

SYNCHRONIZATION: MOVING BEYOND RE-ENGINEERING

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Abstract: The re-engineering movement focused on obliterating functional silos and creating processes. As process based organizations become more prevalent, today's challenge is to overcome process silos and synchronize them within and across companies. This paper lays out the key drivers of synchronization challenges and many responses to address them.

Keywords: Process re-engineering, synchronization, strategy, supply chains and business models.

Beginning in the 1990s many companies adopted process re-engineering to obliterate functional silos and create process based organizations. Despite re-engineering, many organizations are still disconnected. Today managers confront a new challenge of obliterating process disconnects and synchronizing across process silos to unlock value.

Synchronization is the mutual adjustment of processes to align key information, material and cash flows across business processes to maximize returns and minimize losses. Often failures of synchronization across five key business processes can be costly and limit the potential of the organization. Connecting across supply chain, product development, customer service, financial and IT development and delivery processes to ensure the right product is delivered to the right customer at the right time and at the right margin remains a challenge. Failures to synchronize across these core business processes can create direct losses or even worse obliterate opportunities to realize new growth. In contrast, companies that are synchronization leaders can outperform and outdistance their competition with strategies that are difficult to imitate and execute.

Synchronization Failures Are Costly

Companies need to synchronize for three simple reasons: to avoid losses, realize greater asset efficiency and to seize new high margin opportunities. Improving synchronization among supply chain, customer sales and service, product development and finance and IT processes provide multiple opportunities to avoid major losses or realize new value. Consider the following illustrative examples.

Catalyzing a Loss:

In 2002, an automobile company announced a \$1 billion charge against its earnings. Failing to synchronize across supply chain sourcing and product development processes, the company acquired and stockpiled large amounts of palladium to serve as a feedstock for catalytic converters. At the same time product development engineers were dramatically reducing the need for palladium in catalytic converters. As internal demand, external prices and supply fears eased, the company was left with a massive stockpile of unnecessary palladium.

Vanishing Orders, Committed Inventory:

As the dot com boom imploded in 2001, a technology vendor had to write down over \$2 billion in excess inventory. During the boom, the company ordered large volumes of components and entered into long term commitments with its component suppliers to lock in scarce supplies. These commitments were made based on sales force projections that turned out to be inaccurate. The company's customers had double or triple ordered similar equipment from multiple vendors, planning to close the deal with the supplier that first delivered the goods. This double and triple ordering undermined demand forecasts, leading to excess orders of components and outsourced product manufacture from suppliers.

From overstocks to out of stocks, from products that come out too late or too early for a market, or sourcing of incorrect product inputs, or even every day delays in a firm,

synchronization missteps and the misalignments of information, materials and financial strategies are costly.

The Drivers of Synchronization Failures

Synchronizing key information, material and cash flows across business processes is not easy. Having carefully considered this problem, I have identified six key drivers of synchronization failures. In somewhat academic terms these drivers include: *uncertainty*, *ambiguity*, *complexity*, *volatility*, *urgency* and *differing agency incentives* across processes. *Uncertainty* is the simply the absence of information about the present or future states of specific processes that can impact cash and resource flows across processes. For example will a marketing promotion lead to unexpected demand levels that the supply chain process cannot meet without stock outs. *Ambiguity* is the lack of clarity around available information and appropriate responses. As those in different process areas often speak different languages and have different models to guide their work, they often interpret the same information differently. This ambiguity leads to errors in interpretation. For example does a sale on green cars, trigger a misinterpretation by product development that customers really like green, leading to the overproduction of green cars. *Complexity* is the amount of variety at and across processes. For example are process interfaces complex, with many possible alternatives, or are processes themselves so varied that it is difficult to coordinate among processes. *Volatility* refers to the change in states per period across processes. For example does demand fluctuate tremendously and frequently due to your competitor's or your company's pricing actions. As volatility increases can the supply chain respond quickly enough without a lot of change costs? *Urgency* refers to demands from interdependent processes to deliver information or resources in a given amount of time and the capacity of interdependent processes to do so. Different process owners may work to *differing principal-agent incentives* at cross purposes to each other. For example customer service personnel may focus on customer responsiveness and satisfaction goals, while supply chain personnel focused on cost minimization goals. These different goals may lead to processes at cross purposes to the other. My study of synchronization problems suggests that most process disconnects within and across firms originate from the above six drivers.

Synchronization: Core Strategies

How can managers address the synchronization challenges created by the above drivers?

I have identified a number of response strategies to the above driver and I discuss some of these below.

Responding to Uncertainty

Prior works on information processing organizations identify a number of responses to this problem. Three strategies include investing in: (1) visibility through information systems to collect and share key information across processes, (2) slack resources such as inventory to be able to cope with unexpected demands, and (3) waiting and postponing irreversible commitments such as the purchase of perishable inputs till more information is available.

Responding to Ambiguity

Resolving ambiguity is really about creating shared interpretations across processes. Ideally correct shared interpretations. While information systems may help, the key responses to address ambiguity include the: (1) use of coordinators familiar with languages and systems across processes (2) establishment of decision frameworks that jointly review unexpected variances or information across processes and ensure both sides have a common interpretation of events (3) use of joint planning and coordination across processes that challenges joint assumptions, and (4) the use of experiments to verify hypotheses and bring clarity to ambiguous situations.

Responding to Complexity

The core responses to complexity and attendant variety are simplification and the reduction of variety. These may include: (1) simplification of existing processes through continued re-engineering (2) reduction of input or output variety (3) standardization and modularization of interfaces and processes.

Responding to Volatility

There are two basic types of responses to volatility and change. Either choose to reduce the volatility or to expand the capacity to respond to change. Specifically strategies include: (1) Using negative feedback and control to dampen volatility such as varying prices to reduce demand and stabilize the supply chain, and (2) increasing slack operational and managerial resources to increase the capacity to change, and (3) establishing outsourcing relations with others who can help to meet variable demands.

Responding to Urgency

We have all encountered the “I would like it yesterday situation”. Responding to urgency requires increased responsiveness and available resources to respond in a timely manner. Some strategies include increasing responsiveness through: (1) Creating sense and respond systems and routines for simple needs across processes, (2) establishing slack resources to add extra capacity in the event of an urgent need (3) having outsourcing partners who can respond quickly to a need.

Responding to Differences in Agency Incentives

Agency problems generally require redesign of organizations or rewards and incentives. Two strategies include: (1) Reviewing and aligning rewards across separate processes as much as possible (2) placing separate processes under common ownership and authority to monitor, and resolve disputes and establish common priorities across processes.

Synchronization in Action: Some Examples

Below I illustrate some of the above strategies in action in the context of some well know examples. This column is too short to illustrate every strategy.

Postpone and Gain: Inditex and its fashion retailer Zara is one of most successful growth companies in the world. While the Zara story is well documented, the company exemplifies a number of synchronization strategies that enable greater asset efficiency and market responsiveness. Two strategies are *postponement of irreversible commitments* and *reduction of variety*. For example Zara buys only few different colors of cloth and prints and dyes patterns to the fabric close to the time of manufacture. This strategy helps

Zara gain scale efficiencies in the purchase of cloth and postponing the printing of the fabric till close to manufacture ensures a more clear understanding of demand aligned with available supply. This strategy reduces the amount of overstocks and inventory that must typically be cleared in a typical fashion house. Furthermore *Zara experiments* with a small batch of a new design through a few stores before ramping up production. Experimentation allows Zara to resolve ambiguity about customer preferences.

Delivering the Bento. Seven Eleven Japan (SEJ) is consistently one of the most profitable retailers in the world. The company has designed its supply chain to respond to quick changes in demand-not to focus on fast or cheap deliveries. By investing in *proprietary real-time systems for visibility* into customer demographics, preferences, and sales at every store, the company is able to identify new sales opportunities and alert suppliers to potential shifts in requirements, to reallocate inventory among stores, and to ensure that the company restocks at the right time. *Partnering with suppliers*, and by using a variety of vehicles including trucks, motorcycles, boats, and even helicopters the company is able to resupply and replenish stores three or more times a day. This allows the company to cater to different consumer segments and demands at different hours from delivering Bento boxes for lunch to other fresh foods for breakfast and dinner. From *proprietary information systems* to reduce demand uncertainty, to *slack resources, alliances and routines* to address the urgency of meeting customer needs, SEJ illustrates a high level of synchronization.

Pathways to Greater Synchronization

Synchronization across key processes as at Zara and Seven Eleven Japan is not easy and is the exception rather than the rule. In a Deloitte Research survey of over seven hundred business units and their supply chains less than eight percent of these businesses had the levels of visibility, coordination and flexibility to respond to varying demands across processes. Those with higher visibility and coordination also reported consistently higher profits. How can companies move to a higher level of synchronization? I believe there are five key steps to consider:

Identify Key Synchronization Opportunities:

The first step is to critically examine the relationships across customer demand, supply chain, product development, IT and financial processes to understand where there is the greatest opportunity to improve through synchronization. What synchronization losses does the company currently experience? Where could synchronization give competitive advantage?

Identify Responses to the Opportunities

The second step is to identify the key drivers that make synchronization challenging across specific processes and identify plausible response strategies as outlined in this paper. Will customers demand more urgent product development? Can the product development, marketing and supply chain process respond to meet the demand? Should outsourcing be used to expand capacity and increase responsiveness, or should the company use another strategy?

Simulate, Evaluate and Examine Interdependencies

As processes are interdependent, responding to synchronization challenges can have impacts across processes. For example increasing inventory and slack resources may improve responsiveness to customers, but may have adverse financial consequences. Simulating responses and understanding the consequences of interdependence can help to identify trade-offs of different synchronization choices.

Execute Select Initiatives

Synchronization is not simple. Not all initiatives will lead to win-win outcomes across processes. Managers will most likely have to carefully select among initiatives and implement change programs across processes to successfully execute improvements. When considering a specific initiative it is also important to consider if it forecloses future options for improvement.

Evaluate and Iterate

Synchronization like re-engineering is difficult. It is unlikely a company can do a wholesale change across many processes simultaneously. Instead an iterative process of evaluation and improvement is likely to be the most effective way to drive change.

Conclusions

This column briefly outlines key drivers and major response strategies to synchronization problems in companies. I believe the next phase of the re-engineering revolution will be to reduce process silos and make companies and extended process networks more synchronized. As synchronization is difficult to do and execute those firms who successfully synchronize key processes are likely to have advantages that are difficult to replicate. As we enter an economic slowdown in the United States – instead of slashing and burning to cut costs – managers may find focusing on improving synchronization will unlock new value, cut costs and position their companies to better grow and compete in the next economic growth cycle.