Chapter 9

Six Sigma Gram Panchayat: A Step Closer to Perfection

In the early hours of the morning, I found myself contemplating the topic and structure of my impending discussion at the gathering of Panchayat Adhyakshas and Elected Representatives of Gram Panchayats. In our last meeting, I had posed the question, "How do you envision achieving perfection in service provision every single time?" The essence of this query continued to echo in my mind, yet an answer remained elusive.

As I was preparing to depart for the meeting, the delightful aroma of a familiar breakfast dish wafted into my nostrils. It was the tantalizing scent of Masala Dosa. My wife, aware of my preference, served me a hot, delectable Masala Dosa. As I gazed at it, a wave of jubilation washed over me, I felt like exclaiming, "I've found the answer!" Filled with renewed vigor, I decided to embark on this topic for the day's meeting. With a steaming cup of tea and the comforting crunch of Dosa, I embarked on my journey to the village, my spirits soaring akin to Archimedes when he ran out of his bathtub shouting "Eureka, Eureka"!

But why did Archimedes run out of the bathtub?

Archimedes, the famed mathematician and physicist, made a ground-breaking discovery in the field of hydrostatics, which came to be known as Archimedes' Principle. King Hiero II of Syracuse had commissioned a gold crown, but harboured suspicions that the jeweller may have adulterated the gold with silver. Unwilling to

destroy the beautifully crafted crown, the King presented Archimedes with the challenge of determining the gold's purity without melting it.

One day, while bathing, Archimedes noticed the rise in the water level in his tub. He realized that the volume of water displaced was equivalent to the volume of the object submerged. Thrilled by his discovery, Archimedes darted straight to the palace, exclaiming "Eureka, Eureka" (I have found it!). He then demonstrated his principle to the King by immersing the crown in a full vessel of water and measuring the displaced water. If the weight of the displaced water was equivalent to the weight of the crown, it would confirm the crown's purity. He proved that the jeweller had indeed adulterated the gold crown with silver. The gold has a density of 19.2 gms/cc, while silver's density is 10.4 gms/cc. The duplicitous jeweller was punished, and Archimedes' principle took its place in the annals of scientific history (Wikipedia).

By the time I arrived at the meeting venue, the Adhyakshas of various panchayats and elected representatives had already assembled in the meeting room. I opened the session by revisiting our last conversation.

"Do you recall the question I asked at the end of our previous meeting?" I queried.

"Yes, you asked, 'how do you envision achieving perfection in service provision every single time?'" Simple Sudarshan answered.

"Yes, we must indeed find an answer today. But before that, let's delve into a mouth-watering topic," I initiated the conversation.

"Do you all enjoy Dosas? And how do you prefer them to be?" I inquired.

"Certainly, it should be very crispy," chimed in Hebbet Nanjamma.

"But is crispiness all that matters? What about the color? Would you prefer golden brown or light brown?" My question hung in the air, met by silence.

"Do any of you have a favourite restaurant, a place you visit repeatedly because the Dosa served there consistently satiates your taste buds? How do you think that restaurant manages to produce the perfect Dosa every single time? Do you understand the process of preparing a Dosa?" I posed these questions to the room.

Silence ensued.

"Alright, let me share the tale of the perfect Dosa," I decided, preparing to narrate the story.

"Suresh and his wife, Megha, own a bustling restaurant in Chintamani, where Masala Dosa is the star of the menu. Customers acclaim Suresh's Dosa to be the epitome of perfection, owing to its balanced crispiness. Megha is the one responsible for preparing the batter each day. She has a knack for achieving the perfect consistency to ensure the Dosa is neither too crispy nor too soft. Occasionally, in Megha's absence, Suresh attempts to prepare the batter, but the outcome isn't quite the same."

"Conversely, Suresh is the master chef, adept at cooking the Dosa to perfection. He has a precise understanding of the temperature required for the plate, the correct amount of water to sprinkle, and the right technique to spread the Dosa, all contributing to that ideal crispiness. Both Suresh and Megha have perfected different aspects

of the Dosa-making process, ensuring that they deliver the perfect Dosa every single time. Now, let's examine the steps Megha takes daily to achieve the flawless Dosa batter," I continued my tale, sparking curiosity among the listeners.

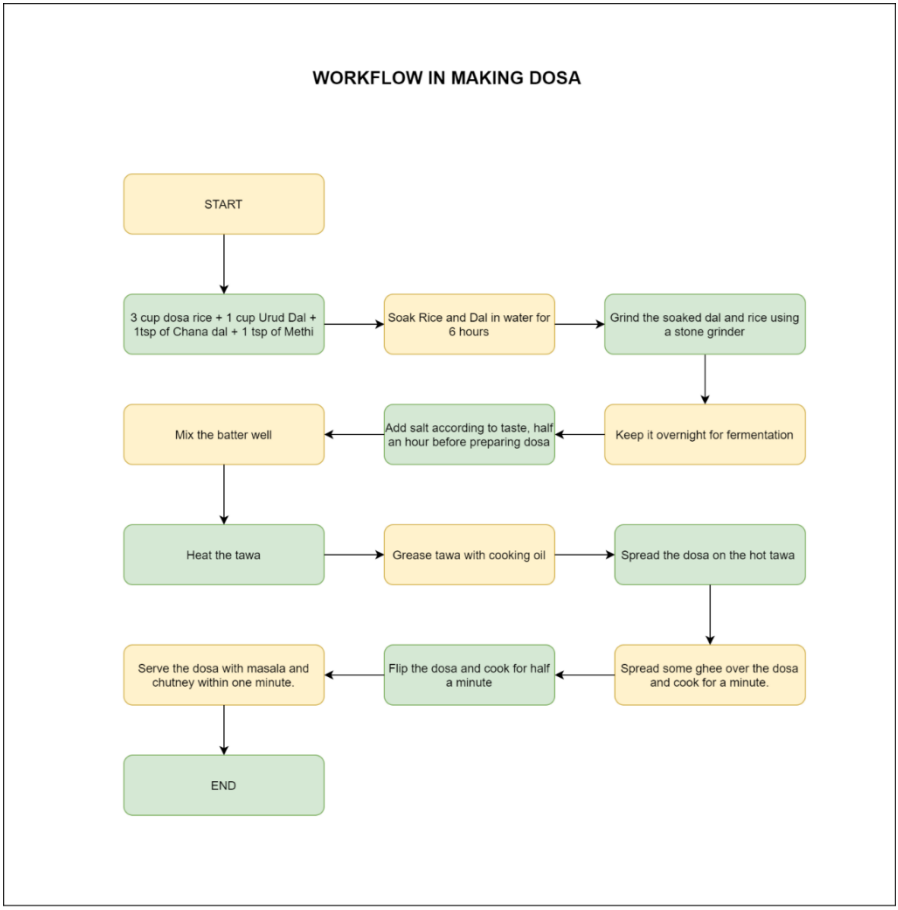

Figure 9.1 Complete workflow of making Dosa

"For a flawless Dosa, Megha meticulously measures out the precise quantities of rice and dal, ensuring they soak in water for exactly six hours each day. The batter's consistency relies on her adding just the right proportions of water, salt, and other ingredients. It's Megha's

magic touch that maintains the consistent quality of the Dosas. Similarly, Suresh must maintain the optimal temperature of the Tawa, and carefully spread the batter neither too thin nor too thick," I elaborated.

"This is a prime example of a Six Sigma process. In such a process, meticulous standardization is the key to achieving perfect results consistently," I explained.

"But sir," interjected Simple Sudarshan, "How does the Six Sigma Process, a Dosa, and the Panchayat relate to each other?"

"They are interrelated, Sudarshan, let me explain how," I continued, "Currently, there are thousands of companies, organizations, and institutions that provide a multitude of products and services. Your Gram Panchayat is also such an entity, striving to offer the best possible services to its constituents, isn't it?" I questioned.

The gathering responded in unison, "Yes."

"Then, wouldn't you want to deliver flawless services to your citizens every single time?"

"As an Adhyaksha and elected representative, it is your responsibility to ensure that the quality of services your Panchayat delivers is second to none. It should be your goal to reduce errors to near-zero in every interaction. Let me explain how your Gram Panchayat can become a Six Sigma entity," I began to elucidate.

9.1 Six Sigma: A Paradigm Shift in Productivity

"Six Sigma is a potent management methodology that equips enterprises, such as your Gram Panchayat, with the process framework

to execute tasks flawlessly. It's employed globally by multinational corporations and organizations to maximize efficiency and outcomes. A Six Sigma process ensures minimal errors in any given operation," I began explaining.

"For a process within your Gram Panchayat to reach the level of Six Sigma, you first need to understand the needs and expectations of your citizens. Then, identify the steps within your process that could be modified or improved to enhance quality and productivity. Once that's done, the process is designed or tweaked to ensure the final service or product is as close to perfection as possible, ideally free of errors. In actuality, a Six Sigma process allows for a maximum of only 3 defects in one million transactions. Quite astounding, isn't it?" I shared, sensing the rising interest in the room.

Figure 9.2 The principles of Six Sigma aid an enterprise in enhancing their processes [8].

"What needs to be done to attain such flawlessness in any task?" inquired Hebbet Nanjamma.

"For any process to reach Six Sigma, there are some critical considerations, Nanjamma. They include:

- Defining and scrutinizing each step of the process.
- Identifying the stages that impact the final output.
- Redesigning the step to ensure zero error.
- Establishing the process to achieve perfection consistently," I elaborated.

"In your Gram Panchayat, regular activities such as tax collection, Khata transfers, water and electricity supply and maintenance, and general license issuance, take place almost daily."

"Imagine, for instance, Krishnappa is in charge of data entry, and he's the only one who knows how to perform this task correctly. However, Krishnappa's work ethic is lax, and he occasionally neglects to register data, causing delays in subsequent processes. Can you see how his inefficiency impacts the rest of the supply chain?" I posed the question.

"We won't have access to the required information later, even if we need it," responded Simple Sudarshan.

"Exactly, and beyond that, the citizens don't receive their certificates on time, leading to backlogs for other Elected Representatives or authorities involved in this chain. Essentially, the final output is compromised," I affirmed.

"To achieve Six Sigma, as an Adhyaksha or an elected representative, your role is to identify these pivotal steps affecting the outcome and ensure a process is established so that the end result is flawless. In

essence, you need to make certain that Krishnappa enters data punctually and error-free, thus ensuring the perfect delivery of services to the citizens," I elucidated.

9.2 Lean: Eliminating Non-Value-Adding Steps

"Lean is another concept within Six Sigma. It's a systematic approach aimed at eliminating or minimizing steps that don't contribute value to the chain. We can perceive Lean as a methodology that eradicates waste and limits work-in-progress queues. Here, waste refers to processes or steps in a process that don't enhance the outcome. Lean Six Sigma focuses on identifying and removing these non-value-adding steps as 'waste.' Consequently, both the duration and cost of the processes are reduced," I continued.

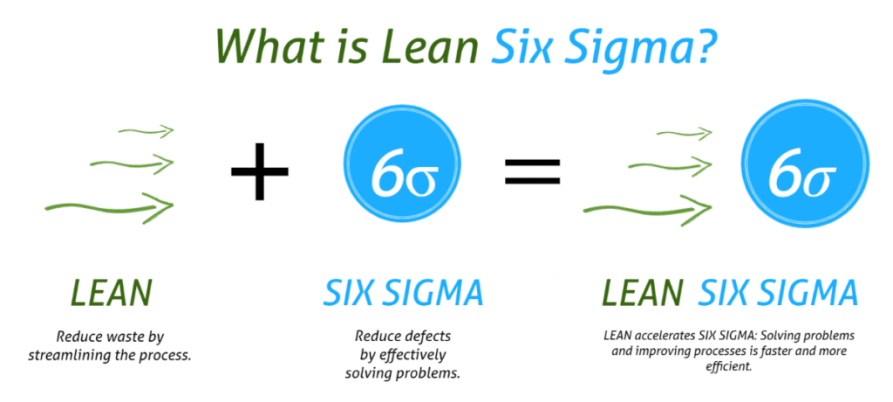

Figure 9.3 How Lean and Six Sigma are applied to expedite the Six Sigma process [9].

"Can these principles really be incorporated into local government bodies like Gram Panchayats, Shankranna?" Paropakari Padmini questioned.

"Lean Six Sigma is already widely utilized in industries such as car manufacturing, scooter production, aircraft building, and software

companies, primarily to ensure defect-free products. But you may be wondering how Lean Six Sigma can be applied within local governmental institutions. To comprehend the benefits, Lean Six Sigma could bring to Gram Panchayat operations, let's consider some of the typical activities conducted within a Gram Panchayat office," I explained.

- Your Gram Panchayat collects taxes from citizens, which include property tax, business tax, water tax, and road tax.
- Your Gram Panchayat issues certificates, such as birth certificates, death certificates, income certificates, property registrations, and business registrations.
- Your Gram Panchayat maintains records of all citizen data in the village, including names, ages, genders, castes, and educational qualifications.
- Your Gram Panchayat also keeps a record of the village assets, such as the area of the village, forest coverage, water bodies, groundwater table, and water tanks.

"Do you agree with these activities?" I inquired.

"Yes," responded the gathering.

"From the aforementioned activities, it's evident how critical Gram Panchayats are for rural citizens of India. Given that Gram Panchayats serve as citizen service centers responsible for a multitude of services, it is essential to have processes that consistently deliver error-free services to every citizen," I added.

"Yes," the gathering concurred.

"Before diving into the application of Six Sigma in Gram Panchayat institutions, let's take another look at how services are currently provided in our Gram Panchayats.

For instance, if I want to apply for a birth certificate, what steps might I have to go through? Can anyone elaborate?" I posed the question, surveying the faces in the room.

1. Travel to the Gram Panchayat office, either on foot or by bus.
2. Pick up an application form from the Gram Panchayat office.
3. Fill out the form.
4. Gather supporting documentation, such as the signature of a medical officer.
5. Submit the completed form at the office after receiving the necessary authorization.
6. Return to the office to collect the birth certificate after a few days.

As the attendees listed these issues, I noted them down on the board.

"So, the entire process of applying for and collecting a birth certificate is tedious and susceptible to errors. Moreover, there are numerous unnecessary trips to the office, aren't there? We could eliminate these inefficiencies by adopting an alternate process, which would save time, money, and energy," I suggested.

9.3. Implementing Lean to Achieve Six Sigma in Your Gram Panchayat

"But how can we implement this alternative?" Paropakari Padmini asked.

"The current system of providing services to our citizens works to a certain extent, but there's a significant room for improvement. The surge in technology usage has enabled most services to be provided online today, allowing tasks to be accomplished remotely, which

greatly benefits citizens. However, transitioning any process online requires a sequence of steps to be followed," I explained.

"So, what steps must we take?" inquired Hebbet Nanjamma.

"Well, first off, we need to outline the steps involved in the current process. This means enumerating all steps taken when applying for a certificate under the existing system. Once these steps have been defined, each one needs careful scrutiny to identify those that don't contribute any value to the process. If the services are automated and provided online, neither you nor I would need to visit the Gram Panchayat office. You could apply for a birth certificate via the Gram Panchayat portal and have it returned to your account once it's ready. This is a simple illustration of Lean Six Sigma's application within local government institutions," I clarified.

"Let's consider the daily operations of a typical Gram Panchayat office," I continued, attempting to enlighten them on potential improvements by describing another scenario:

"Sahukar Seenappa is the Adhyaksha of a Gram Panchayat. He and his team work diligently to deliver services to citizens as promptly as possible. Given that everything is handled manually, Seenappa starts his day early, preparing for his tasks. On arrival at the office, he finds citizens queuing up with application forms almost every day. He has to review the applications before forwarding them to the district office for approval. After reaching the district headquarters, it can take days or even weeks to finally produce the required documents for his citizens. This scenario reflects the current state of our Gram Panchayats."

"To enhance his Gram Panchayat, Seenappa needs an efficient process that eliminates the daily hassles he encounters. The repetitive set of

tasks he executes daily can be automated with technologies like workflow automation," I remarked.

"Today, I checked the submitted applications. Some people didn't have the necessary documents, so I had to send them back. I assume they'll return tomorrow," said Seenappa's office assistant.

"A few people from another village were disgruntled about having to travel far, queue for an hour, and not get their work done. I wish I could process their applications, but I can't without the required documents," added the computer assistant.

"Now, let's envision an alternate reality for Seenappa's Gram Panchayat," I proposed.

"In this new system, Seenappa's Gram Panchayat has an online process in place. There's a web portal designed to deliver all required services to the citizens. Each citizen has a username and password to access their account and avail services. This way, citizens can avail services from the comfort of their homes. This improved method conserves numerous resources for both Gram Panchayat staff and citizens. It curtails cost and errors in the process, saves time, and prevents unnecessary steps, thereby enhancing quality and productivity," I explained.

"Then we can procure some computers and digitize all our Panchayat activities," suggested Paropakari Padmini, an Adhyakshe of one of the participating Panchayats, with a noticeable enthusiasm.

"But it's not that simple, Padmini. Even after processes are automated, the people involved in the supply chain must still perform efficiently. You need leadership that ensures no compromise on service delivery for your citizens. This means all functionaries must complete their

tasks on time to achieve Six Sigma in your Gram Panchayat. That's how Lean Six Sigma can be applied in local governance," I clarified.

"Lean Six Sigma ensures the processes involved in service delivery to the citizens are minimal, without compromising results. In fact, Six Sigma enhances the system's efficiency, enabling it to deliver beyond its current capacity," I further explained.

"Lean Six Sigma is a tool that can dramatically increase the performance and quality of services provided to our citizens in Gram Panchayats. Integrating new technology with proven management tools is what's needed to redefine our institutions' operations. Applying Six Sigma will lessen the burden of manual labor, drastically reduce errors, prevent over-processing, and improve service quality," I asserted.

The audience was growing increasingly curious about Lean Six Sigma.

9.4. Dabbawalas of Mumbai: Six Sigma!

"I'll share another story to help you better understand the Lean Six Sigma concept," I said, beginning another tale.

"The Dabbawalas of Mumbai, a lunchbox delivery service, has been in operation for over 200 years. Starting with a team of about 100 people in the late 1800s, there are now over 4,500 Dabbawalas delivering more than 175,000 lunch boxes per day to office workers across Mumbai. They pick up homemade lunch boxes from the doorstep of each house, bring them to a collection point where they sort the lunch boxes according to a variety of factors such as collection point, starting train station, destination station, office name, floor, etc."

"Dabbawalas play a vital role in delivering homemade lunch boxes to millions of employees in Mumbai city. Despite this vast scale, the lunch

boxes are delivered warm and accurately, without mistake, every single day to the same person. It's estimated that they make only one mistake per 6 million deliveries or one mistake every two months. Considering that most of these professionals are illiterate or partially literate, their accuracy in delivering lunch boxes is astounding," I emphasized.

9.4.1. So how is this process six sigma?

"Revisiting the concept of six sigma, a maximum of 3-4 defects is permitted per million opportunities. So, this means a maximum of 3-4 wrong deliveries per million is the highest number of errors acceptable by Dabbawalas according to the principle of six sigma. And by all accounts, Dabbawalas are almost always accurate. What's even more astonishing is that the process is completely manual."

"Let's examine how they achieve such impeccable service," I continued.

"The Dabbawalas claim they collect lunchboxes from the customer's homes late in the morning to ensure that they are served hot. Each Dabbawala collects lunch boxes from homes, then heads to the local train station where they sort the lunch boxes according to a system of codes designating the area of delivery. Once sorted, they board the train with the lunch boxes to the designated location. At the destination, lunch boxes from multiple Dabbawalas are sorted according to area or office, then delivered every day between 12:30 PM and 1:00 PM."

"The Dabbawalas then return to the customers and collect the empty lunch boxes. They go back to the train station where the lunch boxes are sorted once again by area. The Dabbawalas then deliver these boxes back to their respective homes by 2:30 PM or 3:00 PM. All of

these processes or steps are carried out nearly flawlessly every single day, which is essentially what Six Sigma is all about," I explained.

"In case a Dabbawala is late to collect the lunch box or misreads the codes, there could be errors resulting in the delivery of the wrong lunch box, causing inconvenience for the customer. However, they have established a process that operates seamlessly from collection, sorting, delivery of lunch boxes, to collecting empty lunch boxes and returning them to the houses. This is Six Sigma: the ability to deliver a service without error consistently," I continued.

By this point, the concept of Six Sigma was beginning to resonate with the Panchayat Adhyakshas and elected representatives.

"To become a Six Sigma Gram Panchayat, each member who contributes to the development of your Panchayat must clearly understand their roles and responsibilities. As an Adhyaksha, it is your duty to ensure there are defined roles and responsibilities to accomplish tasks without dependency. It will be your responsibility to leverage the best technologies to create not just one, but multiple digital Gandhis in your Gram Panchayat," I proposed.

"Before we dive into the world of automation in the next chapter of the book, let's briefly understand how an organization should be structured, or in simpler terms, the significance of defined roles and responsibilities in building a digital Gram Panchayat."

"Are you playing a meaningful role in the development of your Gram Panchayat? Let's find out!" I concluded my presentation.

"How?" The question hanging in the air was evident from the curious expressions on their faces.

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