

Business Process Architecture – One Company's Journey in Adoption

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The Ideal versus Reality

The ideal is to have executive level support for a Business Processing Management (BPM) effort. But, at least in our case, BPM is sponsored by one executive. In essence, that means BPM takes the form of a demonstration project that must show value. That is where Arizona Public Service (APS)¹ was with the Process Improvement Project in 2002.

The sponsor is our Chief Information Officer (CIO), and, at that time, he was interested in documenting Information Services' (IS) processes to increase the CMMI² level of performance. The focus was on documenting the processes and not in creating a Business Process Architecture (BPA). As defined in Paul Harmon's book, *Business Process Change, Second Edition*, the BPA "shows how all the organization's processes fit together, a set of enterprise measures that show how processes support enterprise strategies and goals, and how all the process and subprocess are aligned to achieve those goals."

The value of a BPA was not evident until a Center for Process Excellence (CPE) was formed in 2003 and a review of best practices revealed the concept of a BPA as the vehicle for showing the flow of processes in an organization.

When CPE started studying BPA as a best practice, there was not enough executive buy-in to create a BPA from scratch. CPE was anticipating the need, not answering a need. Without the executive buy-in, the best way for CPE to proceed was to try to find an existing BPA from within our industry.

Finding an existing BPA is validated by Paul Harmon, in *Business Process Change*, which identifies two ways that a company can build a BPA. One is to bring senior executives together and work with them to "create a diagram that showed how it all fit together into a value chain."³ The other way is "using process framework"⁴ that already exists.

When BPM is being integrated into a company through grass-roots consultant effort, rather than a management top-down approach, the most likely level of BPA is the project level. When BPM is used to support Information Technology projects, the processes tend to be "functional" and departmentally related. The Substation Maintenance Project process system map (Diagram 1) is an example of what is developed based on this approach:

¹ APS is the largest provider of electricity in Arizona. APS operates and co-owns the Palo Verde Nuclear Plant.

² CMMI – Software Engineering Institute's Capability Maturity Model Index

³ *Business Process Change* Second Edition Paul Harmon; page 84

⁴ *Business Process Change* Second Edition Paul Harmon; page 84

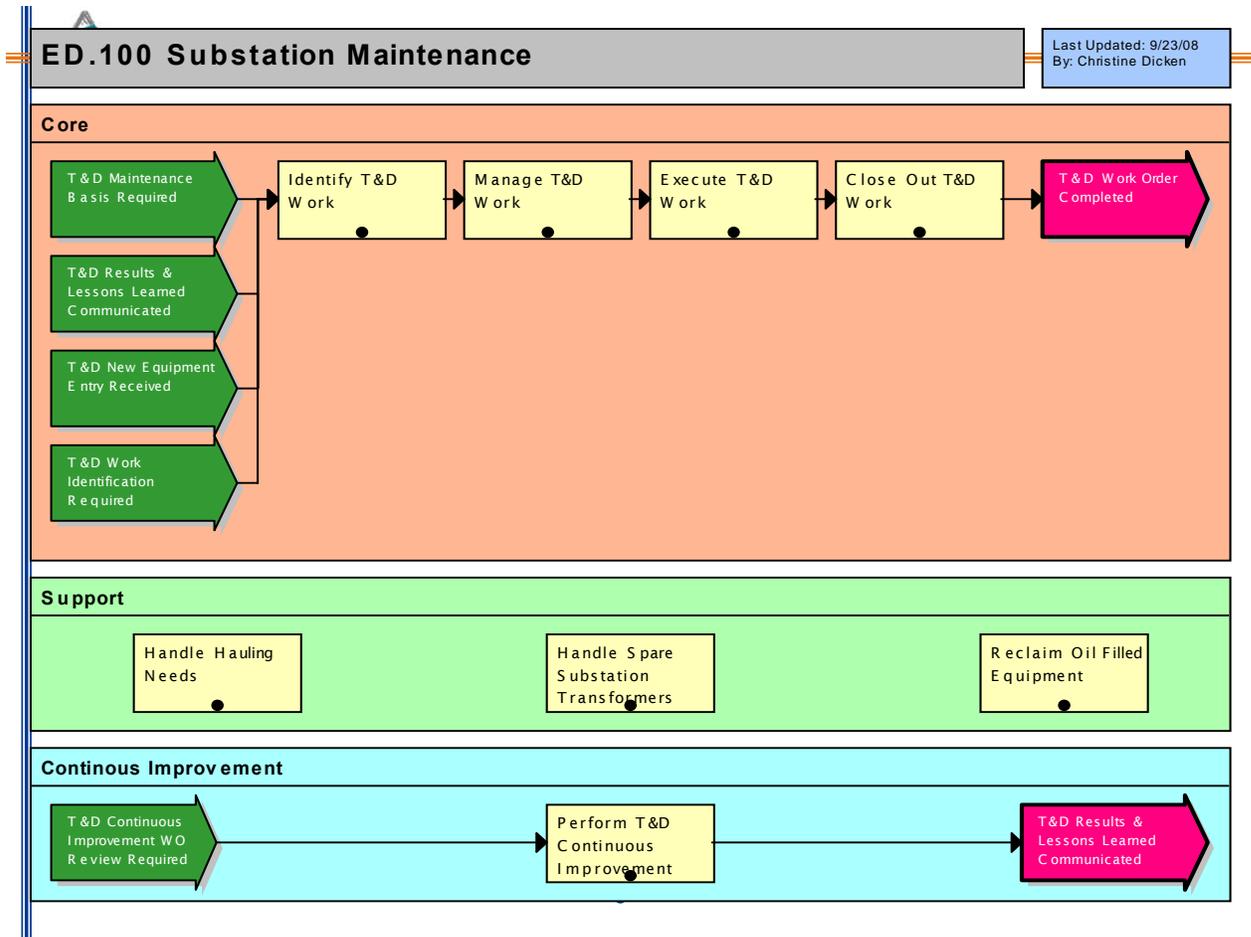


Figure 1: Substation Maintenance Process System Map

The ED.100 Diagram is a top level view of processes in Substation Maintenance. Although the process below this level reflects how work is done cross-functionally, that functionality is limited to either Substation Maintenance staff or support staff from other APS departments. Having a process diagram has benefits:

Benefits:

- This diagram shows how work flows within the Substation Maintenance organization.
- The organization (e.g., the Substation Maintenance Department) relates to the work at this level.
- It allows for a focus on the core work of the organization involved in the BPM effort while also identifying processes that supports the core work and a problem solving process.

Challenges:

- What is core for the organization may not be core work for the entire company. In a broader view, for example, the work of Substation Maintenance is a support function.
- There is no APS external customer in this view nor does it support the conversation about aligning goals throughout the organization.
- This view does not address the silos that a cross functional view of the organization as a whole provides. That view would incorporate the concept of the Supplier / Input / Process / Output / Customer (SIPOC).
- The measures developed are specific to the organization and not for the company.

The Search for a BPA

Step 1 in the Search for BPA

After a number of BPM projects, CPE had an array of process system maps, like the Substation Maintenance Process System diagram, but no framework to link them to show the flow of work through APS. The search for a BPA that would fit our utility business started.

CPE reviewed and tested the Zachman Framework but found that framework did not correlate to a process flow. CPE then reviewed and tested an approach from a Southeast utility. That approach had more to do with a data model than process. From each of these experiences, CPE was at least learning what did not work.

Through networking, CPE connected with a Southwest utility who agreed to share the work that they had done with their BPA. Once reviewed, this utility's approach provided a starting point for CPE. The next two diagrams (Diagrams 2 and 3) are examples of the APS version.

Enterprise Process Architecture

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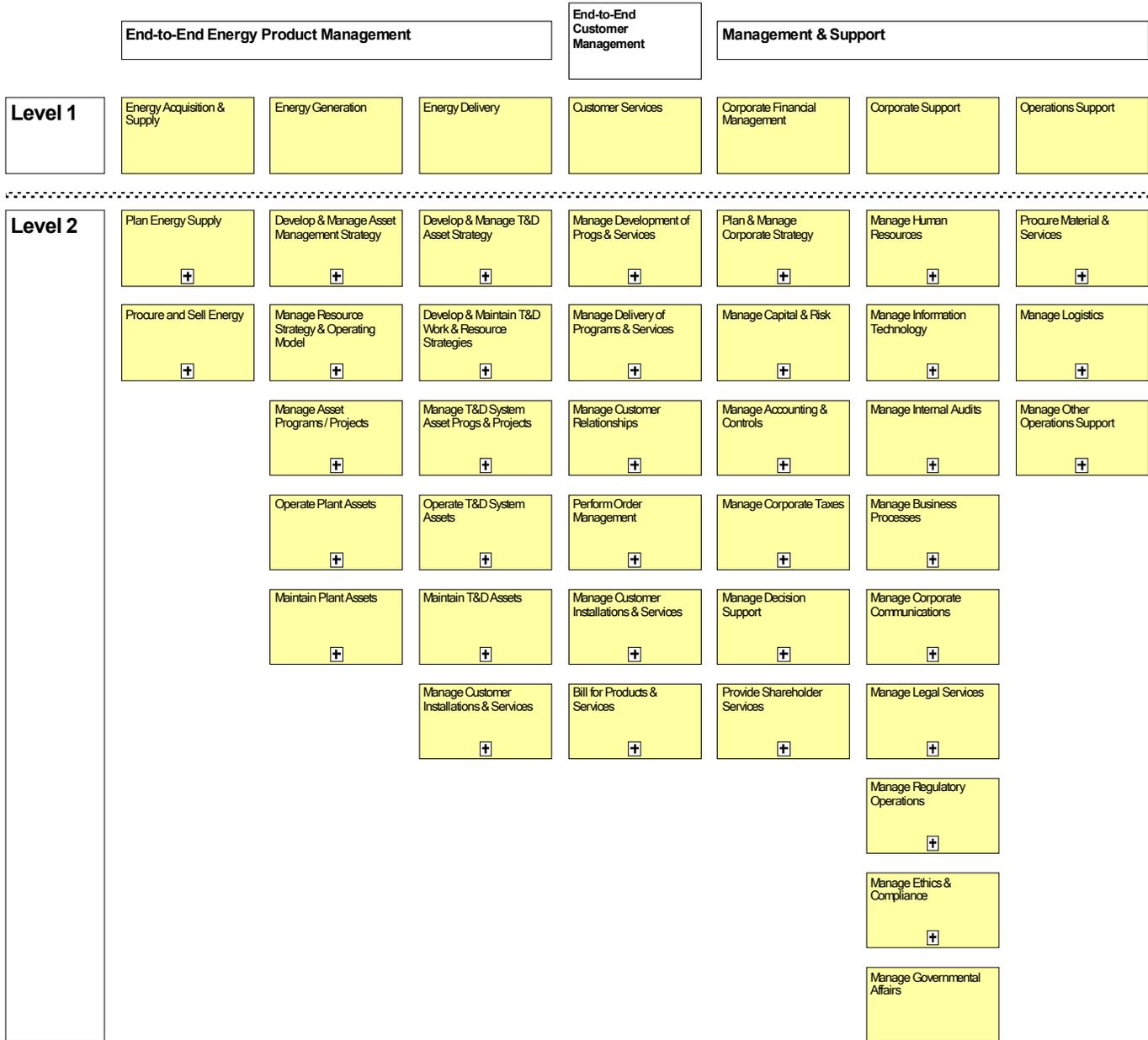
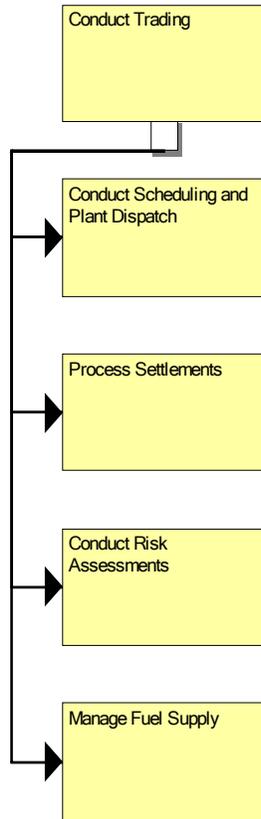


Figure 2: Highest Level of BPA

Procure and Sell EnergyUpdate Date: 9/3/2008 6:30:47
AM
Updated by: Steve Freeman**Figure 3: One Level Down of BPA**

CPE liked that the Value Chain and Support processes were shown. A pilot was conducted to test the validity of the model and determine its application in the APS organization. The pilot was conducted in one of the Lines of Business that had the most process awareness. The three managers who participated were an IS Director, an IS Client Manager, and an IS Account Manager. The IS Client Manager and the IS Account Manager are the liaisons with the Line of Business.

The validation process included looking at each process block and identifying what the process included, the impacts to other processes, and who in the line of business (not IS) owned the process. Connectivity was created on a process level basis but not on an inter-process “flow” level. Although the validation process was with IS staff, they were very aware that they did not “own” the BPA. The purpose of the pilot was specifically to validate the information.

Benefits:

- This validation project was educational in that before the project there was little awareness of what value a BPA could provide.
- The Information Services Director for the line of business immediately saw the value of having a “straw person” BPA to review. He liked the ability to see the Line of Business at

a glance. He could look at how proposed projects impacted the line of business. He saw this version of the BPA as a management tool for career paths as well as a tool to make strategic decisions and be able to analyze the impacts of those decisions. This approach would lead to better impact analysis, requirements gathering, and, ultimately, a better product.

- CPE can use this BPA as a way to help internal customers relate from the specific BPM engagements point of view. CPE had an example to use when starting engagements in other lines of business. So, on an ongoing basis, validation at a high level continues. The BPA did provide a way to validate what the lines of business do at a high level.
- CPE works in all of the lines of business so the BPA provided an insight into the line of business as a starting point.

Challenges:

- There was a time constraint to creating a process flow as part of the validation pilot project. CPE used an existing model to get a jump-start on creating a BPA, but even with an existing model, the commitment to adopt was limited – one more proof that if BPM is not implemented from an executive level, the immediate work at hand will take precedent.
- This approach to a BPA does not “flow” work through the organization. Any drill down (indicated with a plus sign) would go to an individual process as shown in the Procure and Sell diagram. (Diagram 3)
- The customer view of the process is not the focus of this BPA.
- Because there is no “flow” of how work gets accomplished, the ability to align strategically to the goals is still problematic.

Step 2 in the Search for BPA

There is a CPE conviction that processes must be connected in a way that allows them to flow. This resulted in a concern about a disconnect when CPE worked with internal customers in APS and created process flows and what was in the BPA shown in Diagrams 2 and 3. This concern resulted in agreement that the decomposition from the highest level must flow. That review resulted in the two examples shown in Diagrams 4 and 5.

BPA.000 Alternate Business Process Architecture

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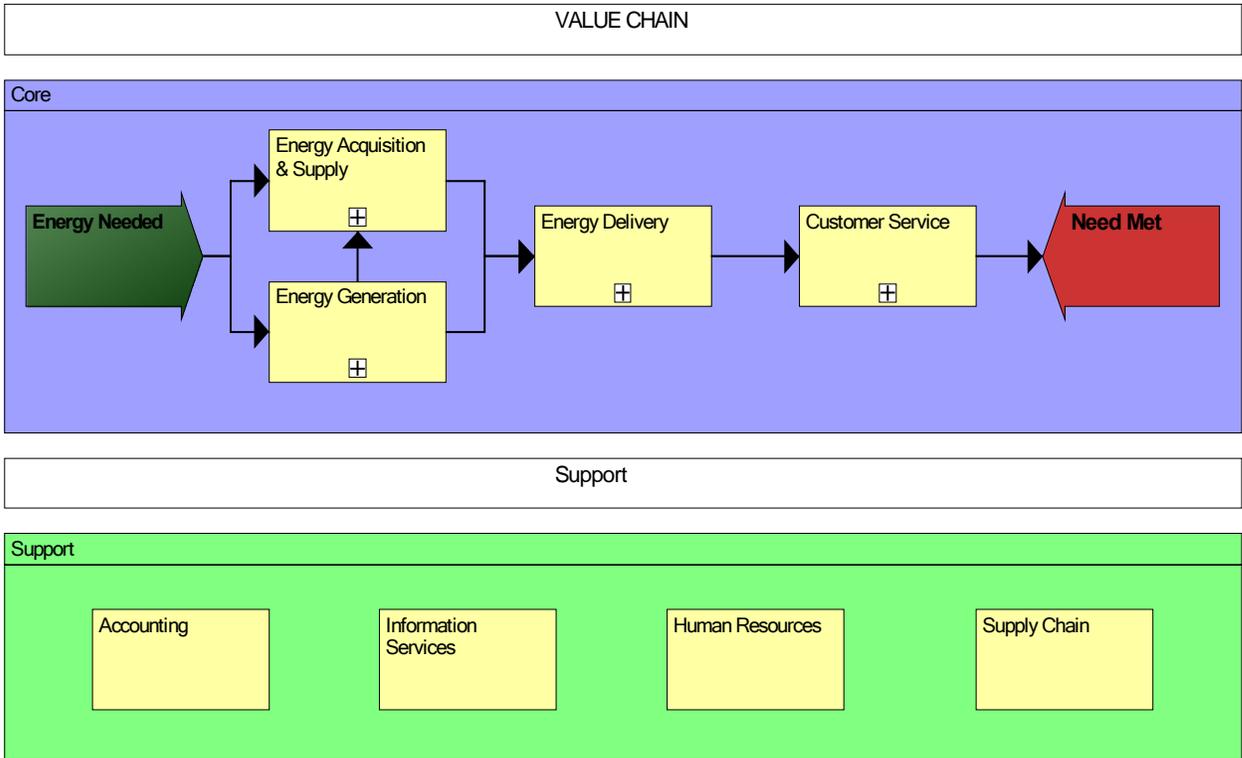


Figure 4. Highest Level of BPA

Energy Delivery - Level 2

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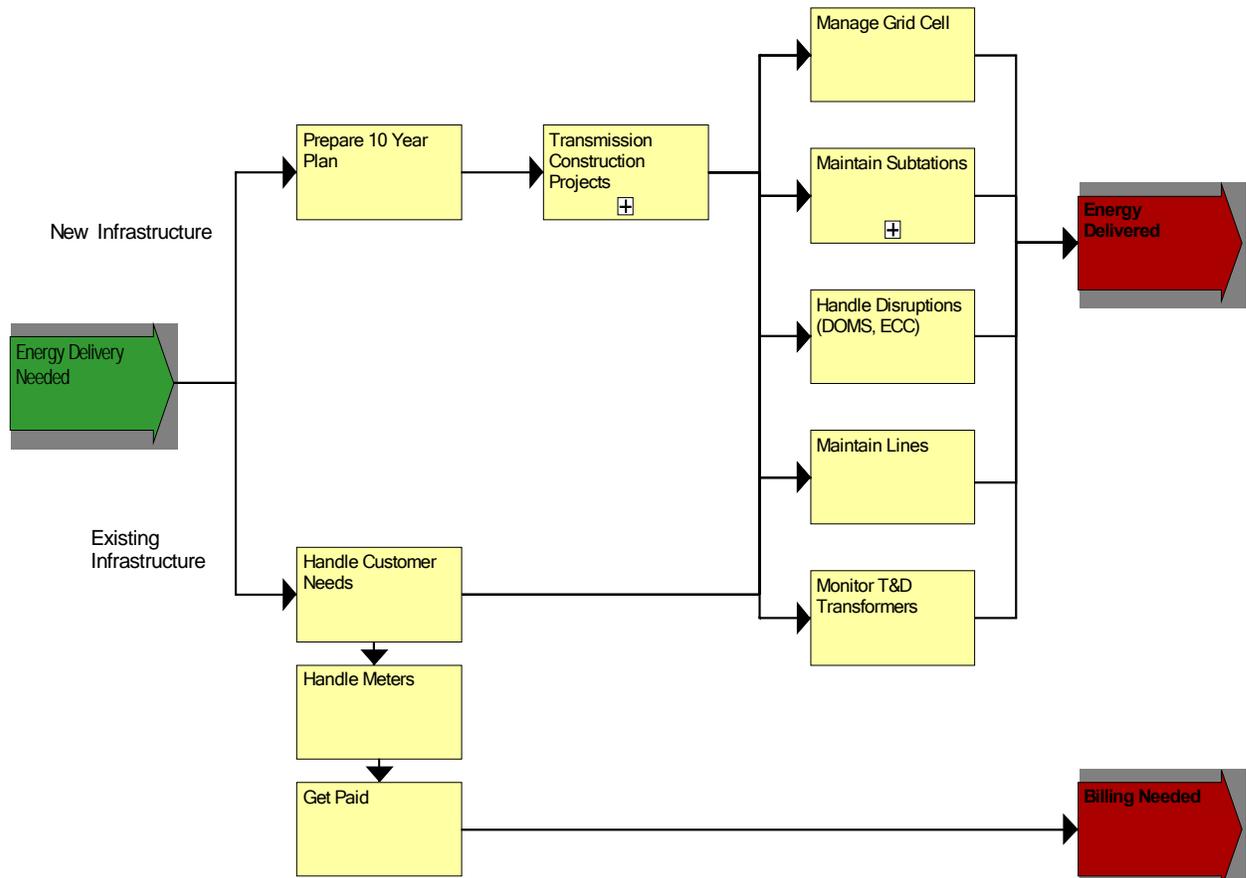


Figure 5: Second Level of Energy Delivery

Benefits:

- The processes show relationship and flow.
- The format follows what CPE's APS customers are accustomed to seeing so there is no learning curve.
- Someone could look at the two levels and see what is the core business and what supports the business and understand how work flows through the Energy Delivery line of business.
- This view could support strategic alignment to the company's goals.
- A SIPOC view can be assessed in this approach.
- The concept of Value Chain is beginning to emerge in this view although this view still does not reflect the end customer's view of APS.

Challenges:

- This BPA view still does not represent the external customer's point of view, which is part of the definition of a Value Chain.⁵
- There are difficulties because, although the process flows, it still depicts a departmental view of that flow.

CPE felt it was heading in the right direction because the approach resonated when presented to CPE staff, managers, and other stakeholders. At that point, CPE started merging the BPM project information into the BPA and started aligning the BPM approach of decomposition. CPE thought it had arrived at the answer to the BPA dilemma.

Step 3 in the Search for BPA

CPE was working on the BPA developed in Step 2 when a member of the CPE team talked with Andrew Spanyi⁶ in March of 2009. The discussion about BPA marked another turning point for CPE. Out of that conversation, a new direction for the APS BPA was born. Examples of the approach are shown in the Diagrams 6 and 7.

⁵ Lean Thinking (2) Womack and Jones; page 38 “Those which actually create value as perceived by the customer.”

⁶ Andrew Spanyi; founder and Managing Director of Spanyi International Inc. and author of Business Process Management is a Team Sport

BPA.000 Customer View of BPA

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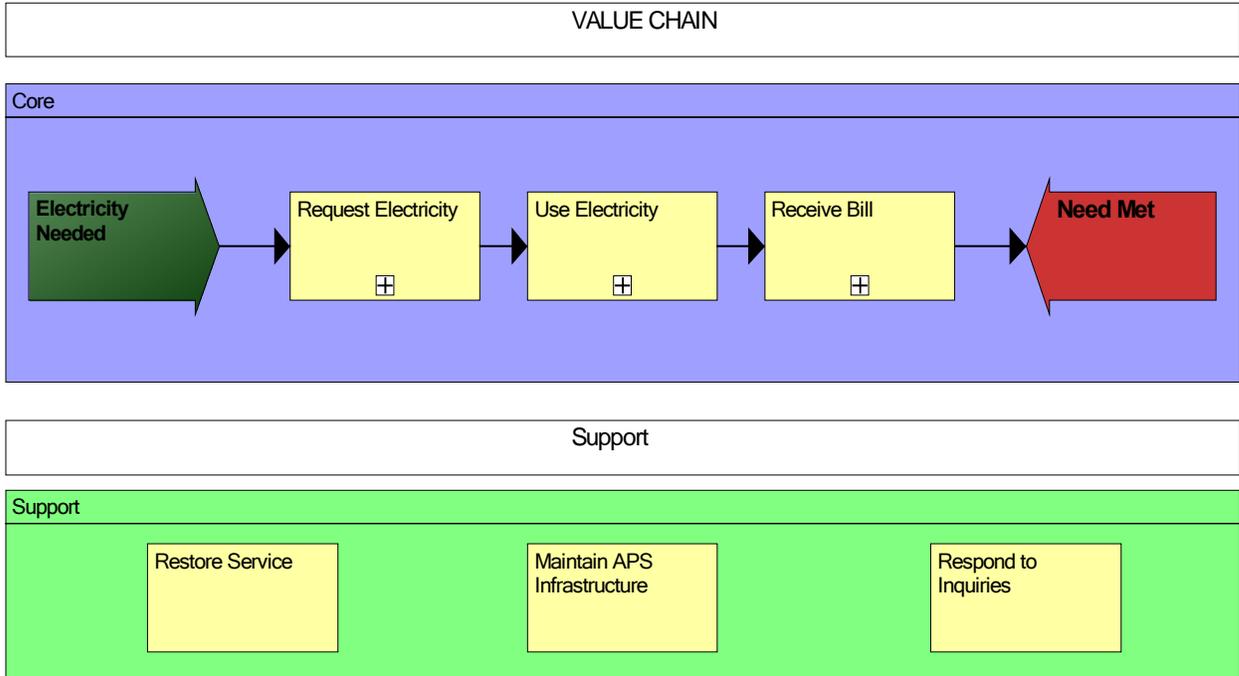


Figure 6: BPA Highest Level from an External Customer Point of View

BPA.000 Request Electricity

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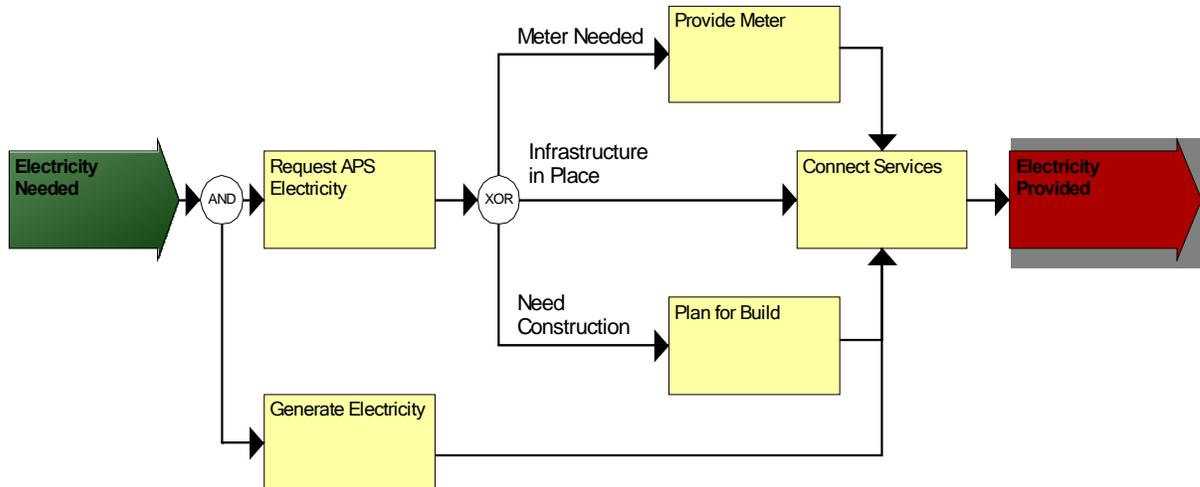


Figure 7: One Drill Down from the Customer Point of View – Request Electricity:

Benefits:

- This approach forces looking at process from a cross-functional view that is triggered by a customer requesting electricity and ends with the customer paying for electricity.
- The alignment of company goals is supported by this view. Every organization can see how the processes interconnect to provide electricity to the customer. SIPOC is supported throughout the company for internal and external suppliers and customers.
- The core and enabling processes for the company become evident in this view.
- The ability to focus on pain points leaves the realm of individual departments or projects and becomes a company focus.
- This view shows how work gets done to meet external customer needs.

Challenges:

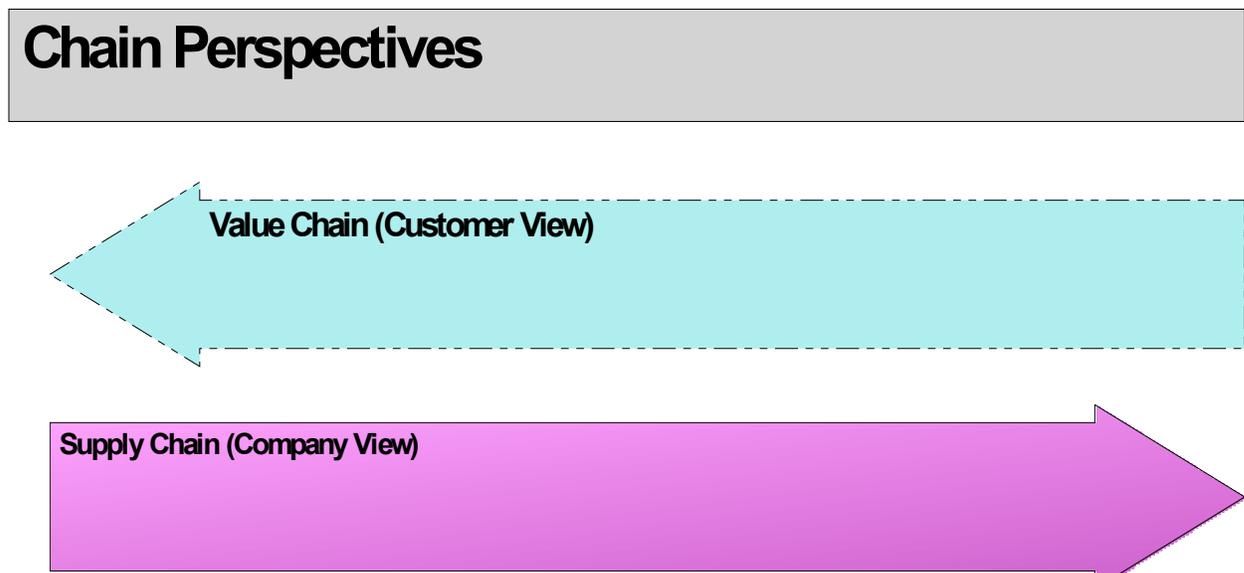
- CPE internal customers have become accustomed to the project or departmental view of processes. This view is a huge shift. The Step 2 views were a natural progression as CPE worked on processes in APS. Therefore, it seemed like “the right thing to do.”
- At least for one of the CPE team members, value chain somehow became synonymous with supply chain and confused with the APS Supply Chain Management organization. There is a need for a common language about value chain and supply chain at APS. (See Next Steps for CPE in this article for further discussion about this topic.)
- Electrical utilities struggle with the product versus service in the providing of electricity. This customer view is a product approach. The view in Step 2 may be considered as more of a “service” point of view. For example, the service is to generate electricity.

Next Steps for CPE

Currently, CPE is working to adopt the BPA view in Step 2, which shows the company view. This view, however, can lead to misunderstandings of strategic alignment of the company to its customers. An example of how this can happen is cited in Paul Harmon's book review⁷ of *Lean Solutions* by James P. Womack and Daniel T. Jones. In the book review, Paul uses an example from Roger Burlton about whether pizza delivery is "wasteful" from a Lean point of view. The debate was between Roger and a Lean practitioner. The Lean practitioner believed that delivering the pizza was transportation that should be eliminated. Roger argued that from the customer point of view, the delivery was "value added." The perspective of value is important.

The confusion, as stated earlier in this article, appears to be in the definitions of supply chain and value chain. Dr. Dan Shunk, Andrew Feller, and Dr. Tom Callarman published an article in *BPTrends* in 2006 that addresses that issue.⁸

This very simple chart represents the perspective that is detailed in the 2006 article:



The steps for CPE are:

1. Define a common language at APS for discussing supply chain and value chain.
2. Continue to research how to incorporate both views into the BPA.
3. Promote the value of BPA at APS.
4. Demonstrate the value of the Value Chain / Supply Chain View BPA.
5. Work toward adopting a view that incorporates the Customer View BPA.

⁷ The link to the article:

http://www.bptrends.com/deliver_file.cfm?fileType=publication&fileName=04%2D07%2D09%2DBR%2DLeanSolutions%2DWomack%2DJones%2Epdf

⁸ The link to the article: <http://www.bptrends.com/search.cfm?keyword=shunk&gogo=1&go.x=84&go.y=6>

Conclusion

To make the best strategic choices, it is important that both Supply Chain and Value Chain views be considered to obtain the value. Without considering both views, companies run the risk of sub-optimization in improving processes. Imagine the fate of the pizza parlor that opts out of delivering pizza. There may be great savings in the immediate time frame (so it looks good on the bottom line) but as customers are lost to those who provide delivery the error of only looking at the supply chain view would be apparent.

The experience of learning about the BPA has been a journey for CPE. Now CPE has the role in this journey of making sure in process engagements that APS “looks both ways when crossing the street.” We all know that when we don't look both ways, there may be danger. Looking both ways seems to be a good common sense tool for any journey including one for BPM.

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