

MANAGING INNOVATION IN THE NEW ECONOMY

A COLLABORATIVE INTERNATIONAL PROGRAM IN THE MANAGEMENT OF INNOVATION

The competencies, processes and practices that are required to innovate and capture value differ from one industry to another, from one context to another. There is no universal “best recipe”. But the context sets the rules and define the main levers through which companies can create value through innovation. Exploratory research reveals patterns in those levers and dominant contextual forces, creating particular configurations which we call “Games of Innovation”. Each Game impose a specific set of rules that constrain and orient the competencies and practices firms must develop to efficiently compete through innovation.

Managing Innovation in the New Economy is a collaborative research program dedicated to identify and analyze, for each Game of Innovation, the competencies and practices linked with higher performance. By linking world class academia with experienced practitioners, MINE program will deliver not only a truly innovative framework for value creation through innovation, but also grounded operational business processes and tools to help increase the innovation capacity of participating firms.

Thanks to the strong financial support of the from the Social Sciences & Humanities Research Council and contributions from some industry partners, over 20 teams of researchers, Ph.D. and graduate students (from a number of Universities such as M.I.T. Sloan School, Stanford, SPRU Sussex, University of Toronto-CEM, UQAM...), will interact with industry representatives to explore and analyze the various aspects of value creation through innovation. Our approach, highly grounded, is intensive in collaboration with industry representatives to ensure the relevance and applicability of our results in a corporate context.

Participating companies will have the opportunity to access world-class expertise, training material, management processes and tools to strenghten their innovation capacity. Contact us and discover how joining MINE can truly help your company create more value through innovation.

FOUNDATION OF THE PROJECT

This project is building upon the findings of an international research program carried out recently by Dr. Roger E. Miller in collaboration with the Industrial Research Institute (Washington). The aim was to identify the best practices in managing technology for business growth. Over an 18 months period, we interviewed CTOs and VPs R&D of over 125 companies such as Lucent Technology, Sun Microsystems, Compaq, Aventis, Airbus, Syncrude, Bell Canada, British Telecom, Ericsson, Johnson & Johnson, Bombardier, and others. Working with a advisory board of twelve (12) IRI member companies to ensure the “grounded” aspect of our work, we arrived at the following findings:

1. There are several “innovation games”, across industries, in which the practices of innovation, value creation and capture are quite different. We have identified eight (8) games so far, but others will be found and characterized through the MINE project. For example, “Battles of Architecture” is a game characterized by high velocity and hyper-selective growth, in which value is created either by co-ordinating with other players and aligning products on the dominant architecture, or by attempting to impose a new product architecture through coalition building and standard development..
2. Strategies, structures and practices to innovate are constrained by the game in which the firm plays. A fit has to exist between the practices and the logic of value creation and capture. Some firms, however, do things better than others and achieve higher levels of growth and profitability. Therefor, eventhough “universal best practices” do not exist, some practices are statistically related to higher performance when analysed in the context of a specific “Game of Innovation”

3. Excellent firms, i.e. those that achieve above average sales growth and ROI, develop the competencies that are suited to the game in which they play. They not only adopt best practices for managing innovation, but they focus on developing capabilities suited to the requirements of their competitive, technological and regulatory conditions.

Even though this past project has opened up pathways for better understanding of the new requirements of value creation, our sample of 125 firms was too small to draw reliable benchmarking conclusions, build practical frameworks and deliver operational toolboxes to companies. Participating IRI members pushed for an extension of the study to increase sample size and explore further the innovation games being pursued.

WHAT'S IN IT FOR YOU ?

All of MINE's deliverables aim at supporting companies in increasing their innovation capacity, and ultimately their competitiveness. Various level of involvement are offered to companies, ranging from a simple response to the MINE survey up to full sponsorship of the program. Depending on their level of involvement, participating companies will be offered in particular:

- ❑ An innovative framework presenting the dynamic and "rules" of each Game of Innovation, i.e. the key levers and constraints for creating value through innovation in that specific context
- ❑ A presentation and analysis of the "best practices" within each game, i.e. the processes, practices and tools that are statistically related to higher performance
- ❑ Access to one of the largest database on innovation management for benchmarking purposes - with over 1,500 firms in at least 10 highly industrialized countries and over 20 industries- enabling detailed analysis of a firm's practices against world-class leading firms
- ❑ An extensive toolbox of methods, processes and case studies to help companies design their specific strategy configuration considering the Game of innovation they are in, and implement efficiently the required practices, processes and tools
- ❑ Corporate case studies to support managers in building a diagnostic of their company's innovation capacity and identify the required corrective actions
- ❑ Seminars on "hot-topic issues" such as product architectures, evaluation tools, centralized vs decentralized R&D, modularity, open vs. closed systems, value creation, portfolio management, value capture, dominant design, coalition for standard building , strategic alliances, etc. Topics will be chosen based on the participating companies' interests and needs.
- ❑ Custom training for young executives or managers based on the specific requirements of the client company
- ❑ Custom analysis and studies, in connection with the management of innovation, based on the specific requirements of the client company

Besides the preceding elements, companies which will get involved more closely in MINE activities will benefit from a tacit know-how transfer that will serve their organization as a whole. Quebec companies submitted to the mandatory 1% investment in workers' training can have MINE related expenses qualify as training expenses.

HOW TO JOIN MINE PROGRAM ?

Joining the Mine Program will provide you with a tremendous "value for money", regardless of the level of involvement your company decides to choose. Joining the MINE Program will enable your company to leverage on a strategic investment of Canadian public research authorities (SSHRC), and benefit from the work of over 60 dedicated practitioners, scholars and students whose main motivation is to help companies such as yours create more value through innovation.

Contact us to explore how your company could participate in the MINE program

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THE TEAM

The research team comprises senior industry participants and top scholars from various countries, who are well versed on various aspects of industrial strategies, technology strategies, R&D management and competitiveness. The overall structure of MINE, with the Governing Council and “industry/academy” research teams, reflects our orientation towards grounded, applicable results for short term use by practitioners.

The Governing Council

- Role and responsibilities is to ensure that research is grounded, relevant and applicable for business, and worldclass.
 - ❖ Bi-annual overall review of research plan, research activities and deliverables.
 - ❖ Review of quarterly reports and feedback through structured interaction.
 - ❖ Planning for annual forums and training directed at industry.
- ❖ Made up of representatives of MINE sponsors, MINE program leader, a former Deputy Secretary for Technology in President Clinton’s cabinet, a top executive of a very large Canadian telecommunications company, the Deputy Dean of Sloan School of MIT

MINE Project Management

- The project is headed by Prof. Roger E. Miller, Jarislowsky Chair on Technological Innovation and Project Management at the École Polytechnique of Montreal, Canada. Dr. Miller has played a major role in the “International Motor Vehicle Program” led by MIT, and has led most successfully the “International Program in the Management of Engineering Projects” and the “Managing R&D for Growth” in collaboration with the Industrial Research Institute. Besides specific consulting work for various companies, these have yielded highly authoritative books published by Lexington Press, MIT Press. and others, as well as numerous learned articles and a large number of conferences.

Industry / Academy Research Teams

- Eight (8) teams or more will be formed to study industrial sectors and games. Each team will be led by a senior scholar and will be composed of two industry representatives, two PhD students, and two academics researchers.
- Each team will cover two to three industrial sectors in different games. The data collection and case studies will be done by academics (faculty and students), with industry executives acting as sounding board to interpret results.
- The rationale behind joint industry-academic teams is to ensure that the research will be sufficiently grounded and that corporate representatives will really benefit from cross-industry and cross-game learning. This will provide ideal training ground for promising managers.

RESEARCH METHODOLOGY AND EXAMPLES OF RESULTS

To ensure reliability and relevance of our work, this project is structured around the following principles:

- (1) Our approach is grounded: we do not start with *a priori* conceptual visions but engage in field observations. Benchmark and case studies, based on performance analysis of over 1,500 companies in 10-20 countries, will enable us to deliver practical results to our stakeholders.
- (2) We will conduct the project with several industry/university research teams, enabling member companies to help us orientating our work better and ensure greater relevance. Furthermore, with industrial support we intend to carry out some 240 in-depth case studies in the industrial sectors covered.

The following spider graph illustrates one of the elements of strategic analysis for a pharmaceutical company on a number of value creation dimensions. It should be noted for example that an aerospace firm would have an entirely different positioning, which would show the differences in the games being pursued.

