

Lean at origin: applying Kaizen to coffee

Toyota's production system is one of the great manufacturing success stories. Known generically as 'lean manufacturing' it was created by the company's founder Sakichi Toyoda, his son Kiichiro Toyoda and Toyota chief engineer Taiichi Ohno, and has as its primary goal the elimination of waste.

Lean manufacturing is a key part of the system and another is Kaizen, a quest for continuous improvement, a philosophy that helps to ensure maximum quality whilst maximising efficiency.

The Kaizen concept also has a strong focus on standardized work and procedures as a way of maximizing productivity whilst 'humanising' the workplace, empowering individuals to identify areas for improvement and suggest practical solutions.

The concept has been in use in manufacturing for decades. It obviously works very well, but as Ruth Ann Church, an importer and consultant in the coffee industry told *C&CI*, it is beginning to be applied in agriculture – and in coffee – thanks to her background as a management consultant in the automotive sector.

Applying lean to origin

Regular readers will be familiar with Ms Church's import business, Artisan Coffee Imports, but she also consults and first began applying the concepts of 'lean' and kaizen in the coffee sector in Rwanda and Burundi. She coined the concept of 'lean at origin' and has been applying it in Rwanda and Burundi for the last 2-3 years. The success of the projects she undertook there suggests it could have applications in producing countries everywhere.

She defines lean at origin as 'achieving customer satisfaction through the most efficient use of time, water, machines, operators, coffee cherry and information,' and the 'relentless pursuit, identification and elimination of waste.' Leading roasters such as Starbucks have been applying the concept of lean for years, she explained, but it hasn't been applied in producing countries until very recently.

Before she got into coffee, Ms Church spent eight years as a consultant with a non-profit in Ann Arbor, Michigan, part of

Principles pioneered in the automotive sector by Toyota and applied in many other industries could help farmers grow better coffee, a consultant believes



the US that is home to many companies in the automotive sector. "Basically, we used to help companies become more efficient," she explained. "They had to become more efficient to survive, and I saw first-hand that lean manufacturing and Kaizen really work."

Working with washing stations

"A few years ago, Twin was looking for someone to lead management training in Rwanda. That was me, and I began to apply lean at origin at washing stations run by the co-operatives I worked with. I found that lean at origin training and consulting delivers bottom-line results for producer organizations, exporters and importers – for the entire value chain.

"It especially helps organizations seeking to increase quality and move up the value chain. With lean this is done whilst eliminating waste, meaning costs per unit are reduced. Applying lean at origin enables producers to increase quality and reduce costs at the same time. In short, lean at origin helps producers become more profitable."

And it's not just co-operatives who want to start improving quality that benefit. "Many of the best processors and large farms at origin already practice lean, but they may not call it by that name," Ms Church said. "These organizations can continue to enhance profitability when they adopt lean. This is what Toyota does, year after year, despite already being the most profitable automotive manufacturer in the world. Equally, if a producer organization needs a rescue package, lean management practices can help it out of a downward spiral, into recovery and profitability."

Pilot projects

Twin took the plunge in 2016 when it agreed to fund the first lean at origin pilot projects at co-operatives in Rwanda and Burundi as part of a two-year Trademark East Africa grant to establish best practice among coffee washing stations. Artisan developed the programme, which is taught at a coffee washing station, and provided on-going consulting after the initial training.

Ms Church has continued to work with one of the co-operatives in Rwanda – the one that most quickly understood and

adapted lean practices, Kopakama, which has started to show some impressive results.

“With lean, co-operative washing stations can afford to pay their farmer-members more for cherry – a key objective of the co-operative organizing principles. This year Kopakama sold out of the six containers of coffee they produced early, in a year when many Rwandan organizations were still struggling to sell last year’s coffee,” she explained. “In 2018, Kopakama awarded some of the highest cherry prices they have ever paid to their farmer members and this year they are raising the quality control requirements again.”

Quality improvements

In addition to Kopakama, a nearby co-operative, Kopakaki, was selected to send representatives to the sessions, which included a two-day leadership training and a separate two-day session for supervisors and workers. The core idea was to maximize customer value while minimizing waste.

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The training united board members from both co-ops, coffee washing station staff and coffee farmers, large and small, and gave them tools by which they could maximize profit by efficiently using limited resources and by minimizing waste. After the two-day training session, trainees had the opportunity to share their insights on ways to save money and improve productivity.

“This year farmers have to sort the cherry they deliver using water floatation before they are weighed. Then both types of cherry are weighed, and two prices are paid: a high price for the good, dense cherry and a low price for the floaters, that is, immature and insect damaged cherries. I’m convinced that the organizational and leadership transformation required at 70 collection sites was only possible because the organization had a foundation of lean training,” Ms Church told C&CI.



Ruth Ann Church has applied the lean and Kaizen concepts to coffee farming – with excellent results



Toyota’s production system, known as ‘lean manufacturing,’ was created by the company’s founder Sakichi Toyoda

“There have also been lots of other small wins from Kaizens, such as reduced cut beans from the de-pulper, improved monitoring of the cherry quality that site collectors bring to be processed, and reduced use of water in grading channels.

“In order to reduce the number of cut beans we got the workers at the co-operative to come up with a way to measure the number of cut beans; then we worked with them to identify a way to prevent it from happening, by adjusting the discs in the de-pulper. In this way, quality was improved, waste was reduced, and the workers were empowered.”

12 steps of Kaizen

This year, Artisan also launched a new lean dry mill course at Kopakama. The company also helped the co-operative’s field officers and employees review the ‘nine wastes’ and the ‘12 steps of Kaizen’ to prepare to an improvement project on the new cherry floating process at collection sites.

These frontline workers will form teams that will each use Kaizen techniques to implement process improvements that are critical for the new cherry floating process to withstand the tremendously high volumes that come during the 2-3 weeks of peak season. That highlights another key part of the process: identifying ‘lean champions’ who are receptive to new ideas, understand lean principles and Kaizen, disseminate what they have learnt and help ensure that new practices are adhered to.

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Overall, said Ms Church, her experience of applying lean at origin in Africa has been very positive and, she believes, equally positive for the farmers receiving the training. Other organisations are beginning to take notice, and possible lean at origin programmes are being discussed with several of them, including a large aid organization, a European NGO and a social impact investor.

“One large importer I met at AFCA suggested working with Artisan to bring lean to operations in Latin America. That would be something I would jump at,” Ms Church concluded. ■ C&CI