



S I X T H E D I T I O N

INFORMATION
TECHNOLOGY
FOR
MANAGEMENT

H E N R Y C . L U C A S , J R .

To Scott and Jonathan

McGraw-Hill

A Division of The McGraw-Hill Companies



Information Technology for Management, Sixth Edition

Copyright © 1997 by The McGraw-Hill Companies, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher.

2 3 4 5 6 7 8 9 0 DOC DOC 9 0 9 8 7

ISBN 0-07-039061-4

Editor: Rhonda Sands

Associate editor: Courtney Attwood

Editorial assistant: Kyle Thomes

Production supervisor: Natalie Durbin

Project manager: Graphics West, Inc.

Copyeditor: Cathy Baehler

Compositor: Graphics West, Inc.

Printer and binder: R. R. Donnelley & Sons Company

Library of Congress Card Catalog No. 96-77621

Credits

Screen capture on page 214. PowerBuilder is a registered trademark of Sybase, Inc. and its subsidiaries.

Screen capture on page 224 reprinted with permission from Microsoft Corporation.

Screen capture on page 296. Copyright 1995 America Online; Used by Permission.

Screen captures on page 571 provided courtesy of Lotus Development Corporation, an IBM Subsidiary.

Information has been obtained by The McGraw-Hill Companies, Inc., from sources believed to be reliable. However, because of the possibility of human or mechanical error by our sources, The McGraw-Hill Companies, Inc., or others, The McGraw-Hill Companies, Inc., does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omissions or the results obtained from use of such information.

This book is printed on acid-free paper.

CONTENTS

<i>Preface</i>	<i>xi</i>
<i>To the Student</i>	<i>xi</i>
<i>To the Instructor</i>	<i>xii</i>
<i>Organization</i>	<i>xiii</i>

<i>New to the Sixth Edition</i>	<i>xv</i>
<i>Conclusion</i>	<i>xviii</i>
<i>Acknowledgments</i>	<i>xix</i>

PART I The Role of Managers in Information Technology **1**

CHAPTER 1	Using Technology to Transform the Organization	3
Information Technology in the Workplace		4
A Visit to Brun Passot in France		5
What Is Information Technology?		7
The T-Form Organization		8
Information Technology and the Manager		10
Five Major Trends		12
A Preview of the Book		14
Chapter Summary		17
<i>Implications for Management</i>		17
<i>Key Words</i>		17
<i>Recommended Reading</i>		18
<i>Discussion Questions</i>		18
<i>Chapter 1 Project: Simon Marshall Associates</i>		19
CHAPTER 2	Interpreting and Understanding Information	21
The Nature of Information and Decision Making		22
What Is Information?		23
How People Interpret Information		24
A Model for Interpreting Information		25
The Decision-Making Process		27
Problem Finding and Solving		27
Types of Decisions		28
How Do Individuals Make Decisions?		28
Stages in the Decision-Making Process		28
The Influence of the Organization		31
Characteristics of Information		33
A Scenario for the Not-Too-Distant Future		34
Chapter Summary		38
<i>Implications for Management</i>		38
<i>Key Words</i>		39

<i>Recommended Reading</i>	39	
<i>Discussion Questions</i>	39	
<i>Chapter 2 Project: The Admissions Decision</i>	40	
CHAPTER 3	Information Technology in Perspective	41
Frameworks for Information Technology	42	
Decision-Oriented Frameworks	42	
A Synthesized Framework	43	
Adding Organizations and Decisions to a Framework	45	
A Framework Based on IT	47	
Changing Technology and Applications	47	
Processing Transactions	47	
Decision Support, Executive IS, and Expert Systems	47	
Personal Support Systems	48	
Supporting Groups and Cooperative Work-Groupware	48	
Interorganizational Systems	49	
Key Technologies: Communications, Networking, and Database	49	
A More Contemporary Framework	49	
The Basics of Information Systems	51	
Some Generic Types of Systems	51	
Using Different Types of Technology	53	
The Case of Chrysler	54	
Chapter Summary	58	
<i>Implications for Management</i>	58	
<i>Key Words</i>	59	
<i>Recommended Reading</i>	59	
<i>Discussion Questions</i>	59	
<i>Chapter 3 Project: Information Systems Critique</i>	60	