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VIEWPOINT

"Art of the Science"

Excellence in textile manufacturing requires a delicate balance of science and art. Fibre, yarn, fabric construction, dye formulations, etc., the 'science', are critically important. The human factor is the 'art' that's responsible for orchestrating all of the manufacturing variables required to produce tangible cloth. When the fabric comes out great, everyone's happy. When it doesn't, nobody's happy… and that's putting it mildly.

My goal with this opinion is to put forth a theorem for successful textile development protocol that focuses on how we manage the convergence of man and science or, rather, the Art of the Science of textile development.

I've just returned from a quad-burning bike ride with an industry associate who shared the details of being caught in the middle of a monetary claim between his customer and the textile mill he represents. It goes something like this:

1. Mill ships the goods.
2. Customer tests a yard and sees shrinkage at 6%.
3. "Cut it" they say.
4. Somehow the garments shrink to 12%.
5. Ooops!

Sound familiar? It's a classic case of not paying attention to the Art of the Science. It doesn't have to be this way. Nobody's perfect and mistakes do happen, but lost revenue and damaged relations that could have been avoided should not be tolerated.

The solution is applied textile communication. After more than twenty years of developing fabrics I can safely say that a key element of success is clear and concise communication up and down the supply chain. Conversely, failed developments can almost surely be linked to failed communication.

From concept to retail in nine months

Back at Patagonia in the early 90s, I can remember when Jim Ciccone of Wellman came to us with a light green woven that would have made a terrific substrate for my orbital sander. It was coarse, stiff and ugly, but it was made from recycled soda bottles and that made it as good as gold. That was January and they had barely spun their first cones of yarn. By September, we had fleece garments on the shelf, at retail, globally. Nine months from fibre concept to retail apparel. That was one heck of a gestation period.

How'd we do it? We picked our partners carefully, minimised our variables while defining and carefully managing a detailed merchandising calendar plus the needs of the PR machine. We all talked often but, more importantly, we listened even more – for listening is the most important component of quality communication – textile or any other. (Yes, Dear, I said that.)

Opportunity and responsibility

Those of us who are tasked with textile development at the brand level have a unique opportunity for innovation. At the same time, however, we have a specific responsibility to our supply chain and to our customers that carries great weight. That is:

1. clearly define end-user requirements
2. look closely to evaluate true performance
3. listen carefully to understand supplier capability
4. create realistic expectations throughout

It all starts with the customer: the climber, swimmer, skier or hunter. Our responsibility begins by listening to their words: "I need it lighter." "It needs to dry faster." "This reeks so much my wife won't let me bring it in the house!" And then translating what they say into textile properties that will address their needs. Clearly defining what you're looking for in a new textile development lays the foundation for all that follows.

Evaluating true performance

Samples. Lab testing. Prototypes. Field testing. Data. Lots of data. How do we know if the fabric we're developing is meeting the needs of our customer? We rely on internal and external sources of information to feed our textile acumen, crunching both tangible and intangible data, resulting in a 'yes or no' decision. Data is potentially very dangerous. Be careful not to rely too much on lab data without balancing it against information coming from the field. Using field data alone exposes you to the winds of human perception. Performance is a true balance of both.

Understanding supplier capability

Believe it or not, I actually had a manufacturing executive once say to me: "You don't actually think I'd tell you if we couldn't make something, do you?" Well, I would hope so! But it's a great example of why it's so important for us to listen to our suppliers and use our skills to comprehend what they say relative to our goals, how what they say relates to our experience with a given material and then most importantly…deciding how to proceed.

'Pushing the envelope' is critical. Pushing it over the edge is suicide. Knowing where the edge is, is priceless. That edge is defined by compiling everything you've learnt about your fabric and everything you've learnt about the capabilities of your supply chain. The final objective is to balance needs against capabilities, communicating with everyone in the chain so that each link understands the realistic expectations of their customer – who understands the realistic capabilities of their supplier.

The artist's brush

The single most effective tool we can use in our quest for successful textile developments is the Performance Specification. This is a simple document that a buyer and supplier agree, that defines the physical properties of a specific textile product, and should be created before a development starts. It's the target against which lab data is compared. It's modified throughout a fabric's evolution and it is the final manifestation of all the collaboration that went into its development. The Performance Specification is the Art of the Science of textile development.

If you're not creating specifications for every textile you build or buy, let's go for a bike ride. I've got a story to tell you.

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