



Speaking of Business Management

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Sourcing Manufacturing Innovation

The key to innovation and future competitiveness in new products is knowledge. Innovative products are leveraged through new manufacturing techniques. Our industry's outsourcing model and reduction in participation in industry conferences is restricting revolutionary changes. There are few agencies and vertically integrated Original Equipment Manufacturers (OEMs) developing and deploying new revolutionary ideas for electronics manufacturing? By this, I am not referring to training on current techniques or incremental improvements. Certainly industry standards and internal company training is hardening the current processes with the focus of maintaining consistency and removing cost. But for true innovation, we must remove the shackles of conventionality and require cross-functional cooperation with an inter-company forum.

In the U.S. we are not only exporting the production of our products, but we are also exporting the detail knowledge to manufacture. This separation and lack of "hands-on" intimacy with the build will, in the long run, have an impact on our ability to design effectively.

Today's innovation is compartmentalized into design, supply chain, and manufacturing. With times of rapid technology growth in our history, OEM companies that were vertically integrated, looked at the entire picture and developed manufacturing processes to support product demands. Contract Manufacturing (CM) today is competing on price to win and maintain business. The CM's profit margin does not support revolutionary changes that could isolate them from the mainstream. OEM companies that outsource to CMs can not risk single source solutions. As a result, true innovation is limited.

RoHS compliance is an external forcing

function that is affecting all electronic designs and manufacturing. The mandate is causing communication between businesses to obtain common industry goals. Governmental agencies around the world have mandated compliance directives that have set our focus and creative energies. If you look at the technology classes that are very popular now, what do we see? We see the RoHS compliance classes and workshops having the goal of getting soldering results back to where we were a decade ago, in cost and reliability.

Whether you agree with the directive or not, it is causing industry change and interactive communication. Camaraderie between business segments in our industry is the key to innovation. Surface Mount Technology itself, when it was new, required the cooperation of packaging, board design, fabrication, assembly, and test to make it a reality. Accomplishing this same result today in our outsourcing model would be significantly more challenging. There is not an easy financial vehicle to drive this behavior in our outsourcing model. We must use RoHS as an example of how companies can band together to effect group changes and support the participation in business and technical conferences.

Over the years, attendance at local and national manufacturing technology training events in the U.S. has decreased. U.S. companies are solving problems by relying on limited internal history and point solutions based on internet searches. As I attend conferences across the country, I see shrinking participation in the interpersonal relationships that breed innovation. Companies that would have sent several people to absorb new ideas and engage in prior conversation, now send only one person to try to comprehend

everything with the hope of transferring that experience upon returning to their business. This transfer just doesn't seem to happen as hoped. People can not absorb the experience through a third person. As in everything else, personal relationships are the keys to success. You must be there

with other people on a regular basis to grow relationships. Non-profit technical and business associations like www.SMTA.org are an avenue to develop these important relationships.

Innovation is the engine that drives the US manufacturing competitiveness. Short term budgetary planning is clouding our clear view of our core competencies, making us less competitive, and moving us to a nation of consumers.

I recommend you get your company more involved in

industry-shaping events and conferences. I don't see the outsourcing model going away, so we must find ways between companies to instill positive changes to our industry's technology, so we can make better products for tomorrow. The IPC committees along with the SMTA training and networks are keys to your company's products staying on the leading edge by having a competitive advantage.



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