Project Innovation: Evidence-Informed, Open, Effectual, and Subjective

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ABSTRACT

This research presents new theoretical bases for innovative project management in complex and uncertain environments. It claims that knowledge bases drawn from the past can impede innovation in highly uncertain situations and theories from entrepreneurship provide potentially more viable approaches. Although theories in this area challenge the causal assumptions that support theory and practice in project management, the article outlines four entrepreneurial models for project management that may be useful in intrinsically uncertain settings.

THE PROBLEM

Current Project Management theories and practice support innovation, but still the field sees a distressing level of project failures. The challenge for project managers lies in deciding when their innovation needs require going beyond the base provided by currently available evidence. However, there are barriers for adoption of new paradigms. A shift towards unfamiliar approaches implies personal, project, and organizational issues. Added to these internal problems, there exist external issues related to institutional, sociopolitical, and organizational sources of inertia. Hence, it is not surprising that the adoption of new theories is erratic and slow, despite compelling evidence and rhetoric for change.

The basic claim of this article is that continually adding to a knowledge base drawn from past success (and failure) frustrates innovation in intrinsically uncertain situations. Additional forms of more radical innovation are needed especially as organizational and environmental structures and activities become more entwined and their outcomes less predictable. When uncertainty is very high, new entrepreneurial responses to emerging circumstances without looking back to rely on past practice is more likely to succeed than trying to add new knowledge to existing best practice.

FINDINGS AND PRACTICAL IMPLICATIONS

Project management has become a dominant method of organizational problem solving. Hence, it constitutes an important innovation per se in how innovations can be achieved. The following sections describe four innovation models identified from literature and practice, beginning with best practice in project management. The full article offers examples of each model.
Evidence-based project management is defined as the ability to respond to new problems by adapting prescriptive knowledge from previous experience. Managers are motivated to make the most of what they know has worked in the past.

Projects or programs serve both research and practice, drawing as much instruction as possible from “field-tested” rules, but anticipating the necessity of innovative adaptation to the unique conditions of the project at hand.

The process of evidence-informed innovation can be briefly summarized as:

1. Specifying project goals and parameters.
2. Assembling needed resources, including a team with desirable capabilities.
3. Searching for context-relevant field-tested rules and guidelines based, if possible, on systematically collected evidence.
4. Adapting past experience to the unique conditions of the current setting and renegotiating problematic parameters as necessary and possible.
5. Testing artfully adapted solutions against project parameters.
6. Concluding the project with a solution that meets quality standards, on time, and within budget.

Open project management can be described as seeking solutions to problems from sources outside the innovating unit and its networks.

Although there are some weaknesses of this approach, there are also promising examples of success. In order to induce innovation, the following processes for project management should be in place:

1. Recognizing that the organization and its accessible networks do not have the knowledge needed to meet goals.
2. Framing unmet problems and opportunities for broadcast to solvers beyond the normal reach of the organization’s innovation efforts.
3. Waiting for promising answers to the posted problem from volunteers and facilitating interaction among solvers to improve answers before submission.
4. Evaluating submissions but also appreciating unexpected solutions with the potential to change the previous definitions of problem and solution.
5. Overcoming not-invented-here resistance within the organization and among its stakeholders to developing and implanting promising solutions from unfamiliar outside sources.
6. Recognizing solutions to identified problems and using inputs to reconsider the previous understanding of problem and solution space.
**EFFECTUATION AND PATH CREATION MODEL**

Open innovation begins with a well-formulated question that has not been answered with available resources.

Effectual project innovation can be defined as discovering the goals and means of new innovation by interacting with interested stakeholders who are attracted to an entrepreneurial project as it unfolds.

The overall process is not driven by causal logic, but a good deal of attention is given to coping with events as they unfold. This way of thinking is very different from the core logic of evidence-informed management and open innovation. “The future is neither found nor predicted, but rather made”.

Processes for effectual project innovation include:

1. Defining opportunity on the basis of personal skills and experiences.
2. Attracting the interest of others from known contacts.
3. Clarifying ideas through interaction with potential stakeholders, organizational contexts, and markets.
4. Responding to inevitable failures by redefining both means and ends.
5. Focusing on controlled actions rather than trying to predict the future.
6. Specifying one or more outcomes that can be further developed with causal logic.

**SUBJECTIVE–INTERACTIVE VALUES BASED INNOVATION MODEL**

In addition to the “hard paradigm” of project management based on positivist and realist philosophies which emphasize control, there is growing acceptance of a “soft paradigm” that attends to social process, interpretivist philosophies, and learning.

Subjective–interactive project innovation can be defined as interactively communicating and modifying compelling principles from which actions new to the project setting “logically” flow. The distinctive characteristics of this kind of project innovation can be summarized as a process of:

1. Observing environmental changes in the project context.
2. Articulating irresistible opportunity or unacceptable threat/failure in human terms.
3. Interacting with participants to define and promote values-based principles and consequent actions.
4. Mixing values-based strategic activities with proven tactics for change.
5. Altering tactics, goals, strategies, leadership, alliances and so forth as the context unfolds.
6. Institutionalizing gains to increase the likelihood of continued activity.

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1 Interpretivism (also known as antipositivism) is an approach to social science that opposes the positivism of natural science. According to this approach, social science realm may not be subject to the same methods of investigation as the natural world; the social realm requires a different epistemology in which academics work beyond empiricism and the scientific method.
This research proposes that project management and other management fields need increased capacity to collectively imagine and create the possible. The entrepreneurial models summarized in Table 1 outline an incomplete portfolio for the field of project management and include desirable outcomes for each of the four approaches described. Although it is unlikely that an individual or team could be equally adept at all, or would need to be in many realms, it is argued that there is and will be increasing need for project management that does not rely on past experience.

<table>
<thead>
<tr>
<th>Evidence-Informed</th>
<th>Open</th>
<th>Effectual</th>
<th>Subjective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>We have relevant knowledge and processes to innovate</strong></td>
<td><strong>We can search beyond known resources for innovative solutions</strong></td>
<td><strong>We can collectively clarify ends and means for innovative solutions</strong></td>
<td><strong>We can interactively shape compelling value-based and ideological innovations</strong></td>
</tr>
<tr>
<td>Specify project goal and parameters</td>
<td>Recognize that the organization and its accessible networks do not have the knowledge to meet project goals</td>
<td>Tentative define opportunity on the basis of personal/local skills and experiences</td>
<td>Observe environmental changes in project context</td>
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<tr>
<td>Assemble team and other needed resources</td>
<td>Frame problem/opportunity for broadcast to specified population of unknown solvers</td>
<td>Attract the interest of others primarily from known contacts or those who are known to contacts</td>
<td>Articulate irresistible opportunity or unacceptable threat/failure in human terms</td>
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<tr>
<td>Search for context-relevant, field-tested rules or guidelines</td>
<td>Wait for volunteers, then facilitate interaction among the most promising to improve performance</td>
<td>Clarify ideas through interaction with potential stakeholders, organizational context, and markets</td>
<td>Interact with project participants to define and promote personal actions consistent with value-based principles</td>
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<td>Develope possible solutions informed by past experience</td>
<td>Evaluate submissions (possibly with help of solvers), while also appreciating unexpected solutions</td>
<td>Limit risk and respond to inevitable failures by redefining ends and means</td>
<td>Mix value-based strategic activities with proven change tactics</td>
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<td>Test solutions against project parameters, negotiating as necessary</td>
<td>Overcome not-invented-here resistance within the organization</td>
<td>Focus on controlling actions rather than predicting the future</td>
<td>Alter goals, strategies, leadership, alliances, etc., as context unfolds</td>
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<td>Conclude project on time, within budget and other parameters, then add information to database</td>
<td>Solve identified problems but also expand view of problems and solution space</td>
<td>Specify outcomes that can be further developed with casual logic</td>
<td>Institutionalize gains to increase the likelihood of continued activity</td>
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**Table 1:** Four theoretically distinct approaches to project management innovation.
FULL CITATION


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