Clockspeed summary essay

Summary of Clock Speed: Winning Industry Control in the Age of Temporary Advantage by Charles H. Fine Introduction In order to conduct a scientific study, you set a baseline then introduce changes in order to understand the impact of the change. Unfortunately, the rate of change, or clock speed, in many studies (human evolution as an example) is too slow for one person to have time to introduce multiple changes and measure the results.

Biologists have found by studying fruit flies (a rapid clock speed with a life span of days rather than years), they can reach conclusions faster by studying multiple life spans in a short amount of time. As with the fruit fly, some businesses also have a rapid cycle making them a prime target for study in application to business in general. By studying organizations with fast clock speeds, one can draw inferences to others. Essentially, studying fruit fly industries lets us understand all industries with the idea of implementing effective change in any company regardless of their individual clock speed. Analysis Clock speed is defined as the rate an industry evolves based on product, process or organizational change.

By looking across multiple industries, it is possible to find some with very rapid clock speeds and others with exceptionally slow ones. By taking lessons from industries such as entertainment and computers (very fast), one can draw conclusions for the automobile and aircraft industries (longest cycles noted). In his analysis, Charles Fine goes on to note that as the speed of an industry accelerates, the advantage one company may gain shortens – advantages are temporary. This conclusion is somewhat intuitive since the research and development to production cycle gets shorter. Others can copy and move into a competitive state more quickly. In order to maintain the

advantage, it becomes more critical to simultaneously develop products, processes and supply chains.

The author describes this as three dimensional concurrent engineering (3-DCE). The third element (supply chain) is relatively new for many companies and is not fully developed within their business strategy. In order to incorporate concurrent engineering into product and process and process design, it is important to understand the orientation of the industry. For an illustration, the author uses the genetic module of DNA – the double helix.

Similar to DNA, organizations need to map their capabilities along with provider organizations regarding activities, subsystems provided, capabilities they bring to the value proposition and the technology contribution of each (Fine, 1998, p. 105). As organizations evolve and the industry changes, they “ move” along the helix from vertical integration to horizontal and back. Many begin vertically aligned where they provide most all of the key elements.

A classic example was IBM of the 1970’s. IBM had an integrated product design with an overall system and service package. As the industry evolved, it moved to a more horizontal structure using a modular design across multiple suppliers. As such, Compaq beat IBM to market with new products starting in the mid 1980’s; however, the modular structure may also lead to instability by allowing key providers the opportunity to displace the brand. The author references two classic examples with Intel’s advertisement campaign of “ Intel Inside” and Microsoft’s “ Powered by Windows” efforts.

Both ultimately drove the PC market allowing Dell to displace Compaq as the top provider.

As companies move through the cycle of maturing, they can be defined by their chain of continually evolving capabilities plus the capabilities of everyone they are in business with (Fine, 1998, p. 71). This concept related to supply chain design becomes increasingly important as you look at the relationships in regard to the end customer. Fine introduces two “ laws” of supply chain dynamics – volatility amplification and clock speed amplification (Fine, 1998, p. 89-90). The first is the volatility of demand and inventories in the supply chain tend to be amplified as one looks farther upstream away from the customer.

For example, if computer buying slows down, the demand for chips drops rapidly creating a large drop for the manufacturers’ equipment used in making the component. The author goes on to give solid examples of how and why this effect is in place. The second law – clock speed amplification – is in contrast to the first. As you get closer to the end customer of the supply chain, the clock speed increases (Fine, 1998, p.

7). Computer software serves as a classic example. As computers become more powerful, more feature rich software becomes the expectation. The result is a “ race” to provide more features to take advantage of the new power of the latest hardware. The end result is as supply chain design may ultimately be the competitive advantage as much as the product it produces.

Supply chain design must now be part of the overall strategy for an organization rather than something that “ just happens”. Using the supply

chain design, market orientation (vertical vs. orizontal) and industry clock speed, specifically fast ones, organizations may find an advantage in their ability to concurrently design products, processes and capabilities (Fine, 1998, p. 127).

When companies do not consider supply chain design and engineering as a concurrent activity in product design, they are setting themselves up for future issues. The author points out a similar relationship between product design and manufacturing. It is possible to design the ideal product, but if manufacturing process is not considered then production may be cost prohibitive. The supply chain architecture may ultimately drive concurrent engineering thus competitive ability of the organization. By considering “ make versus buy” and “ integral versus modular” distinctions, organizations then determine the criticality of the supply chain design. Elements considered in the design include four proximity dimensions: geographic (integrated products need co-located teams), organizational (ownership, managerial oversight, interpersonal), cultural (language, ethics, laws) and electronic (e-mail, intranets, information exchange functions).

Lean” production relies on close proximity in geography, organization and culture. It will take the fourth element working in various states with the other three to create a global, integrated organization. To this point, the one component not considered in the discussion is organizational knowledge. Ultimately this drives decisions around integration and modularity. That decision then manifests itself in “ make versus buy” decisions. The historical view for the buy decision was based on a vendor relationship rather than the more subtle partner approach.

In current supply chain design, it is imperative organizations properly align themselves with their partners not only in product requirements, but also in governance and direction. As the partnership grows, so does the dependence. If an organization finds itself dependent on a supplier for both capacity and knowledge, then they have created an opportunity for the supplier to become a rival in the market. Reference the “ Intel Inside” as a prime example where a supplier transformed the industry and thus their market position. In a modular environment, organizations are best served by outsourcing when they find themselves dependent on capacity. Many organizations are finding China to be a prime market for this support.

While Chinese companies are still struggling with proper research and development as well as quality control, they do have the manufacturing capacity. Organizations looking to work in that environment are in the optimal situation of maintaining their knowledge base while providing quality oversight with little concern about their supplier taking control of the partnership. However, those same organizations must also be prepared for the future since all advantages are temporary. Eventually, the supplier will improve and be in a position to transition the market to a more vertical structure in line with their expertise. Regardless of the industry alignment (integrated vs. modular), organizations need to continually evaluate and improve their product, processes and capabilities simultaneously.

While this may be challenging, it is possible to transition an organization’s thinking to one where supply chain design and implementation process become the core competency. Once that occurs, the rest is done in support of meeting a customer requirement. While it is not fair to say that simply by

changing processes, a computer maker can start producing automobiles, it is feasible for an organization to move across a niche such as IBM did when moving from hardware producer to service provider. Granted, the turn of the double helix did happen and they appear to have changed as a reaction rather than through proactive process change. Conclusion Every business has an evolutionary clock speed measuring the rate of change in products, processes and capability. At the core of everything is the organizations ability to design a sustainable supply chain.

When this becomes an organizations core competency, they are then positioned to continually win the temporary advantage. By simultaneously working to improve products, process design/creation and supply chains (three dimensional concurrent engineering), a company can drive the “ turn of the helix” thus changing the clock speed for the industry. References Fine, C. H.

(1998). Clock Speed: Winning Industry Control in the Age of Temporary Advantage. Reading, Massachusetts: Perseus Books.