

Defining Differences

for Six Sigma in the Services Environment

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A White Paper from Six Sigma Qualtec



Service Industry Businesses – such as financial services organizations, customer support centers and hospitals – face unique challenges. In these businesses, breakthrough improvement performance improvements simply cannot be met with traditional Six Sigma training.

To realize Six Sigma's full impact on business results, service companies must focus on a different set of issues. Getting optimum results requires the best possible tool kit and improvement methodology. Traditionally, Six Sigma has addressed service-related issues with only one tool kit – found in most “manufacturing” curricula – even though the label was sometimes changed to read “transactional.”

Six Sigma Qualtec (SSQ) has analyzed and extensively reviewed the service culture and environment, and has defined substantial differences from the manufacturing environment – both in the issues faced in service-based environments as well as the methodology required to address those issues and obtain meaningful and lasting positive change.

SSQ's in-depth analysis has identified the major differences between manufacturing and service environments and has developed a new approach to Six Sigma that successfully manages the differences and helps clients obtain significant financial results. In addition, SSQ has had the unique advantage of conducting Black Belt training for service businesses using both the traditional and the modified methodology, and can report that curriculum developed specifically for the service environment is by far more effective than the traditional, manufacturing-based approach. This paper recounts the findings of SSQ's analysis as well as field experience gained in deployment using old and new curricula.

Service-based Settings Require a Modified Approach to Improvement

As more and more organizations investigate the application of Six Sigma, they quickly realize that a standardized approach simply will not work. It is an awkward fit; service organizations and processes are different than manufacturing businesses and processes.

What, specifically, makes services-based Six Sigma environment so different? To begin with, the issues and problems arising in this environment usually prove to be more complex and dynamic than in the manufacturing setting. There are usually several internal and external “customers” involved in any given transaction. The measurements required to monitor processes are different, and therefore the metric tools are different. Organizations must acquire a different skill set in order to address these issues in a service-based business culture.

From Task Focus to Process Focus – “The Product is the Process”

The concept of process is inherent in manufacturing. There are “process engineers” that manage the flow of material through sequences of linear steps to create products. This is commonly known as “the manufacturing process.” In contrast, professional services workers talk about “tasks” that are performed, independently (it seems) of any manufacturing sequence or work flow. Service providers often think of these tasks as activities unrelated to the value of a “product.” Recognized or not, these activities are still processes. In fact, the product is the process. As a result, every aspect of process management – process mapping, process measurement, process design, process control – plays a much more critical role than in the manufacturing process. Process management can be the single greatest factor in adding value to work.

Decisions by Humans Drive Overall Process Performance

In any service organization activity, decisions made by people drive processes much more so than in the manufacturing world. In manufacturing, most decisions are based on adjusting machines or software using tangible criteria and specifications.

Conversely in service industries, most decisions rely on the “judgment” of a human, and the criteria are much less precise. Also, many true decision points are “hidden” and not even considered as decisions.

Delaying an answer for a day, or holding off an activity while waiting for more information, or letting a form sit in an in-basket for days, ARE decisions to NOT do something within a set timeframe. Sign-offs, reviews and inspections are all decision points, but are not often designed or specified as such. In fact, reviews and sign-offs are often red flags that should beg the question of their very existence in a process.

Measuring the “Correct Thing” vs. “Measuring the Thing Correctly”

Related to the lack of a process orientation, the service world’s KEY measurement issue is finding the correct things to measure in a process that gives true feedback on past or future performance. This “what to measure” issue is quite different than the predominant issue in manufacturing, which is “how to measure more accurately.” In manufacturing, for example, gage studies are critical; the data usage is straightforward.

In service processes, however, the greater issue by far is determining a useful measure. A general lack of consistent, cookie-cutter measurements for service businesses demands that greater time and attention be focused on developing and understanding appropriate measurement systems in specific environments, rather than relying on a mystical “key measurement” that will identify and eliminate all problems forever. For the most part, businesses measure close rates, cycle time and on-time compliance, with little understanding of “value added” contributions to the final “product.” Each service-related environment has its own unique set of problems, and each requires a carefully crafted, custom analysis.

The Data for “Good” Looks Different

In Six Sigma for Manufacturing, much has been made of the normal curve and reducing variation (thus narrowing the width of the normal curve and changing its center or mean point) as a key indicator of success.

In the world of professional services, time, money and “counts” are the most accessible points of measurement. In terms of actual continuous measurement, time is virtually the only factor consistently available; financial measurements will almost always be lagging indicators.

“Good” time data – as in cycle time – will not be represented in a statistically “normal” form. It is exponential in shape. Cycle time of any sort always has some practical “shortest possible time” associated with the action. You can’t send a paper letter from New York to Los Angeles any faster than the fastest airplane or rocket. As the performance of the process or process step approaches that absolute boundary, its data assumes the attributes of an exponential curve. IF you find a normal curve in cycle time data, it’s a clear sign that the process is NOT performing to its potential. As the process approaches optimal performance, the left “tail” of the curve should totally disappear, and the distribution takes on an exponential shape.

When “The Best” Is Not Good Enough

Using the example of sending a letter from New York to Los Angeles, if the practical minimum is NOT good enough (say you needed to get a message to L.A. in 5 seconds, not 5 hours) improving the existing process will NEVER meet your goal. In this example, you’ll have to abandon the notion of a paper letter and switch to fax or e-mail. This places you in a major change management role. Where the previous culture demanded a hard-copy letter with a physical signature, the new approach requires acceptance of an electronic document as a valid substitute.

Process Changes are People Issues – Not Machine, Chemistry or Tooling Issues

While better machines or software programs frequently improve workflow, service processes in general are much more dependent on human and organizational change than are changes to manufacturing processes. Changing the speed or temperature setting on a machine is quite a different matter than training staff or adjusting assignments, changing value systems or creating and enforcing process disciplines.

Coupled with these issues are considerations of a non-process focus: morale, employee motivation, teamwork across work unit boundaries, organization-wide change management initiatives. Problem solving and performance improvement in the service environment must take in all of these factors in order to effectively deal with core problems and obstacles.

Tools: Some Are the Same, Some Are Not Needed, and New Ones Must Be Added

Due to the differences noted previously, some practical changes are required for the Six Sigma Black Belt’s tool set. Process mapping and process design techniques must be rigorously enhanced.

Machine-oriented tools such as gauge R and R can be dropped. Non-parametric statistics and attribute statistics become relatively more important than “normal” statistics. Design of Experiments (DOE) assumes a completely different role in a service-based environment. Frequently, DOE is completely left out of curricula for Six Sigma in the service industries, because it creates its own set of unique problems. Seldom can a designed experiment affecting critical economic factors be successfully implemented in a service-based business. DOE will work, however, when coupled with sophisticated simulation models specially designed for service environments.

Additional training in subjects such as team building, team leadership and change management provides essential and critical tools for achieving lasting change and sustaining performance improvement.

Managing the Risk of Change: Simulation and the Discipline of Developing Them

The nature of service-based projects (long change time, people's involvement, inability to "go back to the way it used to be" after changing something) requires one particularly powerful new tool – Simulation.

The risks of change are higher in service situations because you are almost always directly affecting people rather than machines. Simulation helps manage those risks.

A straightforward and powerful simulation software package will allow you to test the processes under study. Improvement options can be modeled, tested and validated – keeping in mind a realistic understanding of the limitations of computer simulations – allowing a team to work through a process map in detail while safely manipulating critical variables that affect performance without disrupting the current work flow.

Not every process improvement problem calls for a valid simulation model. In fact, only about 20 percent of your problems – the toughest and most complex – will require simulation modeling to attain the best solution. However, SSQ has found that the discipline of developing a model leads to a much better understanding of the process under study than a typical mapping effort provides. When developing a model, the requirements to fully understand issues such as employing resources across functions, the cycle times and distribution shapes of process step inputs, the un-accounted for time spent by resources and other various questions must be answered. These learnings will provide the Transactional Black Belt with critical information – even if a full simulation is not run.

Do I Have to Start Over to Get the Skills for Services Applications?

If you have already had rigorous training in Six Sigma for Manufacturing, you do not need to completely start over to master the unique value of SSQ's transactional curriculum. SSQ offers a "Transactional Skill Set for Black Belts" training program focuses on completing a simulation project and addresses the team and change management issues critical to implementation and control of transactional, service industry solutions. Black Belts with manufacturing experience will not only obtain the new skills, but will also gain new insight into their existing tool set.

Conclusion

Following extensive research and client testing, SSQ has developed a new curriculum that addresses the unique issues faced in attaining business results from service-based processes. It is built with no compromise in rigor or completeness. It introduces new tools needed to make practical and cost effective improvement of processes and the management of the risk associated with those changes. It discards those tools and concepts from Six Sigma's manufacturing heritage that do not add value in this new environment.

Finally, if you have already started Six Sigma in the manufacturing area, you can augment your Black Belts' skills with a supplemental, expanded Six Sigma training program that builds on previous knowledge and experience.



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