their impact on execution of processes can be crucial because of implicit dependencies. To avoid losing sight of them, one should first consider all activities and subsequently, processes built using the activity pool in a somewhat bottom-up way.

Secondly, PBV outlines the comprehensive range of process execution enablers, from managerial capabilities to office space layout. There is something for everyone, but not without a reason. A resource considered as a commodity and ignored at one company can turn out to have strategic relevance at another. Process performance can also be increased by factors that are usually out of the scope of classic process analysis.\textsuperscript{xiv} In general, PBV exposes resources as foundations of processes and activities.
Last but not least, the PBV also distinguishes clearly between routine and emergent processes. The first were studied extensively in management science, and there is a lot to learn from those results. The latter were discussed the business process community only recently, but, in fact, were also known for a long time. As we shall see, they play a key role in developing a competitive advantage and are therefore an important part of the Process-based View. Nonetheless, trying to formalize them in any way makes no sense, since they will not conform to any procedures.

To be continued ….

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References


ii As Michael E. Porter notes - “Is a firm a collection of activities or a set of resources and capabilities? Clearly, a firm is both. But activities are what firms do and they define the resources and capabilities that are relevant. Activities provide the connections between factor markets and product markets positions.” See Michael E. Porter, Competitive Strategy: Creating and Sustaining Superior Performance, Free Press, 1998.

iii Activities are building blocks of processes that create products or services delivered to Customers. The most generic process on the company level is the Value Chain. It encompasses all direct activities involved in creating and delivering value for the Customer, together with directly related support ones. It encompasses all activities required to transform market knowledge into products or services delivered to Customers. On the highest level, value chains look similar, regardless of the industry, but their activity contents are different. In the same industry, activity contents of value chains can also differ between companies. Finally, one company can have several value chains, again with different activity contents, depending on diversity of its products or services.


v To our knowledge, the concept of an end-to-end process appeared for the first time, although without such a term, in Benson R Shapiro, Kasturi V Rangan, John J Sviokla, “Staple Yourself to an Order”, Harvard Business Review, July-August 1992, pp. 113-121.

vi Process Classification Framework, ibid.


ix As Ann Majchrzak, Dave Logan, and Matthias Kirchmer note, “Emergent knowledge processes are work processes in which the outcomes are not obvious, so that participants must continuously make sense of their situation and decide, in real-time, on the next steps to take.” See Ann Majchrzak, Dave Logan, and Matthias Kirchmer, “Managing Emergent Work: Revisiting Jazz Lessons”, published online at KnowledgeTree, http://flexiblelearning.net.au/knowledgetree, February 2006.

x See Markus, M.L., Majchrzak, A., Gasser, L., ibid. See also John Debenham, ibid.


xiii While the Activity-based View takes those dependencies into consideration, they are decisively in the background, since the focus is on individual activities. The Resource-based View, in turn, cannot explicitly take those issues into account, due to its underlying paradigms. In fact, that PBV is particularly suited to analyze and manipulate them makes it also easier to ensure a fit between activities, including the most important of them, namely optimization of fit between activities.