

# **Systemwide Lean Initiative: Collaborative Business Process Redesign**

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## **Abstract**

The University of Wisconsin System undertook a series of multi-campus, collaborative business process reviews using Lean Manufacturing's value stream mapping process. The goals of the Systemwide Lean Initiative were to establish more efficient and effective processes by providing dedicated time for analysis and giving staff simple tools to help them identify improvement opportunities. These redesign efforts also served to establish and reinforce collegial relationships across campus as well as among different institutions.

Areas targeted for initial review included procurement card activity, non-salary payments to individuals, and travel expense authorization and reimbursement. A second round of reviews examined the physical plant work order process, surplus property management and the financial aid process.

These six process reviews were completed with very positive results. Those results include an estimated savings potential of some 60,000 hours in the first round of reviews alone. The second round of reviews identified even greater savings potential. It is important to note, though, that these savings estimates represent the accumulated bits and pieces of many people's time. As such, they reflect more time available for staff to devote to other demands rather than a direct opportunity for staffing reductions. Characterizing the effort in this way is also important in securing the fullest engagement of those involved in the evaluation process.

Benefits derived from the Initiative go well beyond the metrics. Some of the greatest benefits have been the strong collegial relationships that developed, allowing staff to take advantage of the experience, expertise, and varied approaches that staff from across campus and across the System brought to the review teams. The training and evaluation efforts have also helped to change the way many people view their work. Providing them with the tools and mindset they need to improve not only the specific process under review but other aspects of their work as well.



## **Statement of the Problem/Initiative**

Like most public institutions of higher education, the University of Wisconsin System has experienced substantial reductions in State support in recent years. This challenging fiscal environment has put considerable stress on our resources as we strive to serve more students than ever before. Given the difficult economy and tight State budgets, funding levels do not appear likely to improve any time soon.

On top of this we are not always viewed from the outside as the most efficient of enterprises. While University of Wisconsin institutions are continually engaged in activities that seek to reduce, avoid, and contain costs, those efforts are not always widely known or recognized beyond the University. As a result, outside parties sometimes hold negative perceptions of our operational efficiency. Despite consistently low administrative costs, and being cited by independent, outside analyses (e.g., NCHEMS) as being among the most efficient higher education enterprises in the country, we are sometimes seen as wasteful, bureaucratic, and/or inefficient by those with little knowledge of our operations and our considerable efforts in this area.

We hear comments like "...why can't you operate more like the private sector...", "the University is just a bloated, wasteful bureaucracy...", and "why don't all institutions use standardized procedures...?" Critics cite approaches like CQI, Six Sigma, Lean Manufacturing, and other process improvement strategies as something the University should be doing. Of course, we have been using these and other approaches to one degree or another in various areas for many years. Our people are always looking for new ways to improve their efficiency and make their work easier. Given today's workloads, they don't have much choice.

One of the challenges of a large university system like ours is finding effective ways to share new approaches and move toward more standardized processes in a decentralized environment where individual institutions may be subject to the same policies and generally use the same administrative software but where the organizational structures, business practices, detailed procedures, and campus cultures can be vastly different. As noted, our institutions have always shared best practices and new approaches with one another, but these activities more typically happen through discussions at system-wide meetings of Chief Business Officers (CBO's), Controllers, and other administrative staff. These interactions often serve as a catalyst for change, with interested parties pursuing detailed information directly from those that have implemented a particular change.

We decided to take a more methodical approach to process review and redesign. We already had a number of Business Officers enthused about Lean Manufacturing which prompted us to pursue a series of coordinated process reviews in specific operational areas. Using Lean manufacturing's Value Stream Mapping (VSM) process, we set out to identify and share best practices across institutions in a more structured way. We needed to look at a process not only at an individual institution, we wanted to bring people from different institutional environments together to share approaches and collectively seek better, more efficient, and more effective ways of handling a process. This collaborative effort, where all parties have a stake in the process, allows participants to share in the experience, expertise and varied perspectives of folks dealing with common issues but, perhaps, addressing them in different ways. Such an approach not only results in better, more efficient processes, it also encourages movement toward more standard business processes without some sort of central mandate. The review teams own and support their own efforts at process improvement. That ownership and personal investment can make all the difference in effective evaluation and redesign initiatives.

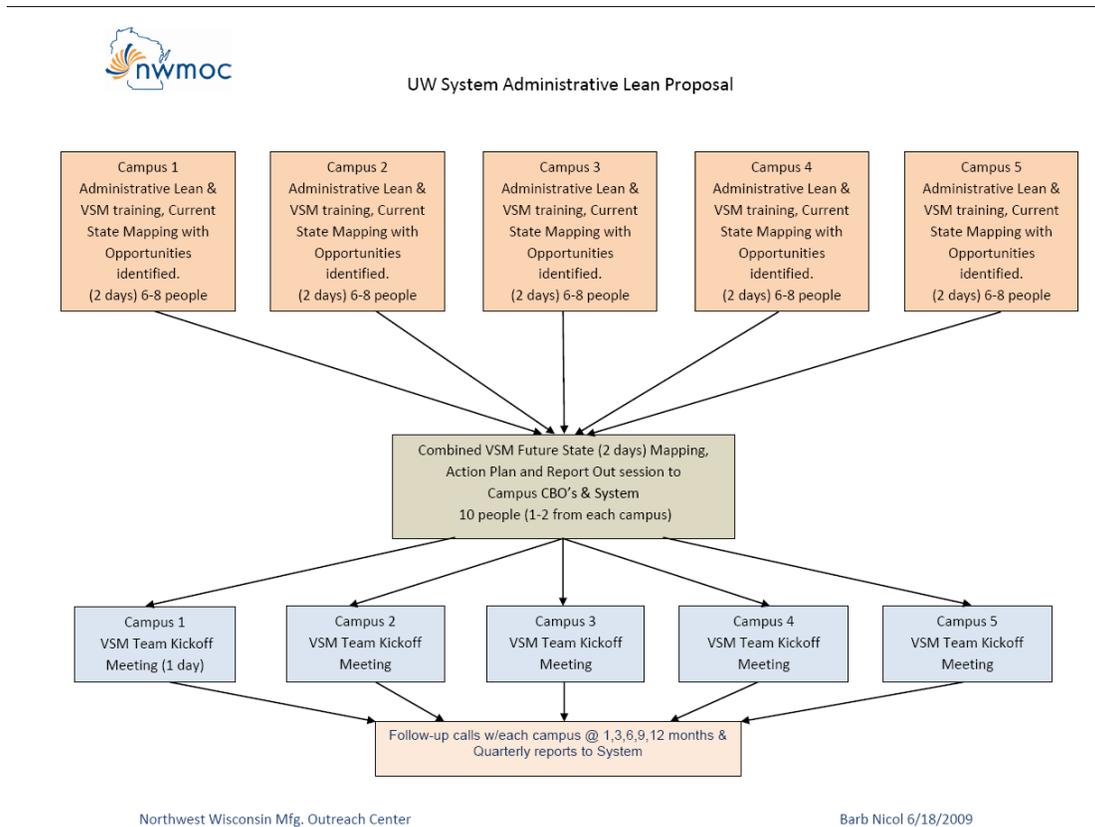
## **Design**

We began by bringing together a group six Chief Business Officers from University of Wisconsin institutions. These individuals were joined by the UW System Vice President for Finance and a key staff member from that Office. The Group met four times via teleconference to discuss how best to approach process evaluation and redesign. As noted earlier, we wanted to develop an approach that allowed campuses to share ideas and work together to develop even better ways of completing their work. Goals of this new initiative would include streamlining our existing business processes, training staff in the Lean Value Stream Mapping tool, providing a vehicle for those staff to develop and strengthen relationships with colleagues from other areas of campus as well as other campuses, and hopefully encourage these individuals to apply their newfound skills to other areas of their work.

The University of Wisconsin- Madison, the state's flagship university, was already engaged in an extensive business process review effort of its own which it called the APR project (an acronym for Administrative Process Redesign). This project had involved over a hundred staff in a nearly year-long training and team building exercise. The program sought to provide formal training in Lean, Six Sigma and general change management strategies. It also hoped to shift the culture by more clearly encouraging continuous improvement.

APR was already beginning to bear fruit on the Madison campus but the timeline and on-going commitment of staff time were a concern for some members of the CBO Group. Along with having a real impact on our business processes, the framing Group wanted to ensure that the system-wide initiative would yield results relatively quickly and provide those results in a cost effective manner. One CBO, who had also completed a number of process reviews on her campus, suggested we have a conversation with a campus-based consultant from their manufacturing outreach center. That consultant prepared a draft proposal showing a conceptual

framework that could be used for our desired multi-campus approach. This initial model was tuned a bit after our first round of reviews and resulted in the current framework shown below.



As illustrated, this conceptual framework brings together teams of 6-8 individuals at each of 4-5 campuses to receive training in the Value Stream Mapping process and general Lean Manufacturing principles. Training is presented by professional Lean consultants from the Northwest Manufacturing Outreach Center based on the University of Wisconsin – Stout campus. These consultants walk individuals through a roughly half-day session explaining the Lean Manufacturing approach and the Value Stream Mapping process. Once that training is complete, the consultants facilitate the review and mapping of the institutions current approach to the process being evaluated.

To begin the review process, teams first set objectives for their review. Examples might include general things like reduced processing time, greater accuracy, and more satisfied customers as well as more specific goals such as use of electronic workflow, capturing more recyclable materials, and specific communication strategies to strengthen understanding and compliance with University policy.

After the team has set its objectives, the process mapping begins. The mapping can take anywhere from a day to a day and a half as the group works through the various steps in the process and considers why each step is necessary, what it accomplishes, and how it fits with the overall process. As the mapping session unfolds, participants begin to better understand not only the portion of the process they are involved in, but also how it fits into the larger scheme of things. They begin to appreciate how and why other people and areas may want/need things to work a certain way. As the teams consider these current state maps, opportunities for improvement become readily apparent. These opportunities are then documented and become part of individual campus action plans for improvement.

Once all campus based teams have completed their individual reviews, one or two members from each campus come together to share the results of their initial efforts. They walk through their current state maps, discuss their best practices, and point out opportunities for improvement in their existing approach. After all institutions have presented their current state, the combined team begins work on a desired future state that takes advantage of the best elements currently used at each campus and whatever other opportunities the team would like to work toward.

To help illustrate the potential gains that could be garnered through these process redesign efforts, we used a set of simple metrics which could be used for all projects. Those metrics include total lead time, total process time, number of steps, and percent complete and accurate.

While we expect that the greatest benefits from this initiative derive from the training, dedicated time to focus on process improvement, and the opportunity to strengthen relationships with colleagues from other campuses, use of these metrics provides another, measurable way to demonstrate the value of the team's efforts.

We believe the guidance of the outside consultants is important for a number of reasons. First, they have expertise and experience in the Lean review process itself. Second, they help reinforce the idea that the reviews are owned by the evaluation teams themselves rather than by the central System Administration. We believe this is especially important in an environment such as ours where responsibility and authority are relatively decentralized. Success is far more likely if the people suggesting the changes actually do the work being affected. Finally, the consultants bring an objective viewpoint focused solely on process improvement and are unencumbered by past practices, organizational dynamics, and/or broader on-going work efforts.

As important as it is that the review teams "own" the outcomes of their work, we did feel a certain amount of follow up would help ensure that teams continue to work toward implementing their ideas. To keep energy focused on the campus action plans, we built in regular follow-up calls from the consultants to check on progress. The consultant then submits a brief quarterly report to UW System Administration to help us gauge the success of the projects.

The final, and perhaps most important, element of the Initiative's design is the early and on-going support of the institutions' Chief Business Officers (CBO's). Their persistent support and encouragement is absolutely essential to ensuring the full success of these review efforts. That support is demonstrated by making sure that staff has the time to devote to implementing recommended changes, ensuring that adequate resources can be applied to change efforts, and

simply showing continued interest in the team's efforts to improve the quality and efficiency of their work.

The cost of each round of three reviews was approximately \$90-\$100K (~\$30K per project) which included two professional Lean consultants and their related expenses. Their efforts included the formal Lean training, facilitating the mapping sessions, implementation kick-off meetings with each campus, and regularly scheduled follow-up on status for one-year following completion of the review effort. Additional resources which were not quantified, but obviously essential, include the time of individual staff engaged in the planning and redesign activities.

### **Implementation**

Once we were comfortable with the design of our review initiative, we put together a preliminary list of potential processes for review. We asked the campus CBO's to consider these projects, as well as any ideas not listed. They were to assign a rank to each option indicating their institution's interest and ability to participate in a project in that area. This information was used as the basis for selecting the three highest ranking projects and assigning each institution to a specific project. Having institutions essentially self-select into various projects engenders a measure of buy-in that might not be present if a central authority simply directed participation in a particular project.

Each Chief Business Officer worked with their staff to form individual campus review teams. These teams of 6-8 individuals were intentionally comprised of individuals with a variety of perspectives - not just those with direct involvement with the process. These differing perspectives can come from individuals upstream or downstream of the process and often include one individual with no connection to the process whatsoever. This last individual can

join with the consultants to continually ask “why”. Why do we feel we need this step or that one, why can’t we do it this way, who makes the rules, etc?

As described above, these teams complete their training and develop a map of their institution’s current approach before joining together with other campuses to consider what the desired “future state” might look like.

Each team then developed a campus action plan which includes elements of the future state which are not currently in place and which bring value to their institution. We have not mandated that all campuses must fully implement all aspects of the mapped future state. While perhaps not optimal, this incremental improvement does move us toward more standardized approaches without forcing more change on already overburdened staff. Mandated, one-size-fits-all approaches, seldom achieve great success and we believe that by working together, we can effect real change that slowly, but surely, moves us toward common processes and procedures across institutions.

Enthusiasm and creating a sense of ownership in the review teams are critical factors for success. At the System level, we serve primarily as sponsor, acting as liaison with the CBO’s, and providing oversight of the Initiative. The real work happens with the campus teams both initially and in the longer term implementation phases.

Participants in these redesign projects have been overwhelmingly positive about the experience. People seem to especially appreciate the opportunity to work with colleagues from across campus and from other institutions. Coming together to spend focused time on understanding their approach, as well as how others handle a process, helps everyone see how things could be done better. Helping to establish and reinforce these collegial relationships is among the greatest benefits of the Initiative. Participants have also expressed appreciation for the Lean training

itself. We have heard many comments indicating that participants expect their newfound skills and relationships to be helpful in other aspects of their work that were not part of the formal review.

To keep the campus CBO's and others apprised of the general status of the initiative, we periodically included brief updates as part of our regularly scheduled CBO teleconferences.

Finally, after each round of reviews was complete, we called the CBO framing group back together to consider our experience, the value derived, and how we would like to proceed going forward. To this point, campus Chief Business Officers have been very supportive of these efforts and have expressed appreciation for System Administration's sponsorship of the program and the opportunity it provides as a catalyst for real, substantive change.

### **Benefits**

The first round of our reviews which looked at procurement card, non-salary payments to individuals, and travel expense authorization and reimbursement identified potential savings of approximately 60,000 hours of staff time. It is important to note, however, that these are "potential" savings and they represent the accumulation of bits and pieces of many people's time. As such, the savings do not easily allow reductions in staffing levels; rather they offer existing staff the time they need to apply toward other demands.

We expect similar results from our second round of reviews which considered physical plant work order processing, surplus property management, and financial aid processing. In fact, the work order project alone has identified potential savings nearly equivalent to the first three projects combined. The nature of the latter two projects in this round creates some challenges in

using our standard metrics. The standard, time-based metrics may not actually be the best way to measure success for things like surplus property and financial aid processing. We nevertheless expect real and substantial benefits to derive from the efforts.

The training provided in the Value Stream Mapping process offered great benefit, providing simple tools which can be applied, not only to the project at hand, but to other areas of work as well. Once they go through the training, people tend to look at things a bit differently. They may or may not go out and perform other formal reviews, but their mindset often changes such that they question the status quo and see opportunities they may not have seen prior to training.

Finally, we believe the collegial interaction offered through these focused efforts provides exceptional value to participants as well as their institution. Simply setting aside time for staff to work with others performing similar work, sharing ideas, and sharing a common experience provide immeasurable benefits well into the future as relationships are strengthened and staff find they can call on colleagues for insights, advice, and potential solutions to challenges as they arise.

### **Retrospective**

We have been pleased with both the enthusiasm of participants and the results of their work. From a central System office perspective, we feel the investment of time and resources was well worth the effort. Based on our experience, we would offer the following thoughts to others considering a multi-campus, collaborative business process redesign effort.

First, be absolutely certain that you have support for the project from the highest levels of your organization. This is important in getting things off the ground and equally important in maintaining the interest and enthusiasm of the staff participating in the reviews. Keeping key players interested in these activities amid myriad other priorities can be challenge.

Second, we highly recommend the use of outside consultants/facilitators, or at least ones who are not part of the immediate organization involved with the processes under review. This helps reinforce the review team's ownership of the project and ensures a questioning eye on the status quo.

Third, choose your projects carefully. The Lean approach shines brightest when shone on very clear, discrete processes. Such processes help teams know precisely what needs to be done for improvement and by whom. This simple knowledge can be the key to capturing the fullest success from a project. Looking back, some of our projects may have been a bit too broad to work well with the Lean approach. We still got great value from the projects, it's just that more assumptions work their way into things and recommendations become more general. You will also want to ensure that your institutions, divisions, or whatever components make up your structure have ample input into what processes will be under review.

Lastly, you should keep in mind that change takes time. Staff can identify opportunities relatively quickly, but it takes time to implement any desired changes. Give them time to work on this. Stay interested, but allow a generous timeline to achieve the desired results. Know that much good comes from these initiatives...and much of it comes in the form of a more positive, productive workplace rather than quantifiable savings in dollars and/or staff time.