



## Six Sigma Applied To Legal Litigation

One of the "hardest nuts to crack" in company-wide Six Sigma deployment is often the corporate legal function. Many people have a difficult time seeing how Six Sigma could apply there. Of course, all major corporations have a legal function, and therefore deployment in legal is necessary to have a truly company-wide initiative. Julie, a lawyer in the corporate legal function trained as a Black Belt led the following project. To maintain confidentiality, some details of this case are omitted.

### **Background**

Major litigation often produces massive amounts of documentation, sometimes measured in millions of pages. Such documents come from a variety of sources, but must be readily available if subpoenaed, or requested by the opposing counsel. Therefore, the problem of document management is both time-consuming and expensive, not to mention important for the legal case itself. This process is typically done manually, given the vast volume of documents that would need to be entered electronically. Such a manual process is obviously subject to human error, resulting in lost or incorrect documents. This project was based on the documentation required for one particular case, which for legal reasons Julie did not name. In this litigation, an electronic database existed, which listed and classified all the relevant documents, but the documents themselves were still in hard copy form.

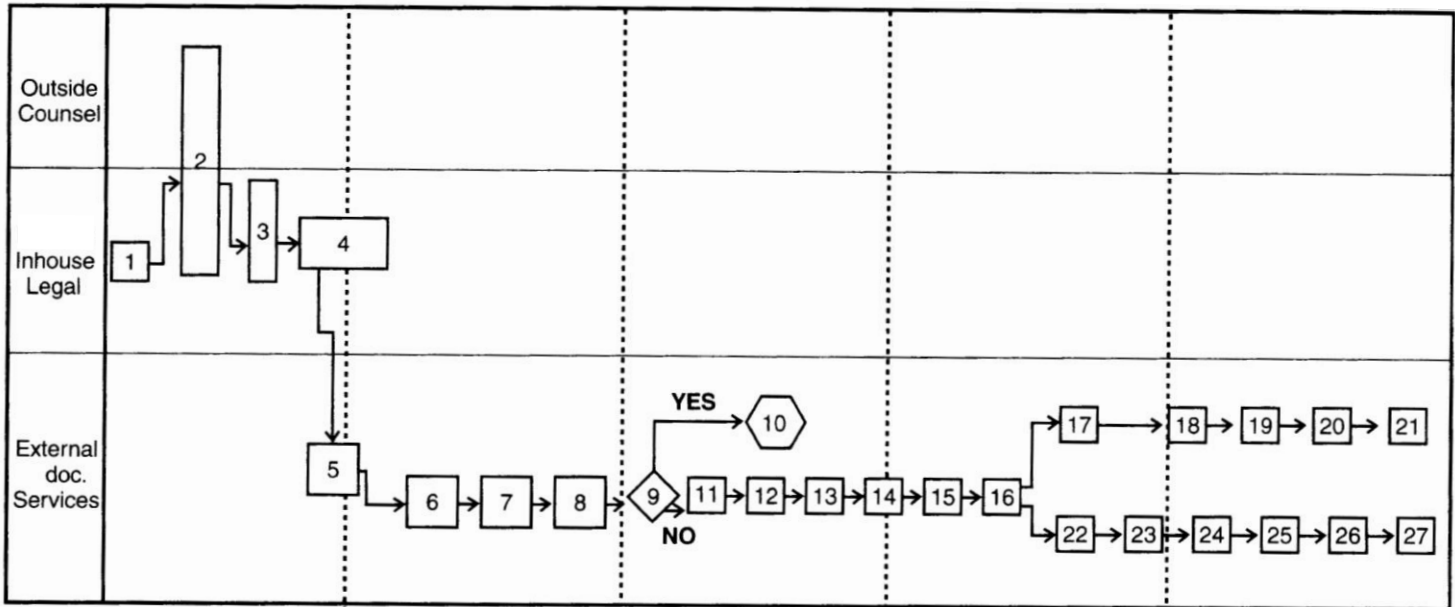
### **Define Phase**

In developing the charter for this project, Julie recognized the company legal team involved in the litigation as one customer and the legal function itself as another. The legal team needed a streamlined process to allow timely access to needed documents, with minimal errors. For example, if the legal team was not able to respond to a request for a particular document within 30 days, they would have to file for an extension with the court. Such extensions obviously undercut the credibility of the company's legal team, and if not granted could have dire consequences. The corporate legal function was a key customer in that it owned this process and was responsible for its costs. Specific objectives in the charter included reduction of non-value-added steps, reducing errors, improving cycle time, and reducing costs.

The project team consisted of process owners, legal subject-matter experts, contract clerks, an IT professional, and Julie (the BB). They began by mapping the entire document production process, including deciding where the project boundaries would be. Figure 5.5 shows the initial process map, including differentiating steps done by the company legal function, outside counsel, and the outside document management company. This type of flowchart is often referred to as a deployment flowchart. This chart enabled the team to look at the process holistically and led to identification of redundant or non-value-adding steps, including inspection steps.



**FIGURE 5.5:** Process map detailing the steps of document production process.



Step                      Process Activity

01. Document Request Received
02. Request reviewed for responsiveness, scope, timing staffing
03. Document database searched; list of potentially responsive documents printed
04. List provided to external doc. services "floor lead"
05. 2 copies of print request made: 1 for internal log; 1 working copy
06. Clerk assigned; given working copy of request
07. "Pull" sheet manually completed for each document
08. Document number(s) checked against Privilege Log
09. Is document privileged?
10. STOP
11. Document pulled from box, "pull" sheet inserted
12. Document pages manually reviewed for missing pages, gaps, etc.
13. Document production sheet manually completed; total pages calculated
14. Documents & tracking sheet given to "floor lead"
15. "QC" clerk assigned & given documents & tracking sheet
16. QC performed; documents returned to floor lead
17. Production tracking sheet sent to supervisor for updates
18. Request accuracy verified; new form created; form & tracking sheet sent to data entry clerk
19. Database updates made; form completed & returned to supervisor w/tracking sheet
20. QC clerk assigned; QC completed; report generated & attached to shipping boxes
21. Forms sent to production floor for filing
22. Copy center spec sheet manually completed & sent to copy center
23. Request logged in by floor supervisor
24. Copies made based on specs
25. Copies & originals sent to supervisor; QC clerk assigned
26. QC of copies v. originals made
27. Docs shipped to outside counsel via FedEx

## **Measure Phase**

In this phase, the team formally defined the CTQs (i.e., Critical-To-Quality Measures, Outcome Measures or “Y’s”) and measured the degree to which they were being met. CTQs were formally defined for cycle time, errors, and cost; the cost CTQ was a cost-per-page metric. To obtain measurements, the team reviewed data in the database mentioned previously, looked at actual invoices, including labor and copying charges, and also began looking into how frequently individual documents were being handled. Despite the existence of a "pull log" in the database, the frequency of handling variable turned out to be very difficult to measure accurately—that is, it was the most challenging measurement system issue.

The team documented the contributors to cost, including the following:

- Copying costs
- Time of people
- Fees for filing extensions to the 30-day limit for submitting documents to the court
- Data entry
- Document shipping

There were non-value-added costs in each of these categories (for example, when documents had to be recopied and reshipped because the wrong document had been copied and shipped originally). In addition, by digging through the details of the process the team discovered a number of opportunities for errors, such as allowing confidential documents to be copied. To protect confidentiality, Julie did not list the specific levels of performance for each of these CTQs.

## Analyze Phase

In this phase the team worked with the data they had obtained and the existing knowledge of team members to identify root causes of errors and costs. Some of the most useful tools turned out to be knowledge-based tools, such as failure modes and effects analysis (FMEA) and cause-and-effect analysis. The FMEA analysis, shown in Figure 5.6 (with some details modified for confidentiality), highlights the most important issues that needed to be addressed to prevent potential failures of the system.

The RPN number is the risk priority number, which is just the product of the severity, occurrence, and detection numbers. The RPN provides one number to summarize the overall risk. QC in this document refers to a manual inspection loop. The cause-and-effect matrix is a form of quality function deployment (QFD), using a matrix format to identify the steps in the process most likely to impact the key process metrics of interest.

<i>Process Step</i>	<i>Potential Failure Mode</i>	<i>Potential Effects of Failure</i>	<i>Severity</i>	<i>Potential Causes of Failure</i>	<i>Occurrence</i>	<i>Current Controls</i>	<i>Detection</i>	<i>RPN</i>
Pull Sheet Creation	Inaccurate Entries	Wrong Documents Pulled	g	Clerk Mistake, Inattention	8	QC	8	576
Priv. Log Check	Priv. Docs Not Identified	Wrong Documents Pulled	8	Clerk Mistake, Inattention	8	QC	8	512
Document Review	Miscounts. Wrong Documents	Wrong Documents Produced	8	Cleric Mistake, Inattention	7	QC	6	336
Tracking Form Creation	Inaccurate Entries	Wrong Documents Tracked	7	Clerk Mistake, Inattention	5	QC	6	210

**FIGURE 5.6** FMEA of root causes of document process failures.

In addition to application of Six Sigma tools, the BB team visited the people working in this process and interviewed them. These interviews were aimed at better understanding the way they did the work, the problems they faced, and how they felt about the job. It is common in applications beyond the factory floor to have an even greater human element in the process—that is, more human intervention than in manufacturing. Therefore, although meeting with the people working in the process is always a good idea, it is often even more important in real economy applications.

Based on these and other analyses, the team identified some key causes of errors and, ultimately, costs. These key root causes included the following:

- High turnover of contractor clerks
- Lack of adequate training
- Lack of ownership in the process by the clerks, leading to inattention
- Large numbers of documents.

After reviewing these causes, the team concluded that they would be difficult to eliminate or even mitigate with a manual process. This was particularly true because the clerks worked for a third party, not for the company. Therefore, the team reconsidered the option of a digital scanning system.

## **Improve Phase**

People had suggested scanning systems in the past. However, based on standard financial analysis, the investment had never been deemed worth the upfront costs. Fortunately for the BB team, their more extensive analysis had better captured total costs of the current solution, as well as the inability of a manual system to significantly reduce them. Based on this more detailed and quantified analysis, the team was able to successfully argue for a digital scanning system. There was still much work to be done, however, such as identifying the best digital option for the company's needs and agreeing on a price and schedule for scanning all the documents. The team also needed to develop an IT protocol for the scanning system consistent with existing IT systems.

The team remapped the document storage and production processes, based on a digital process, reducing these to four major steps in total:

1. Collect paper documents.
2. Image documents.
3. Index electronic documents.
4. Produce copies electronically when needed.

Based on the remapped process, the team ran a pilot study using a product called Virtual Partner, and found that they could reduce the unit costs of processing a page of documentation by more than 50%. This represents an annual savings of \$1,130,000 for a similar-sized litigation. After full implementation, the electronic system was so successful that it is being migrated across all the company's legal functions, with total estimated savings of approximately \$10 million.

## **Control Phase**

Despite the use of an IT solution, it was still important to implement a control plan to ensure the gains were maintained and that this solution did not lead to new problems. The IT system was designed to automatically track the estimated costs per document over time and provide real-time reports to quickly identify any emerging issues. The system also tracked performance on key CTQs and made this information available online to system users. Another aspect of the control plan was to forward invoices from the imaging contractor to the process owners, not for approval, but as a means of monitoring the costs on an absolute basis, in addition to a per-document basis. In addition, the company set up sessions to communicate the new roles and responsibilities people had with the new process and to provide training where needed.



## **Conclusion**

The project delivered huge financial benefits to the company, and the solution is being leveraged across all their legal functions. Upon final examination, non-value-added steps were reduced by 70%. In addition to the hard financial benefits, this enabled the legal staff to become more productive and focus on what they were trained to do. For example, prior to this project, legal assistants spent considerable time on location at the document storage facility, expediting, checking up, resolving issues, and so on. Another benefit was that this system allowed their legal functions to better comply with court requests for documents, enhancing the reputation of the organization.

As noted earlier, it is interesting that the ultimate solution of going to an imaging system had been suggested previously, but had been rejected based on assumed costs relative to assumed benefits. The detailed analysis done as part of the BB project demonstrated convincingly that the imaging system would not only be cost-effective, but that it also would likely be the only means of eliminating some of the root causes of defects (and subsequently, cycle time). Some might view this project to have migrated to a DFSS project after the decision to go with a digitized system was made. We acknowledge that in many cases, as seen here, the line between improving the existing process and designing a new one is somewhat fuzzy.

It should be noted that this was not the only Six Sigma project that was completed in legal; some additional Six Sigma application areas include the following:

- Records hold orders
- Employee termination
- Agreements management
- Online billing
- Legal Charges to business units
- Continuing legal education