

By Mark Tayles



The Forces of Change within the high-tech supply chain

As a 22 year veteran of the Canadian hi-tech scene, having spent 8 years with a component supplier & another 14 years with a distributor, I recently was at a crossroad, plotting the next stop within my career. I needed to consider the macro & micro forces at play at each participant within the entire supply chain. I also needed to consider the unique peculiarities concerning Canada. For the purpose of my career, I defined 'supply chain' to encompass the component manufacturer, the distributor, the manufacturer's representative (Rep), the contract manufacturer, and the Original Equipment Manufacturer (OEM).

The following is the boiled down survey of what I saw as the major forces at work against (or for) the various supply chain participants.

Before I elaborate, it is useful to consider the backdrop of high-tech, which provides the theatre on which the supply chain participants play out their various roles. In a word (or three)...Faster, Better, Cheaper rules!

As an illustration (because of its short life cycle), consider a consumer electronics item like an MP-3 player. From the first incarnations as disc-man type technologies, to the ultra-small, ultra rugged, Flash memory based key-FOB types of today; the MP-3 player continues its rapid evolution. The race (for marketshare) generally belongs to products that have the best combination of price, performance and feature set. The miraculous fact of Moore's law (that governs semiconductor technology) generally guarantees all three elements come packaged together. For instance, it would be tough to think of a consumer electronic item that operated faster, but didn't perform more reliably. And although it may be introduced at a higher suggested resale, wasn't less expensive to produce.

So thanks to Moore's law, we know the backdrop affecting all supply chain players are

- **component prices fall**
- **product development time will shrink**
- **the competition will leap-frog your product with better features & lower prices**
- **& the resources to do anything will shrink**

Now let's look at the forces affecting our supply chain participants. Consider a Semiconductor Component supplier today. First and most monumental, is do you continue to invest in your own FAB (fabrication) capacity? Keeping on the treadmill of finer & finer geometries is likely a 1.5B\$ (usf) proposition (at 90 nm for instance). Likely the actual investment in fabrication is in a low-cost region of the world, like China or Taiwan. Do you develop your own IP (intellectual property), or driven by the need to hit a short market window, do you license this IP from a third-party? Do you employ your own sales force or do you hire a manufacturer's representative (Rep)? Your own force provides many benefits including the ability to weather long design cycles, but your own sales force may be cost prohibitive. A rep provides the advantage of a variable expense model, but may not be as open to the 'missionary' work often required with 'bleeding edge' technology. What component distributors do you align with? In what region of the world? Distributors continue to consolidate, which might provide for economic efficiencies in the physical movement of product, but could greatly restrict the number of options for getting your company's components to market.

OEMs (Original Equipment Manufacturers) are being buffeted by their own share of forces. Chances are, some or all of your manufacturing is provided by contract manufacturing (CMs) houses. Does the mix and volatility of your product dictate that you move from your current provider? Perhaps to a lower cost region of the world? Similarly, do you start considering contract design services? This has the benefit of being a variable expense. Depending on the extent to which your product is a commodity, where time-to-market forces are excruciating, you may even have started considering the services of a relatively new supply chain participant called an ODM (Original Design Manufacturer).

If you're a Rep, you're also faced with some daunting forces. As a percentage, more of the 'component spend' is on the other side of the planet, within a low cost region. How do you effectively 'track' the results of your design efforts, and garner the service fees commensurate with your success? What if your supplier's products are heavily commoditized, where the manufacturing entity can readily choose from multiple sources? Are your established suppliers, shifting their sales strategies to direct representation? Is the erosion of the manufacturing base in Canada, making previously 'direct suppliers' consider the benefits of a 'rep-ing' model?

As a Component Distributor, the largest players continue to get larger. Your franchised lines expand to include 'almost all' suppliers. If you're a niche player, you've probably chosen to specialize in a particular commodity, say RF or passive components. Some of your challenges are similar to a Rep, how to track design activity on one side of the planet, and consumption on the other? There is the added dimension of trying to plan component pipelines to ensure that 'supply equals demand' for your manufacturing customers. With manufacturing shifting to low cost regions or other geographies, how do you adequately staff design hotbeds (like Ottawa for instance)?

The questions and considerations posed above, was the actual exercise I recently went through as I charted the next stage of my career. At the conclusion, I obviously liked the prospects of the rep-ing industry. In my humble opinion, a few factors stood out.

First, someone has to represent the supplier's agenda as their primary motive. Distribution with their ability to serve-up any number of competing suppliers (and technologies), don't always do this. A supplier's direct team or reps will 'live or die' based on their selling success.

Second, suppliers vary in size from the mighty Intel to those just being formed. They greatly vary in their ability to invest in a 'full-time equivalent person(s)'. The challenge is exacerbated when you superimpose Canada's vast geography. These economics combine with the rep-ing company's ability to present your products in a synergistic manner with their other lines (non competing). It amounts to the majority of suppliers unable to afford their own resident sales force and a compelling business case for the rep-ing model. For completeness, I should point out that even the largest suppliers (like Intel, Texas Instruments, etc) often adopt a hybrid model that combines the benefits of a rep, with their own sales force.

So as I move from this recent crossroad, onto my latest journey, I would suggest to you that no participant within the supply chain is immune to the tremendous forces at work. As Tom Friedman points out in his latest bestselling book, 'the world is flattening' !

Editor's Note

Mark Tayles has over 20 years of experience within the Canadian industry, including 8 years with Intel & 14 years with Avnet. Mr. Tayles recently formed Enabler Tech, a manufacturers rep, focusing on suppliers with enabling technologies. He invites any recommendations/suggestions to the email address above.

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