



# LEAN MANAGEMENT JOURNAL

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## GIVING AS GOOD AS YOU GET

Examining the different ways to offer rewards and recognition in the workplace to ensure complete employee engagement

Organisations featured in this edition include: Yeo Valley Family Farms, Accolade Wines, Ericsson Finland, SCGM, University Hospital of North Staffordshire, University of Southern California's Centre for Effective Organisations.

### IN THIS ISSUE:

**Power to the people:** Yeo Valley Family Farms' Steven Welch, along with Christopher Coles show how giving a workforce a voice can be the greatest staff reward.

**The Greatest reward:** Gerald Ledford Jr, Senior research Scientist at University of Southern California's Centre for Effective Organisations argues the case for financial reward incentives by explaining some of the different reward systems used and what to look out for when putting these in place.

**Rewards, recognition and the employee's mind:** Occupational Psychologist Matthew Davis delves into the mind of the employee in an interview with LMJ Commissioning Editor, Callum Bentley to find out how people really react to different workplace rewards.

**Challenging lean's applicability:** Kirsi Mikkonen from Ericsson R&D Finland describes how lean thinking has been introduced in a dynamic software development organisation and what challenges lean faces when being applied to such a rapidly changing industry.



# Super Models, Mental Models,Models,

## and Interdependent Value Streams



LMJ Editorial Board member *Bill Bellows* is back with his latest installment of his Lessons from Deming articles. In this issue, he looks at the problems with conforming to different models within manufacturing and management and explores what an organisation can achieve if it looks outside of its box.

**S**everal years ago, when Linda Lore was CEO of Frederick's of Hollywood, a pioneer in the lingerie business, she shared a story of speaking with students about Frederick's and its strategy to compete with Victoria's Secret and its super models, including Gisele Bündchen. As the business school engagement was ending, Linda fielded a seemingly personal question, presented with a degree of hesitation, yet with piercing interest; "I have to ask...in your role as the CEO, do you get to work with the models?" Linda's reply gave appreciation to Frederick's as a business, like any other, with products, customers, suppliers, and employees. "Yes, I do work with our models every day. I work with our financial models, our sales forecasting models, our production planning models, and, yes, I also work with the models who wear our lingerie."

Many years before, George Box offered his reflection on models; "Essentially, all models are wrong, but some are useful." Box's focus was not apparel models, but scientific models. Frederick's financial, sales, and production models may be similarly wrong, but no doubt are extremely useful. Better questions can enable better models if one desires to think about the assumptions behind them. Such inquiry opens the door to acknowledging that such models, be they scientific or financial, are mental models. A simple explanation of mental models can be found on Wikipedia;

A mental model is an explanation of someone's thought process about how something works in the real world. It is a representation of the surrounding world, the relationships between its various parts and a person's intuitive perception about his or her own acts and their consequences.

Those familiar with the work of Thomas Kuhn will appreciate that paradigms are also mental models.

Consider, for example, defining quality in terms of conformance to requirements, a paradigm that dates back to the late 1700s, if not further. No matter how narrow or wide the manufacturing tolerances, nor how many requirements are established, from weight to thickness to surface roughness, a "good part" is defined as one for which all of the requirements are met. In a very simple binary model, "good parts" are those that meet requirements, while "bad parts" do not. On paper, "good parts" flow through a value stream to the next stage of manufacturing, if not an assembly operation, where they are joined to other "good parts" and fit equally well, without variation in effort. So

“ I think that people here expect miracles. American management thinks that they can just copy from Japan—but they don’t know what to copy! ”

W. Edwards Deming, NBC Television Documentary, *If Japan Can, Why Can't We?*

says the mental model of interchangeable good parts, a model which is easy to challenge, as engineers within Ford learned 30 years ago.

One inspiration for challenging the mental model of “good parts” is the 1983 discovery by Ford Motor Company of a dramatic difference in warranty claims between automatic transmissions designed by Ford and built in two locations, one in Batavia, Ohio, the other by Mazda in Japan. Much to the surprise of Ford’s corporate warranty office, the number of complaints associated with the erratic shifting of the transmissions produced in Batavia were a factor of 3 greater than the complaints against the transmissions built by Mazda. Upon close examination, Ford realised that Mazda’s manufacturing focus was to actively manage the gap between the outer diameter of the valves within the transmissions and the corresponding diameter of the valve bore. In doing so, Mazda’s efforts realised the existence of an ideal gap, resulting from ideal (target) values for both the bore and valve diameters, with an awareness that variation in gap size matters. The Ford factory, by comparison, produced a bore diameter as small as possible, yet within tolerances, and valve diameter as large as possible, yet also within tolerances. As a result, the larger gap between them was passively managed, resulting in complaints by customers about erratic shift points. Following Mazda’s lead, Ford responded by shifting their mental model from “minding the good parts” to “minding the gap” between the bore diameter and the valve diameter. In a videotape produced for in-house use, as well as use in their supply chain, Ford’s VP of Powertrain and Chassis Operations concluded that “building parts to print isn’t good enough.” He added, “If we are to be competitive, we must start with processes under statistical control and dedicate ourselves to continuous improvement in the uniformity of the parts being produced.”

W. Edwards Deming was invited to Japan in 1946 by the staff of Douglas MacArthur, a US Army General appointed by President Harry

Truman to serve as Supreme Allied Commander. Dr. Deming’s role was to assist Japanese statisticians in preparing and conducting a post-war census. During this consulting effort, Deming was recognised as a student of Walter Shewhart, a pioneer in developing methods for statistical quality control that examined variation in the performance of processes and products using tools known today as control charts. The collection of such data, when viewed as value-added, offers insights on variation in “good parts” that remains invisible to those who define quality by conformance to requirements. As with Ford’s discovery of Mazda, the impact of this variation appears in the assembly process and in product performance, both occurring downstream of the parts themselves. In appreciation of a mental model that acknowledges variation in “good parts,” value streams can do far more than reveal the flow of these parts along an assembly line. Value streams that include the variation in “good parts” serve to reveal the interdependence of final assembly and product performance on the parts that comprise them.

In appreciation of Dr. Deming’s admonition, those who strive to “copy from Japan” need not be blinded by value streams of “good parts.” Instead, by shifting their mental models from one of independent “good parts” to interdependent “variably good parts,” as demonstrated by Mazda’s fabrication of Ford’s transmission, they acknowledge the value proposition, as well as the strategic advantage, of managing interactions, not the actions taken separately. In doing so, organisations will be enabled to think together, learn together, and work together better. Such was Dr. Deming’s vision.

#### FURTHER READING:

Thomas Kuhn, author of *The Structure of Scientific Revolutions*