



NEWSLETTER

Arête

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Arête Vol 9.0

Dear reader, we are delighted to bring you yet another edition of Arête. We have endeavoured to make each edition of Arête as fresh and content rich as possible. This time around we have added new case studies and knowledge nuggets, which we're sure you will find intriguing and enlightening. Please feel free to share your thoughts and views by writing to us at knowledge@ssa-solutions.com. Happy reading!

1	Chairman's desk
2	Case 1: Product Cost Reduction
3	Lean Tip: Lean Layout Planning
4	Knowledge Nugget: Purpose Statement
5	News: SSA Runs Executive Engagement Workshop
6	News: SSA Conductions "Ambition Workshop"
7	"Alchemist" of the Month
9	From the History Pages
8	Upcoming Events

Chairman's desk



Dear reader, we are happy to announce our partnership with XX in Lanka. This brings in our vision to make a difference to SME sector in the country. Also we have introduced an array of new simulation exercises to make the DMAIC learning more fun and engaging. SSA is speeding its wings in Sri Lanka. We bagged a strategy workshop for a leading family business in Lanka on envisioning and strategy planning. SSA is delighted to announce its lean project with Oman Post. The Post is looking to transform itself through world-class practices and chose SSA as its partner in this journey. In the history pages, we look at a pan-Africa transformation project we delivered for Godrej Group back in 2014-2016, this project aimed to transform manufacturing and supply chain at Godrej in their new acquisition – Darling Hair Extensions. This project was well appreciated by Godrej Group and became a landmark project for both companies. In this edition, we also look at an interesting project on product cost reduction – an often less addressed area in the scheme of continuous improvement. This project helped to identify excessive “non-value adding” design choices and trigger suitable changes.

Case Study 1: Product Cost Reduction



Situation: This project focused on product cost reduction for a Diesel Genset. The idea was to leverage value Engineering (VE) and Design For Manufacture Assembly (DFMA) concepts to achieve the desired outcome.



Actions taken: Detailed functional analysis was carried out and detailed design tear down study was undertaken with critical functional analysis. This revealed several opportunities to rationalize component count, as well as reduce overall product cost.



Results: Significant reduction in product cost, as well as design simplification was achieved in the process.

Situation – deep dive

This project focused on design optimisation of a genset canopy. The feedback from sales & marketing team was that they were losing out to competition due to high product cost. This project therefore focused on challenging the design choices in order to achieve reduce overall product cost.



Actions Taken – deep dive

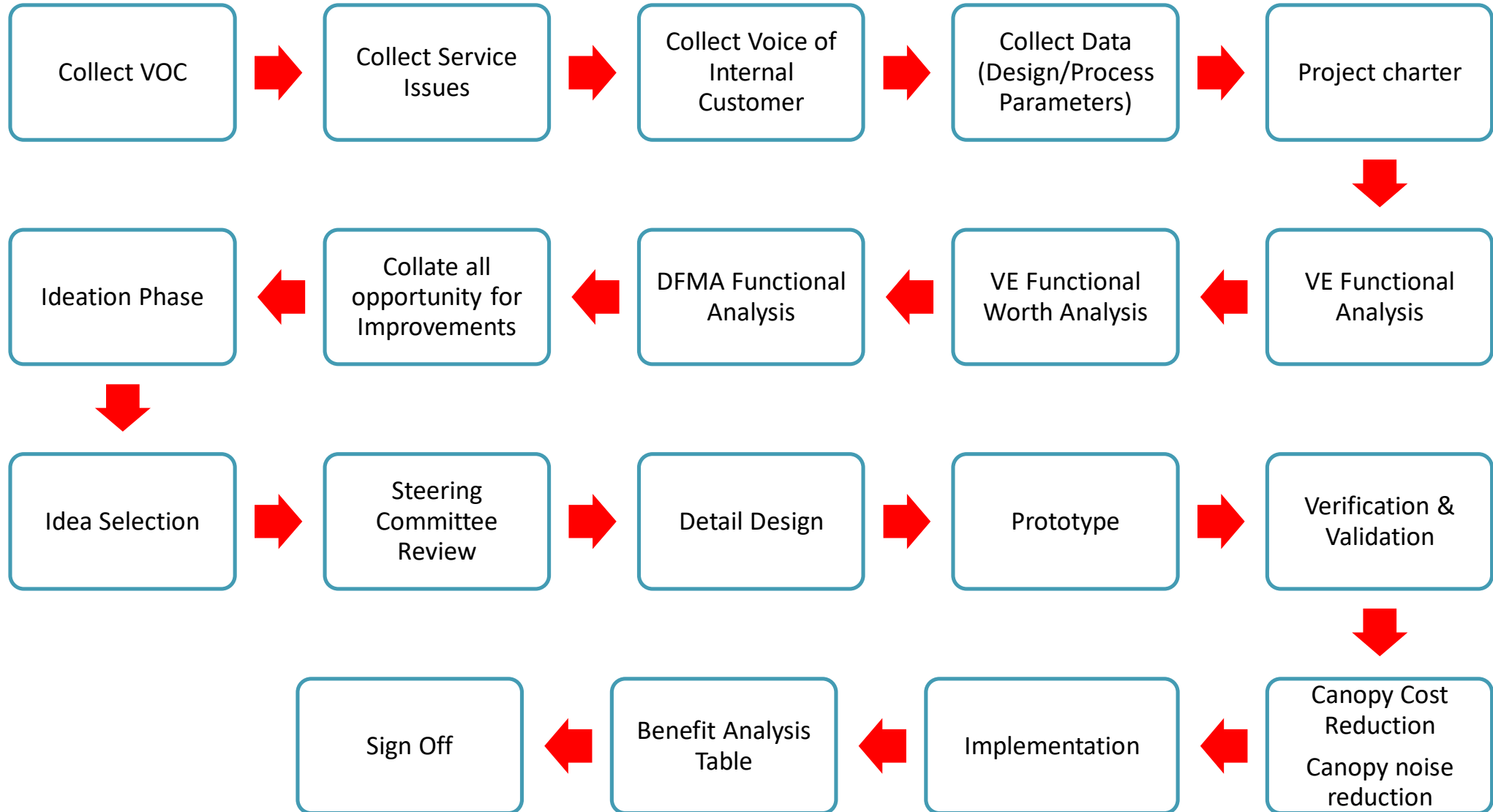
- VOC benchmarking and QFD performed to collate customer voice
- Detailed tear down analysis
- Value Engineering Functional Worth analysis
- Cost/worth analysis
- Components were classified into primary and secondary based on their functionality
- New design concepts were explored based on VE/DFMA approach



Actions Taken – deep dive

What		Description of Project			
Title	125 kVA Canopy Cost Reduction	Start Date	1 Oct 2013	End Date	28 Feb 2013
Vision	Reduce cost of 125kVA genset using the canopy, base plate & fuel tank by redesigning.				
Business Case		Project Goal	Reduce cost by 20% for the following assemblies: Canopy, Base plate & fuel tank by redesigning		
Strategic Linkages	To increase competitiveness of ABC genset by reducing cost	Involved Department / Functions:	Design, R&E, Manufacturing, Sales & Services		
Why is it worth doing this project / Current Issues	To increase/retain profitability in the complete market Scope to simplify product design & manufacturing process	Technology/Tools	DFMA, VA, VE, CAD/CAM, iGrafx, VSM, Simulation		
Expected Deliverables	<ul style="list-style-type: none"> • Cost reduction of the canopy for the 125kV genset • Reduce number of components • Conceptual Design of the Canopy for the 125kV Genset - Incremental improvement - Radical new Design concept • Detail Design for the same • Engineering Support for Prototype Development & Testing • Final design modifications & BOM for the final product 	In-Scope	Out-of-Scope		
Project Leader	John Doe	Canopy redesign & cost reduction		Structural Analysis of the product	
Project team	Jane Doe Alex B	Base Plate redesign & cost reduction		Finite Element Analysis	
SSA Project Team	NC Narayanan Ganesh Iyer Akshay Prakash Tushar Dhote	Fuel Tank redesign & cost reduction		Prototype Development	
				Testing of Prototype	
				Nesting of components	
GOAL Setting					
Project Metric	Parameter	Baseline	Target		
	Total no. of parts	1334	1200		
	Design Efficiency Canopy		60%		
	Design Efficiency Base Plate	7.38%	60%		
	Design Efficiency Fuel Tank	26%	60%		
	Overall Cost	Rs. 76,279	Rs. 68, 582		
	Lead Time	Hrs			

Actions Taken – deep dive



Actions Taken – deep dive

Design Efficiency = 26%

A X 100

Total no. of parts

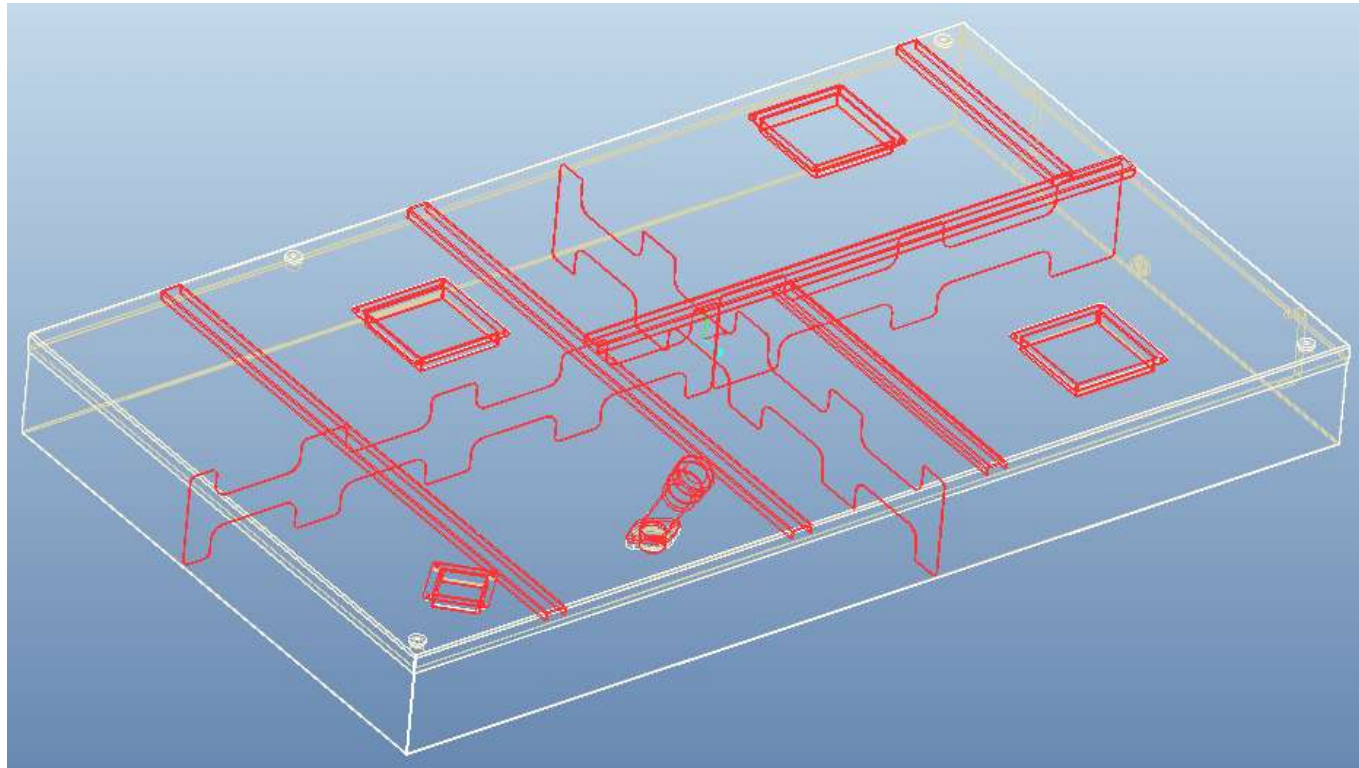
Part No.	Part name	Mating Part name	Functional Analysis		
			A/B	Qty	Reason
379	BOTTOM_TANK	TOP_PLATE_GOEM	A	1	If we combine it with its mating part the stiffeners cannot be assembled
380	PARTITION_3	BOTTOM_TANK	B	1	
381	PARTITION_1	BOTTOM_TANK	B	1	
382	PARTITION_2	BOTTOM_TANK	B	1	
383	6H_055_07_B_FOR_FUEL_DRAIN	BOTTOM_TANK	A	1	Bush is different material
384	3H_172_03_HANDLE	BOTTOM_TANK	A	2	Handle is different material
386	TOP_PLATE_GOEM	BOTTOM_TANK	A	1	Prevent assembly of other parts if mated
387	4H_1285_15_BUSH_FOR_TANKCLAMP	TOP_PLATE_GOEM	A	4	Bush is different material
388	FLANGE_FOR_SPOUT_6H_055_13	TOP_PLATE_GOEM	A	1	Spout is different material
389	TOP_FLANGE_ANGLE	TOP_FLANGE_PLATE	B	2	
390	TOP_FLANGE_PLATE	TOP_FLANGE_ANGLE	B	1	
391	WELD_NUT_M5	TOP_FLANGE_PLATE	B	16	
392	MANHOLE_FLANGE_ANGLE	TOP_PLATE_GOEM	B	6	
393	MANHOLE_FLANGE_PLATE	MANHOLE_FLANGE_ANGLE	B	3	
394	MANHOLE_COVER_PLATE	MANHOLE_FLANGE_PLATE	A	3	It has to be removed for servicing of tank
395	STIFF_TOP_COVER	TOP_PLATE_GOEM	B	3	
396	STIFF_TOP_COVER_HOR	TOP_PLATE_GOEM	B	1	
397	STIFF_TOP_COVER_HOR_NEW	TOP_PLATE_GOEM	B	1	
398	3H_283_05_FUEL_SPOUT	FLANGE_FOR_SPOUT	B	1	Doubt. Why is material different?
			A Parts Total	13	50 Total Parts

Actions Taken – deep dive

Based on VE & DFMA

Parts that can be eliminated OR function can be integrated with other parts

Part name
PARTITION_3
PARTITION_1
PARTITION_2
TOP_FLANGE_ANGLE
TOP_FLANGE_PLATE
WELD_NUT_M5
MANHOLE_FLANGE_ANGLE
MANHOLE_FLANGE_PLATE
STIFF_TOP_COVER
STIFF_TOP_COVER_HOR
STIFF_TOP_COVER_HOR_NEW
3H_283_05_FUEL_SPOUT



Results – deep dive

- Nearly 10% reduction in component count
- Nearly 10% reduction in material cost
- Improved design robustness
- Skill development among designers



Knowledge Nugget: Purpose Statement

In this video, SSA's founder Chairman, NC Narayanan talks about evolving the organisation's purpose. NC expound the envisioning process and goes on to narrate the process of engaging the workforce by making everyone understand the larger purpose and vision and direction of the organisation.

https://www.youtube.com/watch?v=yhvjtjByO_s



News: SSA Conductions “Ambition Workshop” for a Leading Family Business in Sri Lanka

SSA recently conducted a family ambition workshop for a leading family business in Sri Lanka. The objective of the session was to bring together members from three generations of the family to get together and discuss the business and future plans for growth and expansion.



Lean Tip: “Lean Layout”



Lean Layout Planning

Lean layout planning is one of the powerful tools for achieving lean by design in the factory. There are many decisions that can be taken while committing to a layout. These include machine placement, machine/operator interface, line balancing, Kanban and flow, storage for RM, WIP and FG, staging area for component kits, and last but not least, incorporating elements of 5S, Jidoka and standard work in all workstations. If done correctly, lean layout planning can help reduce many forms of Muda (waste), Mura (overburden) and Muri (variation) and make the plant world-class from day -1.

In summary, for a proper Lean layout, there are three main fundamentals that need to be addressed.

- 1) One-Piece Flow:** This type of system focuses specifically on the sequences in the process. Workers only work on one unit or product at a time and then pass it along to the next process. This has had a significant impact on reducing time, wastes, and improving value-added activities in many Lean organizations.
- 2) Reducing Transportation of Parts and Motion:** The minimization of movement is always going to increase efficiency. This is done by placing equipment in the proper sequence in the process. By reducing the amount of movement needed by your workers to complete their task, you will also reduce the strain on them, reducing possible health issues over time.
- 3) Minimization of Space:** Poorly utilized space is wasteful and can be costly to your improvement efforts. All objects within your facility need to be evaluated to determine the least amount of space needed to be efficient and keep production levels flexible.

News: SSA Runs Executive Engagement Workshop

SSA is consulting a leading Pipes Manufacturing Industry in Sohar Oman in transforming their operating process through lean principles. Recently part of this exercise, SSA conducted a workforce engagement and on-boarding workshop. The session was attended by 45 executives from senior to middle management. The objective was to bring the team together to recognise the business challenges and to galvanise support for the change process.



“Alchemist” of the Month: Nandha Kumar

Nandhakumar (Nandha) leads SSA's operations in Oman. He has been with SSA for well over 16 years and is one of the most knowledgeable and respected members of the team. Nandha played a pivotal role in setting up SSA's operations in Oman and has helped shape the company's strategies since we set up our office in Oman. He is quite adept in lean systems and transformation programs and is looked upon by clients and peers as a key knowledge resource. We are proud of Nandha and wish him all the success!



From The History Pages

SSA helped Godrej Consumer Products (GCPL) drive productivity improvement across its hair extensions business in Africa. GCPL leadership believed that there was significant labour productivity improvement opportunities in this business and engaged SSA to help deliver this initiative. SSA undertook an initial diagnostic study across their plants in West Africa and this study identified tremendous opportunities that could transform the operations and help make it leaner, agile and more profitable. This translated into a multi-year engagement with Godrej during which SSA undertook several productivity improvement assignments for their business across East and West Africa. SSA facilitated the transformation of production systems from batch to flow and help streamline their manufacturing systems to support superior service levels.

<https://ssa-solutions.com/godrej-customer-products.html>



"We engaged SSA to help improve our Africa manufacturing through lean. They helped us to identify productivity improvement levers. They partnered with us during the implementation phase of the lean transformation journey. The beauty of working with SSA is that they become a part of your team and seamlessly collaborate. I wish SSA all the best in their endeavors worldwide."

Omar Momin

Head M&A and Business Development

Upcoming events

Roundtable Conference on Profit Leadership

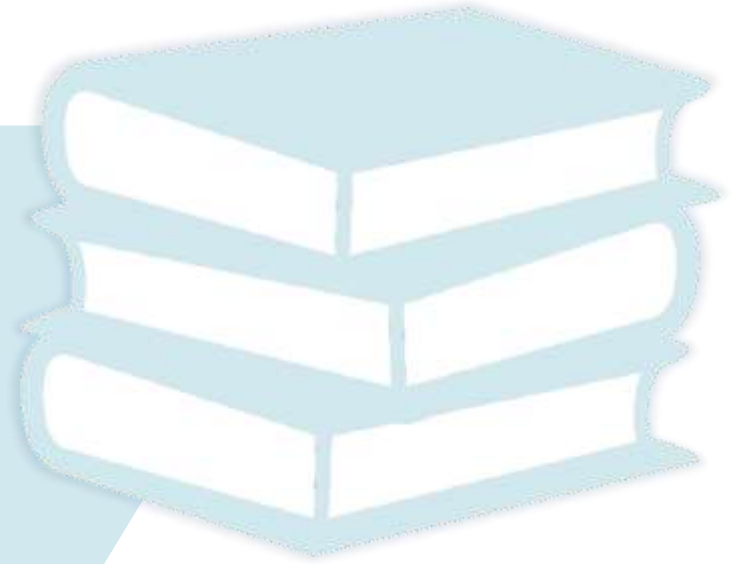
Mumbai on 11 Sept, 2018

Roundtable Conference on Profit Leadership in Gujarat in association with Gujarat Employers Association (GEO)

30 Aug, 2018, Vadodara.

SSA presents a Pharma Manufacturing Leadership Summit 2018” in association with Federation of Gujarat Industries (FGI)

Vadodara, 18 Aug, 2018.



RSVP

Ms. Rekha Agashe

T. +91-22-2565 2448

M: +91 9820579604



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