

**THE INSTITUTE OF MANAGEMENT SCIENCE**  
**COLLEGE ON MANAGERIAL PROBLEM SOLVING**

**NEWSLETTER**

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Jerry Smith, Editor

Vol. 2, #3

December 1988

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I suspect that finding this newsletter in your mail is like receiving a Christmas card from a one-time acquaintance: it certainly wasn't expected, but it's (hopefully) welcome nonetheless.

The College's last newsletter was published in March. I want to apologize for the delay in producing this successor. Lance Eliot, who has edited all the College newsletters heretofore, was unable to continue in this role, due to the many other demands on his time. Sensing an opportunity to indulge my journalistic ambitions, I've added publication of the newsletter to my other College responsibilities. I want to thank Lance for getting the newsletter off the ground, while promising all of you my best efforts towards making it fly.

In my opinion, the newsletter is the primary vehicle by which the College can serve its members. It is especially important in light of our diverse membership and relatively low profile at national TIMS meetings. Consequently, I hope to publish the newsletter on a quarterly basis, each edition containing about five, double-sided pages (as much as a quarter stamp will buy). In addition to reports on national conferences, College administration, and my editorial ramblings, I'd expect the newsletter to include some or all of the following: news of college members; short contributed feature articles; book reviews; bibliographic reports; lists of working papers; notices of positions available/wanted; information on non-TIMS conferences; calls for papers; and anything else of interest to the membership. Most of this material should come from you, the readers, the editor serving primarily to organize and package your offerings. I will, however, serve as a mild-mannered gate-keeper and default contributor. So remember: To keep from having to read my over-written prose in these pages, send in better stuff of your own!

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As regards this edition, please note two things in particular. There is a call for papers to be presented in College-sponsored sessions at the national TIMS-ORSA conference to be held in New York City this coming October. Please mail in a completed copy of page 8 by February 3rd if you plan to participate in this conference.

Second, a proposed change in the College's organization and bylaws is described on page 7, with a related ballot being included as the newsletter's last page. Please give some consideration to these matters, fill out your ballot, and mail it to George Benson by January 31. Thanks.

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Submissions to: Jerry Smith, Information and Decision Sciences Dept., Carlson School of Management,  
University of Minnesota, 271 19th Avenue South, Minneapolis, MN 55455

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## EDITORIAL: Why A College On Managerial Problem Solving?

When this College was initiated, a TIMS officer expressed concern over its name. "Isn't all of TIMS about managerial problem solving?" he asked. His concern turned out to be prescient. Even today, many College members aren't sure what it's about, how it fits within TIMS or any larger arena of scientific activity.

I personally feel a strong sense of the College's purpose and identity, expressing these in a "Proposed Research Agenda" distributed to the membership. One perspective on the College's name is discussed in this edition's feature article. I want to use this editorial to assess the organization's purpose more broadly.

The College on Managerial Problem Solving must stake out territory that falls within the realm of management science, but which hasn't been addressed by existing TIMS colleges. I see five promising properties, pieces of turf, that satisfy these criteria, and which can plausibly be combined into a coherent intellectual homestead.

First, the College is concerned with the full range of managerial problems. While TIMS can claim to be about managerial problem solving, it has responded primarily to isolated subsets of problems amenable to certain model-based solution methods. Traditional management science is relevant to real problems, but it is rarely applicable to typical managerial problems. To truly be a management science, TIMS must expand the set of organizational concerns to which it applies. The College can play a leading role in that endeavor.

New problems require new methodologies. Because most managerial problems can't be usefully represented with classic models, other modeling and nonmodel-based methodologies must be applied. Certainly the hottest topics within TIMS - DSS, AI, expert systems - reflect this methodological diversification. Many problem solving methods derive from the efforts of consultants and practitioners. While these have scant scientific grounding, they are widely applied, and much could be learned from their success or failure. Thus, a second purpose of the College is to develop, test, and apply, nontraditional methodologies pertinent to managerial problems.

In dealing with a broader array of problems, management scientists are sure to learn the limits of methodology per se. Major elements of the problem solving process can't be reduced to technique, are instead dependent on the thinking of the individual manager. A growing body of research tries to understand thinking in real world tasks; managerial problem solving certainly qualifies as such. Explanations will range from accounts in terms of relatively basic psychological processes, to those employing such high level abstractions as problem formulation and design. The College's third purpose is to promote the scientific investigation of managerial thinking.

Fourth, the College is concerned with improving the interface between problem solvers and techniques. Interventions responding to managerial problems tend to support or involve the individual rather than replacing him/her with a model. Decision analysis and DSS are exemplary. Knowledge of problems and problem solvers is needed to improve such interventions. Humans must not be asked to discharge subtasks that are beyond their powers; and techniques must not pose as substitutes for human knowledge and adaptiveness that they simply don't possess.

Finally, and most peripherally, the College can serve as a general methodologist for the discipline. Operations research and management science began as applied problem solving activities, intent on developing a science of such. This goal got lost amidst the blizzard of algorithm enhancements and axiomatic proofs. But it was a worthy objective and may well be achievable. How, in general, are knowledge, models, and techniques applied to the solution of real world problems? How are adequate models and effective techniques validated as such? These and other foundational questions deserve the discipline's attention.

If the proposed purposes of the College are worthy objectives, they are certainly not readily attained. I invite reader's responses to this delineation of the College's mission. Comments on the objectives I've proposed, suggestions as to other purposes of relevance, and strategic thoughts on how the agenda might be pursued are especially welcome.

## Conferences, Past and Future

TIMS/ORSA Denver  
October 1988

The College sponsored two sessions at the national TIMS/ORSA conference this fall. For the benefit of non-TIMS members who don't have access to the conference bulletin, the presentation titles, author information, and abstracts are provided below. Please write to the authors for copies of the papers or transparencies.

**The Operation of Stimulus Generalization in Investment Decision Making**, Goltz, Sonia M., Dept. of Management, University of Notre Dame, Notre Dame, IN 46556.

Principles of learning theory are used in the analysis of resource allocation behaviors such as investments. Experimental data is presented confirming that the typical investment experience contains irregularly occurring returns and that this history is generalized to new situations. Implications of this and related past research are discussed.

**Knowledge, Belief, and Uncertainty: A Cognitive Perspective on Probability Assessment**, Benson, P. George, Curley, Shawn P., Smith, Gerald F., Carlson School of Management, University of Minnesota, 271 19th Avenue South, Minneapolis, MN 55455.

Philosophical and psychological research on knowledge and belief are used to analyze the notion of uncertainty and the meaning of probability judgments expressing such. Probability assessment methods must be designed to fit the nature of the assessment task - the uncertain proposition in question - and the cognitive processing that underlies subjects' responses.

**Creative Thinking in Management Science**, Evans, James R., QA/IS Dept., University of Cincinnati, Cincinnati, OH 45221.

Creative thinking is essential for effective managerial problem solving. We will review fundamental issues in creative thinking and creative problem solving processes, focusing on the relationship with OR/MS methodology.

**Epistemic Risk and Ambiguity in Decision Processes**, Kleindorfer, Paul R., The Wharton School, University of Pennsylvania, Philadelphia, PA 19104.

This paper considers various approaches to the problem of uncertain knowledge in choice problems. Research on epistemic risk in public policy and on ambiguity in decision processes is reviewed; results of these two streams of literature are contrasted. Applications in public policy, strategic planning, and economics are discussed.

**Defining Managerial Problems: A Framework for Prescriptive Theorizing**, Smith, Gerald F., Carlson School of Management, University of Minnesota, 271 19th Avenue South, Minneapolis, MN 55455.

Problem solving presumes the existence of a problem definition or representation, often the precursor to a formal model. This paper positions definition in the overall problem solving process, delineates the ways in which problems are commonly defined, identifies the central dilemma of problem definition, and presents an appropriate prescriptive framework.

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### COLLEGE OFFICERS

Ward Edwards, Chair,  
University of Southern California  
Chris Argyris, Vice-Chair,  
Harvard University  
Roger Hall, Special Vice-Chair,  
University of Manitoba  
Lance Eliot, Special Vice-Chair,  
University of Southern California  
Jerry Smith, Secretary/Treasurer,  
University of Minnesota

### MEMBERSHIP INFORMATION

College membership is open to all. Annual dues are \$3 for TIMS member, \$5 for non-members. Persons belonging to TIMS can join the College by so indicating/remitting when filing their TIMS renewal. Non-TIMS members can join by sending a \$5 check (payable to the "TIMS College on Managerial Problem Solving") to the Secretary/Treasurer of the College. Applications for TIMS membership can also be obtained from the College Secretary/Treasurer.

TIMS/ORSA Vancouver  
May 1989

The College will be sponsoring three sessions at the national TIMS/ORSA conference to be held in Vancouver, BC, May 8 - 10, 1989. Information concerning these sessions is provided below:

Session 1: Behavioral Decision Making  
Chair: Roger I. Hall

**Dynamic Decision Making in Organizations: Claims Management in the Insurance Industry,** Sterman, John, Sloan Sch of Mgmt, MIT, E52-562, Cambridge, MA 01239.

**Stop or Continue Decisions: The Dynamics of Decision Making in Potential Escalation Situations,** Bowen, Michael G., Rädzicki, Michael J., Dept of Mgmt, Univ of Notre Dame, Notre Dame, IN 46556.

**High and Low Performers: Information Processing Strategies and Learning in a Task with Complex, Dynamic Feedback,** Bakken, Bent E., Sloan Sch of Mgmt, MIT, E40-294, Cambridge, MA, 02139.

**The Risk-Return Paradox: An Explanation Based on the Behavior of Participants in a Complex Decision Making Game,** Hall, Roger I., Faculty of Mgmt, Univ of Manitoba, Winnipeg, MB, R3T 2N2, Canada.

Session 2: Managerial Problem Solving - I  
Chair: Larry L. Cummings

**Selecting Participants to Avoid Type III Errors,** Volkema, Roger J., Kogod Col of Bus Admin, American Univ, 4400 Mass. Ave, NW, Washington, DC, 20016.

**Strategic-Sensemaking in Top-Management Teams,** Thomas, James B., Gioia, Dennis A., Dept of Mgmt, Penn State Univ, 403 Beam BAB, University Park, PA, 16802.

**Focus of Attention and Problem Identification,** Cummings, Larry L., Carlson Sch of Mgmt, Univ of Minn, 271 19th Ave S, Minneapolis, MN, 55455; Pierce, Jon L., Sch of Bus, Univ of Minn-Duluth, Duluth, MN, 55812; Gardner, Donald, Col of Bus & Admin, Univ of Colo, Box 7150, Colorado Springs, CO, 80933; Dunham, Randall, Grad Sch of Bus, Univ of Wisconsin, Madison, WI, 53706.

Session 3: Managerial Problem Solving - II  
Chair: Gerald F. Smith

**Financial Analysts and Stock Evaluation: An Examination of the Pricing of Initial Public Offerings Using Regression Analysis and Process Tracing Model,** Anderson, Matthew J., Accounting Dept, Michigan State Univ, 212 Eppley Center, East Lansing, MI, 48824; Potter, Gordon S., Accounting Dept, Univ of Minnesota, 645 Mgmt/Econ, Minneapolis, MN, 55455.

**An Evaluation in Retrospect of Problem Formulation Models in Four Institutional Settings: Government, Higher Education, Business, and Law Enforcement,** Schoennauer, Alfred W., Col of Bus, Mankato State Univ, Mankato, MN, 56001.

**Building a Theory of Managerial Problem Solving,** Smith, Gerald F., Carlson Sch of Mgmt, Univ of Minnesota, 271 19th Ave S, Minneapolis, MN, 55455.

If you expect to attend the Vancouver conference, plan to sit in on some or all of these sessions. Also, the College will hold an informal membership meeting during the conference, at a place and time to be announced in the bulletin. Your participation would be most welcome.

TIMS/ORSA New York  
October 1989

Planning for next fall's national TIMS conference in New York City is well under way. This edition of the newsletter includes a call for papers (page 8). College members are encouraged to present their research in College-sponsored sessions and/or to arrange a full session of up to five papers, to be held under College auspices. We must receive a copy of your completed application form by February 3rd to insure your participation in our New York program.

# Decision Making or Problem Solving: What's in a Name?

Jerry Smith

In his comments in an earlier newsletter, Ward Edwards, Chairman of the TIMS College on Managerial Problem Solving, asked what such an organization should be about and offered a possible answer: it should promote interaction between people who study problem solving and people who do it. As a complementary viewpoint, I will suggest another of the College's purposes, one that contributed significantly to its initiation and naming.

The terms "decision making" and "problem solving" are often used interchangeably. In a major review of relevant research, MacCrimmon and Taylor (1976) declined to distinguish between the two on the grounds that they had been used so diversely. If there are distinct usages among management scientists, it is to regard problem solving - "fixing agendas, setting goals, and designing actions" - as the front-end for the evaluation and choice processes of decision making (Simon et al., *Interfaces*, 1987).

Underlying all is man's effort to actualize his desires and achieve his goals. Management science has contributed to this effort, most typically by developing interventions - tools and techniques - that exploit structural characteristics of tasks to improve performance. When talking about modeling techniques and other interventions, it doesn't matter much whether the tool is regarded as improving decision making or problem solving: "Decision Support Systems" could as easily be termed "Problem Solving Support Systems." The contents of the intervention are determined by the nature of the task and relevant technology, rather than by the putative process being served.

But all too commonly in managerial situations, appropriate tools of this kind don't exist: the powerful interventions aren't applicable, and applicable interventions aren't powerful. Managers typically confront tasks with nothing more than their wits to sustain them, success or failure hinging on the ability to think well. Future advances in management science notwithstanding, I suspect this will always be the case: the adaptiveness of human thought makes it the most valuable means towards the realization of our desires. If management science is to have broad relevance to the

activities of managers and organizations, it must try to understand and improve the action-oriented thought that directs those activities.

This thought can be conceptualized as decision making or problem solving. In this context, however, the choice of a name is likely to have significant effects. Thinking is an unobservable process, the study of which is affected by the manner of its conceptualization. Action-oriented thought has been investigated from both a decision making and a problem solving perspective. While these research traditions overlap, there are important differences which may well affect our ability to understand and improve managerial thinking.

The decision making paradigm dominates management science research in this area. Exemplified by utility theory, decision analysis, and behavioral decision theory, the paradigm adopts an expectancy-value conceptualization of human thinking. Man, it is presumed, does and should make decisions by joint consideration of his expectations as to ultimate decision outcomes and his valuation of those outcomes. Human expectations are operationalized as subjective probabilities over future states, and valuations can purportedly be captured in elicited utility curves. Researchers have focused on describing and improving probability judgments and on the analysis of human preference and value tradeoffs. Conceptualized as decision making, action-oriented thought is essentially reduced to predictive and evaluative judgment.

Quite different, and largely ignored by management science, is the perspective adopted by cognitive science researchers concerned with human problem solving. The problem solving paradigm regards humans as goal-directed beings who apply knowledge in determining how to achieve their objectives. Thinking qua problem solving includes the perceptual and interpretive processes resulting in problem identification; defining or representing problems; the generation of relevant heuristics and strategies; the elicitation and application of pertinent memorial knowledge; and various kinds of inferential processes.

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In part, these two conceptualizations reflect different psychological and philosophical origins. The decision making paradigm has a behavioristic flavor. Researchers study observable choices or responses conceived as resulting from subjects' weighting (not interpretation) of various cues or stimuli. In contrast, problem solving research exhibits cognitivist assumptions. It posits the existence of internal mental representations, acknowledges the influence of one's interpretation of relevant information, and focuses heavily on the thinking process per se.

Perhaps reflected in the fact that psychology has moved from behaviorism to cognitivism, the problem solving paradigm, in my opinion, provides a broader and richer conceptualization of human thinking. It allows for the importance of informational meaning, causal understanding, planning, design, and reasoning in a way that the judgment-oriented decision making framework simply can't match. My own investigation of the complexities of managerial tasks and thinking suggests that this scope is needed and, indeed, may need to be expanded. Managerial problem solving hinges on, for instance, the application of experiential knowledge and the construction of plausible arguments, phenomena which cognitivist problem solving researchers have only begun to explore.

It might be rebutted that all action-oriented thought involves decision making - selection among alternative diagnoses, designs, or courses of action - so that the decision making label is appropriate. However, episodes of thought also necessarily involve perception, memory recall, and inference. The presence of one conceptual element should not determine our conceptualization of the entire process. Quite honestly, the choice between decision making and problem solving labels wouldn't be important, except that the existing decision making framework construes thought in relatively narrow terms.

This College was established, in part, to promote the problem solving perspective within management science, to foster the study of managerial thinking as problem solving. Rather than replacing the decision making paradigm, we must augment it with cognitivist explanations and research methods. In addition to the preference-based choice problems addressed by decision making research, we must study problems that require causal reasoning, the creative generation of alternatives, the design of plans and artifacts, and the informed analysis of arguments. And rather than relying solely on mathematical models and computer systems to improve managerial performance, we must try to understand and improve the thinking that managers, and management scientists, do in problematic situations.

## Proposed Change in College Organization

When the College was founded, its bylaws were essentially copied from a pattern provided by the TIMS home office. Since that time, it has become apparent that these bylaws are inappropriate to the organization's needs in a number of ways. The most significant inadequacy concerns management and organizational structure. As the College's membership is empowered to change the bylaws, several of the College officers are proposing a change that is felt to be in the organization's best interests.

There is concern that the current College management structure doesn't insure accountability for the organization's ongoing operational activities. While the bylaws assign certain operational responsibilities to particular officers, this is not an effective means of insuring task performance. Selection of officers is motivated in part by a desire to enhance the College's visibility and prestige through association with reputable scientists cum officers. Such individuals rarely have time to commit to the College's day-to-day functions. While other individuals were included in the slate of officers to "leaven the loaf," the organizational structure does not insure that necessary tasks are performed.

In this light, it has been proposed that the College adopt a Board - Managing Director management structure, analogous to that in most corporations. Under such an organization, the Board would be responsible for high level policy and mission setting, while the Managing Director would be charged with actual College operations. Both entities would collaborate in the development of strategies for achieving basic organizational objectives, but the Managing Director would be responsible for implementing selected strategies. In addition, the Board would have an oversight function. It would insure that the Managing Director discharged his/her responsibilities effectively and that his/her conduct was in the best interests of the College and of TIMS.

The Board of Directors would consist of five members, each serving a maximum of two consecutive two-year terms. Two members would be subject to election each year, only one being elected in the year that the Managing Director's term expired. Qualifications for Board membership would include interest in the College and a will-

ingness to attend national TIMS meetings and related College activities. There would be few, if any, official board meetings, although members would be expected to communicate with each other, both directly and through the Managing Director.

The Managing Director would be a non-voting, ex officio member of the Board, having primary responsibility for the College's management and operations. This person would also serve no more than two consecutive two year terms. However, he/she would be subject to removal at any time by a majority vote of the Board. The Managing Director would be the College's primary contact with TIMS. He/she would be responsible for publication of the College newsletter and for the arrangement of College-sponsored activities at national TIMS meetings. These functions could be delegated to others who were willing and able to discharge them. However, in all cases, the Managing Director retains final responsibility for their effective performance.

At some time in the future, after the College has become well established and its operations are more routinized, it may be desirable to revert to the original management structure, one in which leadership positions rotate annually and are to some extent honorary. In its current state of development, however, it is felt that the College needs more active, operational direction from one or a few people who are firmly committed to its success, and who willingly accept accountability for the same.

A ballot concerning the proposed change in College bylaws is included as the last page of this newsletter. Conditional on approval of the change, there is an immediate need to elect a Managing Director. Jerry Smith has volunteered to serve in this capacity, and you are asked to vote on his nomination. In addition, the ballot allows you to express your interest in serving on the Board of Directors or to contribute in some other way to the College's development. Please complete this ballot and return it to George Benson, at the indicated address, by January 31.

# TIMS/ORSA NEW YORK, OCTOBER 1989

## Call For Papers

Note: All speakers at the meeting must register and pay the registration fee.

Your Name and Telephone:

Title of Paper:

Author #1:

TIMS or ORSA Member?

Address:

Author #2:

TIMS or ORSA Member?

Address:

(Provide the same information for any additional authors on another sheet)

### ABSTRACT OF PAPER

(No more than fifty words; no mathematical symbols, sub or superscripts)

If you would like to organize a full session of three to five papers, please indicate the likely session title below, and provide the above information for each paper included in the session as well as the name, address, and telephone of the session chair.

Session Title:

Would you be interested in chairing a session of papers (possibly including your own), the session being organized and sponsored by the College? Indicate below.

Return by February 3, 1989 to: Gerald F. Smith  
Information and Decision Sciences Dept.  
Carlson School of Management  
University of Minnesota  
271 19th Avenue South  
Minneapolis, MN 55455



# TIMS COLLEGE ON MANAGERIAL PROBLEM SOLVING

## BALLOT

### I. Proposal to Change College Bylaws

Please record your vote on the proposal to change the College bylaws as indicated below.

\_\_\_\_\_ Yes, change the bylaws as indicated \_\_\_\_\_ No, do not change the bylaws

#### Existing Bylaws

##### Article III, Officers

Section 1. Officers. The officers shall be a Chairperson, three vice-Chairpersons, and a Secretary-Treasurer.

Section 2. Chairperson. The Chairperson shall be the chief executive officer of the Subdivision and shall have general supervision, direction, and control of the business and affairs of The Subdivision. He/She shall preside at all meetings of The Subdivision. He/She shall appoint the Chairperson of and be an ex officio member of all standing committees and shall have the general powers and duties of management usually vested in the Chairperson of a professional organization. He/She shall also have such other powers and duties as may be prescribed by the Executive Committee/Council or the Bylaws.

Section 3. Executive Vice-Chairperson. The Executive Vice-Chairperson shall, in the absence or disability of the Chairperson, perform the duties and exercise the powers of the Chairperson and shall perform such other duties as the Executive Committee/Council or the Bylaws shall prescribe. He/She shall also be responsible for recommending and, upon approval of the Executive Committee/Council, arranging for topics and speakers.

Section 4. Membership, Arrangements, and Publicity Vice-Chairperson. The Membership, Arrangements, and Publicity Vice-Chairperson shall conduct a continuing membership drive, and shall be responsible for all meeting arrangements, and for information dissemination, as directed by the Executive Committee/Council.

Section 5. Community Relations and Educational Vice-Chairperson. The Community Relations and Educational Vice-Chairperson shall conduct a continuing promotional program within surrounding industry to make them aware and to motivate the usage of Scientific Management Techniques, and shall coordinate the activities of The Subdivision with local educational institutions and encourage the development of educational courses, seminars, etc., concerned with Scientific Management Techniques.

Section 6. Secretary/Treasurer. As Secretary, he/she shall keep, or cause to be kept, a book of actions of all meetings of the Executive Committee/Council and The Subdivision. He/She shall conduct necessary correspondence with members of the Subdivision, The Institute, and others. As Treasurer, he/she shall receive all the funds of the Subdivision and be responsible for them. He/She shall record the dues status of each member and present reports of the financial condition of the Subdivision, when required by the Executive Committee/Council. He/She shall disburse the funds of The Subdivision when so authorized by the Executive Committee/Council.

Section 7. Tenure. Officers of The Subdivision shall be elected by ballot in May of each year, to serve for one year or until their successors are elected. Their terms of office shall begin on the first day of September of the election year. Officers may be renominated for re-election.

##### Article IV. Executive Committee/Council

Section 1. Purpose. The Executive Committee/Council shall be responsible for the management of the affairs of the Subdivision, and shall call and organize meetings, and perform such other functions as may be prescribed by the Bylaws. They are responsible for

suggesting changes to the Bylaws to the membership.

Section 2. Constitution. The Executive Committee/Council shall consist of the Chairperson, the previous year's Chairperson, the three Vice-Chairpersons, and the Secretary/Treasurer.

### Proposed Changes

The current Articles III and IV would be deleted, to be replaced by the following, with all subsequent articles renumbered appropriately:

#### Article III. Organization

Section 1. Board of Directors. An elected, five member, Board of Directors shall be responsible for establishing College policies and objectives and for monitoring College operations. Board authorization is required for all expenditures of College funds. At its discretion, the Board may elect a chairperson, assigning certain powers and duties to this office. A member of the Board will preside at all meetings of the College.

Section 2. Managing Director. An elected Managing Director shall be responsible to the membership and the Board of Directors for the College's operations. He/she will consult with the Board in developing strategies for achieving College goals. While the Managing Director may enlist the aid of others in the performance of College business, he/she bears full responsibility for its effective conduct. The Managing Director shall be an ex officio member of the Board of Directors.

Section 3. Tenure. Members of the Board of Directors shall be elected to two year terms, which will begin in January of each year. Board members may serve no more than two consecutive terms. The Managing Director shall also be elected to a two year term, starting in January, no more than two such terms occurring successively. The Managing Director is subject to removal at any time by a majority vote of the Board.

#### II. Nomination for Managing Director

Conditional on approval of the proposed change in the bylaws, please vote on the nomination of Jerry Smith as Managing Director of the College, for a two year term, effective January 1, 1989.

\_\_\_\_\_ Yes, in favor of the nomination                      \_\_\_\_\_ No, opposed to the nomination

#### III. Self-Nomination for Board Membership

If you would be interested in serving on the College's Board of Directors, please indicate below.

#### IV. Interest in Other Forms of Active Participation

If you are interested, please indicate below, perhaps suggesting how you might like to contribute.

Please return by January 31, to: Professor P. George Benson, Carlson School of Management, University of Minnesota, 271 19th Avenue South, Minneapolis, MN 55455.

Control #   47