

Pittsburgh Product Strategy Network

Recommended Practices Report

February 11, 2003 Vol. 1 No. 4

Managing Time-to-Market and Quality Tradeoffs

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Background

On January 30, 2003, the Pittsburgh Product Strategy Network met to discuss the trade-offs between time to market and quality for technology product releases and to recommend practices to maximize the probability of product success. IBM hosted the meeting at their Pittsburgh Lab. In attendance were a diverse group of managers and executives from both large and small companies in the information technology and life sciences technology sectors.

This report highlights the discussion of real world experiences involving product features, quality, risk, cost, and time constraints and the trade-offs that were made in order to facilitate bringing products to market.

Points-of-View

Mark Sherman opened the discussions with his experience involving the release of a software product aimed at the Sun server world. He introduced the alternatives available to him and the risks and trade-offs that were made and the lessons that were learned through the process. Specifically, they chose to target early adopters for the technology and delivered the product with reduced features and functionality. They also chose to include a high service component for the initial delivery. In the process, they learned about matching risk with market. They recognized that by providing on-site service with early customers they were able to circumvent providing a truly robust product. However, they recognized that in the process they were mortgaging their future and creating an environment that was not necessarily scalable. Michael Bauer affirmed that providing services could cover a number of shortcomings in the early product. His previous company called it "Charlie in the Box". Charlie was one of their lead technical people. The obvious shortcoming to this approach is the opportunity cost of tying up Charlie to service a single customer.

Mark said that in the end the process was all about "de-scoping". This generated significant discussion about the process of determining features and functionality for new products. It was generally agreed that individual features and functions would be rank ordered within three general classifications basic or "must have" features, desired features, and "would be nice" features. This

process appears to be subjected to two conflicting actions. First, time constraints almost always push the “would be nice” category onto the back burner. Conversely, requirements inflation occurs when desired features are promoted to “must have” features.

John Zappa pointed out the customer expectations are inevitably far greater than what is often deliverable. All too often product problems have occurred when trying to meet these unrealistic expectations. John shared one particularly painful experience where a sales representative had promised undeliverable features and the customer expectations were never adjusted and the resultant headaches. It points out the need to set and manage customer expectations and ruthlessly prioritize those features and functions that are truly essential. Jim Berardone suggested one approach used successfully with software product management is to plan for rapid release cycles. This way features that are not delivered in the first release are delivered quickly thereafter, and enabling the sales force to effectively manage the sale and set customer expectations.

Shane McClelland initiated the discussions on the differences between software product releases and hardware product releases. He pointed out that because so much of their work is government funded their product requirements are well established in the product requirements document or PRD. The issues occur when the software and the hardware side of the products break apart for concurrent development. Without careful control, the integration testing can result in a train wreck. Because of the hard constraints on hardware, much of the burden falls on the software side to match the interfaces with the hardware. Thus, they build a “virtual” switch in software. This approach provides developers with a platform to develop and debug code long before any hardware prototypes are available. When properly done the integration between the hardware and software proceeds considerably more smoothly.

Paul Adams pointed out one added unique feature to hardware product releases. That is higher risk elements are identified and postponed for later releases. That ensures the earlier product releases will not be waylaid by excessive delays to overcome technology challenges. This also includes issues like tooling costs. Paul also introduced the issue of government regulations specifically FDA regulations in his case. Because such regulatory review can be time-consuming, product tests must occur as early in the process as possible. Shane McClelland also added that additional time and budget needed to be incorporated into the process to account for the regulatory burden.

Ken Ramoutar shared an experience that he encountered while leading Product Management at FreeMarkets in its early stages. As part of a strategy to get a software solution to market quickly, they chose not to do significant market research or to build a sales support infrastructure and elected to offer the software as a hosted service. This permitted quick transparent upgrades to all customers. So, when a true product requirement or problem was discovered, the corrected version could be quickly addressed. To overcome the problem of limited support infrastructure product management carried the load for the early sales and support roles. Product management then transitioned sales support once the software was stable. Michael Bauer suggested it is important to recognize that in a race, features and time are the key components and quality can catch up later. Finally, Ken pointed out that performing a buy-build analysis could have provided an option to high quality, faster time-to-market for the new product release, recognizing that the software development function was not a core competence of his organization at that time.

The group discussed and identified the differences between manufactured technology products and software products. The key differences of manufactured products were noted to be the integration of hardware/software and the need to design and build flexibility into the product. Moving as much functionality into the software portion of the product frequently accomplishes this. Finally, we recognized that hard goods design reduce the degrees of freedom because of the cost of each individual design and production component. Software products have multiple options available to manage features-costs-time-to-market tradeoffs.

Recommended Practices

1. Establish minimum requirements. Setting minimum requirements and gaining management approval is important to managing expectations and execution. Minimum requirements need to recognize regulations, customer requirements, and competitive pressures.
2. Assess and manage risk upfront. Identify the risks early, and manage the risks by methodology and release order.
3. Utilize services. Manage the release by utilizing a service component as part of the offering. For software products, utilize hosted services for your product where possible.
4. Set and manage customer expectations. Clearly communicate plans and changes with internal teams, sales, and customers.
5. Target early adopters as customers for new products. Get their assistance with the design and specification of your first release.
6. Establish a process and be disciplined in following it. Put variable and risk controls in early, including signoffs and approvals.
7. Do a better job upfront. Putting the effort in upfront to capture customer requirements, product definitions, process design and risk assessment will result in fewer problems later.
8. Handle risk by establishing probability of success for each component. Prioritizing activities based on probability of success permits high-risk items to be postponed into later releases.
9. Involve the development team in the customer requirements discussion. The development team can be more effective and innovative if they have insight into the customer experience.

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Discussion Group Participants

Jim Harter wrote this report and is a founder of TallySoft, a Houston, PA-based developer of point of sale software for small retailers.

Mark Sherman hosted the meeting and is the Websphere Business Development Program Director for IBM Pittsburgh Lab in downtown Pittsburgh.

Paul Adams is the Manager of Product Development Process for Medrad, a medical device manufacturer in Indianola, PA.

Michael Bauer is Vice President of Products for TimeSys, a developer of Linux software for embedded systems in downtown Pittsburgh.

Prashanth Cannanbilla is a Senior Business Specialist for Federated Investors, a mutual fund and financial services company in downtown Pittsburgh.

Alison Frederick is the Marketing Communications Manager for Wisdom Technologies, a decision support software provider in downtown Pittsburgh.

Shane McClelland is the Director of Product Marketing for Marconi, a global telecommunications equipment and solutions company in Warrendale.

Peggy McGarry is a Master Coach with Decision Coaches, a collaborative decision-making methodology and services provider in Shadyside.

Bill Mueller is Director, Products for Entigo, a B2B sell and service-side solutions provider in Greentree.

Ken Ramoutar is Chief Marketing Officer for Advanced Software Applications in Robinson Township.

Trace Saunders is Vice President of Engineering of Apangea, an education software startup company on the North Shore.

Jim Berardone is co-founder of the Pittsburgh Product Strategy Network and President of ProductServ, a technology product development and commercialization services provider in McCandless Township.

John Zappa is co-founder of the Pittsburgh Product Strategy Network and President of Beechwood Consulting, a technology business consulting company in Squirrel Hill.