

A CREDO FOR MOT

Suggested Credo

1. Technology is a large and growing part of every manager's daily experience. Managers develop technology, use technology, buy technology and sell technology. To provide the necessary skill base in this area, it is appropriate that educators develop a field of teaching and research that we may call management of technology (MOT). The term management is broadly used to include the work of corporations, not-for-profit institutions and public bodies.

2. Academic programs should offer three components: (i) The first component is the accepted range of management specialties such as the corporate functions of marketing, operations, MIS, and finance, as well as overall strategy. (ii) The second component is knowledge of technology itself and of technology related management procedures. Topics would include: A core theory of technology, technology foresight and forecasting, emerging technologies, innovation management, project management, science and technology policy, and many more. The second component distinguishes MOT programs from general management programs. (iii) The third component covers the contextual setting of MOT. It stresses the more holistic view and addresses topics of ethics, environment, evolution, macro-economics and politics. In the further evolution of the field, Program Directors will work towards an integration of the various components and possibly towards a new theory of innovation driven enterprise.

3. A core theory could include such basic concepts as: (i) A definition of technology and a description of its manifestations. (ii) The anatomy of technology - diagnosing unique features of a given technology. (iii) The taxonomy of technology - systems of classification. (iv) The evolution of technology - major trends in technology and how to track them. (v) The ecology of technology - the interaction of technology with other systems.

4. MOT programs should address technology at an *operational*, at a *strategic* and at a *policy* level. The operational level focuses on the internal technology base of the organization. The strategic level includes mapping the future, external, technological landscape; identifying technology based opportunities, and aligning overall strategy to harvest these opportunities. Foresight is a key ingredient. The policy level addresses the interaction between MOT and national and international policy.

5. To contribute to MOT as a profession, we need to work towards (i) a community of practitioners, (ii) a body of knowledge, and (iii) the clearer positioning of the field in the mind of the public. (The body of knowledge would reflect the academic program as mentioned in 2.)

Background

Management of Technology (MOT) is a highly diversified activity. This observation is borne out by a recent census of 148 academic programs. (A further 121 programs were identified, but details about them were not available.) [Source: Kocaoglu, D.F., Sarihan, H.I., Sudrajat, I., and Hernandez, I.P., 2003, "Educational Trends in Engineering and Technology Management", in Kocaoglu, D.F., Anderson, T.R. et al, Editors; *Technology Management for Reshaping the World*, IEEE, Piscataway, NJ, pp.153 – 159]

Titles of academic programs vary. Examples include: Management of Technology (or Technology Management); Engineering Management, Engineering and Technology Management; MBA Management of Technology; Systems Engineering Management; and others. Program contents vary significantly, and are made up from a variety of courses. About thirty courses were identified, and there are many more. Professional affiliations vary – about twenty associations were identified. In addition to dedicated programs, aspects of MOT are taught as individual courses in other programs as well.

Given this diversity, a group of academics and professionals launched an initiative in 2001 to find common ground for MOT. The starting point was a debate on the joint Network: Management of Innovation and New Technology (MINT)/Technology and Innovation Management (TIM). This was supplemented by comments on the Network of the International Association for the Management of Technology (IAMOT). This debate led to the formulation of *A Credo for MOT*. Network participants commented on the Credo and a second version was formulated. In 2003 the second version was discussed on panels during the *Twelfth International Conference of the International Association for Management of Technology (IAMOT)* in Nancy, France; and the *2003 Portland International Conference on the Management of Engineering and Technology (PICMET)*, Portland, Oregon, USA. In the light of these discussions a third version of the Credo has now been formulated.

Panelists and participants

We wish to thank those that made these events possible, and those who participated in the discussions. Facilitators include two network editors, Prof. Christopher Bart of the MINT/TIM Network, and Prof. Richard Smith of the IAMOT Network. Organizers of the IAMOT Panel were: Prof. Yasser Hosni of University of Central Florida, and Professors Patrick Truchot and Laure Morel of the Ecole Polytechnique de Lorraine, Nancy, France. The organizers of the PICMET Panel, were Professor Dundar Kocaoglu, and Professor Tim Anderson of Portland State University.

The IAMOT panelists were: (i) Professor Tarek Kahlil, President of IAMOT, (ii) Prof. Fred Betz, University of Maryland, and (iii) Dr. David Probert, University of Cambridge. The PICMET panelists were: (i) Dr. Rosalie Zobel, Information Society Directorate General, European Union, (ii) Professor Hugo Tschirky, Swiss Federal Institute of Technology, (iii) Professor Marthinus Pretorius, University of Pretoria, and (iv) Prof Tim Anderson, Portland State University. Professor Rias van Wyk, Center for the Development of Technological Leadership (CDTL), University of Minnesota, chaired both panels.

In the light of these comments a third revision of the Credo has been prepared and is given below. This, third version, is somewhat longer than the earlier versions, in order to accommodate many comments. One important feature has not been included, a definition of MOT. We have left this out because of the difficulty of finding common ground. This is an aspect that we may wish to debate more fully.

How should we use the Credo?

The Credo is now the common property of the community that cooperated to bring it into being. It should neither be associated with particular individuals nor a particular academic institution.

- Individual MOT academics and practitioners should consider the Credo and decide whether it serves their need as a frame of reference. If it serves this purpose, they may wish to use it to focus their teaching, research and professional guidance.
- Professional and academic associations could review the Credo and decide whether they want to (i) subscribe to the Credo, (ii) modify it for their purposes, (iii) not pursue the matter further.

How we use it is up to us.

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