

Seagate Technology

Seagate Technology is a \$6.4 billion company competing in the fast-paced computer hardware market. Worldwide, employees number more than 60,000. In 1998, the company began a corporate-wide overhaul to regain its competitive edge in the high-speed disc drive market.

Historical Seagate Product Environment



- Dozen-plus drive products in development simultaneously
- No specific project management tool in use
- Deliverables/steps to qualification and volume sketchy – the ability to chain deliverables and steps together to get to qualification of product and “revenueability” of product very sketchy
- Key suppliers were not aligned with program requirements
- A two-date system for communicating development progress – internal and external. The internal is the stretched goal, and the external is the one you never expect to miss it is so far out
- Had no tool for firm resource management

Changing the Product Development Process

In 1997 Seagate had revenue of \$8.5 billion. The path they were on predicted that they would have revenue of more than \$10 billion in 1998 – but they weren’t even close. In 1998 revenue dropped to about \$6.5 billion.

Seagate had slipped significantly in the area of technology leadership and time-to-market leadership.

In the early 1990s, Seagate was able to be technology “close-followers.” They let the competition do the “shoveling” for them and be the technology leaders. Seagate would come out behind that wake and were able to, because of their manufacturing capability, ramp very quickly. This, from a revenue standpoint, was a cash cow for them.

However, in the mid 1990s the competition figured out what Seagate was doing. Seagate then started losing ground in technology leadership and market leadership. Their ability to ramp was no longer able to save them. Seagate lacked a process to sustain product development from a strategic standpoint and a tactical execution standpoint.

They had to put a process in place. Part of that was the establishment of Core Teams to work on individual projects.

One such Core Team was given the task of putting the first 15,000 rpm drive on the market – the Cheetah X-15 project. The team created a vision statement – to qualify the fastest performance drive for the market ahead of the competition. They felt it was important to act with a proactive mission statement in order to meet the expectations of both Seagate and Seagate’s customers.

The team sat down with marketing to establish the project's priorities. They were speed, time-to-market, cost, and acoustics. Three of these priorities had good metrics the team could watch. They could watch performance throughout development of the program. They could watch cost. They could watch acoustics. But they didn't have a product management tool. They needed something to watch their capability of and probability of hitting time-to-market.

Upon recommendation by others in the organization, the team read [Critical Chain](#) and called AGI. The team thought they could bring the project in by about a month, which would mean an additional \$1 million in profit. After a presentation by AGI to Seagate's senior management, approval was given to work with AGI and manage the Cheetah X-15 project using Critical Chain Project Management.

Seagate began their Critical Chain Project Management training and worked on building the project network, eventually bringing in the individuals working on the tasks to get input. After this they went live with the project.

The team met daily for status updates. They held weekly reviews with senior management to discuss the percentage of Critical Chain completion and buffer penetration. There were weekly management communications via phonemail and email, as well as monthly operational reviews. A variety of reporting charts and graphs were used to track progress.

With the guidance of the team from AGI, the Core Team working on the Cheetah X-15 project beat their target date by nearly five weeks! Five weeks in their industry is extremely valuable.

A 1997 internal case study done at Seagate showed that when the company lagged its competition by just one quarter, Seagate missed \$500 million in incremental revenue opportunity and about \$200 million in gross margin.

The Cheetah X-15 was the first 15,000 rpm drive to ever hit the market. All of Seagate's competitors dropped out due to technological challenges or being late to market.

Early Lessons Learned

- Completion of the Critical Tasks moves the projects forward
- Watch the other non-critical buffers
- Clarify task definition to ensure completion/handoff
- The spatial PERT with Critical Chain should be posted
- The multitasking hero has got to be eliminated
- Don't assume "in process" Critical Chain tasks will get focus
- Not all duration estimates were based on 50% probability

Today

Currently all stateside product development, approximately 10-12 programs a year, are using Critical Chain now across three design centers. Seagate's first overseas product development in Singapore is going live with the network this quarter. The company's advanced development, the tomorrow's programs, is starting to use it now. Executives are starting to use the reports. And for Seagate, the most important thing is that now they have a metric for time-to-market and can measure their success.

These results were presented by representatives from Seagate Technology at TOC World® 2000. The presentation is available on video ([JSP-07](#)).