

Case Study: “Designing Systems for New Product Development”

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Context

The company in this case study is a large manufacturer of high technology products. While the company was well established with a long history of product introductions, the managers and executive leadership recognized that the new target markets demanded much faster time-to-market for new products and the competition was introducing more products and faster.

The product development groups had consistently averaged 10 months from start of development to market delivery. The challenge was to move time-to-market to an average of 3 months to match the customer’s product design-in cycles. At the same time, quality levels had to be maintained and the current cost of development could not be increased. Previous efforts to reduce time-to-market had not resulted in the improvement needed.

Challenge

Because of those previous failures, the company leadership took a step back and decided to take a total system approach to the problem. To do that, management engaged us to design and lead the improvement effort.

We started by doing a full assessment of the system.

- We conducted a series of interviews. These interviews identified the needs, frustrations, and opinions of all the stakeholders – customers, product development engineers, other departments, and management.
- We mapped the development process and analyzed historical data on a product-by-product basis to understand the system and how it operated.

The assessment revealed that the system was significantly overloaded. Products were often delayed or were totally stopped while waiting for resources. Since many of the new products were driven by customer requests, executive management and marketing groups outside the development flow exerted significant pressure in the system to begin new projects as early as possible. They could then show the customer that work was progressing. But starting projects early created bottlenecks since there were too many projects in the system. Managers within the process moved resources to different projects in response to technical problems that arose as well as to respond to new product start requests. By showing this active response, these managers limited conflict with the outside groups, but over time these decisions created a system overload.

What We Did

We used the data analysis and worked individually with each manager in the system. Each individual saw how the system operated, added detail from their perspective, and began to understand how their behavior limited the results. The managers then understood that every time they made resource moves, it was necessarily slowing the products and creating frustration for the engineers. It also ensured that time-to-market goals could not be met due to all the projects delayed or on hold. This approach created agreement across all the managers without creating blame.

Once agreement was in place we worked collectively with the managers to develop new theories of operation and create decision-making behaviors that worked to optimize the system rather than individual projects. We also developed single-project tests to ensure systemic implications were understood and to demonstrate that the time-to-market goal could be met.

The product development managers began operating to the new theories and we provided real-time coaching to ensure that the organizational structures and new behaviors would support the goal and aid in the execution of the process.

Results

Once the full system was implemented and the teams completed the historically active projects, the overall 3-month goal for time-to-market was met without impacting total cost. The solution did not change the technical approach to product development. It did change the project structure, the ways resources were allocated, and the amount of activity within the development system. The goal was achieved with no impact to product quality and increased the number of products introduced.