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loop diagram that told the following story: As demand increased, the number of orders to be processed increased. However, processing each customized order at CMI takes specially trained machinists. So when the demand exceeded the capacity of the current staff, the backlog of orders grew, as did the delivery time. But CMI's customers have their own stream of orders to fill. Therefore, when CMI's delivery time extended beyond an acceptable period (usually three weeks), their customers would go to CMI's higher-priced competitors to fill their orders, resulting in a decline in orders at CMI.

Each time the backlog hit a critical level, CMI's managers responded by adding capacity on a temporary basis. The added capacity, combined with a decrease in incoming orders, enabled the company to work off its backlog, and the delivery time would return to the original two-week goal.

However, it took several weeks for CMI's regular customers to learn of the improved delivery times and shift their orders back to CMI. Thus, the demand for products oscillated as a function of the company's internal capacity to meet the growth demand (see "Balancing Capacity and Demand").

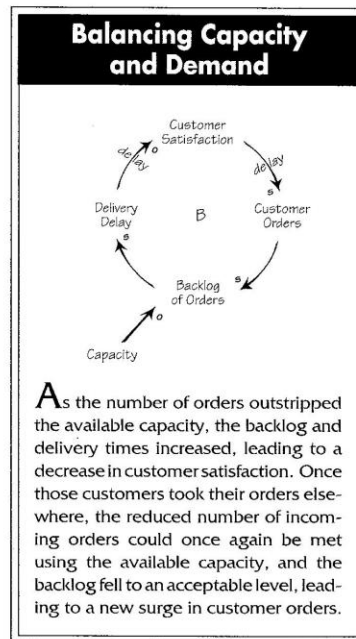
Once they had completed the behavior chart and the structural diagram, CMI's managers were able to see more clearly how their internal capacity was, indeed, affecting their order stream. Although they had previously assumed that periodic downturns in their orders were the result of competitive pressures or cyclical trends in the marketplace, their systems work suggested that their internal policies could be making the situation worse.

With their improved understanding of how the company's internal capacity (in terms of the number of trained machinists) affected its order stream, the managers took steps to institute a flex-

ible workforce policy and to cross-train machinists, in order to be prepared to meet the fluctuations in demand.

Interrelated Patterns of Behavior

In real life, behavior trends are rarely as simple as those listed in the structure-behavior chart. For example, your company may have experienced an overall growth in new customers over the last 18 months, but that growth may have been punctuated by periodic downturns. This is because in most systems there are many reinforcing and balancing processes occurring simultaneously, which produce mixed data. However, the structure-behavior chart provides a good starting point for developing a deeper understanding of a problem. As you dig deeper into the structures at work—and the behaviors they produce—you can enrich your diagram by drawing additional loops until you create an accurate representation of the issue at hand.



As the number of orders outstripped the available capacity, the backlog and delivery times increased, leading to a decrease in customer satisfaction. Once those customers took their orders elsewhere, the reduced number of incoming orders could once again be met using the available capacity, and the backlog fell to an acceptable level, leading to a new surge in customer orders.

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Leanness

by Rich Teerlink

Corporations today face many pressures to become "lean." Unfortunately, most people also attach "mean" to lean, which can lead us to confuse leanness with "slash-and-burn" techniques that rob a company of future opportunities. I know one corporation, for example, that took a "slash-and-burn" approach several years ago, and now it can't respond to an exploding market because it lacks the physical and human resources that were cast aside during bank- and stock-

market-driven downsizing.

But if we are not going to define "leanness" in financial terms, how should we define it? I believe we need to expand our thinking to include the application of employee competency to achieve leanness. I strongly believe that people are a company's only long-term competitive advantage. As such, we should view them as assets and resources to be developed, rather than as line-item expenses to be controlled. By taking this approach, we might discover

value-added activities that would enable us to keep employees on the payroll even during tight times.

Business Process

Within Harley-Davidson's motorcycle operations, we are trying to establish a business process that will accommodate such thinking. At the top of our business process diagram is an umbrella that sets the context for our work (see "Business Process: Setting the Context"). Under this umbrella, we identify the values, issues, and stakeholders that are the basis for our vision statement, which is to be "a leader of continuous improvement in the quality of mutually beneficial relationships with all of our stakeholders." We measure our progress in achieving that vision against the following statement: "The key to our success is to balance stakeholder interests through empowered employees focused on value-added activities."

These statements *could* be viewed as esoteric rhetoric. But we hope they will operate instead as a guiding light toward *effective leanness*. If we adopt this view, then we can start to utilize the workforce as a resource, creating an environment in which all employees seek to apply their competencies to value-added activities that can result in employment security.

In this context, "employment security" is dramatically different from conventionally stated job security. In employment security, the employee's focus is on ensuring that the company survives, while job security centers on ensuring that he or she continues to do the same thing day in and day out. If all employees focus on creating employment security by providing value-added activities (in conjunction with others with complementary competencies), the result will be a lean organization. In addition, their work will generate additional resources to develop the company further, enabling the company to become more externally and future oriented.

The Role of Financial Measurement

Defining leanness in terms of value-added activities does not eliminate the need for financial measures. In order for the company to survive over the long term, it *must* be financially viable, and all of the employees must understand this. A primary measure of employee effectiveness is the company's financial results. Those results come only when employees deliver value-added activities that are recognized as such by the customers. Therefore, if customers are not purchasing our products, it is up to all employees to seek ways to apply their competencies toward creating new products or services that will ensure the long-term financial viability of the company. If this strategy is not recognized and adopted by all employees, it is likely that leanness *will* have to be associated with meanness in the form of downsizing efforts that have cost reduction as their only objective.

In order to survive, Harley-Davidson had to experience such a

downsizing. In 1982, we reduced our workforce by 40%. It was not an easy decision, but we did it as humanely as possible—far more humanely than our bankers thought necessary. However, this approach put us in good stead with the people inside the company, because they knew that we were in crisis and they put forth the extra effort to help the company recover.

While that result sounds great, I can't help but speculate that if we had consciously worked on having all employees focus on value-added activities, the solutions to our problems could have been identified much earlier. By redefining our approach to leanness, we are hopefully putting ourselves on the right path to prevent a recurrence of that difficult experience. ■

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