Summary

"Quality means doing the right thing, when no one is looking" – Henry Ford, an inspirational entrepreneur who pioneered in making revolutionary changes in automotive industry

"Quality is everyone's responsibility" – W. Edward Deming, Father of Quality.

It is clear, be it any field or domain, that quality is of utmost importance in the products or services that is being offered. The products/services that attain the sweet spot where, it can address to customer satisfaction along with perceived and product quality achieves rapid success. It caters to the right customer segment, with right products, at the right time making the customer have increased sense of belief and generating trust in the product.

My thesis focuses on the reduction of lead time of the customer complaint collection system employed in Molnlycke (Medical devices manufacturing company) and identifying key bottlenecks in its processes. The second leg of the thesis involves developing a strategy to measure them and finally present a feedback loop to control the variations in the entire value stream. On completing the 2 legs of the thesis, it helped Molnlycke as an organisation to understand its pain points in the processes which were established for quite a long time. It was also evident that seemingly small variations in the value stream, can bring about huge amount of standardisation, uniformity and stability in areas where there is little to no information regarding data gathering was also one of the key takeaways from my research project.

The thesis revolves around the core basics of Six Sigma Methodology (DMAIC). In the define stage, the pain points were to identify the real problem that was to be addressed. Understanding the organisational division, mode of complaint collection, and the different levels of complaint collection was quite intriguing in nature at the same time quite complex as well. The deeper analysis and brainstorming sessions initially employed with the key stakeholders in the organisation helped to identify, and narrow down the prime bottlenecks

1. Longer waiting times for customer complaint resolution
2. Evaluation on Quality KPI's on a central level.
3. Identification and Optimisation of these quality KPI's for reducing the lead time in customer response.

On identification of these bottlenecks helped in narrowing down the scope of the thesis. Adapting to the principle of pareto, "addressing the 20% of the highest outliers can reduce about 80% variations in the system", these bottlenecks were focussed upon to formulate the research questions for the thesis.

- What are the bottlenecks in the customer complaint process system leading to a high lead time in complaint resolution.?
- Are the existing measured objectives useful for data–based decision making at the organizational level. Is it an appropriate KPI (Key Performance Indicator) measure?

Beginning with the measurement phase of the thesis involved in using the current methods of data collection like surveys, interviews and organizational data involving their CPM (Complaints per Million), Average time taken for each process steps to complete for the

complaint collection system etc. A keen eye was kept on the "Global Quality Objectives" of the organization to align to the KPI's being tracked for understanding which among them needs to be optimized.

Once the data collection was done through a series of interviews and preexisting data from the organization, the Analyze phase was initiated. Using the conventional tools like Process Mapping, VSM, C&E Matrix etc. the data was scoured to develop insights into the organizational performance regarding the delays caused in the lead time of the process of complaint collection. Upon developing the same, a framework had to be designed to isolate the costs/expenditure aspect of each complaint collected and the impact made on a longer tenure in the organization.

The project management tool called 3 - point estimate or PERT analysis was employed in this thesis to estimate the most likely path a complaint would have to travel to attain, for its completion. On completion of the 3-point estimate, the expected and current path have been critically analyzed to understand and affirm the theory that our root causes are the biggest outliers in the process. To generate a totality of the process quality from a business point of view, cost estimations also had to be done for the complaint process.

The estimated cost of the complaint was calculated to generate a view of how much costs are associated with each complaint for Molnlycke. The costs calculated here are strictly an estimate as the aspect of workforce is the only parameter taken into consideration.

Finally, all the data collected, assimilated and analyzed led to the recommendations for my thesis namely,

- Standardization of documentation procedures on initial data collection
- Align the processes to 3 - point estimate values and times
- Cost efficiency for costs per complaint spent
- Integration to the overall QMS system

Over the entirety of the project, the emphasis was given to stay true to the problem and identify the right bottlenecks that need to be addressed and to generate recommendations that would suggest the organization to go beyond the current capabilities to create quality in process and product.