

Original Concept

for

PROFOUND KNOWLEDGE OF THE REAL THING

Implementing Deming's Principles, Without Imposing Deming

A document written in 2011 in preparation for what was to become:

The Sys-Tao Way

by Bob Browne

CEO, Great Plains Coca-Cola Bottling Company

600 North May Ave, Oklahoma City, OK 73107

Abstract

In response to operational upheavals caused by recent acquisitions, Great Plains Coca-Cola (GPCC) CEO Bob Browne resolved in the early 1990s to implement William Edwards Deming's Theory of Profound Knowledge as the core culture of GPCC. Recognizing that it was unrealistic that all of GPCC's 1,500 associates would appreciate Deming's philosophy, Browne developed a series of "just-like references" and communications programs that recast Deming's principles in terms of GPCC's day-to-day activities, so that associates could identify the value of the new policies and act accordingly, without specific knowledge of Deming or his original concepts.

Perspective

Bob Browne's grandfather purchased what is now Great Plains Coca-Cola Bottling Company in 1922. At that time, the company served the area immediately surrounding Oklahoma City. By 1990, Great Plains had grown to serve most of Oklahoma, including Tulsa and North West Arkansas. Today, the company quenches the thirst of a population of more than 3 million residents in this territory with over a billion servings of its products annually. GPCC grew to become the fifth-largest independent Coca-Cola bottler in the North America, and distributes approximately 500 distinct beverage product package combinations into the market. In addition to the many varieties of Coca-Cola products, GPCC also became the fifth largest bottler of Dr. Pepper. Gross sales in 2010 were over \$300 million, and net operating income was over \$35 million. In the beverage industry, GPCC is distinguished for its lean business model, which is illustrated most plainly by an asset-utilization percentage that is approximately twice the industry average.

Since 1990, GPCC's operating model has increasingly departed from common practice in the beverage industry in a number of ways. Deming's principles are intermixed with ideas from Eliyahu Goldratt, and even Taoism. Some of the most noticeable differences from industry norms are the notion of throughput accounting, the elimination of all incentive pay programs, the implementation of higher delivery frequencies with smaller drop sizes, faster cycle times, and 24/7/365 on-time service, with very little inventory or unnecessary process steps.

These and other related processes are integral to GPCC's operating model, and each expresses some combination of the four elements that Deming called the Theory of Profound Knowledge: Systems Thinking, Understanding Psychology, Understanding Variation, and the Theory of Knowledge. Together, they comprise a practical version of Deming's teachings that is tangible and visible on a day-to-day basis in every area of the organization, but which makes no explicit reference to Deming or his concepts as they are generally expressed.

Background

On April Fool's Day, 1980 Bob Browne became Chairman and CEO of the company – making him only the third person in 58 years to head the company. Bob was well prepared for the position, with a bachelor's degree from Williams College, a U.S. Navy officer's cap with service in Vietnam, an MBA from Columbia University, and two years as an analyst with Arthur Andersen & Co. in New York. Furthermore, his grandfather, Virgil Browne, and his father, Henry Browne, had run the company until Bob led the 1980 buyout of the descendants of Virgil and his partners.

Born in 1943, Bob Browne had grown up in the beverage industry at a time when Coca-Cola was fast becoming a dominant national and international brand. Then, as he was leaving for Williamstown in the early 1960s, the bottling industry in the U.S. was beginning a dramatic consolidation as the number of licensed bottlers decreased from over 1000 to fewer than 75 today. During this same time, product and package variety exploded from one – the classic 6 ½ ounce Coke in a returnable bottle – to more than two-dozen distinct products and packages (stock keeping units, SKUs) by 1963. By 1980 there were still 350 Coca-Cola bottlers in the United States, but the number of SKU's had doubled to more than 50. GPCC net revenues were just over \$30 million, and net operating income was less than \$3 million. The amount of product produced and distributed was less than ¼ of today's volume.

Bob Browne may have inherited a birthright to run GPCC, but ownership had to be bought and paid for. He and his co-investors raised the necessary funds through an expensive bond issue. The term "leveraged buy-out" hadn't even gained enough currency at the time for Browne to know the handy phrase that characterized his \$45 million gamble that saddled the new ownership with a debt-to-equity ratio of 6:1, financed at 20% interest. Even at that price, a long-established, successful company possessing the exclusive franchise rights to distribute a popular product in a growing region seemed like a good bet for a new CEO/owner with the background, education, and experience to keep that success rolling along. Also critical to sealing the deal was the in-place team of experienced GPCC managers whom Browne could count on to continue following the preexisting management model and executing the tactics that had worked so well in the past.

The Need for Change

In the late 1980s, GPCC acquired several neighboring Coca-Cola territories including: Tulsa, Oklahoma's second-largest metropolitan area, and the fast-growing North West Arkansas territories. The acquisitions went smoothly, and in order to eliminate what appeared to be duplicate and

redundant facilities, Browne planned to shut down the Tulsa manufacturing facility and consolidate all bottling in Oklahoma City for shipment to distribution warehouses across the state. Exploiting these obvious economies of scale also appeared to be the logical answer to gaining control of the accelerating proliferation of SKU numbers, which was being driven not only by increasing variety of beverage types, such as diet sodas and soda alternatives, but also by the transition from traditional glass bottles to cans and plastic bottles.

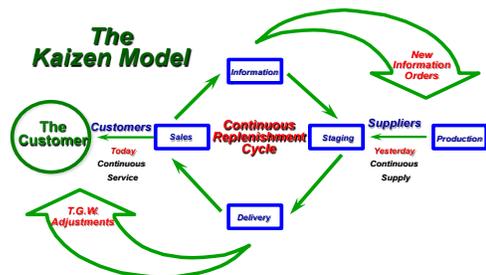
Production consolidation by definition meant producing greater volume and variety of product in the surviving facility, and, as a result, shipping a great deal of that product further distances. Production resources were scaled up, and schedules stretched out to handle the increased demand on the Oklahoma City plant. Distribution facilities and rolling stock were taxed to house and move more stock to compensate for what would inevitably be a slower supply cycle. Maintaining adequate stock levels at the far-flung distribution centers seemed to require larger batches of individual SKUs that were produced, and each batch required a larger share of the available production capacity. Delivery and stocking of these larger batches, in turn, required more trucking capacity and floor space.

As production centralized according to the strategy, problems arose at the distribution centers now scattered across the larger territory. Out-of-stock and out-of-date reports jumped, indicating shortages of some products and surpluses of others. Customers became upset that they couldn't get enough of the "right" products and they had too much of the "wrong" products that didn't sell as well and expired on the shelves;^[1] sales and profits were lost on the former, and carrying costs and wastage soared on the latter. Thus, rather than being a smooth, predictable improvement in GPCC's newly expanded business, the consolidation of production was stressing the remaining production facility, clogging the distribution system with the wrong products, and irritating customers. Bob Browne needed to do something dramatic, and that thing wasn't to be found in the traditional command-and-control playbook that he had learned so well from his career in the Navy, B-School, and Arthur Andersen.

At the urging of one newly-hired manager, and against the counsel of most of the existing management team, Browne stopped doing the thing that wasn't working. He reversed the decision to close the Tulsa production plant, and returned to the system that had worked when there were two separate production facilities serving two separate territories. The immediate problems settled themselves out, but there were no synergies resulting from the acquisitions.

Systems Thinking

Browne read Eliyahu Goldratt's book *The Goal*, about this same time, and as a result, he concluded that a holistic, system-based approach might resolve many of the issues then facing GPCC. Then, from 1990 to 1992, GPCC initiated what in hind sight could be called a great deal of Systems Thinking. Many "Just-in-Time" processes were implemented, and systems flow charts were everywhere. The most symbolic of these flow charts



later evolved into what became known as the Kaizen Model, shown here. Kaizen, of course, was a popular term meaning continual improvement or change for the better, and it represented the belief that Systems Thinking was the key ingredient to implementing the JIT aspirations.

Islands of excellence did appear in several functional areas as a result of the systems changes, but Browne soon realized that the existing command-and-control business model was putting undue stress on the people, and, in fact, there was little acceptance of these new systems. As a result, there were still no material synergies resulting from the acquisitions.

SYS-TAO and Understanding Relationships

In a serendipitous way, during this same period Browne had taken to reading alternative management theories and non-Western traditions and philosophy. He first became aware of Deming at a Duke University seminar, and he discovered the phrase “Staple Yourself to an Order” in the title of a Harvard Business Review article^[iii] which described a systems approach to what was referred to as the order management cycle.

As Browne became more familiar with the teachings of Deming, he began to wonder why the Japanese so readily accepted his teachings while western cultures did not. Browne theorized that the traditional Western “left-brained” mindset, and the consequential linear cause-and-effect approach to thinking, might be what were hampering the ability to understand what Deming was trying to say. Likewise, he theorized that the “right-brained” mindset, and more cyclical approaches to thinking associated with Asian cultures, could be what enabled their societies to more easily grasp these new concepts.

The “just-like reference” that triggered this theory came as a result of his reading *The Tao of Physics*. In this book, the chapters alternate between explanations of modern physics and Taoism. The concepts of quantum mechanics, relativity, and the like are difficult for the western mind to comprehend because they have so few metaphors, or “just-like references,” to help them understand. Interestingly, though, the chapters on Taoism make it easier to comprehend the modern physics, and the chapters on the new physics in turn make it easier to understand Taoism. Said another way, left-brained metaphors seem to work well for Newton’s physics, but it takes a more right-brained approach to comprehend modern physics.

Browne’s assimilation of his readings led to him to identify a quirky coincidence – “Staple Yourself to an Order” could be abbreviated to the acronym SYSTAO, or as he saw it, SYS-TAO. For Browne, the word at once gathered the major influences of his study, and crystallized the rudimentary idea of a new business model for GPCC: A logical left-brain “Western” systems thinking model that embraces an understanding of relationships similar to the more right-brained “Eastern” cultures, that better appreciate cyclic principles, with a goal of continual improvement. The yin-yang of these eastern cultures seemed to represent the dynamics of a system that talks to itself, turning synchronously just like Deming’s Cycle of “Plan, Do, Study, Act.”

Browne theorized that most westerners interpret this cycle to be something just like the budgeting cycle, where someone typically sets goals and later checks to see how you are doing. But Deming

was against goals, inspections, and management by objectives. Browne, therefore, concluded that the Deming cycle might better be interpreted as a feedback loop of a rapidly repeating cycle. It was more a measure of how the process was running, rather than whether the process accomplished some goal.

Many of the company's flow charts had been drawn with blue boxes and the connecting arrows were green, as shown above. As a result, the Blue Boxes became known as the SYS, a system made up of many independent parts. Everyone seemed to understand Systems Thinking and the need for precise systems, but Great Plains' problems seemed to occur between the boxes. And, when it came to the Green Arrows, it was not clear what they represented other than to point out the direction of the flow. Browne suggested that the Japanese understood something more about the Green Arrows, but needed help with the Blue Boxes, while westerners always understand the Blue Boxes but need help with the Green Arrows.

The Green Arrows, according to Browne, are about "caring relationships", or what Deming called "Understanding Psychology." Just like modern physics and Taoism, the more right-brained eastern mindsets are far more comfortable with these ideas. At GPCC, the Green Arrows became known as the TAO in SYS-TAO.

In this way, every Blue Box is full of internal customers hoping for satisfaction and happiness from their supplier associates on the other end of the Green Arrows, The Blue Boxes represent the working parts of the system, and it is understood that the workings of these parts must be precise. It is a left-brained concept, not hard to understand for most westerners. The Green Arrows, on the other hand, represent relationships in need of constant feedback, and it is understood that these relationships must be "Caring." This is a little more right-brained, and it really tugs at the traditional western mindset when it is said that these people don't work for their boss; instead, they work for some co-worker at the tip end of a Green Arrow in some other boss's Blue Box.

In a traditional command and control structure, the bosses manage the people and get results by increasing the productivity and output of their individual Blue Boxes. As a result, silos develop and there is a great deal of emphasis on "management by objectives" and merit pay; two things Deming says should be abolished. Figuratively speaking, western bosses love their Blue Boxes and manage their people. The focus is on accomplishing supplier goals rather than solving customer problems. The Kaizen model suggests that holistic precision requires Caring Relationships, and that these Caring Relationships are what allow the total process to become precise. The boss's job shifts from managing people for objectives to managing the process for improvement.

Analogically, if the relationships are strong, the Green Arrows become short and the entire model hums "in perfect harmony" – just like in the Coke jingle. The mission is "to become better and make it easier to satisfy the needs of our customer's customer," and it takes everyone to improve the total process in a holistic way. When you focus on customer issues and care about people, it engages your whole brain. It brings out the east and the west, the yin and the yang, the Cowboy and the Indian in everyone, and it creates a more holistic view of the issues as well as a more tolerant understanding of the people.

Adopting SYS-TAO as his own byword for the amalgam of what Deming called “Systems Thinking” and “Understanding Psychology,” Browne began to clearly recognize that GPCC’s previous model had incorporated traditional structural hierarchies, linear logic, and a focus on results. This created Blue Boxes that were islands of excellence when viewed independently, but creators of waste when viewed holistically. Understanding the Green Arrows, or the TAO in SYS-TAO, would require more organic ideas of looping systems, cycles, relationships, and holistic continuity. It even helped him to understand that continual improvement must be focused on improving the process, in contrast to just improving outcomes.

The Mission Statement and Throughput Accounting

To initiate the adoption of Deming’s principles, Browne began with the Mission Statement. Popular business literature promoted phrases suggesting that the customer is king and customer service is everything, but these concepts were typically obscured by Wall Street’s goal of maximizing profits and increasing shareholder wealth, which characterized customers more like a source of funds than “kings.” Broad, lasting change in GPCC would have to start with resolving this paradox and giving the company a real and valid mission that appealed to customers, associates, and shareholders alike.

If continual improvement of the process was to be the goal, then the primary beneficiary had to be the ultimate customer – the person who buys and drinks each individual Coke. Browne elevated the consumer to the pinnacle of GPCC’s stakeholders with the explicit objective “...to quench the thirst of our customer’s customers.” But from there, Browne expanded the notion of a customer: “Our employees are customers too” and “we are each other’s customers.” This, in turn, suggested a chain of customers: consumers, shoppers, retail customers, internal customers, and suppliers. This leads naturally to the essential shared mission that, “We live to become better ...” – better at whatever each individual does, and better at taking care of customers until the thirst of the customer’s customer is finally quenched. Thus the mission becomes everyone’s job description: all an associate has to do is get to know his customer and take care of her needs.

GPCC’s mission statement does not at first appear to resolve the paradox of focusing on customers versus shareholders. With this focus on customers, how can you take care of shareholders too? Furthermore, a mission statement like this one begs metrics. There are lots of metrics to measure company profits and shareholder wealth, but what metrics are there to measure customer satisfaction and happiness? How can you know if your thirst-quenching capabilities are working?

To answer these questions, Browne returned to Goldratt’s teachings and implemented something called Throughput accounting. Throughput at GPCC is defined as Net Sales minus the ingredients of a perfect Coke. Thought about in this way, “throughput” is the premium customers pay for a Coke, and it is also the money coming into the company every time a Coke is sold. Throughput is good for everyone, customers and shareholders. There is no paradox concerning Throughput.

All the other cash expenses that are not part of the ingredients of a perfect Coke are summed up and called TOE (Total Operating Expenses). TOE, therefore, is the sum total of all the money leaving the company over time, so you might say that TOE is the cost of the process, while Throughput is a measure of the premium customers pay for Coke.

According to Browne, the TOE is like cholesterol; there are good costs and there are bad costs. Good costs add capabilities that increase throughput. If a cost does not add throughput capability, then it is waste. Thought about in this way the paradox is resolved, but unfortunately, accounting can't tell you much regarding which costs are good and which costs are bad. Deming would say that these things are "unknown and unknowable." Browne just says that cost is another four-letter word that should be avoided.

Apart from focusing operations on the straightforward notion of creating Throughput, the clear distinction between "good" costs and "bad" costs encouraged management to focus more on *"how the system works as a process,"* rather than to "whom" or to "what" the costs are allocated; that is, shifting from a narrow Command and Control viewpoint to a broader Process Control perspective. Browne intended that this would free managers from just focusing on their own departmental costs, and instead allow them to focus on the entire process in a holistic way in order to increase the flow around the Kaizen Model.

Deming's answer to this "cost" dilemma had to do with what he called Understanding Variation. Browne took another tack which got him to the same place. Looking again at the Kaizen Model, he would ask what things might increase the flow around this model.

The existing Systems Thinking mindset had already focused on "Just in Time." And what evolved became known as "The Time Paradigm." According to Browne, when you understand the Time Paradigm (Frequency, All the Time, Cycle Time, On Time, Value-Added Time) you can better appreciate what Deming called "Understanding Variation." More importantly, you will know how to separate the good costs and the bad costs.

As you apply the principles of the Time Paradigm, the predictability of the process will improve. Good costs will increase and bad costs will decrease. Throughput will increase, and capital requirements will decrease.

Transforming the Culture the SYS-TAO Way

As technology advances, history has shown us that society lags culturally behind. In other words, people hang on too long to old theories and they are too slow to adopt new paradigms. They hang on to explanations that simply describe the past, and they are too slow to develop improved theories that can better predict future outcomes.

At GPCC, these changes in the organization began to affect everybody. Some readily adapted to the new ideas, but others resisted and held on to their prior ways. It was time to make sure that the entire company understood the new business model being implemented.

Browne realized that these SYS-TAO concepts might seem strange or esoteric to a varied audience; he needed to introduce them in a way that resonated on a personal basis, and could be shared among all associates equally. SYS-TAO would be proprietary to Great Plains, a source of pride for the workforce, and a source of joy to the workplace. SYS-TAO is mysterious yet apparent, paradoxical yet sensible. The phrase, "staple yourself to an order" rhetorically suggests the big new ideas that

can change, in a Kaizen-like way, all of the relationships within the organization – between departments, functions, locations, levels, bosses, and workers.

Browne instituted the SYS-TAO education program as a complete, integrated program that would teach by its own implementation as a series of compulsory meetings / tours of the company's operations, built around a tangible experience and explication of the philosophy.

Every Tuesday, SYS-TAO gathered groups of 20 GPCC associates representing all levels, functions, and locations around a huge conference table at GPCC headquarters. Every GPCC associate participated in a SYS-TAO seminar once every year for twelve years. Browne “Stapled the associates to an Order,” using the Kaizen Model as his map, and led the discussion according to the lifecycle of a Perfect Coke. Associates were randomly asked to introduce themselves and to explain how they fit into this model. Prodded by Browne, they were asked to talk about TGWs (Things Gone Wrong). Blame was always discouraged, and collaboration regarding what could be a way to improve the process was always encouraged. Most problems were conflicts with another department. Typically, another participant representing that function, along with others around the table with relevant knowledge, would begin to speak up – but not before their obligatory introduction and explanation of how they too fit in to this holistic system.

Over the years three separate SYS-TAO movies were made in order to complement the SYS-TAO Experience. Browne also commandeered the company newsletter, “The Classic Edition,” to present his ideas in a special edition, “The SYS-TAO Newsletter.” It was never distributed via normal channels; instead, it was always handed out at the SYS-TAO meetings along with a commemorative perfect bottle of Coke with the word “SYS-TAO” emblazoned upon it. SYS-TAO in every way symbolizes an experience – a way of thriving inside a living organization.

The Sys-Tao Way is a different leadership philosophy based on very different paradigms that require the formation of new and different habits. It requires a transformation of the company's culture. Browne realized that you can't just teach paradigms and expect people to change their habits, but you can change the culture and allow the people to adapt to a better way.

^[iii] *Staple Yourself To An Order*; Benson P. Shapiro, V. Kasturi Rangan, and John J. Sviokla; Harvard Business Review, July-August 1992, pp. 113-21.