

METRICS FOR TECHNOLOGY SCOUTING:  
RECENT WORKSHOP DEMONSTRATES  
GROWING NEED TO MEASURE SUCCESS

**By Jay Paap, Paap Associates**

## **METRICS FOR TECHNOLOGY SCOUTING: RECENT WORKSHOP DEMONSTRATES GROWING NEED TO MEASURE SUCCESS**

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***An April 2009 Technology Scouting (TS) workshop I conducted for the Management Roundtable included representatives from such companies as Procter & Gamble, Unilever, Frito-Lay, Eastman Chemical, Ethicon Endo-Surgery, Inc., and others from a cross-section of industries. In a popular segment of the workshop, participants divided into small groups to explore the various challenges of setting up and/or managing Technology Scouting efforts. Almost three-fourths of these small groups chose to explore metrics.***

This supports our observation that metrics are emerging as an increasingly important part of corporate venturing (or open innovation) programs in general and scouting programs in particular. Developing the right metrics is critical for firms seeking to source technology externally. Metrics are needed to assess the value of the program and reinforce its legitimacy as well as to manage the program itself and guide those involved.

Workshop participants compiled a list of metrics that could be used within their companies to answer the question: "How do I measure the success of my technology scouting activities?" They produced the following list of 21 metrics, which, to facilitate discussion, were later broken into three generally recognized categories: input, process, and output metrics.

### **INPUT METRICS**

- o *Number of ideas screened*
- o *Number of new contacts made*

### **PROCESS METRICS:**

- o *Number of new projects*
- o *Number of ongoing projects*
- o *Number of projects killed*
- o *Fit of projects*
- o *Percentage of projects in portfolio at a specific gate*
- o *Type of tech sourcing (e.g. complete, short win, etc.)*
- o *Number of contracts signed*
- o *Response time*

### **OUTPUT METRICS:**

- o *Impact of projects*
- o *Number of projects completed*

- *Perception of company by outside parties*
- *Change in perception (delta)*
- *Percentage of net sales from TS projects*
- *Gross margin vs. internal innovations*
- *Contribution to sales*
- *Number of launches from TS projects*
- *NPV of TS pipeline*
- *Internal collaboration/acceptance*
- *Satisfaction of internal customer*

Since time was limited, after 30 minutes of brainstorming the teams selected the metrics they wished to explore further. These were not necessarily those the teams believed were the most important or 'the best.' There was general recognition that the right metrics depend on the specific goals of the TS program and organizational culture. However, the four selected metrics the participants felt were worthy of consideration by most companies.

Of the four metrics chosen for further discussion three were output measures – in most cases the best indicators of the success of past efforts:

1. Number of product launches – 100% or > 50% or > 0%
2. Percentage of TS projects in portfolio at a certain gate
3. Internal collaboration/acceptance (e.g. data from a satisfaction survey, push + pull, cooperation)
4. Financial impact of TS projects: Percent of net sales, NPV, gross margin

It is interesting to note that the participants chose not only 'hard' metrics dealing with returns on investments and numbers of projects pursued, but also included 'soft' measures dealing with networking and subjective levels of satisfaction.

These metrics are variations of the ones identified at the October 2008 Management Roundtable conference, "Technology Sourcing for Faster Innovation and Business Growth" (See Table 1).

Four of the five measures are similar:

- *Funnel – "Number of ideas that get through" (Number of product launches)*
- *Number of years to payback (one measure of financial impact)*
- *Impact/Value (related to both financial impact and perception of value)*
- *R&D investment as a percentage of sales (a measure of financial impact)*

The interesting difference is in the process metrics identified. The October program focused on measures dealing with efficiency (number of days to evaluate), the more recent workshop focused on innovation (percentage of TS projects at each stage). However, this may reflect the theme of the workshop (Using Technology Scouting to Accelerate Innovation) and the interest of those choosing to attend.

**Table 1**

<b>Top Metrics from April 2009 Workshop</b>	<b>Most Commonly Used Metrics from October 2008 Conference</b>
Number of product launches – 100% or > 50% or > 0%	Funnel – “Number of ideas that get through”
Percentage of TS projects in portfolio at a certain gate	Number of days to evaluate
Internal collaboration/acceptance (e.g. data from a satisfaction survey, push + pull, cooperation)	Number of years to payback
Financial impact of TS projects: Percent of net sales, NPV, gross margin	Impact/Value
	R&D investment as a percentage of sales

A topic emphasized in the April 2009 workshop was using external sourcing as a way to manage risk and pursue potentially high impact projects with high levels of unknowns. Too often firms look to external sources to merely supplement their ideas or resources. One of the major lessons from earlier experiences with open innovation from the 1980s and 1990s is that there can be major strategic benefits from looking outside. Managing risk to facilitate innovation is one of these.

It is in this context that looking at the level of external sourcing by stage can be useful. If used to promote innovation and not just solve problems, the degree of external sourcing would be higher in earlier stages and, as the unknowns are resolved, the percentage would go down over time. While the throughput measure did not make the list of ‘the top four,’ it was on the larger list of potentially valuable measures.

At the same October 2008 conference mentioned above, a presenter from Nokia put forward his company’s thorough approach to measuring the effectiveness of technology scouting. Nokia takes care to measure all three dimensions: the input, the throughput, and the output of its

technology scouting activities. For the most part the metrics they use are reflected in the longer listing from the April workshop. Specifically Nokia measures:

#### INPUT

- *Engagement (Network)*
- *Size, breadth & depth of external network feeding in innovation*

#### THROUGHPUT

- *Search (Quantity)*
- *Number of opportunities in the deal flow*
- *Number of opportunities identified & prescreened*
- *Identify (Quality)*
- *Number of business/technology opportunities engaged & screened*
- *Speed (Ownership)*
- *Pace at which projects advance from one stage to the next*
- *Process (Tools)*
- *Specific tools available for each step in the innovation process*

#### OUTPUT

- *Impact (Value Creation)*
- *Number of screened opportunities prioritized into business case development*
- *Number of cases that are transferred to business groups, prioritized into business group roadmaps and/or business development*
- *\$ impact on EPS*

The presenter emphasized that for Nokia, value-creation metrics are the key, a view that seems to be reinforced by the April 2009 workshop participants. Nokia's program provides a model for how other firms can approach metrics. Rather than simply copying Nokia's list, companies are advised to first clarify the mission and objectives of their programs and then, like Nokia, choose the metrics that make the most sense for them.<sup>MRT</sup>