

# SPEED UP!

Designing contemporary supply chains for faster clockspeeds to cope with the increasingly volatile operating environment

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In 1998, Charles Fine published his ground-breaking book, *Clockspeed*. He based much of his research on the observation of fruit flies, which he called a 'fast-clockspeed species', evolving from eggs, through adulthood to death, all in under two weeks! Much of his research was concentrated on the industrial equivalents of these fast-evolving fruit flies.

One of the companies that he focused on was Intel, which in turn had fast-evolving customers such as Compaq and Dell, whose products inevitably had short life cycles in the marketplace. Clearly, then as now, the real pressure was coming from the customer end of the chain, and that pressure has increased significantly in the two decades since Fine wrote his book.

Fine studied whole industries, noting the different rates at which they evolved; he called these rates industry clockspeed, which he defined as resulting from a combination of product, process, and organisation clockspeeds, respectively.

Fine drew the conclusion that any differences in clockspeed between businesses is manifested in the size/length of the decision-making window, and I agree with that. When it comes down to basics, enterprises under pressure from their customer base and/or competitors must by definition find ways to make faster decisions if they are to survive. Indeed, given that competitive advantage is now regarded as only 'temporary', the enterprise must continually re-invent itself to stay ahead. The old concept of locking in a 'sustainable advantage' is not possible in fast-moving industries and markets.

Fine defines a company as "its chain of continually evolving capabilities", and by that he includes its own

capabilities and those along the entire supply chain. In our terminology, he is referring to the extended supply chain. Of course, the old maxim of the weakest link applies.

## CLOCKSPEED: FAST

Fine cites Dell as a great example of a fast clockspeed company, mainly due to its early supply chain design that placed it in direct contact with consumers and users. This advantage receded in subsequent years as Dell was forced to engage in different distribution channels involving intermediaries.

Interestingly, with the coming of the e-commerce era, and the direct access that this affords suppliers to their consumers/end users, coupled with digitisation and the disintermediation effect of Blockchain, we are likely to see many more disruptions across industries that are dragging their feet on clockspeed.

Fine comments on the dynamics of extended enterprises, and in particular nominates two laws that he sees as pivotal: volatility amplification (or bullwhip effect by another name), which moves upstream in the chain; and clockspeed amplification, which moves downstream towards the final customer.

So, in Fine's thinking, clockspeed is defined as the summation of capabilities along the extended supply chain, to which I would add the time taken for each element, across the full breadth of the total lead time, from supplier(s) through to end user/consumer.

Further, he postulates that in order to improve the clockspeed in an enterprise or indeed an industry, products, processes, and capabilities have to be designed concurrently; he coined the phrase for this as 3DCE, or 3D Concurrent Engineering.



## TODAY

Time has moved on and we now understand the dynamics of supply chains a lot better than in the 1990s. For instance, the idea of 'one-size-fits-all' has been banished forever, and we have a clear guiding principle that supply chains must by definition be designed from the 'outside-in'. This is consistent with Design Thinking, and consistent with Fine's stated view that 'clockspeed amplification' emanates from the customer end of the chain.

We also know that supply chains are not inanimate beasts, but are living ecosystems, propelled by people situated all along the chain, making decisions, for better or worse. Hence the need to incorporate the study of 'culture' and leadership style in our analysis of supply chain performance.

So when we talk about clockspeed, we are not suggesting that the enterprise has to suddenly accelerate to meet volatile conditions. Instead, we are convinced that the entire organisation has to lift its tempo and operate at that new higher level, ALL THE TIME. Once this is achieved, the internally generated clockspeed will hopefully match and indeed nullify the effect of volatile demand emanating from the customer end.

Because we are now talking about achieving faster split times in each element of the overall lead-time, the time buckets are shorter, and this has the effect of reducing the risk of forecasting errors. As in the case of Zara, they are never more than three

weeks away from the next cycle of product launches to stores, so markdowns become much less of a problem, and stock-outs become something of a virtue. How the world has changed!

In the end, it all comes down to developing and nurturing a defined range of capabilities, and then combining these in different recipes to underpin the engagement with customers (and suppliers) according to their preferred way of buying our product/service categories.

## TIME TO TRANSFORM

The important point here, especially for executives with a mandate to 'transform' the business, is that we are dealing with a 'whole-of-enterprise' phenomenon. In other words, in the process of transforming your enterprise supply chains, it is in fact necessary to transform the entire organisation in order to achieve the faster rhythms inherent in faster clockspeeds. What this means in fact is that defaulting to lean processes in our enterprise supply chains is no longer the correct option, because a new default has arisen in the form of speed and agility in order to cope with the faster, more volatile operating environment.

Companies operating in FMCG, Hi-tech, and Fast-Fashion markets are already experiencing this change in *modus operandi*, and similar conditions are heading in the direction of older, more established 'bricks and mortar' industrial companies – their challenge is to embrace the change and, in the process, raise themselves to new, higher levels of competitiveness.

The enterprise-wide capabilities required for success in the new faster clockspeed world are briefly described below:

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- 1/ New organisation designs that promote speed of decision-making.
- 2/ Process mapping and re-engineering along all supply chain types.
- 3/ Adoption of appropriate KPI to measure performance, free of conflicting demands.
- 4/ Install IT systems that are genuine Decision Support Systems (DSS) in order to speed up decision-making.
- 5/ Install appropriate Sales & Operations Planning (S&OP) regimes to focus the entire organisation on agreed priorities to meet customer demand.
- 6/ Shape a number of different 'subcultures' inside the business to underpin the different supply chain types. This will involve all of the above plus additional effort in areas such as defining roles; defining incentives; methods of internal communications; recruitment of specific types of personnel; introduction of a range of T & D programs; and role modelling.
- 7/ The resilience to recover from a major unplannable disruption in our supply chain network.
- 8/ Conscious development of an IoT strategy and corresponding analytics capability, including customer/supplier sensing.
- 9/ A blended combination of 'business as usual' and search for new innovations.
- 10/ Managing capacity at all points in our supply chain network as all times.
- 11/ Channels selection.
- 12/ Requisite collaboration with appropriate network members.

These internal capabilities should be supplemented by supply chain-specific capabilities as follows:

- Product design: CAD; modular; supply chain friendly.
- Manufacturing: CAM; automation/robotics; AI; 3D-printing; group technology; FMS.
- Logistics: Time management / postponement; insourcing/outourcing mix; control towers; 3PL management; network optimisation modelling.

There are many moving parts in contemporary supply chains, and many external factors that can potentially impact performance. Nevertheless, if we are able to increase the clockspeed of the entire enterprise and literally get in synch with the operating environment, complexity is materially reduced and operational and financial performance correspondingly increased.

*The book referred to in this article is Charles H. Fine, Clockspeed: Winning industry control in the age of temporary advantage, Basic Books, Cambridge, MA, 1998. For more information email john@gattornaalignment.com. ■*