

# The Power of Two: Combining Lean Six Sigma and BPM

Lance Gibbs and Tom Shea

Lean Six Sigma (LSS) and Business Process Management (BPM) have much to contribute to each other. Unfortunately, most companies have not integrated these initiatives successfully – inhibiting companies from realizing the full potential of their process improvement efforts. Why the disconnect? On the LSS side, most teams are taught that technology is not the solution to process problems – and so BPM efforts are dismissed as just more technology that cannot help the LSS efforts. While it is true that BPM has a technology component, LSS teams would benefit greatly from better leverage of BPM capabilities and methodologies. Similarly, most BPM teams, and, specifically, most BPM vendors, have little understanding of LSS techniques and how assets produced by LSS teams could help drive more successful BPM projects. In fact, the decomposition and statistical techniques of the LSS methodology are often viewed by BPM teams as overly complex and needlessly time consuming.

At Lombardi, we understand that BPM and LSS will run as parallel initiatives. We also know that companies that can successfully connect these two initiatives will realize a competitive advantage. This paper provides specific recommendations about how to combine LSS and BPM. It also provides a checklist for companies that wish to assess whether they are fully optimizing the value of BPM and LSS – achieving the Power of Two.

## A Common Objective

Fortunately, both BPM and LSS have a similar goal in mind – allowing companies to better manage and optimize their processes. Their approach and focus, however, is different. LSS has a focus on understanding the variance in processes and how that affects the ability to achieve key objectives. One of the challenges of deploying LSS across a company is that it is labor intensive to gather the data and implement the controls that are recommended by analysis. This, of course, is one of the key benefits of implementing BPM – automated controls and data gathering about the performance of the process. At the same time, many BPM teams struggle to understand which processes are the top priority for the business and which problems are the most critical to solve for any given process. LSS has much to offer BPM teams in this area – through tools like Failure Mode Effect Analysis (FMEA) and Value Stream Mapping (VSM). So, conceptually, BPM and LSS should be a great fit.

It is not difficult to visualize these two initiatives working perfectly together. Consider the following manufacturing example: A parts supplier decides that they will differentiate themselves from the competition by driving down delivery time. Using LSS techniques, this company identifies the value stream map to identify key focus areas and metrics that contribute to overall lead time. This value stream map is decomposed down to the lower level processes until the team knows the key points of failure and waste that need to be addressed in order to make the initial improvements to delivery time. At this point, BPM technology is used to implement the process and controls around the initial areas of focus – time spent waiting for signatures and approvals for orders. With BPM, these controls are automated and process performance data is gathered in real-time – without requiring Belts to gather the data. Figure 1 provides an overview of the real-time instrumentation of this value stream map.

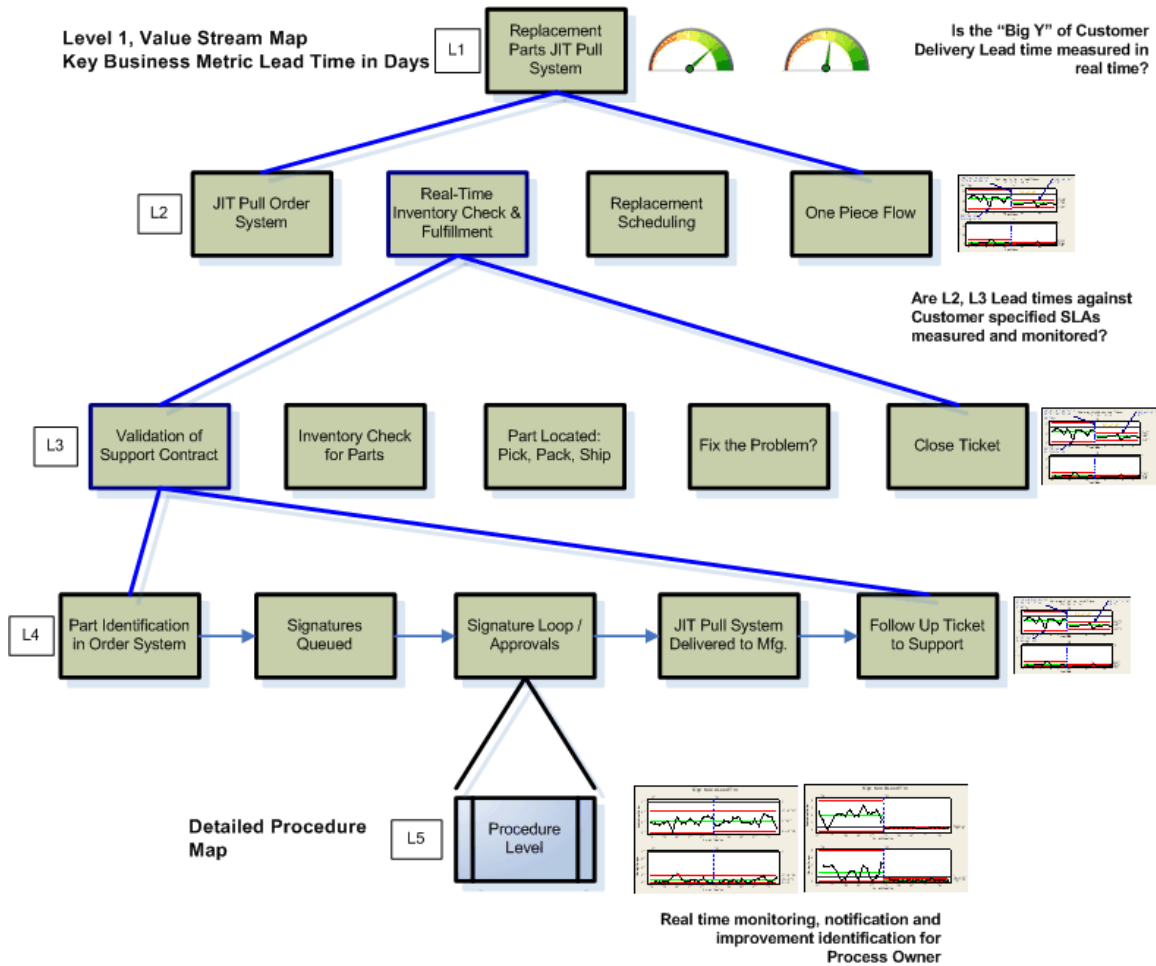


Figure 1. Real-time Value Stream Map

Connecting LSS and BPM can provide this integrated view – from top-level strategy to the lowest level controls. And it can do it in real time without requiring significant Belt involvement at the lowest level – traditionally one of the biggest hurdles to widespread LSS adoption. Thus, LSS initiatives can certainly benefit by having BPM in place.

On the other side, BPM initiatives can also benefit significantly from LSS techniques. In Figure 1 above, we can already see that value stream maps created by LSS teams can provide great inputs to BPM teams – what control process to implement and which failures to correct first. This type of input is helpful not only to the part of the BPM team implementing a process solution, but it is also helpful to end users – like Inventory Managers and Customer Call Center representatives. Using statistical process control (SPC) approaches advocated by LSS, these users can learn which events are crucial to take action on and which represent anomalies. This approach ensures that the end users in BPM deployments are focused on high priority work – driving real results, as opposed to working on items that do not directly affect goals like reducing delivery lead-time. By combining SPC concepts from LSS with the ability of BPM process portals to deliver real-time performance metrics to process consumers, a company can ensure that their people are focused on the most meaningful work. The TeamWorks dashboard in Figure 2 shows how an Inventory Manager could track in real-time the current performance of the process to determine whether everything is working according to plan or whether unacceptable variances are occurring. While this manager will also have a task level view of all the work her team has, this statistical view allows her to see the health of her overall process at a higher level, as well as

the ability to drill-down on any data point for the details. Unlike typical LSS reports, this data is driven in real-time from the process. If necessary, the manager could drill down to specific tasks in progress and re-prioritize work in real-time.

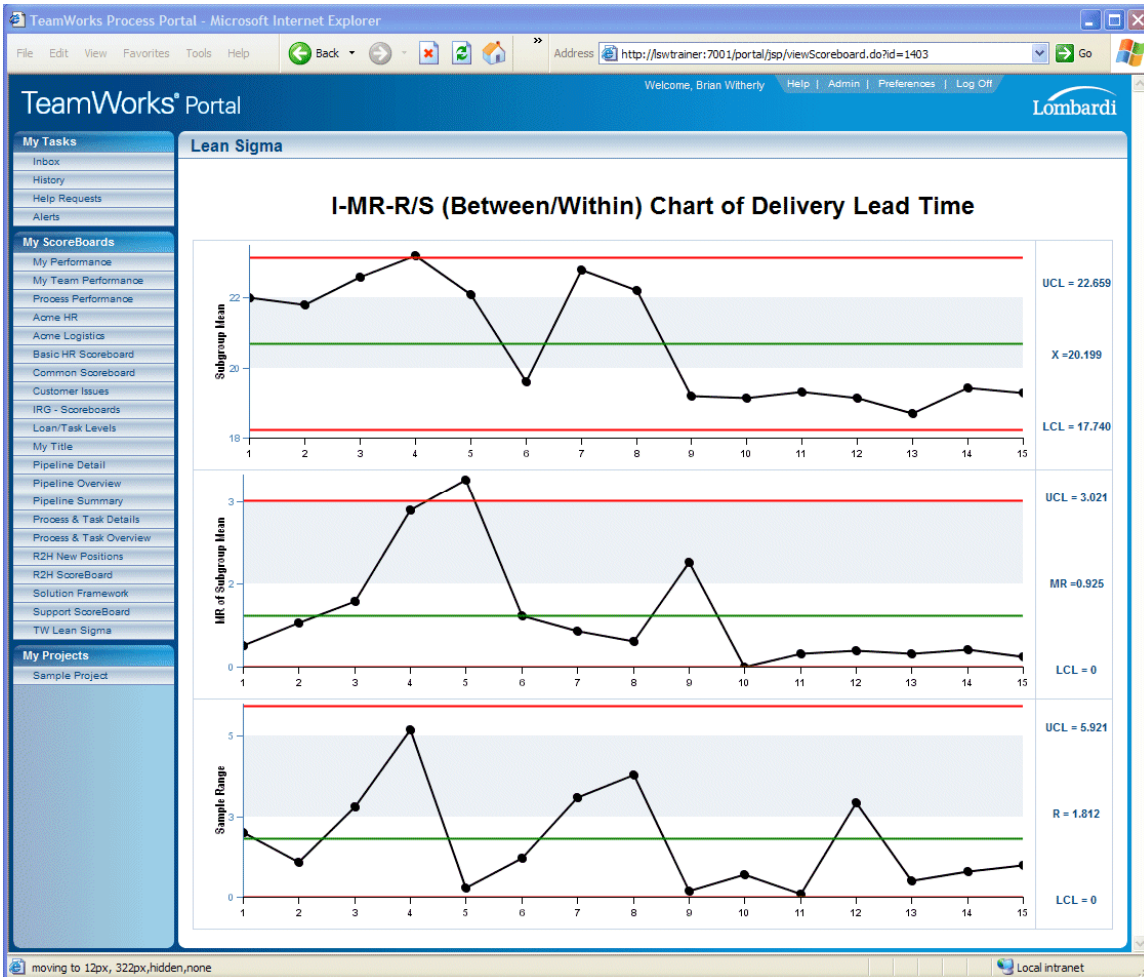


Figure 2. Real-time Process Performance Dashboard

### Connecting the Two Worlds

Conceptually, most people will agree that connecting the data-driven focus of LSS improvement with the real-time controls and automation of BPM is a “no-brainer.” Why haven’t more companies succeeded at connecting the two initiatives? We believe the problem is education and specific definition about points of integration. While BPM and LSS teams can tell you how their specific activities integrate and complement each other in their OWN disciplines, there is little insight into how to hand-off between the two. We believe there are eight basic touch points between the two initiatives. It is critical that these touch points are managed if a company is going to integrate their BPM and LSS initiatives.

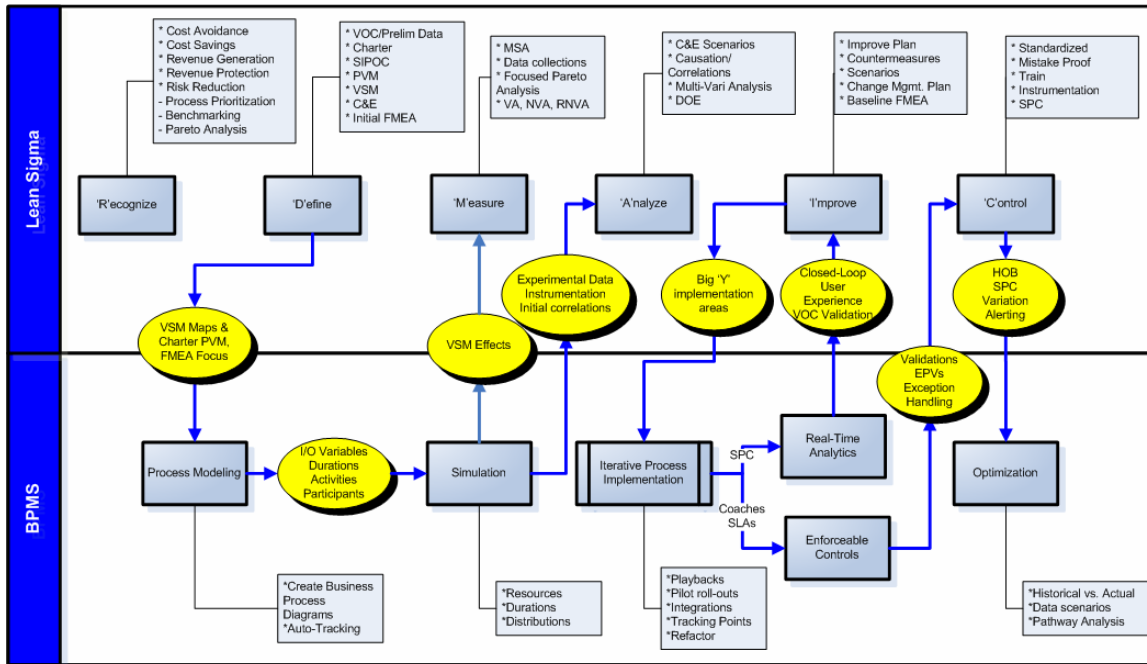


Figure 3. The Eight Touch points of LSS and BPM

1. **Value Stream Maps (VSM), Charter and Failure Mode and Effects Analysis (FMEA) –** Several of the assets created in the “Define” step of Lean Sigma are helpful to BPM teams when they start their process modeling. In particular, the VSM helps the BPM team understand the key areas of focus for their process modeling and how specific processes contribute to overall value to the company. Furthermore, FMEA provides BPM teams with insight into particular failure points that their process models must factor in and mitigate. Without these inputs from the LSS efforts, a BPM team might struggle to understand where they should truly focus their modeling efforts.
2. **I/O Variables, Durations, Activities, and Participants –** From the value stream map we can now begin to add the data that surrounds the key input and output variables. Cycle time, lead-time, and WIP as well as the human and system consumers who interact with the process – all need to be included by the BPM implementation.
3. **VSM Effects –** BPM simulation capabilities provide a strong initial baseline of data about the process. Instead of having to wait for several weeks of sampling, LSS teams can start analysis using projected performance information provided by the BPM system. Initial multi-variable studies can be run using the pathway analysis and resource thresholds generated by

simulation from BPM, providing an early litmus test of the areas of opportunity for improvement.

4. **Experimental Data, Instrumentation, Initial correlations** – Simulation data generated from a BPM solution can also be leveraged to create SPC charts. This data also allows the LSS team to begin to validate process capabilities on future state. While LSS teams could gather all of this information without BPM, it would take time and effort – and they would not have key data as early. Leveraging the BPM data can remove one of the biggest bottlenecks for LSS teams.
5. **Big Y Implementation Areas** – As part of their work in the “Improve” step of an R-DMAIC approach, the LSS team will produce an Improvement Plan. This document is a great asset to the BPM team as they make the process executable – not just simulated. In the BPM world, the best practice is to implement process applications iteratively. During that implementation process, one of the biggest challenges is to keep teams focused on solving the top priority problems. Knowing the Big Y implementation areas gives the BPM team a concrete understanding of which problems to solve – without them having to go and repeatedly interview the organization to distill that information.
6. **Closed Loop User Experience** – An executing BPM solution provides control over activities and generates performance data from the process consumers that can be used for improvement base lining in LSS. Since the process that was designed is the process that runs, change is automatically enforced and failures can be identified in real-time. This automatic control and data collection greatly simplifies the workload of Black Belts and Green Belts on the LSS team who would otherwise have to enforce controls and gather data themselves.
7. **Validations, EPVs and Exception Handling** – The key exception handlers are in place for the most critical FMEA input variables that need to be closely monitored. The right information is now available to identify countermeasures as the process begins its inevitable shift from compliance to non-compliance in meeting the customer requirements. This information is fed in real-time in the right format to the LSS teams.
8. **SPC, Variation Alerting** – Today, most BPM solutions treat business event alerting in a simplistic fashion. For example, alerts are generated for late work items or when certain data conditions are met (e.g., loan application over \$250,000). SPC instrumentation allows managers to understand the relevance of specific events. Variation alerting helps a process manager focus – telling them only when significant events happen. This discipline and approach must be integrated into the BPM dashboards that end users leverage to drive process performance.

## A Checklist for Evaluating Your Company

Companies have different levels of maturity in adopting BPM and/or LSS. However, those that have successfully implemented and integrated their BPM and LSS initiatives are able to answer, "Yes," to all of the capability statements in the following list.

Capability	Yes or No?
Process Visibility from the value stream map of the business, with the processes broken down to the procedural level.	
A real-time dashboard with control charts at the procedural level, up to Executive Health of the Business gauges that can be used to monitor the whole corporation, lines of businesses, functions, or processes with full drill-down capability.	
Ability to incorporate Statistical Process Control (SPC) charts to monitor <u>in real-time</u> the process performance against the voice of the customer in time, quality, and delivery, and, most importantly, their "stable" processes alone.	
Simple to use Process Modeling tools for the process owners at all levels, to provide standardized process mapping and standard work documents, and simulations capability.	
Proactive: The ability to notify users immediately when out-of-control conditions occur, so process owners and process specialists can capture the root cause for corrective action or for best practices implementation.	
Relentless Voice of the Customer driven process requirements and the subsequent method to gather, prioritize, and validate compliance.	
Visibility into and accountability for process performance against voice of the customer SLAs.	
Live updating of Process Improvement Prioritization matrix, aligned with the Company Strategy, to assure that available improvement resources are assigned to the improvement activities with the most impact.	
Rapid prototyping of new products and services using process simulation (DMADV).	
An efficient workflow to implement the best "future" state process, usually yielded by Kaizen Events.	
Mining process capability against VOC for improved and new products and services.	

**Figure 4. Integrated Process Improvement Checklist**

## Next Steps

Few companies that review the above checklist can answer, "Yes," to everything. That is to be expected – Moving towards a process-centric view of core operations takes time. Every company is at a different level of maturity with respect to their LSS and BPM initiatives. At Lombardi, we believe that companies can accelerate the transition to a process-centric organization by explicitly integrating their LSS and BPM initiatives. We have identified eight critical touch points that must be managed to achieve this integration. Through readiness assessments, Lombardi is helping companies identify their gaps and establish a roadmap for integrating BPM and LSS to achieve the Power of Two.

## Authors

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