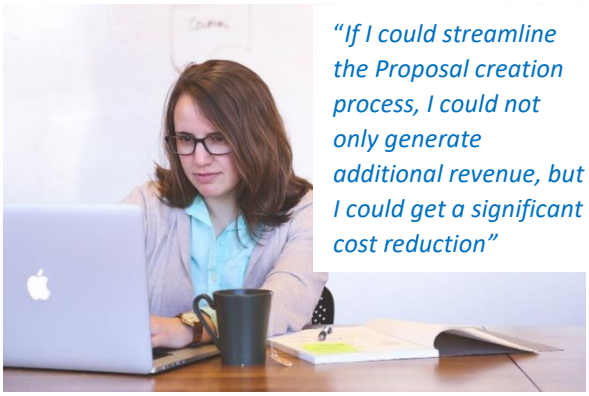
Lean Six Sigma Case Study - Gentech

Introduction

Gentech is a large multinational company with an annual revenue of $60 Billion. The company has a presence in a hundred countries across the globe and employs over 150 thousand employees and contractors. Gentech sells software, hardware and integrated business solutions. The company has been a market leader for several years, but growing competition over the last couple of years has put a strain on the company's revenue. In the last two years Gentech has seen an 18% reduction in its revenue. The CEO of the company, Elliot Smith, is determined to turn the ship around and has pulled together a task force to investigate the problem. Elliot has long believed that the company's strategy and product offerings are best in class, however, he is convinced that in order for the company to increase its market share and profitability, its supply chain needs to be more cost effective and agile to changing customer needs. To that end he is looking to his task force to drive efficiencies in operations worldwide and has challenged them to reduce cycle time of operations by 15%.

The Task at Hand

Grace Monroe, VP of supply chain operations, comes out of the board meeting with a worried look on her face. As the head of the task force team, she has been handed a tough challenge. This isn't the first time she has been asked to lead a global effort, but the magnitude of the initiative has her concerned. She quickly pulls her team together and begins to roll out a plan to meet the challenge. Instinctively, she turns to her upstream supply chain processes. While Gentech has been a market leader in the space, the company has struggled to keep up with competition and has recently lost several bids to competitors due to long cycle times.



"If I could streamline the Proposal creation process, I could not only generate additional revenue, but I could get a significant cost reduction"

Gentech's sales force has been instrumental in generating leads and seeing them through to contracts. This *Proposal creation* process requires sellers to reach out to customers, understand their needs, configure a solution, put together a price, which includes installation and after sales support. As the company expanded its global reach, the sellers found themselves spending an inordinate amount of time creating the proposals as opposed to generating opportunities for the business. In 2015, the executive leadership team made a decision to create a sales support team that would serve as a shared service and support the sellers in creating proposals. The idea seemed a good one. Sellers could spend more of their time engaging with customers and focus on developing relationships, while the administrative back-end work could be carried out in a more cost effective manner by offshoring it to a lower cost jurisdiction. While the strategy seemed to be a good one, the company quickly realized that the additional hand-offs complicated the process and prolonged the cycle time to create a proposal. Grace is convinced that streamlining the Proposal creation process will reap rewards and help Gentech regain its position in the market. It's time to get the ball rolling!

The Proposal Creation Process

Jeff Hugh, LSS Black Belt, walked into his office on a Monday morning. He was tapped to re-engineer the *proposal creation process* by Grace Monroe. He spent the weekend on a call with Grace and was briefed on her strategy and expectations. Jeff had scheduled a conference call with the director of operations in Manilla and was keen to understand the new proposal creation process that was put in place five years ago. On the call were process owners for the hardware and software groups that supported US operations. Sellers in the US engaged with bid support specialist in Manilla to help generate proposals for them. As the meeting kicked-off, sales support staff from the Manilla center began to describe the process.

Note: In the following paragraph, each role in the process has been *italicized* and each time stamp in the ERP system has a designated code e. g. *ZQT1*

The process begins with a *Seller* identifying a potential sales opportunity. The *Seller* then submits a request in the ERP system. This request is marked with a time stamp (STS1) indicating the starting time of the process. Over the years, *Sellers* have built a relationship with the *Bid Support Staff (BSS)* located in the centers (e.g. Manilla) and in most cases send the request directly to a BSS that they have worked with. The *Bid Support Specialist (BSS)* access the request at time stamp *ZQT2*, check if the request is indeed one that he/she can process. All *BSS* agents are not equally skilled to process all transactions. The more complex/difficult request are typically managed by senior *BSS* agents who have been with the company for several years. If the request has been routed to the wrong *BSS*, it is returned to the queue so that another agent can process the request. Once the request is routed to the right agent (time stamp *ZQT3*), there is a check to ensure that the *Seller* has submitted all the required information to process the proposal. This can include the customer name, desired configuration, credit check information etc. Any missing information can delay the process as this would require the *BSS* to reach out to the Seller to retrieve the missing information. Once all the information has been collected from the *Seller*, the *BSS* reviews the request with his/her *Proposal Support Manager (ZQT4)* and a request is then sent out to the *Product Design* team (*ZQT5*). The *Product Design* team generates a configuration that consists of technical specification. The configuration is reviewed for completeness by the *BSS* (*ZQT6*) and then forwarded to the *Seller* for approval. Any changes to the original request would require a reconfiguration by the Product Design team. Once the configuration has been approved (*ZQT7*), the BSS sends the request to the *Pricing* group. The Pricing team reviews the configuration and generates a price for the solution based on a pricing calculator that includes several inputs. Finally, the *Brand Manager (hardware, software etc.),* who is responsible for the overall performance of the Brand approves the pricing proposal. This is done for every transaction regardless of the size of the deal ($). Finally, the request is sent back to the BSS (*ZQT8*) who prepares the final document and submits if for review to the *Proposal Support Manager.* The *Proposal Support Manager* reviews the proposal, checks the terms and conditions and submits it back to the *Seller*. The S*eller* is now ready to take the proposal to the client (*STSX*). In a highly competitive market place, deals are won or lost not only based on price but also how quickly a proposal can be generated.

A Deep Dive into Process Related Issues

Having gotten a high level view of the proposal creation process Jeff is keen to peel the layers of the onion and uncover root causes that have been contributing to the increased cycle time. He figures the best way to really understand how the process is executed is through a *Gemba walk* – he is aware that the process

described to him, and what is actually executed on the floor can be like day and night. Jeff gets on a plane and flies to Manilla to meet with the Proposal Managers and the Bid Support Staff that are actually processing proposals. On his first day in Manilla, he is interested in the organizational structure. Jeff learns that the group has been following Agile practices and have organized themselves in squads of 4 bid specialist that support each of Gentech's 5 brands/product lines. As a company Genetech's 5 brands include

1. X Series Servers
2. Z Series Servers
3. ESW
4. Consulting Services
5. SWG

With 4 bid specialist in each squad, the total workforce in Manila is made up of 20 bid specialist. Jeff also learns that there are 5 sellers that cover the North American content. These 5 sellers work across all brands and engage with the 20 bid specialist as new leads are generated. While in Manila, Jeff is also interested in knowing if the rest of the geographies are set up in a similar manner. Much to his relief he is informed that the organizational structure is identical across South America, EMEA, Asia Pacific, and Japan. Table 1 provide a view of the organization with bid support specialist, sellers, and brands associated with each geography. In total the organization has 25 sellers and 100 bid support specialist that support 5 brands.

Organizational Structure

Geography	Brand	Seller	Bid Specialist
South America (SA)	zSeries xSeries SWG Consulting ESW	Jose Martha Carlos Omar Amy	4 Bid Support specialist dedicated to each brand Total BSS = 20
EMEA (Europe, Middle East, Africa)	zSeries xSeries SWG Consulting ESW	Pierre Henry Ozil Pablo Alina	4 Bid Support specialist dedicated to each brand Total BSS = 20
Japan (JPN)	zSeries xSeries SWG Consulting ESW	Yoko Matsuyama Sakura Yui Aiko	4 Bid Support specialist dedicated to each brand Total BSS = 20
North America (NA)	zSeries xSeries SWG Consulting ESW	Hali Sam William Alison Tamara	4 Bid Support specialist dedicated to each brand Total BSS = 20
Asia Pacific (AP)	zSeries xSeries SWG Consulting ESW	Wendy Roger Devin Caitlin Thomas	4 Bid Support specialist dedicated to each brand Total BSS = 20

Table 1: General Organizational Structure

As Jeff begins to walk the process he speaks with BSS from each squad. He spends several days following each transaction through to completion. He is pleased to learn, much to his surprise, that the process described to him matches what is being executed on the floor. Jeff interviews several managers and Bid support staff to understand some of the underlying issues with process execution. In general, he finds that the process is strewn with non-standard practices, unnecessary approvals, and inefficiencies and redundant task. The biggest complaint from the Bid Support Specialist is that Brand approvals and product pricing take too long which results in long cycle times for proposal creation. Some bid specialist also mention that sellers don't always provide the required information to generate the proposal. Jeff also learns that regardless of the magnitude of the proposal (complexity and $ value), the Bid Support Staff follow the same process. Following the information trail, Jeff decides to also interview the sellers, after all they are also a customer in the process. The seller sentiment was consistent across the board. While offshoring the back end work helped the sellers focus their time on generating more leads, they felt that quite a bit of time was spent handholding the bid support specialist to get the proposal done quickly. The sellers attributed this to inexperience on the part of the bid support specialist.

With his background in process optimization and transformation, Jeff is aware that opinions and qualitative information from subject matter experts is invaluable, however, he is keen to validate this qualitative feedback with concrete data. Gentech's ERP system was based on an SAP implementation. The ERP system had data on every transaction and time stamps for every hand-off in the process. This data was available for all processes globally. If Jeff could extract data from the last couple of years, this would help him validate feedback he received from the sellers and bid support specialist and perhaps uncover issues that were perhaps not known before. Convinced that the combination of his interviews and the data from the ERP system will provide some valuable insight into operations, Jeff reaches out to his team to aid him with the data analysis.

The file Sales_Transaction_Dataset_F23.xls has global data on every transaction completed over the last few years. Based on the dataset and the write up use the DMAIC approach (LSS) to improve the process. Put yourself in Jeff's shoes, and utilize the following questions to create a presentation that will demonstrate how each phase of DMAIC was used to improve cycle time and drive improvements in efficiency and effectiveness.

Questions

1. Establish a project Charter for Jeff based on the assignment given to him by Grace Monroe.
2. Draw a process map (swim lanes for each role) that describe the proposal creation process from the initial request sent in by the seller to a completed proposal handed back to the seller. This will enable Jeff to define the existing process and get a better sense of process hand-offs. Be detailed in your process map. Assume that the process is consistent across geographies.
3. Superimpose the average time it takes for each step in the process along with the end to end cycle time. As you create this "baseline" metric, are there any considerations that you should make to account for geography and brand?
4. Gentech has an internal service level agreement (SLA). Any transaction that takes longer than 35 days is considered a "defect". Based on this information what is the current dpmo and sigma level that Gentech is functioning at?
5. Do all Brands and geographies perform the same or are their certain brands and geographies that outperform their counterparts? You must present your arguments with supporting visualization. Jeff is interested in this data so that he could share best practices and benchmark internally. You can utilize Tableau (or any other visualization tool) to present your findings.
6. Analyze the timestamp data, what are the major root causes for long cycle time?
7. Are there any particular sellers and Bid Support Staff that perform better than their counterparts? Are there some that perhaps perform poorly?
8. Is there a correlation between bid complexity and cycle time? Comment on this relationship.
9. Utilizing LSS tools – e.g. Pareto Charts, Fishbone, VA/NVA, FMEA highlight potential issues with the process and narrow in on ones that you think Jeff needs to focus on the most. You can also utilize the text data provided to uncover any major detractors to cycle time.
10. Make recommendations on how you might improve the process? Please be detailed while answering this question. While you generate recommendations, you are also encouraged to think out of the box.
11. How would you ensure that the recommendations you have suggested are working? What is your control plan?

<u>Additional Questions (only require qualitative responses)</u>

1. Based on the existing dataset, could you predict the cycle time of a proposal based on various data attributes/features presented? You are not required to build a predictive model, but perhaps discuss approaches that you could use to generate the prediction.
2. In the dataset provided, seller feedback and BSS feedback for each transaction have been summarized for you. Comment on how you think Jeff could utilize open text data to retrieve valuable insight that pertains to the BSS and seller sentiment. You are not required to perform the analysis but perhaps describe methods that could be used to extract knowledge from text based data.