

Remote collaborative product development as a competitive advantage: a strategic viewpoint

Going global, or are you counting on this latest buzzword going away soon? Think again.

Skilled resources are becoming scarce, while foreign competitors are introducing new products into local markets. More people are telecommuting, information is available to you in an instant via the Internet, from half the world away, yet it is getting more and more difficult to maintain the edge in your core competency over your company's nearest rival. Your plan to expand your company into synergistic markets now includes strategic partners scattered across the globe and competition in those markets is getting stiffer. The pace of technological change is accelerating and product cycles are getting shorter. Time is becoming the most precious resource — to make the most of it your business must change.

How can your business survive? How can you get your products to market faster than your competitor?

The traditional solution has been to pull together a collocated cross-functional product development team, follow a stage-gate development process, and put it under a single project manager with the authority and control to make it happen. This manager walked the halls, held the meetings, and coordinated the actions of developers, suppliers, and the remote manufacturing site. The goal was to gain a competitive advantage by reducing cycle time and, with it, development and product costs.

If we lived in the collocated product development world, then this strategy would work just fine. Unfortunately, we no longer do and it no longer does.

Today, many companies are reduc-



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ing their development cycles by working 24 hours a day, 7 days a week. The benefit is simple: faster time-to-market. To accomplish this feat, product development teams are being set up around the globe at strategic locations. As the sun sets on one site, it rises on the next. These companies are learning that when the rest of the product development team resides 1000 miles away, employing traditional product development practices may increase cycle time, project cost, and the higher anxiety and frustration of product and project managers.

Face-to-face meeting credibility, informal problem solving, innovative brainstorming, personal project coordination, accurate project documentation, and design intent can get lost in the process. To overcome these difficulties, companies are turning to new Web-based technologies to bring their remote sites together in real-time.

Acquiring new technologies for remote collaborative product development, however, is only the first step. Transforming remote collaborative product development into a core competency to create a powerful competitive advantage involves the evaluation and integration of three critical elements: communication, culture and management; tools and information technology; and product development processes.

Bound together, these elements establish a single robust environment. Implemented properly, they provide visibility and accessibility; minimize the imposed gaps, and get everyone on the same page. They are of supreme importance at the beginning of a product development cycle, when informal, conceptual, abstract, and spontaneous brainstorming leads to a set of tangible, well-focused product specifications. And they are just as essential when integration problems require quick resolution as all the product components come together for the first time.

Companies involved in remote collaborative product development have learned that planning and coordinating a global project presents several difficult challenges. Time zone differences make it difficult to exchange information and often require employees to work outside of local business hours. Foreign languages and cultures can lead to misunderstandings and imposed delays. Exchanging design data with suppliers and partners through slow and unreliable network connections may be painful. Firewalls often frustrate accessibility, but proprietary information must be protected. Prototype parts often do not meet specifications or are mismatched causing extensive re-work costs and yet more delays. All told, the product transfer to production decreases robustness and results, while increasing long-term support problems and costs.

Companies that have built a competitive advantage around remote collaborative product development have learned the necessity of adopting a clear collaboration strategy. Such a strategy is applicable to a wide variety of venues: developing a product within a single company at multiple sites; outsourcing part

of the product design to a technology leader; incorporating an outside supplier or contract manufacturer with the latest production technologies and processes; engaging marketing partners having essential distribution channels; working with a spin off or an acquired company with a powerful business model; and investing in a new start-up with a hot technology.

Successful companies are not out to create a permanent advantage. Instead their goal is to create a temporary advantage that maintains their leadership position in markets experiencing dynamic change. The strategy consists of three parts: building the infrastructure consisting of a collaboration layer and a control layer; forming and training distributed, collaborative teams; and changing the way these teams are motivated and managed.

Four layers of communication make up the collaboration layer: project management; design sharing in real-time; structured discussion; and social and brainstorming exchanges. Two parts make up the control layer: building the knowledge inventory and storing it for accessibility and easy retrieval. The processes and technologies used to create these two layers must also connect them intimately, allowing information to be exchanged when it is needed.

Form a team with partners to achieve a specific result. When choosing a collaboration partner, select one that adds value, exhibits best-in-class behavior, or is willing to invest to get to best-in-class with you, and with whom a strong relationship can be established. This last point is critical. Remote collaboration decreases communication, interaction, interdependence, and trust. The distance can also inject delay.

The relationship between partners is the starting point for team organization and training.

Construct a team to profit from global expertise, skill diversity, and flexible capacity. Train team members to opti-

mize their interactions by setting the means of communication to match the bandwidth of information that must be exchanged. For remote teams, bonding and rapport is just as important as the technical data being exchanged.

While speed is the success criteria, it cannot happen unless personal relationships keep the quality and activity of the process robust. Management should aim to set metrics for the interactions at the interfaces, not in controlling the actions and tasks at the remote site. The leader of a "virtual" team aligns the goals, skills, processes, and tools with the purpose to create a single environment across the gap, so all team members thrive. Establishing respect for all team members, no matter where they reside, helps motivate team members and make it easier to resolve problems when they arise.

There are seven key steps to implementing a strategy for remote collaborative product development: (1) select the desired outcome and venue; (2) define each of the interfaces and understand the critical interactions at each one; (3) calculate the costs: people, time, materials, equipment, and management; (4) set expectations for the team and identify the potential areas for training; (5) make a plan that includes the tasks to be accomplished, the time for training, and the metrics for success; (6) get buy-in from the stakeholders; and (7) make a consensus decision to proceed.

A successful implementation could lead to a winning scenario such as the following illustration: Discovering a serious issue, our collaborative team member checks her instant messaging service to determine whether all of her "partners" are available. She knows it's late in Singapore, but having earned respect for her remote teammate, she pings him and three other critical people notifying them of the urgency. Minutes after assigning tasks via the messaging tool, the four are sharing a

conference call, data on a Web-based visualization tool, and access to a specification from the product data registry using a project management portal.

The error is confirmed. She asks her teammate in Singapore if he can stay to resolve the issue, the decision resting with him. He makes an arrangement to juggle some family responsibility and signals the team that he is working toward resolution. A short time later the instant messaging window pings "mission accomplished" with a reminder to notify the site in France of the change.

Her anxiety dissipated, she sends a message of thanks, then follows up to update the product data registry via the project management portal. She finishes up by sending her teammate in France an e-mail to close the loop. Speed was the success criteria. Everyone shared in the accomplishment.

Remote collaboration is happening at a broad spectrum of companies from Agilent in high tech to Sara Lee in food processing.

Getting it right requires the determination to overcome the obstacles and pain, the investment in money, time, and people, and the discipline to focus on acquiring a competitive advantage. When firmly entrenched in your day-to-day operations, the benefits of remote collaboration are faster time-to-market, improved productivities and efficiencies with your company's precious resources, and increased profitability.

So are you going global? If not, what buzzword are you waiting for?

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