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Value Chains, Value Streams and Business Architecture

I've been writing about business architecture for many years and, more recently, I have written about a growing movement to use the terms "capability," and "value stream" as substitutes for "process" and the confusion surrounding the use of these terms is getting worse, not better. In this Advisor, I am going to make another effort to explain the issues and to clarify some of the confusion.

Currently, the enterprise architects, most of whom have an IT background, and many of whom are working on an Object Management Group task force or with the Business Architecture Guild, are struggling to create a new definition of "business architecture." They are contending with the leading process thinkers who have been working on a process-focused approach to business architecture for decades, and who are, understandably, upset by the belated efforts of these "new business architects" to redefine established conventions.

Naturally, I am committed to the process approach to business architecture. I learned the basics of business architecture from Geary Rummler in the Early Eighties, and I find these recent efforts to redefine the process approach to business architecture disturbing, not because I don't like change, but because the proposed changes undermine the whole essence of process thinking.

Let me be as clear as I can be. The heart of business process work is the idea that core business processes (i.e. a value chain) cut across functional units to generate products or services of value to customers. Every other process or activity is either involved in executing the work of the core processes of the value chain, or in managing and supporting them. The value of any given activity can be determined by the degree to which it supports or fails to support the overall success of the value chain. Once one grasps that everything of value generated by the organization must be generated by that value chain, then it follows that you can evaluate the value of any internal activity according to whether or not it supports the generation of the outputs valued by the customer [1].

Similarly, if one grasps the basic relationship between the major business processes (or value chain, if you prefer) and the creation of value, you understand immediately why capabilities must be subordinate. What is the value of any given capability? Whether you think of a capability as the ability to do something, or as an activity, it either supports the goals of the major process or it doesn't. If it doesn't, then it doesn't have value, and should be eliminated. The idea of trying to identify and model capabilities before one understands the value chain and its subprocesses, is backwards! You need the value chain to understand how the company is organized to generate value. If you start with the value chain, then you can determine what capabilities are required. If you start with capabilities you can generate a huge list of capabilities which are not required. In essence, a search for capabilities, in the absence of a well-defined value chain is a waste of time and money. Rummler, Hammer, and Davenport understood this. Hopefully, most of us working in their tradition understand, it as well.

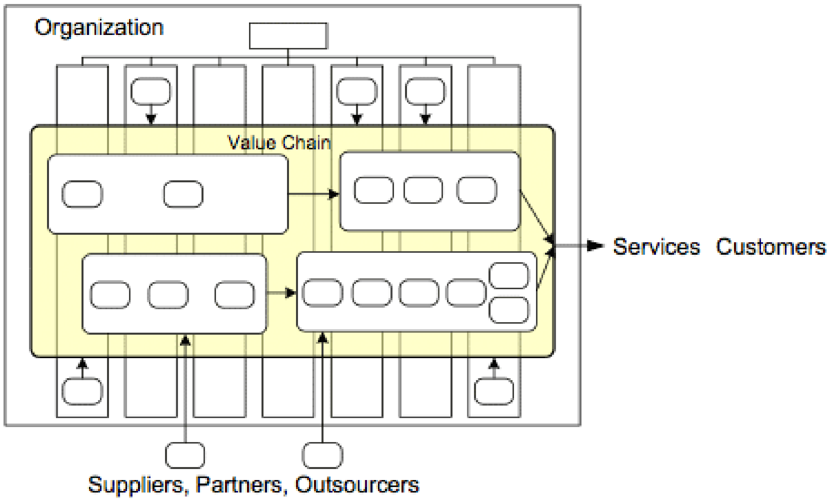

Figure 1. A value chain unifies all activities to generate value for customers.

As far as simply disliking change, let me move on and comment on the tendency of some to use idiosyncratic versions of the terms "value stream" and "process." To fully understand my objections, you need to begin with the term "value chain." The term "value chain" was defined by Harvard Business School professor, Michael Porter, in his popular 1985 book on strategy, *Competitive Advantage*. Porter began by saying: "Every firm is a collection of activities that are performed to design, produce, market, deliver, and support its product. All these activities can be represented using a value chain..."

Michael Hammer, in his 1993 book, *Reengineering the Corporation*, understood this, and used to begin major engagements, but asking an organization to bring together a group of senior managers to determine how many value chains the organization had. In other words, the concept of a "value chain," has been used regularly in the process field since the mid-Eighties.

The origin of the term "value stream" is a bit murkier. Most people associate it with Lean, which was first popularized in the US by Womack, Jones and Roos in their book, *The Machine That Changed The World: The Story of Lean Production*, which was published in 1990. The term "value stream" wasn't used in that book, although much was made of analyzing value-adding activities. In their 1996 book on *Lean Thinking*, however, Womack and Jones make extensive use of the term, as have most Lean books published since the mid-Nineties. More to the point, in 2003 the Lean Enterprise Institute published a book by Mike Rother and John Shook, *Learning to See: Value-Steam Mapping to Create Value and Eliminate Muda*. This book carefully defines the concept. Figure 2 pictures a diagram that played a key role in that explanation.

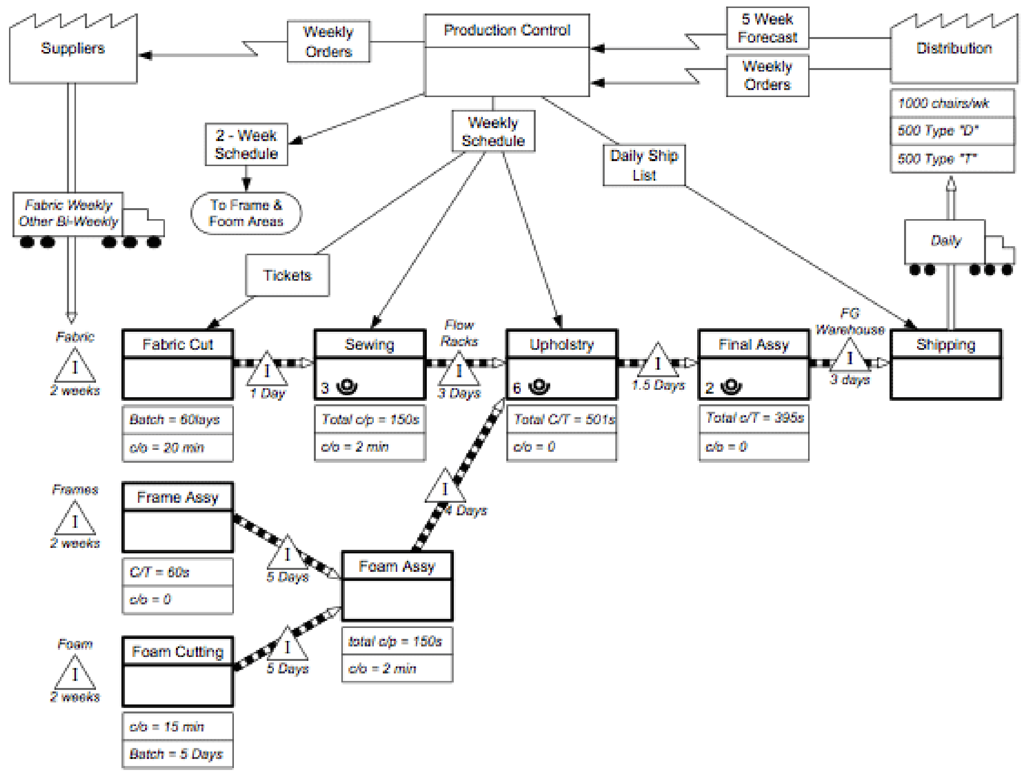

Figure 2. A Value Stream diagram after Rother and Shook's Learning to See.

The key to understanding the diagram pictured in Figure 2 is that the Distribution Center pictured at the top-right of the diagram is the customer. A value stream model shows a loop that begins with a customer request, proceeds by showing how the business responds, and ends when the customer's request if fulfilled.

In essence, we have two ways of diagramming processes Ð as a horizontal flow, as represented by a value chain Ð and as a loop that begins and ends with the customer, as represented by a value stream. Note that, according to this definition, a value stream is not as comprehensive as a value chain. Porter describes a value chain as including ALL of the processes required to produce value. Rother and Shook define a "Value Stream" as beginning and ending with a customer, obviously omitting the initial development of the product, for example, and, as shown in Figure 1, ignoring a variety of support processes, like those involved in HR and Finance. Obviously, different representations are best used for different purposes, but my main point is that they are not strictly synonymous, and they weren't understood as being synonymous until people started getting rather sloppy in their use of the terms.

In 2004, for example, Ralph Whittle and Conrad Myrick wrote a book, *Enterprise Business Architecture*, in which they apparently defined a "value stream" as a comprehensive process rather like a value chain. I have not read the book, but it's the book that is cited by the various writers in the Business Architecture Guild when they want to defend their use of the term. I have remonstrated with them in the past, and have now largely given up. They prefer to rely on a recent book written by an Enterprise Architect to books written over the course of a decade by Lean theorists. They refer to what most of us would term a process or a value chain as a "value stream." Perhaps it seems a bit of a quibble to argue about the definition of terms like this, but when you are involved in building a discipline it is very important that you build a common vocabulary. Imagine the problems that would occur if physicians began defining "aorta" in vastly different ways.

And, the problems go beyond defining terms. The Business Architecture Guild folks also tend to dismiss "processes," defining them as lock-step sequences of activities, and contrasting them with value streams. In other words, they are using the term "process" as if it referred to a computer algorithm. This may make sense to people with a background in programming, but it's a long way from the common usage among business people. It certainly doesn't describe the "processes" that Rummler, Hammer, APQC, the Supply Chain Council, or the Lean Six Sigma folks have spent decades discussing.

The power of the process movement is its systematic insistence that understanding business problems depends on a clear understanding that major business processes cut across functional silos to deliver value to customers. By challenging the word "process," by substituting the word "value stream," by shifting focus from how things are connected to a focus on myriad independent "capabilities" which may or may not be useful to the organization, the "new business architects" are, in effect, undermining the central tenet of the business process movement.

One of the ideas apparently driving the current effort on the part of the Business Architecture Guild to redefine "process," is their idea that a process is a rigid sequence, in contrast to more dynamic sequences of activities, like those described by case management folks. The essence of case management work, which is also primarily being driven by an OMG task force, is that some sets of activities can only be sequenced at the time they are being executed. Imagine a patient coming into a hospital complaining of a pain in his chest. Are we dealing with indigestion, or a heart condition, or something else? The hospital admits the patient and arranges for a meeting with a doctor. The doctor asks questions and then prescribes several tests, which are undertaken. At this point, we have a case, we have taken some steps, but we haven't determined what course of action to take next. That will depend on the test results, on the diagnosis by one or more physicians, the patient's medical history, and the availability of physicians, equipment and operating rooms. Those who are focused on case management suggest that this type of process is unlike the processes that can be described by BPMN. BPMN, they suggest, defines Ôprocesses' as step-by-step procedures, but in case management we are talking about a set of activities that varies as the case develops. Obviously BPMN is a new notation, and it is rapidly evolving. The idea of letting a new notation define process, rather than relying on the hundreds of books and practices that have been documented and implemented over the past three decades, seems a very strange approach.

Those who resist the idea of creating a new notation or nomenclature for flexible sets of activities counter that the term "process" has always described both flexible and inflexible sets of activities. At a high level we can think of the medical situation described above as a set of steps: 1) Define Initial Situation, 2) Undertake Tests, 3) Refine Diagnosis, 4) Propose Treatment Procedure, 5) Execute Elected Treatment. The fact that in some process steps we define subsequent process steps doesn't make it less a process. It simply makes it a complex process, and suggests that higher level processes can occasionally be used to define or rearrange subprocesses in subsequent subprocesses. If you wanted, you could actually show a very complex branching sequence to indicate that at certain steps, there were lots of options and that the path forward would depend on the analysis of the particular case.

Without getting any more technical here, we can try to evolve a body of practice that everyone can understand, building on what has already been done, and evolving some new terms as we go, or we can be constantly reinventing the wheel, and describing whole new sets of terms to describe what is already well understood.

The concept of a process is pretty fundamental to our field. If we really can't agree on what a process is, and if we are willing to substitute "value steam" for process, and if we are willing to let those who are new to business architecture introduce fuzzy concepts like "capabilities" then we haven't done a very good job of defining our discipline over the past several decades .

I suggest that "Business Architecture" was invented by Rummler, Hammer and others in the Eighties, and that the word "Process," as a generic term to describe both rigid and flexible processes, is well-enough established that we hardly need to jump to new terms or concepts at this point in time. We may not have a fully mature discipline as yet, and we may want to add a lot more concepts in the near future, but we have made significant progress and we have established some concepts and principles that we ought not give up.

Till next time,

Paul Harmon

Notes

[1] I could make this more complex and say that the value chain generates products and services of value to either customers or other stakeholders and that would be more accurate, but for our purposes here, it is better to keep it simple. Similarly, an organization can have more than one value chain, in essence generating two different products or services for two or more different groups of customers, but for our purposes this is just another complication we can ignore.

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