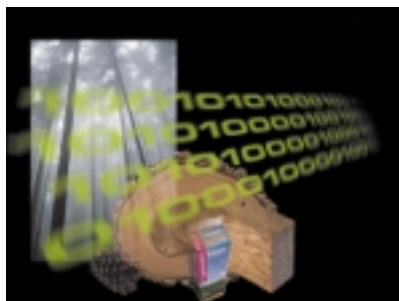
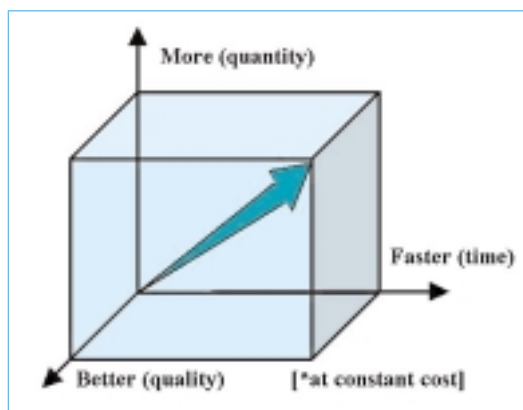




ORGANIZING FOR SPEED: AN ESSENTIAL COMPONENT FOR VALUE DELIVERY

ALAN R. PROCTER

THERE ARE THREE DIMENSIONS TO PRODUCTIVITY—*quality, quantity, and time* (Fig. 1). Faster innovation has not been a priority for many research activities in the commodity resource sector—it didn't need to be. However, it always has been a critical issue for the high technology or consumer goods sectors. The new reality is that this must change for everyone—speed is now a dominating force in competitiveness, and it is pervasive in customer relations, operations, and product development, as well as any research activity.



1. Three dimensions of productivity (at constant cost)

The importance of speed with respect to the stage gate project management process can be seen in the Innovation Life Cycle diagram (Fig. 2) of a time dimension vs a cash flow. Note that there is a time when an opportunity occurs (TO), a time when the opportunity is perceived (TP), and a time when project activity begins (TB). Clearly, anything that can be done to shorten the time from TO to TB would improve productivity and competitiveness. This speed opportunity is about having a well-tuned “strategic scanning radar” capability in an organization, and willingness for proactive action. The diagram also shows that most of the spending takes place after the proof of concept stage gate, after which the project definition plans freeze at “TF” (This is not to say that

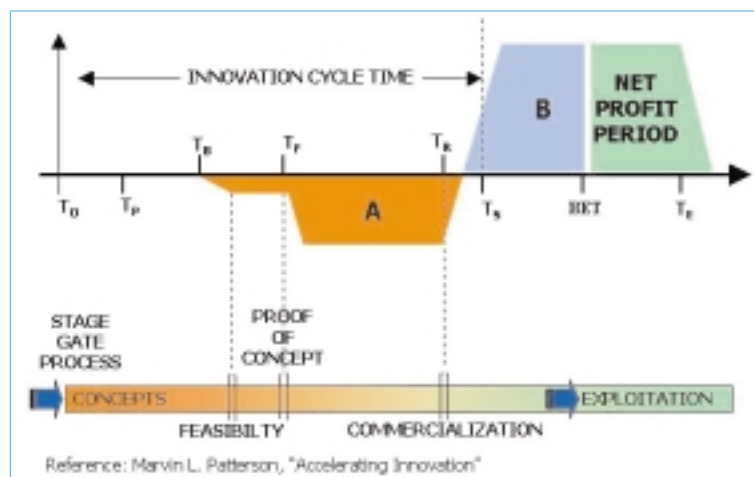
project termination should not be considered at any time after TF in appropriate circumstances.) At time “TR” the product or process technology is released to production, and at TS the first customers are satisfied. Another important concept from this diagram is the notion of a time, TE, when the product (or process) becomes extinct or obsolete. Note also that the diagram shows a *break even time* (BET) when expenses “A” are paid off from revenues “B.” This concept has been given little rigorous analysis in the resource-based forest products industry, and there is the suspicion that a BET for many of the “technological advances” over the past 20 years will be hard to quantify. Other industry sectors (i.e., consumer electronics) have found that a six-month delay in the introduction of a new product has a far greater impact on lost revenue than a 10% higher production cost or a 50% increase in development costs.

In summary:

- Speed in innovation and technology transfer has significant profitability implications.
- Speed in new product cycling/customer service/product differentiation/process improvement is a dimension of growing importance in business everywhere.
- Speed probably has been under-recognized or exploited in the forest products sector; good structures to manage speed are not common.
- There are significant lost opportunities in the front end of the innovation cycle; most organizations are good and speedy once the capital decision is made.
- Organizing for speed has different tactics for different types of technology (base, strategic, or emerging technologies). It is important to recognize in which of these technology categories the research program is focused.

The discipline for speed in research program management is about attention to critical path processes. This means looking for the “short cut,” doing the “last experiment first,” looking for the “show stoppers.” This important activity should be a priority at the early M0 (con-

cept) and M1 (feasibility) milestone stages (see p. 43 of the August 2000 *TAPPI JOURNAL*), which must include first cut cost-benefit analyses, making the assumptions of a successful technical outcome. Put another way: do the “sanity check” at the outset. It is natural for the researcher to want to press on with the experiments and to do the most interesting, or easier, ones first. There also is a natural tendency to be complete or “cover all the bases” in scheduling the work plan. To address the speed issue, it is important to resist these temptations and “go for the jugular” in trying to solve a dilemma. There is, of course, a downside to the “short cuts” process. Critical secondary issues, or fundamental principles, can be overlooked when a research project proceeds based on “short cut” results. This only becomes a problem when the short cut process is used to advance (or sometimes force) the overall research program through stage gates; rather, the short cut process is used as a quick way to check on assumptions and theories leading to an early project termination decision in the case of a negative result, or an expanded effort with a positive result. If anyone on the research program team sees the potential for mistakes or errors of judgment, they must speak up.



2. The innovation life cycle

There are too many project failures during commercialization where previous program team members say, “I told you so.” TJ

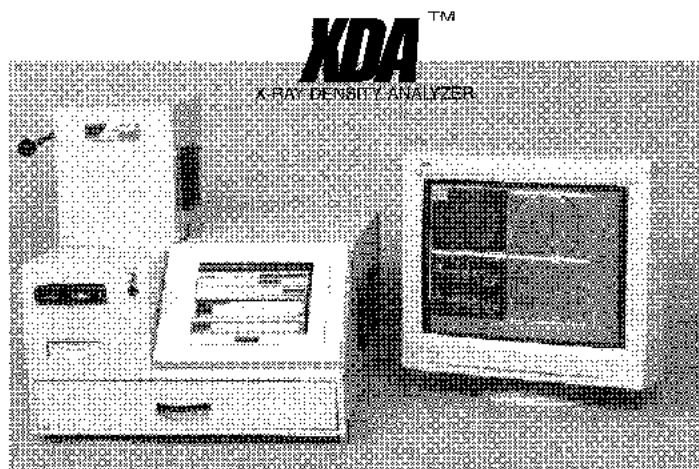
Procter is an adjunct professor, Technology Management and Future Awareness, on the Faculty of Forestry, University of British Columbia, Canada. Email: a.r._procter@telus.net

COURSE INFORMATION

An 8-week on-line course, “Managing Technology for Value Delivery,” will be next offered from September 10 to November 5, 2001. The course was developed by The University of British Columbia, Distance Education & Technology (<http://det.cstudies.ubc.ca>) and is jointly sponsored by TAPPI and UBC.

You may view a demonstration web site at <http://www1.cstudies.ubc.ca:8900/public/RMTD/>.

For additional information you can contact the course instructor (Alan Procter) at a.r._procter@telus.net or through www.alanprocter.com. Course description and registration can be found on the TAPPI web site www.tappi.org and through TAPPI's service line at 1 800-332-8686 (U.S.); 1 800-446-9431 (Canada); +1 770-446-1400; fax: +1 770 446-6947; or email to serviceline@tappi.org.



Measure Formation Changes
in Paper or Board
Opaque, Translucent or Clear Materials



www.paperformation.com

ksmith@paa.pilot-ind.com

(734) 352-1463

...Real Time Inspection Solutions

Circle reader service Card No. 334 for Pilot Industries