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中国人民大学工商管理学院策划

MBA专业精品教材

小亨利 C. 卢卡斯
(Henry C. Lucas, Jr.) / 著

管理 信息技术

(英文版·第6版)

Information Technology for Management
(SIXTH EDITION)



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出版者的话

在全球经济一体化的激烈竞争格局中，中国正处于前所未有的经济与产业结构调整与转型的关键时期。飞速发展的社会与错综复杂的变革要求我们的经济与管理水平有一个飞跃。

为了能让读者系统地学习、借鉴国际上先进的管理理论、方法和手段，机械工业出版社从一些世界著名出版公司引进了一批一流品质的经济管理名著，组成了这套《世界经济管理文库》。其中所选图书均为当前国际上最为流行和权威的教材，大部分多次修订重版，有的多达十几版。作者都是哈佛、芝加哥、斯坦福等著名商学院的教授，使您足不出国，便可领略世界知名学府的文化精粹。

为了给中国的MBA教学提供一套完整的MBA系列教材，继与清华大学经管学院、加拿大毅伟管理学院合作共同策划出版的《国际通用MBA教材》与《国际通用MBA教材配套案例》丛书之后，近期，我社又和中国人民大学工商管理学院联手，共同策划本套《MBA专业精品教材》丛书。《国际通用MBA教材》涉及了所有的MBA核心课程，而本套《MBA专业精品教材》包括了MBA各个不同专业方向的全部课程及选修课程，它为各类工商管理学院培养更适

合社会需要的专门管理人才提供了丰富的教材资源库。全套丛书按专业分类，包括经济学、战略管理与组织、管理科学、财务与金融管理、会计、市场营销、商务技能等7大系列、60多个品种。

为了保持原作的原汁原味，这套丛书是以英文原版的形式出版的。这样可以避免因翻译而造成的歧义和出版时间的滞后，以便让读者能亲身体味原作者的精彩文风，并在第一时间洞悉经济管理学科各个领域的最新学术动态。

由于作者所处的社会、政治环境的不同，书中所述难免有不妥之处，请读者在阅读时注意比较和鉴别，真正消化吸收其中的精华，这也就达到了出版者出版本套丛书的目的。我们真诚地希望这套《世界经济管理文库》的出版，能为提高中国的MBA教学水平、推动中国的改革开放事业尽点绵薄之力。

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1998年8月

序 言

当前，我国正处于知识经济初露端倪的时代，管理科学已经成为兴国之道，这给我国工商管理教育带来新的机遇与挑战。今年9月，又将有4000余名工商管理硕士生满怀理想与希望进入各大学学习。一大批机关分流干部与经贸委系统的管理人员也要经过入学考试，在职学习并申请工商管理硕士学位。如何办好工商管理硕士（MBA）项目，为国家和社会培养出一批又一批符合市场需求的高质量工商管理硕士，是全国可以授予工商管理硕士学位的56所院校所共同考虑与研究的问题。

在这里，MBA课程设计是成功的关键环节之一。记得在1984年的夏天，在加拿大国际开发总署的资助下，加拿大蒙特利尔大学、麦吉尔大学、康克迪亚大学以及魁北克大学蒙特利尔分校的教授们为中国人民大学的年轻教师讲授了管理经济学、会计学、管理学以及管理信息系统等MBA课程。在1985年夏天，加拿大的教授们又讲了另外4门MBA课程。当时，我并没有真正了解这些MBA课程与我过去所学的管理课程在实质上有多大的区别，也没有理解这些课程之间的内在联系，对于MBA核心课与选修课以及专业的主修与副修的区别与联系更是知之甚少，只是感

到加拿大教授的教学在内容和手段上与我们传统方式有较大的区别。1988年初，我到加拿大麦吉尔大学管理学院研修后，才真正对MBA的课程设计有所了解。此后，我先后到美国布法罗纽约州立大学管理学院与澳大利亚悉尼科技大学管理学院任教，又对MBA课程之间的内在联系有了更切身的体会。为了更好地了解美国MBA教育的新潮流，今年6月，我又随中国管理学院院长代表团考察了美国著名管理学院，出席了在芝加哥举办的“全球管理教育论坛会”。

综观北美的工商管理教育，在全球化、信息化与整合化的挑战下，实在是强调其实用性。纵然有的教授学者看重自己的象牙宝塔，勾画着纯理论的模型与理论。但在MBA的教育上，美国现有的750余所管理学院，特别是为美国管理学院联合会（The American Assembly of Collegiate School of Business, AACSB）所承认的300余所管理学院，培养目标明确，课程设计体现出其为社会需求与市场服务的宗旨，没有半点的含糊。美国著名的管理院校明确自己的教育使命，把视野放在全球与创新上，不断地迎接新的挑战，将所授的知识与社会的实际需求密切地结合起来，期望培养出真正的高质量的管理人才。例如，哈佛商学院明确地提出，该院的使命是“影响企业的实践”，培养全面的管理者（general managers），指出“我们要对企业的领导人在如何完成他们的工作上，即在他们如何提出与解决问题、确定战略方向和采取行动上施加重大的影响。同时，我们鼓励从实践中获得反馈，以便了解这些领导人如何在实践中应用我们的思想与知识，从而进一步发展与提炼我们的理论与知识。”麻省理工学院斯隆管理学院的使命“尊重有用的工作”，“为产业提供服务”，提出“作为管理教育与研究的世界领导者，麻省理工学院斯隆管理学院要培养能在快速发展与高度竞争的全球企业环境中获得成功的管理者。当前持续不断的技术创新已成为每个产业各个方面生产力和增长的关键，因此，这正是我们的时机。”伯克利加利福尼亚大学商学院从学院的成立始，就将教育的重点放在国际与企业家的舞台上，研究迅速发展的全球经济，为学生提供创新的学习机会。

根据上述的使命，美国著名的管理学院教育模式基本上有三大流派：一是以哈佛商学院为代表的培养全面管理人员的模式。斯坦福商学院的培养方式也是属于这种模式。他们培养的是全面的MBA，而不是专业化的MBA，通过

为学生提供必要的专业知识，使之毕业以后成为企业或其他组织中高层的有效的全面管理者，而不是职能部门的管理人员。二是以芝加哥大学管理学院为代表的培养专业管理人员的模式，其方向是为企业和组织培养专业的管理人员。斯隆商学院亦属于这种类型。三是介于两者之间的模式。美国多数管理院校采用的是这种培养目标，如伯克利商学院、西北大学的凯洛格商学院、洛杉矶加州大学、康乃尔大学管理学院以及杜克大学管理学院等。因此，各个管理学院在其课程设计上有着不同的战略重点。

哈佛商学院MBA课程设计的思路是“在日益增长的全球商务环境中，提高学生进行战略性与关键性思考的能力。”斯坦福商学院MBA课程设计的思路是“确保学生获得管理运行的知识，了解企业运行的经济、政治和社会环境，以及掌握作为管理者所必须的行为技能。”同时，“MBA项目也要设计成为一种可以终身学习的模式。这样，今天的学生将在今后贯穿其事业的复杂而快速变化的管理世界中有能力自如地作出调整。”斯隆管理学院MBA课程设计的思路是“对日益增长的市场全球化和密集的竞争正在改变工作性质的这一事实作出反映。”哥伦比亚商学院MBA课程设计的思路是“让学生掌握作为管理者能够在全全球经济中进行有效竞争所需的基本学科与应用的职能领域。”

总之，这些学院在设计MBA课程时，首先，考虑的是学生要了解全球的竞争环境。其次，考虑学院所在的地域和环境。例如，哥伦比亚商学院极其强调该院处于纽约这个金融中心，其战略重点是国际、金融和纽约，培养出的学生要适合在国际大城市从事金融工作。因此，该学院在课程设计上就对财务与金融等相关课程有所侧重。再次，考虑学院自身资源的特点，如斯隆管理学院在技术管理上设置较多的课程，而哈佛商学院则在全面管理与竞争战略课程上有所突出。最后，要使学生获得相关的专业知识，了解研究与实践的前沿，如企业伦理、领导精神、创新、以及企业与政府关系等。

在课程设计的内容上，美国管理学院根据自己的情况，多按传统划分为核心课程与选修课程。课程内容上并不划一，门数上也多少不等。在学习核心课之前，学生要预先学习计算机应用和技能、商务沟通以及基本数量分析方法等课程。在核心课上，各学院基本上开设了经济学、统计或数据分析、会计、财务、市场营销、运作管理、组织行

为、人力资源管理、战略管理以及公共管理等课程。当然,也有例外。芝加哥大学管理学院就不设置核心课。在选修课程上,除哈佛商学院外,各学院基本上设置了专业,如管理经济学(Managerial Economics)、会计(Accounting)、财务管理(Financial Management)、税收(Taxation)、管理科学(Management Science)、信息系统(Information Systems)、市场营销(Marketing)、组织行为学(Organization Behavior)、人力资源管理(Human Resource Management)、国际商务(International Business)、战略管理(Strategic Management)以及公共管理(Public Management)等。最具特色的是斯隆管理学院的课程设计。该学院除了设计出体现管理基础原理和技能的六门核心课以外,根据学生今后所从事的工作方向,创造性地设计自我管理模块(Self Managed Track)与管理模块(Management Track)。自我管理模块包括应用宏观与国际经济学、财务管理或财务理论、信息技术、产业关系与人力资源管理、运作管理导论和市场营销导论等六门课。如果学生希望将来从事较为全面的管理工作,则可以选择自我管理模块。而学生希望成为更专业的管理人员,则可以选择管理模块。在这个模块中,有六个分模块,即战略管理与咨询(Strategic Management and Consulting)、新产品与风险开发(Product and Venture Development)、信息技术与企业变革(Information Technology and Business Transformation)、金融工程(Financial Engineering)、财务管理(Financial Management)以及制造与运作(Manufacturing and Operations)。这种设计打破传统职能性课程的框架,切实反映市场的声音,力图符合具体职业领域的要求,使学生能在今后的工作中更快地进入某个具体的管理角色。

我国工商管理硕士教育总体来说,还处在试点阶段之中。在课程设计上,全国工商管理硕士教育指导委员会规定了核心课的指导大纲。经过多年的建设,MBA核心课的教材已经初步满足教学的需求。当然,在质量上还有待进一步完善。随着MBA教学的深入发展,一些院校在培养全面管理人员的基础上,进一步根据自己院校的区域环境和办学条件,探索开设专业方向,以便培养出更适合社会需要的专门管理人才。这就对课程设计提出了新的要求,希望有更专门化的课程支持不同的专业方向。这不仅对教师的科研提出了更高的要求,而且对教材的建设也提出新的

需求。教材不足便是当前工商管理教育中最大的困惑之一。

为了满足工商管理专业方向的发展以及相应的课程设计,在中国人民大学工商管理学院的策划下,机械工业出版社推出了英文版的《MBA专业精品教材》,填补教学用书中空白,力图缓解MBA各专业教学上的急需。在这套丛书中,我们精心选择了北美在经济学、战略管理与组织、管理科学、财务与金融管理、会计、市场营销以及商务技能等7个专业的英文版教材,期望对国内各管理学院所开设的管理专业有所帮助。同时,有志于学好MBA某个专业的管理人员、研究生甚至本科生也可以通过系统地学习该专业所列的教材,掌握个中三昧。

当然,在学习西方的管理理论与经验时,需要认真对待其内在的文化底蕴。正如同样是绘画,西方的绘画注重光线与颜色,体现出一种形象思维,而中国画则注重线条,体现出内在的逻辑思维,从而表现出中国文化与西方文化的差异。本世纪初以来,我国知识分子一直在研究与吸收西方文化,力图西学中用。正如有人所讲,学习的方法有三种形式,一是鸟瞰的方法,二是仰视的方法,三是平视的方法。鸟瞰者,持才傲物,看不起其他民族的文化,更看不起其他民族的管理理念与方法。仰视者,自卑自弃,看不起自己民族的文化,盲目追求其他民族的管理理念与方法。要真正作到西学中用,而不是仅仅学到一些皮毛的话,则需要运用平视的方法,拉开距离,去观察与学习世界上一切优秀的管理理念与方法。今天,我们利用西方的管理理论与实践,是为了更合理地推动中国的管理教学与科研,促进中国的管理实践,切不可邯郸学步,而是真正做到“以我为主、博采众长、融合提炼、自成一家”。

徐=明 博士

中国人民大学管理学教授
中国人民大学工商管理学院院长
全国MBA教育指导委员会委员
1998年盛夏于北京

REFACE

TO THE STUDENT

Information technology surrounds you—on your campus and in local businesses. When you order merchandise over the telephone, chances are your sales representative is using an information system to check inventory and to trigger the shipment of your goods. Increasingly you will order products using a computer network called the Internet, dispensing with the telephone. When you use an automatic teller machine, make an airline reservation, or rent a car, information technology is working for you again.

Information technology is pervasive in modern organizations—from the largest manufacturing firms to your corner drugstore. The stakes are high as businesses confronted with global competition strive to succeed. Some organizations will flourish; others will fail. Those that succeed in the future will understand how to use and manage information technology to their advantage.

The purpose of *Information Technology for Management, Sixth Edition* is to help you learn enough about the technology to play an active role in the design, use, and management of information technology. You will learn how creative organizations have integrated technology with their corporate strategy, allowing them to surpass the competition to maintain an advantage. You will also see how to use information technology to transform the organization, to create new lines of business and new relationships with other firms. The text also stresses how you as a manager can use information technology-enabled organization design variables to create new organization structures, including the T-Form firm. This new structure takes advantage of electronic communications and linking, technological matrixing, technological leveling, virtual components, electronic workflows, production automation, and electronic customer/supplier relationships to create a flat organization closely linked to other organizations. It uses technology to reduce the number of administrative levels in the firm, to decentralize decision making, and generally to design a highly efficient and effective organization.

You will learn how to exploit the technology to enhance your professional and personal productivity. Information technology is a tool. It enables you to redesign the organization, change the firm's relationship with customers and suppliers, and alter communications patterns in the firm. Technology is a variable that you as a manager will be able to manipulate to effect significant improvements in what the organization and its employees can accomplish.

Once you have completed this course, look through a newspaper or business publication. You will be surprised at your understanding of many of the issues raised in articles dealing with information technology.

In sum, this text is designed to prepare you for the important managerial role of managing information technology, to give you and your company a competitive edge.

TO THE INSTRUCTOR

This book is designed for business students with no particular background in information systems. The primary goal is to help prepare students to assume an active and significant role in the design, use, and management of information systems and technology. The approach evolved through extensive efforts to create a required course that would meet this goal for all M.B.A. candidates at the Leonard N. Stern School of Business at New York University. This approach has proven successful with the previous five editions of the text at other schools around the world.

The Objectives of This Text

During the past five years computers and communications technologies have proliferated in offices and homes. Organizations distribute the responsibility for technology to all levels of management and to different geographic locations. As a result, managers from supervisor to CEO encounter information technology on a daily basis. Managers have to take advantage of the technology; they must make decisions about how to use the technology.

Organizations have the opportunity to become more efficient and competitive. Skilled and creative managers are required to accomplish these goals. Today's M.B.A.s need the knowledge and confidence to deal with issues related to technology. They must apply technology aggressively if they are to compete successfully in our global economy. They must take advantage of the ability that IT gives them to change the way work is done, communications patterns, and the very structure of the organization.

One of the most important parts of using the technology is the design of information systems. Much of the distribution of technology to end users results from the rapid diffusion of personal computers or workstations. Applications once considered personal are being shared across networks. Users now are likely to access a number of different applications on different computers through a LAN and probably the Internet as well.

Users may design systems for themselves alone, or they may be one of many users of a system designed by others. The design of multiuser applications is much more complex than the design of a personal computer system for an individual user. Many more people are involved in the process, each with unique and often conflicting needs and expectations.

Recent graduates are likely to find themselves on design teams for multiuser systems. *Thus, it is critical that a course in information systems prepare*

students to play an active role in the development of new applications that will affect their productivity and their company's competitiveness.

Based on the discussion above, this book is designed to help students meet these three major objectives:

1. To understand the emerging technological issues facing management so students can effectively manage information systems in organizations
2. To play an active role in applying technology through the analysis, design, and implementation of multiuser systems that will meet the information needs of the organization
3. To learn how to use technology to transform the organization, creating new relationships, structures, and entirely new organizations

ORGANIZATION

The text is organized into six major parts to help students meet these objectives:

Part I *The Role of Managers in Information Systems* The purpose of Part One is to emphasize to students the value of information as a corporate asset and illustrate the myriad information systems applications they will face as graduates.

Part II *Organizational Issues* Here we deal with the impact of information technology on the organization. The book stresses the use of IT design variables in creating new kinds of organization structures. In particular, I advocate developing T-Form organizations in order to be successful in the highly competitive environment of the twenty-first century. This section also discusses how the firm can use technology as part of its strategy to gain a competitive advantage. This discussion of key managerial issues surrounding the technology and its application help motivate student learning.

Part III *Information Technology* Important managerial decisions increasingly require an understanding of the technology. Therefore, graduates need to have knowledge of the hardware and software fundamentals. I have included in Part Three the technical information I consider most important and relevant to future managers.

Part IV *Systems Analysis and Design* Poorly designed systems are responsible for many information system problems. When information needs are not met, users are alienated and the value of the system diminishes. Part Four prepares graduates to participate in the development of multiuser systems and make an immediate contribution to their employer.

Part V Exciting Directions in Systems Part Five deals with alternatives to traditional transactions processing applications, such as decision support systems, expert systems, groupware, multimedia, and artificial intelligence. An understanding of these emerging applications offers students great potential to enhance their organizations' competitiveness.

Part VI Senior Management Concerns At the end of the text, we return to the issues facing management today. Managers need to be concerned with security and control and how to achieve the maximum benefits possible for the firm's investment in technology. Part Six encourages students to evaluate the problems—and opportunities—that changing societal conditions and technological advances will create for their businesses. The table below arrays our three objectives against the six major parts of the text.

Part	Managing Technology	Applying Technology	Transform the Organization
I The role of managers in IT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
II Organizational issues	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
III Information technology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IV Systems analysis and design	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
V Exciting directions in systems	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VI Management control of IS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note that the first objective—managing information technology—is a theme woven throughout every chapter in the text. In order to manage the technology effectively, students must understand its strategic significance and potential impact on the organization. In addition to these underlying organizational issues, managers must understand the related technical issues.

The second objective—learning to apply technology through a systems analysis and design team—is supported by parts Two, Three, Four, and Five. These parts of the book cover the fundamentals of systems development from a managerial perspective. Using the Simon Marshall case, which is integrated throughout the book, students complete the logical design of a system. This exercise encourages students to confront the myriad decisions and trade-offs that constitute the design of a multi-user system and gain a “real world” understanding of what otherwise would remain abstract.

The third and final objective—transforming the organization—is a theme throughout the text. It is a significant component of parts One, Two, Four, and Five. In one sense, the entire text is devoted to preparing students to use technology to change the way in which organizations are structured and operate.

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