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Roundtable Take-Aways

Alliance for Technology Management Roundtable Take-Aways October 16, 2000

"Project Management: Critical Factors for Success"

The October 16, 2000 Roundtable Meeting, held at Lucent Technologies in Whippany, initiated discussion on the general subject of Project Management (PM). The objective was to overview the area and provide a framework to un-layer the topic for future Roundtable discussions. The three speaker/facilitators were Aaron Shenhar, Professor of Technology Management for Stevens Institute; Prem Pungaliya, ASIC (Application Specific Integrated Circuits) Project Manager for Lucent Technologies Wireless Business; and Houssam Halabi, Division Manager of Program Management for AT&T.

Shenhar discussed a new paradigm for Project Management that includes strategy as well as task orientation. Pungaliya described his specific role as Project Manager to employ Application Specific Integrated Circuits in CDMA networks. Houssam detailed the way he drives Program Management to accomplish both the strategic and tactical aspects of project accomplishment. The presentations were quite complete and most of the take-aways can be found in the presentations, available from Sharon Glennon at 201-216-5381. Some highlights follow.

- Aaron argued that one of the primary reasons that projects still are late and above target cost is that management does not understand or perceive project management properly.
- He emphasized that PM is not just the application of tools such as PERT, Microsoft Project, etc. but rather the use of these tools to achieve

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a strategic initiative of the business. As such, Project Managers need a new perspective, relative to their traditional role

- Most projects are different (e.g. building the atomic bomb vs. building a skyscraper) and need to be viewed and strategically planned differently
- Aaron described his works-in-progress to address the strategic nature of PM. He argues that the current focus is too much on efficiency and not enough on effectiveness.
- The PM's job is to achieve business results, not just complete the tasks of a project
- Aaron presented six (6) basic principles to achieve strategic project management, i.e. Leadership, Strategy, Spirit, Adaptation, Integration and Learning.
- Risk still must be recognized in all PM because most projects are new products. "Failure", however, needs also to be looked at as a learning experience and may lead to future benefits
- Aaron believes strongly that a business must combine both project and business strategy. Each project needs its own strategy for execution and should use something formal to describe its strategy. A definition must include how the project ensures winning (customers wants and buys).
- Another way to say the same thing is that the PM job is to create competitive advantage for the business. Activities and behavior need to be focused on competitive advantage.
- A Project Manager does not have to be an engineer, but Aaron believes that, based upon their education, engineers have the right skill set to do the job.
- Significant discussion arrived at the conclusion that how to achieve strategic project management can come from other organizations, e.g. Program Management. In many cases, product development teams (led by Project Managers) have Program Management representation to ensure strategic consistency with the business.
- During discussion, several interesting and provocative questions were raised and will be con-

sidered for future Roundtable discussions, namely:

- How to balance risk taking vs. the end results
- Can strategic PM be achieved with current personnel/tools?
- The differences between Project Management, Program Management and Product Management
- Strategy (programs) vs. task (projects)
- Leo Strecker pointed out that one element that was not discussed was the role of senior management, which is a key to success.
- In this same vein, it was pointed out that strategic projects rarely are the problem in big businesses because management always is involved. The real problem exists for low level, simple modification projects. Rarely are teams sure how the project fits in the overall picture because management is rarely involved. Strategic thinking is important for these projects as well.

Alliance for Technology Management Roundtable Take-Aways January 4, 2001

"Stage-Gate Processes: What Works and What Doesn't"

The January 4, 2001 Roundtable meeting was held at AT&T, Basking Ridge, on the topic "Stage-Gate Processes: What Works and What Doesn't." The first speaker/facilitator was Larry Gastwirt, who served the dual role of academic representative from Stevens Institute and experienced industry practitioner. His summary of the state-of-the-art regarding Stage-Gate product development processes set the stage for extensive discussion about the problems and accomplishments of the attendees. It also bridged well into the discussion led by Ron Eilertson of Teknor Apex, who have been implementing a Stage-Gate process for the past two years. The ensuing group interactions focused on accomplishments and failures experienced by the attendees. Both presentations were thorough; for further information call Sharen Glennon at 201-216-5381 for copies of presentation materials.

Larry defined the Stage-Gate process: a formal management process that treats product innovation -- starting with an idea and culminating in successful product launch -- as a process, applying formal process management techniques to enhance

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effectiveness.

The Stage-Gate process provides the fundamental architecture that guides the members of a cross-functional product development team in working together toward a common goal. Larry reviewed the basic features of the Stage-Gate process and summarized some of the principal factors in successful application. He first reviewed the key findings of Robert Cooper, whose 20 years of pioneering research and publications have provided much of the underpinnings of the Stage-Gate process, and followed this review with a discussion of "do's and don'ts" drawn from Larry's practical experience in the industrial application of the process.

Real time saving in product development comes from better front-end definition before product development begins (perhaps the most important and least applied of Cooper's principles).

When asked how one knows when "enough is enough" with up-front planning, Larry responded that it is time to proceed to the development stage when the gatekeepers and the product team agree that the product attributes are clearly defined, and that feasibility has been demonstrated -- that is, that the product can be developed and produced economically, in relation to the projected value to the customer.

Many of the participants agreed that pre-development activities should include the clear definition of product attributes plus the demonstration of good financial justification to proceed.

It is important to have an experienced process observer to minimize the possibility of process paralysis (i.e. the tendency to make the process itself more important than the real objective of product development, achieving a successful commercial product.)

Gates are discrete checkpoints that provide the risk management feature of the Stage-Gate process. Larry emphasized the importance of letting the gates function as intended, by avoiding seeking information before it is appropriate -- i.e., asking

Gate 4 questions at Gate 2 decision points.

Organizations have many complementary internal systems and processes that come into play during the development and commercialization of new products, e.g. the capital appropriation process. It is important that these complementary processes are effectively integrated with the Stage-Gate process.

The most advanced practitioners of Stage-Gate processes are practicing effective application of so-called "third generation" process features:

- Selective overlapping of stages/activities
- Conditional gate passage
- Increased focus, based on built-in prioritization methods that look at the entire portfolio of projects, rather than one project at a time
- Increased flexibility, tailored to the needs of the project and the level of knowledge available, such as entry into the process at an advanced stage
- Shift in decision-making authority from senior gatekeepers to project teams.

With respect to these features, Larry emphasized the importance of "learning to walk before you run", and of not compromising the integrity of the process during its early application in an organization.

The next step in the evolution of new product development may be the use of knowledge management tools. For further reading on this suggestion, see the Harvard Business Review, November-December 2000.

Larry summarized nine "success levers" for any major process change (commitment of senior management, etc.; see chart 11) and concluded his presentation with a discussion of success factors specific to new product development processes, Stage-Gate or other. These are, in summary:

- Business strategies in place and clearly disseminated
- System for prioritizing opportunities
- Effective cross-functional teaming
- Clear integration and alignment with related company processes
- Treating general ideas -- "knowledge-building" -- differently from specific opportunities
- Identification and management of critical-path activities and effective gatekeeping practices

The last of these factors is one of the least appreciated. Six key elements of effective gatekeeping are

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summarized on slide 13. They are elaborated on in Larry's article that appeared in the Spring 2000 Alliance Newsletter, accessible through the Alliance web site.

After an introduction to the Teknor Apex Company given by John Andries, Ron Eilertson began with the background behind the company's efforts to develop and implement a Stage-Gate process. They are a relatively small company, and had to convince senior business and functional management that a perceived big-company activity like the Stage-Gate process was worthwhile for them.

- Teknor Apex undertook a serious review of the deficiencies of their existing "process" and developed, with external consultant help, their "Concept through Commercialization" Stage-Gate process to address these deficiencies. Setting gate review meetings far enough in advance to ensure that stage work is completed before the gate meeting
- Delivering written materials to gatekeepers one week in advance of gatekeeping meetings
- Completing the financial calculations far enough in advance to enable the team to evaluate the impacts of key assumptions and to explore alternate scenarios to make the project more attractive.
- Setting appropriate criteria as to which projects enter the process, to avoid bogging-down the system with projects whose risk level don't warrant the level of risk management provided by the process.
- Training of gatekeepers.

Teknor Apex uses senior management as gatekeepers in order to get buy-in and involvement of other functions and business managers.

Ron concluded with a list of key issues facing Teknor Apex, on which he solicited feedback from the group. Inputs received in response to the issues follow:

- All agree that killing projects is an excellent signal to the organization that management is serious about incorporating into the culture a new, more efficient process. Management should encourage team leaders to recommend

stopping a project when their teams feel it should be stopped.

- Rather than skipping any Gate, it is recommended that Gates be combined when prior knowledge exists.

AT&T uses their laboratories and scenario builders to generate new ideas.

Three years after beginning the development, and a year and a half after process introduction, Teknor Apex is beginning to realize the benefits of the process, and expects to reap many more benefits in the near future (see slides).

Ron reviewed seven critical success factors that have been recognized by Teknor Apex to date:

- Senior management commitment and direct involvement
- Training of Project Managers in both the process and in project management skills
- To generate new concepts, suggestions included using brainstorming techniques, providing incentives to small teams charged with idea generation, and utilizing product (idea) fairs -- like the Innovation Fair described by Bestfoods in an earlier Roundtable.
- Critical factors in creating an environment for idea generation include a process for evaluating ideas and communicating results promptly back to the originators, the support and implementation of worthwhile ideas, and the expression of gratitude and encouragement to those whose ideas don't make the cut.
- The group agreed that the best metrics for product development activities are Time to Market and continuous improvement.

ISO is effectively using post-mortem reviews -- a final "gate" -- to accomplish their continuous process improvement. These meetings are an honest assessment of what could have been done better (lessons learned)

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