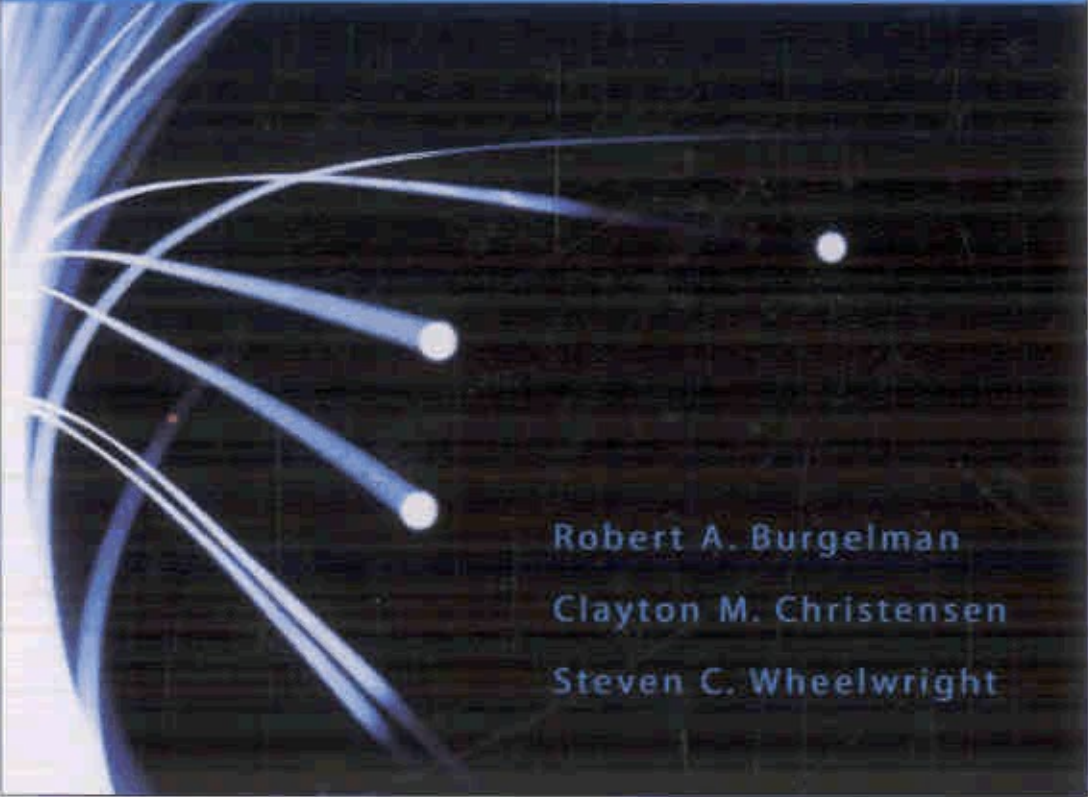


FIFTH EDITION

Strategic Management of Technology and Innovation



Robert A. Burgelman
Clayton M. Christensen
Steven C. Wheelwright

McGRAW-HILL INTERNATIONAL EDITION



CONTENTS

Preface

xi

PART ONE

INTEGRATING TECHNOLOGY AND STRATEGY: A GENERAL MANAGEMENT PERSPECTIVE

TECHNOLOGICAL INNOVATION

13

CASE I-1

Ello Engineering, Inc.

13

READING I-1

Profiting from Technological Innovation:
Implications for Integration, Collaboration,
Licensing, and Public Policy

32

CASE I-2

Advent Corporation

49

READING I-2

How to Put Technology into
Corporate Planning

62

READING I-3

The Core Competence of the Corporation

66

TECHNOLOGICAL INNOVATION AND STRATEGY

78

CASE I-3

Pixim (A): August 2001

78

READING I-4

Management Criteria for
Effective Innovation

97

CASE I-4

Matrix Semiconductor Inc.:
Tackling Challenges of Strategic
Dimensions

105

CASE I-5

StubHub (A): January 2004

121

READING I-5

Defining the Minimum Winning
Game in High-Technology Ventures

140

READING I-6

Assessing Your Organization's
Capabilities: Resources, Processes, and
Priorities

153

CASE I-6

Electronic Arts in 1995

164

CASE I-7

Electronic Arts in 2002

180

CASE I-8

Electronic Arts in 2005: The Next
Generation of Convergence

199

READING I-7

The Art of High-Technology
Management

226

PART TWO**DESIGN AND IMPLEMENTATION
OF TECHNOLOGY STRATEGY:
AN EVOLUTIONARY PERSPECTIVE****TECHNOLOGICAL EVOLUTION 253**

READING II-1
Patterns of Industrial Innovation 253

READING II-2
Exploring the Limits of the Technology
S-Curve, Part I: Component Technologies 259

READING II-3
Exploring the Limits of the Technology
S-Curve, Part II: Architectural Technologies 278

CASE II-1
MySQL Open Source Database in 2004 284

CASE II-2
MySQL Open Source Database in 2006 (B) 304

READING II-4
How Can We Beat Our Most Powerful
Competitors 310

READING II-5
Customer Power, Strategic Investment,
and the Failure of Leading Firms 330

CASE II-3
Making SMaL Big: SMaL Camera
Technologies 350

READING II-6
Disruption, Disintegration and the
Dissipation of Differentiability 363

INDUSTRY CONTEXT 388

CASE II-4
The U.S. Telecommunications Industry:
1996–1999 388

CASE II-5
Slouching Toward Broadband:
Revisited in 2005 403

CASE II-6
SAP America 415

READING II-7
Crossing the Chasm—and Beyond 429

READING II-8
Competing Technologies: An Overview 435

CASE II-7
Digital Creation and Distribution of Music:
Revisited in 2005 445

READING II-9
Finding the Balance: Intellectual
Property in the Digital Age 453

READING II-10
Note on New Drug Development in the
United States 465

CASE II-8
Eli Lilly and Company: Drug
Development Strategy 470

ORGANIZATIONAL CONTEXT 486

READING II-11
Gunfire at Sea: A case Study of
Innovation 486

READING II-12
Architectural Innovation: The
Reconfiguration of Existing Product
Technologies and the Failure of
Established Firms 496

CASE II-9
Hewlett-Packard: The Flight of the
Kittyhawk 509

CASE II-10
Intel Corporation: The DRAM Decision 521

READING II-13
Intraorganizational Ecology of Strategy
Making and Organizational Adaptation:
Theory and Field Research 544

READING II-14
Strategic Dissonance 563

STRATEGIC ACTION 577

READING II-15
Strategic Intent 577

CASE II-11
Infosys Consulting in 2006: Leading the
Next Generation of Business and
Information Technology Consulting 589

CASE II-12		READING III-6	
Inside Microsoft: The Untold Story of How the Internet Forced Bill Gates to Reverse Course	608	Absorptive Capacity: A New Perspective on Learning and Innovation	746
CASE II-13		CASE III-1	
Intel Corporation: Strategy for the 1990s	612	NEC: A New R&D Site in Princeton	762
READING II-16		CASE III-2	
Let Chaos Reign, Then Rein in Chaos—Repeatedly: Managing Strategic Dynamics for Corporate Longevity	623	Cisco Systems, Inc.: Acquisition Integration for Manufacturing	775
CASE II-14		READING III-7	
Charles Schwab & Co., Inc., in 1999	637	Making Sense of Corporate Venture Capital	792
CASE II-15			
The Charles Schwab Corporation in 2007: Fixing and Redefining the Core Business	654		
CASE II-16			
HP and Compaq Combined: In search of Scale and Scope	668		
READING II-17			
Managing the Strategic Dynamics of Acquisition Integration: Lessons from HP and Compaq	688		

PART THREE

ENACTMENT OF TECHNOLOGY STRATEGY—DEVELOPING A FIRM'S INNOVATIVE CAPABILITIES

INTERNAL AND EXTERNAL SOURCES OF TECHNOLOGY

READING III-1		INTERNAL CORPORATE VENTURING	878
Capturing the Returns from Research	719	CASE III-5	
READING III-2		Pitney Bowes Inc.	878
The Lab That Ran Away from Xerox	725	CASE III-6	
READING III-3		Cisco Systems, Inc.: Implementing ERP	889
Perfecting Cross-Pollination	728	CASE III-7	
READING III-4		R. R. Donnelley & Sons: The Digital Division	901
Transforming Invention into Innovation: The Conceptualization Stage	730	CASE III-8	
READING III-5		Intel Corporation: The Hood River Project	914
The Transfer of Technology from Research to Development	738	CASE III-9	
		3M Optical Systems: Managing Corporate Entrepreneurship	936

LINKING NEW TECHNOLOGY AND NOVEL CUSTOMER NEEDS

READING III-8			
Note on Lead User Research	799		
CASE III-3			
What's the BIG Idea?	806		
READING III-9			
Eager Sellers and Stony Buyers: Understanding the Psychology of New-Product Adoption	822		
CASE III-4			
GolfLogix: Measuring the Game of Golf	829		
READING III-10			
Innovation Killers	846		
READING III-11			
Living on the Fault Line	855		

READING III-12 At 3M, a Struggle Between Efficiency and Creativity	949
READING III-13 Managing the Internal Corporate Venturing Process: Some Recommendations for Practice	955
READING III-14 Managing Internal Corporate Venturing Cycles	965
READING III-15 Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change	974

PART FOUR

ENACTMENT OF TECHNOLOGY STRATEGY—CREATING AND IMPLEMENTING A DEVELOPMENT STRATEGY

NEW PRODUCT DEVELOPMENT	1007
READING IV-1 Communication Between Engineering and Production: A Critical Factor	1007
CASE IV-1 Vitreon Corporation: The Hyalite Project	1013
READING IV-2 The New Product Learning Cycle	1025
CASE IV-2 Eli Lilly and Company: Drug Development Strategy (A)	1038
READING IV-3 Organizing and Leading “Heavyweight” Development Teams	1053
READING IV-4 Finding the Right Job for Your Product	1064

BUILDING COMPETENCE/ CAPABILITIES THROUGH NEW PRODUCT DEVELOPMENT	1077
CASE IV-3 The ITC eChoupal Initiative	1077
READING IV-5 Creating Project Plans to Focus Product Development	1091
CASE IV-4 Genentech—Capacity Planning	1101
READING IV-6 The New Product Development Map	1119
READING IV-7 Accelerating the Design-Build-Test Cycle for Effective New Product Development	1128

PART FIVE

CONCLUSION: INNOVATION CHALLENGES IN ESTABLISHED FIRMS

CASE V-1 Intel Centrino in 2007: A New “Platform” Strategy for Growth	1140
CASE V-2 SAP AG in 2006: Driving Corporate Transformation	1160
READING V-1 Building a Learning Organization	1193
READING V-2 The Power of Strategic Integration	1205
CASE V-3 Nike’s Global Women’s Fitness Business: Driving Strategic Integration	1213
Credits	1235
Index	1238