

# Management Sciences and Global Strategies in the 21st Century

Volume I

Chief Editor: Siwei CHENG

Associate Chief Editors: Chak-wan LIU

Shuming ZHAO Haijun HUANG

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# Management Sciences and Global Strategies In the 21<sup>st</sup> Century

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#### **Chief Editor:**

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#### **Foreword**

The 5th International Conference on Management will be held in Macao Special Administrative Region, China on May 3-5, 2004. This conference is cosponsored by the Department of Management Sciences of the National Natural Science Foundation of China, Macao Foundation, Macao University of Science and Technology and Nanjing University.

Management refers to the various activities and to the entire process through which managers try to utilize all kinds of resources, such as personnel, material, equipment and information, in order to achieve preset goals in light of the ever-changing environment. Management, accordingly, can be thought of as the "software" in productivity. Only through management can the three basic factors, namely labor, tools and work objectives, be organized efficiently and thus can the enhancement of productivity be promoted. It is also only through management that science and technology can be converted into real productivity and thus can the symbiosis between science/technology and the economy be realized. Management as a science aims to research and identify the objective principles in the domain of management. It plays a significant role in China's transition from a traditional planned economy to a socialist market economy. It also performs an important function in building a well-off society in comprehensive ways. Many persons of insight have come to realize through their own practice that developing management sciences is crucial to the prosperity of China and the well-being of its people. Therefore, the main objectives of all the previous International Conferences on Management held by us since 1994 are to stimulate the prosperity of Chinese management sciences and related research, and to improve our management capability of building a modern socialist cause with Chinese characteristics.

As one of the great achievements in human civilization, management sciences have been keeping abreast of the major developments of the times, of effective organizational practice and important advances in the other sciences. The theme of this Conference is management sciences and global strategies in the 21<sup>st</sup> century. Over the past decades, human society has achieved a series of important breakthroughs and has made remarkable progress in various high-tech fields, such as electronics, biology, aerospace, marine science, new materials and new energy sources. At the same time, knowledge has been created, spread and applied with a speed unprecedented in human history. These tremendous and rapid changes have resulted in the transformation of the environment that enterprises rely on, the formulation of new rules of competition, and the transition of managerial paradigms. The ICM'2004 will provide a platform for scholars and entrepreneurs, from different nations and experiences, to discuss and explore from their varying perspectives the strategies that will enable enterprises to survive, compete successfully and thrive in the new environment.

I hope that our Chinese management scholars will apply sound management theories to the real conditions of enterprises, industries and to our country generally. Relevant management principles should be explored with a view toward helping managers solve specific problems in practice and to achieve the preset goals. I also hope that our numerous managers in China can master management theories and apply them effectively to daily problem-solving and decision-making processes. I hope further that Chinese scholars and managerial executives can

work together closely, can derive guiding management principles from practical experience, and can then refine them into suitable theories, thus gradually forming a managerial school with Chinese characteristics.

That this Conference is held in Macao Special Administrative Region of China embodies a special significance. Macao is a beautiful island city with a population of only 460,000 people. After her return to the motherland at the end of 1999 and under the efficient administration of the Macao Special Administrative Region, Macao has achieved a rapid-growing economy, and a stable and prosperous society by establishing close cooperation with inland. In 2003, Macao achieved a remarkable growth rate in GDP of 14%, providing a striking example of the successful implementation of the "one Country, two Systems" concept.

On behalf of the Conference sponsors and as Chairman of the Conference, I would like to express my warmest welcome to all the guests, scholars and entrepreneurs attending the Conference. I would also like to take this opportunity to express my appreciation to all the authors of papers submitted to the conference and sincere thanks to all the paper reviewers for carefully reviewing and the valuable comments. Moreover, I would like to acknowledge those who have helped prepare and organize this Conference.

Lastly, I wish the Conference great success.

Siwei Cheng

ICM'2004 Conference Chairman April 5, 2004

Siwei Chang

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# Part I

# Application of Decision-making

## and

# Countermeasure Theory in the Economy Globalization

# **Postscript**

On behalf of the Organizing Committee of the Fifth International Conference on Management, the School of Graduate Studies, Macao University of Science and Technology, and the School of Business, Nanjing University, I would like to extend our warm welcome to all participants from home and abroad to come to Macao to attend this conference.

Since we sent out the first announcement more than one year ago, we have received active responses and papers from many scholars, CEOs, and government officials from home and abroad. Through blind reviews, we have accepted 292 papers and extended abstracts for this conference. The topics and contents of all these papers cover all areas in management sciences, some address research of basic theory of management sciences, some are in empirical studies, still others are case analyses and summaries of management practices.

We have invited some internationally renowned professors in economics and management as the keynote speakers. These include Professor Siwei CHENG, Vice Chairman of the Standing Committee of the National People's Congress of the People's Republic of China and Director General of the Department of Management Sciences, the National Natural Science Foundation of China; Professor Michael Spence from Stanford University, U.S.A. and the 2001 Nobel Prize Winner in Economics; Professor Myron Scholes from Stanford University U.S.A. and the 1997 Nobel Prize Winner in Economics; Professor Jack Schuster from Claremont Graduate University, U.S.A.; Professor Malcolm Warner from the University of Cambridge, the United Kingdom; Professor Ronald Tuninga from Maastricht School of Management, the Netherlands; and Professor David Smith from Macao University of Science and Technology and former vice dean at Harvard Law School. They will talk about the latest research on economics and management around the globe. I would very much like to thank them for finding time from their extremely busy schedules to come to participate in our conference.

I would like to express my gratitude also to the National Natural Science Foundation of China and Macao Foundation who gave us generous support for this conference. I would also like to thank the School of Business, Nanjing University, Jiangsu Salt Industry Group, Jiangsu Electric Power Group, Liaoning College of Foreign Trade and Economic Relations, the College of Business Administration of South China University of Technology, and Maastricht School of Management, for their kind support. Thanks also to Taiwan Student Association of Macao University of Science and Technology for its support.

We are grateful to the Board of Directors and leaders of Macao University of Science and Technology who gave their full support for co-sponsoring and co-organizing this conference. Without their full support, I do not think that we would have been able to hold the conference here. Macao University of Science and Technology is a comprehensive university established in 2000 after the turnover of Macao to the People's Republic of China and with the approval of the Government of the Macao Special Administrative Region. This University trains skilled personnel as well as professional executives for business organizations by providing a wide variety of academic programs at undergraduate, postgraduate and doctoral levels. At present, the University has established four faculties: Information Technology, Management and Administration, Law, and Chinese Medicine. In order to promote the development of the graduate programs and continuing education, the University recently added two more schools: the School of Graduate Studies and the School of Continuing Studies two years ago. At present, the University has an enrolment of approximately 3,300 students who are pursuing their bachelors, masters and Ph.D. degrees. Our professors are committed to

teaching, research and social service. The University has held many seminars and symposiums to raise the University's academic standards and to promote international academic exchanges and cooperation. We believe that this university will be developed into an influential institution at home and abroad and will make contributions to the academic exchanges not only to inland, Macao, Hong Kong and Taiwan, but also with the strong support and vision of the Central Government as well as Macao Special Administrative Region, to the international world of higher education.

I would also like to thank all professors and staff from the Department of Management Sciences of National Natural Science Foundation of China, Macau University of Science and Technology, Nanjing University, who spent many hours in organizing this conference. They are Professor Haijun HUANG, Professor Xiaotian CHEN, Professor Zhiyan FENG, and Ms. Yueyun LI from National Natural Science Foundation of China; Professor Yang ZHONG and Professor Liu HONG, Ms. Yongju CAO, Mr. Changsheng. XIE, Mr. Ning XU, and Xin WEN from Nanjing University; Dr. Chak-wan LIU, Professor Aoao XU, Professor Zesheng TANG, Mr. K.L TONG, Professor Yongxiang CHEN, Mr. Longjun TONG, Associate Professor Aliana LEONG, Miss H.M. SU, Miss Pek Leng CHEANG, Miss Iok Fong LEONG, Mr. Chi Tin HON, Assistant Professor Xiangnan TAO, Assistant Professor Chuan PANG, Professor Keming WU, Mr. Junguo FENG, Ian Leng LAM, Lai Chu LOU, Chi Ian LEONG, and Heong In TONG from Macao University of Science and Technology. They have worked day and night to put this conference together, from designing the conference announcement, reviewing and editing the papers, to arranging for conference logistics, etc. It would be impossible to hold this conference today without their hard work.

I would also like to thank some of my Ph.D. candidates and other graduate students from the School of Business of Nanjing University as well as MBA students from Macao University of Science and Technology for their hard work and their contributions to careful editing and proofreading. They are Associate Professor Wei ZHAO, Associate Professor Yunxia FENG, and Lecturer Jie ZHANG, Mr. Min CHEN, Lecturer Yongxiang LIU, Mr. Rukai ZHANG and Mr. Jianke XIAO from Nanjing University, and Chunxiao ZHAO, Na ZHENG, Ying LI, Jie LI, Yang LIU, Kai XU, Xudong SHENG, Lixia YAN, Jia LI, Xiaodan ChI, Dongsheng XU, Xin JIANG, Dawei SHI, Peng WANG, and Teacher Assistant Chengfang WANG. They will be also excellent helpers who can provide their best services to participants during the conference in May.

Finally, I wish this conference a great success. I hope that all conference participants enjoy the conference and their visit to Macao.

Shuming ZHAO, Ph.D.

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Chairman, Conference Organizing Committee

April 6, 2004

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