Innovation Management

The Underwriter's View

The parties that invest financially in an innovation project should demand timely credible progress reports through application of the Innovation^{SP} Protocol

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The Underwriters

- To succeed an innovation project must have talent and finance.
- The parties that have a financial stake in the innovation project are of different flavor: budget-managing bureaucrats, loan givers, equity investors, grant and endowment providers, insurers, prospective benefactors.
- These underwriters interpret innovation load as risk.
- The innovators and their underwriters share the goal of minimizing the innovation load as fast as possible with the least amount of resources as possible.
- The underwriters don't share the project visibility enjoyed by the innovators. They rely on the Innovation^{SP} to furnish them with the required visibility to make real time decisions as the project progresses.

Innovators & Underwriters

- Innovation productivity requires innovators and underwriters collaborating.

- Success of the Innovation Project is their shared goal, but both have larger goals which are not overlapping – leading to tension, which the Innovation^{SP} can alleviate.

- Committed to their objectives, underwriters consider change option throughout the progress of the innovation project

Options for Underwriters

- The ‘null option’ is to stay on course. The alternatives are:

- ***1. Make changes to the team of the innovators***
- ***2. Upgrade or Degrade the R&D goal.***
- ***3. Abandon the project***

- Underwriters will use the Innovation^{SP} in order to make the right decisions as the project moves on.

Changes to the Team

- Underwriters may condition their support with personnel change. They may lose trust in the leadership, in the technical capacity, or in the innovation management professionals.
- Underwriters may bring in temporary or permanent consultants.
- Underwriters may insist on BiPSA crowd procedure.
- New “blood” coming in will result in a revamped innovation plan and a new picture of cost to complete and time to finish.

Re-Grading the R&D Goal

- Underwriters may limit their exposure and sue for a more humble R&D goal.
- Underwriters may strive for a higher return through up-grading the stated R&D goal.
- Any such goal re-grading will result in a new innovation plan and a new CPC.

Abandoning the Project

- When the Underwriter has more promising options to invest his financial muscle in then abandonment is an option for consideration.

- Abandonments are not cost free. Some pre commitment, cost of disposal, severance pay and other cost of closing down, cost of regulatory compliance, can make abandonment quite costly.

Comparing Options

- Underwriter's options may be evaluated and compared in a:

- ***1. Cost-Only Mode***
- ***2. Cost-and-Return Mode.***

- In the first mode the options are compared per expected cost only. In the more advanced mode one evaluates each option according to its expected cost and expected return.

Cost Only Mode

- The Innovation^{SP} Procedure:
- 1. Build the "Innovation state graph" (ISG = CPC) for each of the evaluated options.
- 2.Pick the cost ceiling for the project, z
- 3. Pick option m out of 1,2,...n options where:

$$\Omega_m(z) = (\Omega_1(z,), \Omega_2(z)..... \Omega_n(z))_{max}.$$

- 4. $\Omega_i(z)$ **is the likelihood for option i to cost no more than z.**

Cost and Return Option

- Replacing an arbitrary cost ceiling z with a “revenue state graph”, or “revenue probability curve” (RPC) that reflects the expected return to the underwriter if the selected innovation-next option is successfully executed.

- For each option subtract the CPC from the RPC to build the Return-on-Investment state graph” (ROISG) or “ROI probability curve” (ROIPC).

- Use any investment selection procedure to pick the right option.

Innovation^{SP} ROI Selection

- The Innovation SP selection of ROI probability curves is based on Monte Carlo reduction of the curves:

$$\gamma_i = >| \, tG_i \, /t \, |< \text{.....} \textit{for } t \rightarrow \infty$$

Select option m where:

$$\gamma_m = (\gamma_1, \gamma_2, \text{.....} \gamma_n)_{max}$$

where G_i is the ROI state graph for option i, x = >|y|< is the result of Monte Carlo processing of function y

Re-Evaluation Intervals

- Underwriters pick evaluation intervals, at the end of each such interval, the underwriter considers the null option versus its alternatives and acts accordingly.

- Innovators are expectedly intimidated by the underwriter re-evaluation, and hence those intervals should not be too small.

- Serious re-evaluation of underwriting options is cumbersome, so underwriters tend to set too long re-evaluation intervals – equally harmful.

- Optimal intervals keep the innovators alert, and prevent underwriters from sinking into a financial pit.

Thank You!

- D&G Sciences – Innovation Productivity Corporation trains and consults researchers and innovation stakeholders to help them become more effective in their innovation enterprise, and better appraise their innovative effort within their larger sphere of interests.
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