

# Involving mind, body, and friends: Management that engenders creativity<sup>☆</sup>

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## Abstract

Based on the careful observation and interviews of employees at three companies, and supplemented by cases from the popular business press, a discovery approach is used to derive four management principles that engender creativity and innovation in organizations: (1) manage organizations so that their knowledge base is more diverse than what would occur naturally; (2) encourage employees to embrace a collaborative and non-complacent attitude towards work and the organization; (3) make it possible for organization members to engage in the quick testing of ideas and solutions as they emerge; (4) reward employee and supervisor behaviors that support these principles and punish resistance to their implementation. The principles work in companies even if creativity and innovation are not stated organizational objectives, and do not require large investments or disruptions to work processes to yield valuable results.

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Creativity and innovation are generally recognized as vital to commercial success in the 21st century, and also as critically important to the effective solution of tough organizational and social problems. Creativity is typically defined as the recombination of existing knowledge into novel configurations, and innovation as the value generating application of such novel configurations (Amabile, 1996; Davila et al., 2006). Calls for creativity and innovation have multiplied in recent years, giving rise to management practices such as chief innovation officers (CIOs) and the hiring of innovation consultants, to a proliferation of self-help books on the topic, and to multiple articles and Internet sites that highlight innovative practices at different companies (e.g., [www.businessweek.com/innovate](http://www.businessweek.com/innovate)).

Levels of news coverage and investments on creativity and innovation management can lead managers to believe that

engendering innovation and creativity in organizations is costly and hard to achieve. The present research suggests that this is not the case. Based on direct in-depth observation of three companies, and supplemented by the publicized accounts of other organizations, it is argued that the consistent application of four management principles can engender creativity and innovation in organizations regardless of size, industry, and access to financial resources. The four principles are:

- Manage organizations so that their knowledge base is more diverse than what would occur naturally.
- Encourage employees to embrace a collaborative and non-complacent attitude towards work and the organization.
- Make it possible for organization members to engage in the quick testing of ideas and solutions as they emerge.
- Reward employee and supervisor behaviors that support these principles and punish resistance to their implementation.

The present research suggests that the implementation of these principles does not need to involve large investments or high levels of organizational disruption, although wise investments and management may enhance the expected outcomes. Moreover, it suggests that creativity and innovation arise when

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the principles are applied consistently even if not consciously, and that the principles need not be applied across the full breadth of the organization, but can unleash creativity and innovation in teams as long as they can function autonomously. The exposition begins by describing the companies involved in the research, the circumstances that gave rise to the application of the listed principles, and the outcomes they achieved as a result. Because of company concerns with confidentiality, the names of the focal companies are disguised. Published examples of companies that have engaged in similar behaviors and realized equally beneficial outcomes are also included. Actual company names are used for examples drawn from the business press. The company descriptions also point out how the companies' actions embody the suggested principles, and are followed by a short exposition of the theoretically-substantiated mechanisms that give rise to these principles and the observed results. The exposition concludes with a short discussion of management lessons from the research.

The objective is to contribute in two ways to contemporary managerial thought and behavior about creativity and innovation. First, illustrate that creativity and innovation can be harnessed by organizations across all size and resource support levels, provided they are willing to apply these principles consistently. Second, argue that creativity and innovation are not mysterious outcomes invoked through cabalistic practices, but are instead natural outgrowths of human nature that can be unleashed through straightforward management practices. It is not argued that engendering creativity and innovation is effortless or cost-free, but the companies studied herein illustrate that both are achievable by organizations in pursuit of everyday business objectives without a need for disruptive change and significant investments.

## 1. Diverse companies and innovative outcomes

The management principles suggested derived from observation and documentation of company practices by two of the authors within the context of an international scholar exchange program. The three companies welcomed the research team with the expressed purpose of helping to improve organizational learning practices. The research process involved careful observation of management practices (e.g., suggestion programs, employee competitions, team management, etc.) and in-depth interviews with managers and workers at the different locations. Not surprisingly, creativity and innovation were found in companies that are striving for a learning environment, given the close relationship between the two phenomena. What was not expected was the finding that the same combination of factors would engender higher creativity and innovation across companies in industries as diverse as mining, aquaculture, and cement production. The principles presented here, and their potential to unleash creativity and innovation, were not directly recognized by the companies in advance of their implementation through diverse management initiatives. Noting similar outcomes across the companies, however, led the research team to a grounded discovery approach to the data — one in which the noted evidence guided the search for, and in some cases

development of, explanatory theory. These are the situations from which the insights developed.

### 1.1. Mountaintop Mines and the Bright Ideas program

Mountaintop Mines (MM) is among the world's largest copper mining enterprises. The operation produces over 350,000 tons of payable copper-in-concentrate from over 50 million tons of ore annually. MM is also recognized as a world leader because of its safe use of technology, good labor relations and employee safety, and environmentally responsible operations. The company employs over 2000 persons, distributed between the mine site (approximately 900), the ore processing complex (approximately 500), the concentrate shipping port (approximately 200), and support personnel. Copper mining involves the extraction of ore from an open pit or closed mine, crushing the ore to pebble sized fragments, and extracting the copper mineral from the crushed ore through a leaching process. Ore concentrate is transported as slurry to shipping facilities, drained and loaded for transport to smelting facilities. MM is an open pit operation. Although MM has three operational components, the observations stem from the processing plant and the mine, the two facilities available for study during the research period.

As with most large enterprises, MM continually manages hundreds of environmental, technology, and human variables across thousands of interactions, and faces a steady stream of novel problems that must be solved without compromising its production output objectives. Rising copper prices and increased demand in recent years have resulted in higher production quotas being issued by senior management, leading the company to seek higher levels of employee learning, autonomy, and creativity. To that end, MM instituted the Bright Ideas program, which encourages employees to propose solutions to existing problems and production hurdles, from which a small number of ideas are chosen and publicly recognized at the annual employee appreciation banquet. By the company's initial standards, the Bright Ideas program has been successful, generating over 1,200 ideas in its first 18 months of operation. The management principles and outcomes noted in this research came about through the implementation and management of the Bright Ideas system.

Because of its relatively short life span (MM started operations in 1999) and hiring practices that draw professional and trades personnel from across its country of operation, MM has a recognizably diverse knowledge base in its employees. There are no dominant ethnic groups, and its management team is characterized by a broad distribution of universities and educational backgrounds. The same can be said for its widely-recruited trades and production personnel, all of whom have at least a recently acquired technical high school education, with many having one to two years of additional training. Average employee age is 35. Resulting from these practices are two contributing factors — knowledge diversity and a social environment that is tolerant of diverse perspectives.

The Bright Ideas program is designed for equal access by all employees through internet-enabled suggestion input stations,

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