

Putting the Round Peg in the Right Hole – Buying the Attribute, Not the Commodity

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“Traceability” systems are typically installed to solve a company’s immediate, specific, felt need. If the immediate need is to reduce the cost of meeting specific regulations, a regulatory tracing system is installed. Or if the immediate need is to increase yield or reduce costs, a value traceability system is installed. Installing either type of traceability system to solve an initial need, though, should not be the journey’s end. It’s only the beginning.

Once a traceability system is in place, the real benefits can begin. If a regulatory traceability system has been installed, then the company can leverage the system to add value traceability components. If a value traceability system has been installed, regulatory traceability can be a low-cost add-on. Or additional value traceability components can be added to get even more benefit.

Value traceability systems typically have one ultimate purpose -- improve your operation’s profitability. They achieve this goal through two different approaches: by reducing costs and/or increasing revenues, or by identifying “new value”. Both approaches track the product attributes on each discrete unit of production across different enterprises.

Most companies begin their value traceability quest by improving their operational profitability. A low-hanging fruit for generating immediate bottom-line benefits is to use the value traceability system to ensure you are getting the most out of your raw materials.

All inbound products are not created equal. Inconsistency in incoming materials is a major deterrent to maximizing process efficiency. And when we look at the variability of incoming products across a wide range of product attributes, we see an enormous variability. We also see that there are some product attributes whose effects on processing efficiency have been hidden because processors historically haven’t been able to reliably collect upstream information on product attributes on individual lots, and track that product through various transformations (e.g., wheat to flour to buns).

Durable goods manufacturers have long understood the need to reduce variability of key attributes in their raw products. In the food industry, though, there is a tendency to ignore the “consistency” impact on processing efficiencies. Ignoring attribute variability is dangerous.

Let’s take something simple like the cattle feeding industry for example. All cattle feed is created equal, isn’t it? Isn’t feed corn, corn? Aren’t oats, oats? Most cattle feeders understand there is some variation in the type of raw material they can buy to feed their

cattle. But we're willing to bet few understand just how impactful this purchase can be on their profits. Many processors still buy primarily on price. Do you?

A recent Australian study demonstrated just how much additional profit can be created by a small variation in one or two product attributes impacts. Dr. Alan Kaiser of New South Wales Agriculture discovered that relatively small variability in two key oat attributes – lignin and carbohydrate, translated into huge differences in digestibility and weight gain. A less than 10% variation in one of the attributes, for example, across eight popular oat varieties translated into a 22% difference in digestibility of the grain. This 22% leveraged into a whopping 30 to 60 percent difference in animal productivity or weight gain! Such is the power unleashed by understanding the impact of product attributes on efficiency outcomes. We call this power -- value traceability.

We're also willing to bet that most of the cattle feeders in the Australian study bought their feed based upon price. They presume that the lower the cost, the better. However, even if the oats with the more favorable product attributes were more expensive (which at the time of the study we're told they were not), it would pay to buy the correct attributes, not the lowest priced commodity.

Many of these relationships are counter-intuitive. In prior articles we're talked about a off-grade wheat that produced a superior final product due to a specific attribute that hadn't been factored into the grading criteria. We've also seen grain attributes that can reduce milling costs by lowering the number of blends, and livestock attributes that contribute to much higher yields. Even though processors are expert in their businesses, with decades of experience under their belts, there are still a few things to learn when new data can be brought into the equation and viewed through a new set of lenses – the attribute based focus on discrete units of production across different owners.

Another case to demonstrate the power of tracking product attributes can be seen from data General Mills has published. Using seed attributes as the value traceability departure point, General Mills has identified a specific grain variety that improves the quality of its Wheaties cereal—generating manufacturing efficiencies of over 10% while improving overall product quality. These pre-defined grain specifications are now being specified through their supply chain to secure specialized crop for General Mills and generate premium prices for the farmers growing that specific attribute.

These are not isolated examples. In the past four years, we have seen the leveraged impact of product attributes on industries that range from grains and oilseeds to meats and livestock and fruits and vegetables. In fact, everywhere we've looked, we've found profit improvement potential.

And we've also found the reverse -- potential extra cost when an inappropriate raw material is used. Any time this “square peg” raw product tries to fit in the finished good “round hole”, problems begin. Product consistency drops, customer satisfaction suffers, and costs can even increase due to high levels of sub-optimization. For example, we spoke with a mill manager who was concerned that his overall costs rose when

headquarters got a “great price deal” on some wheat. Problem was that he felt most of the savings were lost in additional blending that was required at the mill to get the right final flour characteristics.

But he didn't have hard data to prove his hunch because the company's accounting system did not paint a clear profit picture for each grain lot purchased. The information system dutifully reported the purchasing group was doing a great job in buying the grain, but then it beat up the operations folks for spending way too much money in excess blending. The two events were not linked. Was the excess blending coming from the cheaper grain, or were there other factors?

This situation is a classic sub-optimization case study. To go beyond departmental suboptimization and to enhance the entire company, senior management need dashboard instruments to help them make the right decision. These instruments will, for example, connect the purchasing information on each grain lot purchased with the costs of milling that lot to create a mini-profit and loss statement for each grain batch purchased. Such a P&L system on each grain lot purchased would tell the story. Without it, the company kept on doing it the same old sub-optimized way.

Even if this company's blending costs weren't increased by buying cheaper grain, blending per se is not a value-add. Customers won't pay more for bread made from flour that has had just one more blend. Blending is used by processors to generate consistency, but it is a customer transparent operation. If a processor can generate the desired customer traits with less blending, the better will be their bottom line. Collecting information about product attributes of discrete units of upstream product can go a long way towards scheduling JIT incoming arrivals of the right products with the right attributes to reduce blending – thereby dropping costs, and leaving the customer equally satisfied.

Mini profit and loss statements on each discrete unit of incoming product, and using product attribute information from suppliers prior to the product arriving onsite are only two of the specific ways processors can use product attributes to get more value from their raw materials and boost their bottom line. The moral of the story is to buy attributes, not commodities. Each food processing segment and each processor needs to discover the product attributes that most affect their bottom line for the products they produce. From what we've seen in the past several years, the relationships will not be obvious.

So, how do you do that? Do you just buy the highest cost raw materials? Absolutely not! Again, you buy product attributes connected to your process outcomes. You don't buy the commodity. The highest cost oats in the Australian feedlot example did not generate the best results.

Ultimately, the producer marketplace will begin to change the pricing equation towards the critical attribute pricing and away from today's commodity pricing. We're already

seeing that trend in the beef cattle industry. More than half of today's cattle are sold on some performance-based contract formula, a five-fold increase in the past three years. This same trend will occur in other agricultural markets. In the interim, though, there is a limited, unique window of opportunity for the processor who determines the key product attributes that benefit his operation, and can buy superior attributes at commodity prices. A longer term opportunity is to determine the producers who can consistently deliver those desired attributes, and incent them with premiums to ensure a consistent flow of the right attributes. You then define a new supplier relationship and create values for the farmer, the processor and the consumer.

Here are some simple steps that can be done to begin relating product attributes in your raw product to the output:

- implement lot-based profitability
- tie outcomes to inputs, across the longest chain possible
- start gathering attribute based data as early in the value chain as possible.

And once you think you've found the answer, you cannot stop value traceability. In the oats example above, knowing the oat variety isn't the only thing you need to know. The correct attribute level is influenced by variety, but it's also impacted by soil type, weather and cultural practices. And these will change with weather patterns, so a monitoring system needs to be in place for constant value building. Remember, you are buying the attribute, not the commodity.