

S 2 I NEWS

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S2I News is a bi-monthly publication of Strategies 2 Innovate, Inc. With such a busy fall period we have combined the last two editions into this single edition. We hope these articles will help you develop a clear framework useful for guiding your organization's innovation and strategy.

This new series examines the Research and Development component of our Innovation Pentagon™ framework and will address issues such as R&D financial models and competence building.

Strategies 2 Innovate, Inc.

We work with business leaders to accelerate the task of growing their business through innovation. Our approach focuses on strategic action and process improvement based on our Innovation Pentagon™ model. Read about us and visit our **knowledge portal** at the web address below, or call us toll-free at 1-877-978-8242.

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7 Perils of Contemporary Research & Development Funding

What is a contemporary funding model for Research and Development?

With today's demands for fast results and a quick payback, R&D tends to be strongly focussed on product/service development with financial justification based on the Net Present Value (NPV) model. The NPV model calculates the net return over the life of the project taking into account the costs, sales and discounted rate of cash. Using this model, the decision to invest in R&D comes down to simple math – does the project give an adequate financial Return on Investment?

Beware the Perils

So, what's wrong with such a hard-nosed financial approach – surely it's just good financial sense? Well, yes and no. On the one hand its good to make an investment decision based on a solid financial model – I wouldn't suggest otherwise! But there are some serious dangers that go along with using this approach to the exclusion of other factors⁶⁴. Here are seven perils that can result from this approach.

1. Technology as a Resource

This model views technology as a resource that is needed for carrying out the programs necessary to implement business strategy. It does not, however,

view technology development as a strategic move designed to place the business in a position to exploit future opportunities.

2. Market-Pull Approach

The market-pull approach means that R&D and product development are tightly tied to known market demands. Consequently, business investment activities occur mainly in technical development and engineering programs where market and financial implications are well understood. This tends to close the door to real R&D that can create breakthrough opportunities.

3. Short-Term Bias

Since market characteristics change rapidly, R&D activities tend to have a short-term bias, thus locking out truly innovative thinking.

4. Risk Averseness

The approach tends to favour projects with low uncertainty. These tend to be downstream projects such as product improvements and product extensions where financial NPV models and ROI show greatest promise. I have witnessed this symptom where R&D tends to be allocated to low-risk, short-term, high certainty-of-return projects to the detriment of R&D projects that can

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LARRY VAN DEN BERGHE, Ph.D.

Larry van den Berghe is the President of Strategies 2 Innovate, Inc. He has 20 years international experience in the aerospace and information and communications technology industries in England, Australia, Singapore and Canada. He has been an active manager and contributor in R&D and new product development in electronics, VLSI and software. He holds two US patents, one UK patent and has a number of publications. He is a Chartered Engineer (UK) and a Fellow of the Institute of Electrical Engineers.

Larry is also an adjunct professor for the Management of Technology @Distance graduate program at the University of Waterloo and a past faculty member with the Technical University of British Columbia. He has developed courses in new product development, strategic management of innovation and technology, entrepreneurship and knowledge management. His recent research on core competencies examined the adoption of emerging technologies for product innovation within the Canadian information and communication technology industry.

He holds a Ph.D. in Management Sciences (Management of Technology) from the University of Waterloo, an M.Sc. in Microelectronics (with Distinction) from Middlesex University, London, U.K. and a B.Appl.Sc. in Applied Physics from Curtin University, Perth, Western Australia. Larry has served as Chairman, Board of Directors and is a Competent Toastmaster/Competent Leader with the Toastmasters International organization.

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potentially yield significant returns over the long-term.

5. Long-Term Projects Forsaken

R&D managers often lack the right tools to justify longer-term projects with uncertain outcomes, thereby finding it much harder to justify them financially. Consequently, these tend to be avoided resulting in lost opportunity for breakthrough developments.

6. Winning Technologies Underestimated

It's not hard to see that opportunity evaluation based on this model tends to underestimate returns on winning technologies when the probabilities of success are not factored into the evaluation model.

7. Opportunities Missed

The most serious consequence of the contemporary model is that the opportunity to advance the state of a particular technology to the point of business investment is missed. As a result, the business is deprived of a steady source of potentially winning technologies and is not able to position itself to take advan-

tage of future strategic opportunities when they present themselves

There is an alternative to this management dilemma. The strategic positioning approach or strategic options model is a forward looking mechanism designed to determine the true value of longer-term R&D projects taking into consideration both their probabilities of success and their degree of success.

In our next article, we will examine the key features of this alternative model and explain how it works.

In the meantime, we want to thank all our readers for their continued support through 2005 and wish everyone a very Merry Christmas.

Have a great holiday!

Larry van den Berghe

For more information and for references to the literature as identified by superscripts notations (e.g. ¹) please visit our innovation strategy knowledge portal www.strategies2innovate.com and follow the links to "Knowledge References."

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