New Products Management

Eleventh Edition

Merle Crawford

University of Michigan—Emeritus

Anthony Di Benedetto

Temple University



Contents in Brief

PART ONE

Overview and Opportunity Identification/Selection 3

- **1.** The Strategic Elements of Product Development 5
- **2.** The New Products Process 25
- **3.** Opportunity Identification and Selection: Strategic Planning for New Products 60

PART TWO

Concept Generation 95

- **4.** Creativity and the Product Concept 97
- **5.** Finding and Solving Customers' Problems 130
- **6.** Analytical Attribute Approaches: Introduction and Perceptual Mapping 154
- 7. Analytical Attribute Approaches: Trade-Off Analysis and Qualitative Techniques 171

PART THREE

Concept/Project Evaluation 191

- **8.** The Concept Evaluation System 193
- **9.** Concept Testing 214
- **10.** The Full Screen 243
- **11.** Sales Forecasting and Financial Analysis 262
- **12.** Product Protocol 291

PART FOUR

Development 319

- **13**. Design 323
- **14.** Development Team Management 351
- **15.** Product Use Testing 381

PART FIVE

Launch 403

- **16.** Strategic Launch Planning 406
- **17.** Implementation of the Strategic Plan 441
- **18.** Market Testing 464
- **19.** Launch Management 492
- **20.** Public Policy Issues 515

APPENDIXES

- **A** Sources of Ideas Already Generated 543
- **B** Other Techniques of Concept Generation 549
- **C** The Marketing Plan 559
- **D** Guidelines for Evaluating a New Products Program 565

INDEX 569

Contents

PART ONE OVERVIEW AND OPPORTUNITY IDENTIFICATION/SELECTION 3 Chapter 1 The Strategic Elements of Product Development 5	The Phases in the New Products Process 29 Phase 1: Opportunity Identification and Selection 30 Phase 2: Concept Generation 31 Phase 3: Concept/Project Evaluation 31 Phase 4: Development 32 Phase 5: Launch 33 Evaluation Tasks Throughout the New Products Process 34
Setting 5 The Importance of New Products 6 Globalization and New Product Development 9 How Product Development Is Different 11 What Is a New Product, and What Leads to Success? 14 Does This Field of Activity Have a Unique Vocabulary? 16 Does the Field of New Products Offer Careers? 17 The Strategic Elements of Product Development 18 The Basic New Products Process 19 The Other Strategic Elements 22 Product Development in Action 23 Summary 24 Applications 24	Speeding the Product to Market 37 Risks and Guidelines in Speeding to Market 40 What about New Services? 43 New-to-the-World Products 46 The Role of the Serial Innovator 48 Spiral Development and the Role of Prototypes 50 Closing Thoughts about the New Products Process 51 Summary 52 Applications 53 Case: Lego 53 Case: Tastykake Sensables 55 Case: The Levacor Heart Pump 57 Chapter 3 Opportunity Identification and Selection: Strategic Planning for New Products 60
Chapter 2 The New Products Process 25 Setting 25 The Procter & Gamble Cosmetics Saga 25 The Product Innovation Charter (PIC) 26 The New Products Process 27 The New Product Portfolio 27 Supporting the Strategic Elements: Effective Team	Setting 60 A Product Strategy for a "Company within a Company" 61 New Product Strategy Inputs and Identifying Opportunities 61 Product Platform Planning 61 Opportunity Identification 66 Noncorporate Strategic Planning 68 Miscellaneous Sources 70 The Product Inpovation Charter 70

Why Have a PIC? 72

What Happened in That Saga? 28

The Sections of the PIC 74	Chapter 5
Background Section of the PIC 74	Finding and Solving Customers'
The Arena (Area of Focus) Section of the PIC 74	Problems 130
Goals and Objectives Section of the PIC 77	
Special Guidelines Section of the PIC 77	Setting 130
How to Prepare a Product Innovation	The Overall System of Internal Concept
Charter 80	Generation 130
Product Portfolio Analysis: The New Product's	Gathering the Problems 131
Strategic Fit 82	Internal Records 132
Summary 87	Direct Inputs from Technical and Marketing
Applications 87	Departments 132
Case: New Product Strategy at Kellogg 88	Problem Analysis 133
Case: The Honda Element 90	Scenario Analysis 141
	Solving the Problems 145
PART TWO	Group Creativity 145
	Brainstorming 145
CONCEPT GENERATION 95	Electronic Brainstorming and Computer-Assisted
	Creativity Techniques 146
Chapter 4	Online Communities 147
Creativity and the Product	Disciplines Panel 149
Concept 97	Concept Generation Techniques in Action 149
Concept 37	Summary 150
Setting 97	Applications 150
Preparation 97	Case: Campbell's IQ Meals 151
The Product Innovation Charter 97	Case: Earning Organizational Respect 152
Finding the Right People 98	Chapter 6
Management's Role in Creativity 99	Analytical Attribute Approaches:
Activities to Encourage Creativity 101	
Special Rewards 103	Introduction and Perceptual
The Removal of Roadblocks 103	Mapping 154
The Product Concept 104	Setting 154
The Designer Decaf Example 107	Understanding Why Customers Buy a
The Concept Statement 108	Product 154
Two Basic Approaches 110	Products Are Groups of Attributes 154
Important Sources of Ready-Made New	Analyzing Product Attributes for Concept Generation
Product Ideas 111	and Evaluation 156
User Toolkits 111	Gap Analysis 156
Crowdsourcing 114	Determinant Gap Maps 157
Lead Users 115	Perceptual Gap Maps Based on Attribute
Open Innovation 118	Ratings (AR) 158
Summary 123	Perceptual Gap Maps Based on Overall Similarities
Applications 123	(OS) 164
Case: Pillsbury Grands! Biscuit	Comments on Gap Analysis 167
Sandwiches 124	Summary 168
Case: P&G CarpetFlick 126	Applications 168
Case: Aquafresh White Trays 127	Case: Comparing Smartphones (A) 169

Chantor 7	The People Dimension 203
Chapter 7	Surrogates 204
Analytical Attribute Approaches:	The A-T-A-R Model 205
Trade-Off Analysis and Qualitative	Where Do We Get the Figures for the A-T-A-R
Techniques 171	Model? 209
Setting 171	Further Uses of the A-T-A-R Model 209
Trade-Off Analysis 171	Summary 209
Using Trade-Off Analysis to Generate Concepts 172	Applications 210
A Conjoint Analysis Application 173	Case: Chipotle Mexican Grill 210
Is Conjoint the Right Method? 177	Case: Concept Development Corporation 212
Alternatives to Full-Profile Conjoint Analysis 178	1 1 1
Recent Modifications in Conjoint Analysis 179	Chapter 9
Virtual Prototypes in Concept Testing 179	Concept Testing 214
Qualitative Techniques 180	
Dimensional Analysis 180	Setting 214
Checklists 182	The Importance of Up-Front Evaluations 214
Relationships Analysis 183	The Product Innovation Charter 215
About the Dimensions Used in Relationships	Market Analysis 216
Analysis 183	Initial Reaction 216
Two-Dimensional Matrix 183	Concept Testing and Development 217
Morphological or Multidimensional Matrix 184	What Is a New Product Concept? 219
Analogy 186	The Purposes of Concept Testing 219
Summary 187	Considerations in Concept Testing Research 221
Applications 187	
Case: Rubbermaid 188	Prepare the Concept Statement 221
	Define the Respondent Group 225 Select the Response Situation 226
PART THREE	Prepare the Interviewing Sequence 227
CONCEPT/PROJECT	Variations 228
EVALUATION 191	Analyzing Research Results 228
	Identifying Benefit Segments 228
Chapter 8	Joint Space Maps 230
The Concept Evaluation System 193	Preference Regression 232
The Concept Evaluation System 193	Conjoint Analysis in Concept Testing 233
Setting 193	Market Research to Support Concept
What's Going On in the New Products	Testing 235
Process? 193	Conclusions 238
The Evaluation System for the Basic New Products	Summary 238
Process 194	Applications 239
Product Line Considerations in Concept	Case: Domino's 240
Evaluation 197	Case: Comparing Smartphones (B) 242
The Cumulative Expenditures Curve 198	
The Risk/Payoff Matrix 199	Chapter 10
The Decay Curve 200	The Full Screen 243
Planning the Evaluation System 201	
Everything Is Tentative 201	Setting 243 Purposes of the Full Screen 244
Potholes 202	Fulloses of the rull acreen - 244

The Scoring Model 246	Purposes of the Protocol 294
Introduction to Scoring Models 246	Protocol's Specific Contents 296
The Screening Procedure 247	Target Market 298
Profile Sheet 252	Positioning 298
A Screening Model Based on Project	Product Attributes 299
NewProd 253	Competitive Comparisons and Augmentation
The Analytic Hierarchy Process 255	Dimensions 301
Special Aspects 258	Other Components of the Product Protocol 301
Summary 258	Protocol and the Voice of the Customer 302
Applications 259	Hearing the Voice of the Customer 302
Case: Logitech (A) 259	Protocol and Quality Function Deployment (QFD) 305
Chapter 11	QFD and the House of Quality 305
Sales Forecasting and Financial	Outcomes of QFD 309
Analysis 262	Some Warnings about the Difficulty of the Protocol Process 311
Setting 262	Summary 312
Sales Forecasting for New Products 263	Applications 312
Forecasting Sales Using Traditional	Case: Fisher & Paykel 313
Methods 264	Case: DuPont 315
Forecasting Sales Using Purchase Intentions 266	Case: Logitech (B) 317
Forecasting Sales Using the A-T-A-R	PART FOUR
Model 267	DEVELOPMENT 319
Techniques for Forecasting Product	
Diffusion 269	Chapter 13
Observations on Forecasting Models 271	Design 323
Problems with Sales Forecasting 272	Design 323
Summary of the Problems 273	Setting 323
Actions by Managers to Handle These	What Is Design? 324
Problems 274	Design-Driven Innovation 324
Improve the New Product Process Currently in Use 274	The Role of Design in the New Products Process 325
Use the Life Cycle Concept of Financial	Contributions of Design to New Product Goals 325
Analysis 274	Product Architecture 331
Reduce Dependence on Poor Forecasts 275	A Process for Product Architecture 331
Return to the PIC 280	Product Architecture and Product Platforms 333
Summary 283	Industrial Design and the Industrial
Applications 283	Designer 333
Case: Bay City Electronics 284	Prototype Development 334
	Managing the Interfaces in the Design
Chapter 12	Process 336
Product Protocol 291	Improving the Interfaces in the Design Process 339
Setting 291	Computer-Aided Design and Design for
The Product Protocol 292	Manufacturability 340

Is Product Use Testing Really Necessary? 384 Are These Arguments Correct? 385 Knowledge Gained from Product Use Testing 387 Pre-Use Sense Reactions 387 Early Use Experiences 388 Alpha and Beta Tests 388
Gamma Testing 390
Diagnostic Information 391
Decisions in Product Use Testing 391 Who Should Be in the User Group? 391 How Should We Reach the User Group? 392 Should We Disclose Our Identity? 393 How Much Explanation Should We Provide? 393 How Much Control over Product Use Should There Be? 393 How Should the Test Be Conducted? 394 Over What Time Period Should the Test Be Conducted? 395 What Should Be the Source of the Product Being Tested? 396 What Should Be the Form of the Product Being Tested? 396 How Should We Record Respondents' Reactions? 397 How Should We Interpret the Figures We Get? 398 Who Should Do the Product Use Test? 398 Special Problems 399 Don't Change the Data Just Because They Came Out Wrong 399 Be Alert to Strange Conditions 399 What If We Have to Go Ahead without Good Use Testing? 399 Summary 399 Applications 400 Case: Product Use Testing for New Consumer Nondurables 401
22-241102 2 10114 6246 200 101
PART FIVE LAUNCH 403 Chapter 16 Strategic Launch Planning 406 Setting 406

The Strategic Givens 407	Launch Tactics 447
Revisiting the Strategic Goals 408	The Communications Plan 447
Strategic Platform Decisions 409	The Copy Strategy Statement 449
Type of Demand Sought 409	Personal Selling 449
Permanence 410	Alliances 450
Aggressiveness 411	A-T-A-R Requirements 451
Competitive Advantage 411	Awareness 451
Product Line Replacement 411	Stocking and Availability 452
Competitive Relationship 413	Trial 454
Scope of Market Entry 413	Repeat Purchase 457
Image 413	Summary 458
The Target Market Decision 413	Applications 458
Alternative Ways to Segment a Market 414	CASE: Hulu 459
Targeting May Also Use Diffusion of	Case: Dodge Nitro 461
Innovation 418	
Product Positioning 420	Chantar Fightoon
Creating Unique Value for the	Chapter Eighteen
Chosen Target 422	Market Testing 464
Branding and Brand Management 424	Setting 464
Trademarks and Registration 424	The Market Testing Decision 464
What Is a Good Brand Name? 426	When Is the Decision Made? 465
Managing Brand Equity 428	Is This an Easy Decision to Make? 465
Brand Equity and Branding Strategies 432	Market Tests Must Have Teeth 466
Global Branding and Positioning: Standardize	The Factors for Deciding Whether to Market Test 468
or Adapt? 433	Methods of Market Testing 470
Global Brand Leadership 434	Pseudo Sale 470
Packaging 435	Controlled Sale 470
The Role of Packaging 435	Full Sale 471
The Packaging Decision 435	Pseudo Sale Methods 471
Summary 436	Speculative Sale 472
Applications 437	Simulated Test Market 473
Case: Wii 437	Controlled Sale Methods 476
Case: Iridium 439	Informal Selling 476
Case: Comparing Smartphones (C) 440	Direct Marketing 477
	Minimarkets 477
Chanter 17	Scanner Market Testing 479
Chapter 17	Full Sale Methods 480
Implementation of the Strategic	Test Marketing 480
Plan 441	The Rollout 484
Setting 441	Wrap-Up on Market Testing
The Launch Cycle 441	Methodologies 488
Prelaunch and Preannouncement 441	Summary 488
Announcement, Beachhead, and Early	Applications 489
Growth 444	Case: PepsiCo—Pepsi-Kona and
Lean Launch and Launch Timing 445	Pepsi One 489

During the Recall 524

After the Recall 524

CHAPTER 19	Attempts at Standardization and
Launch Management 492	Clarification 525
	Environmental Needs 525
Setting 492	Product Piracy 528
What We Mean by Launch Management 492	Worthy Products 529
The Launch Management System 493	Morality 530
Step One: Spot Potential Problems 494	Designing Products for Emerging
Step Two: Select the Control Events 498	Markets 530
Step Three: Develop Contingency Plans 499	Personal Ethics 532
Step Four: Design the Tracking System 500	The Underlying Residual Issues 533
Effective Innovation Metrics 504	What Are New Products Managers Doing
A Sample Launch Management Plan 506	about All This? 534
Launch Management and Knowledge	Strategy and Policy 534
Creation 506	Control Systems 534
Product Failure 509	Product Testing 534
Summary 511	Marketing and Market Testing 534
Applications 512	Customer Education and External Affairs 535
Case: Levitra 512	Summary 535
	Applications 536
CHAPTER 20	Case: Clorox Green Works 536
Public Policy Issues 515	Case: Hybrid or Hydrogen Vehicles
Setting 515	at General Motors? 539
Bigger Picture: A Cycle of Concerns 515	Case: Product (RED) 541
Phase I: Stirring 516	
Phase II: Trial Support 517	
Phase III: The Political Arena 517	Appendix A Sources of Ideas Already
Phase IV: Regulatory Adjustment 518	Generated 543
Business Attitudes toward Product Issues 518	Generated 343
Current Problem Areas 518	Appendix B Other Techniques of Concept
Product Liability 519	Generation 549
Typology of Injury Sources 519	Appendix C The Marketing Plan 559
The Four Legal Bases for Product Liability 521	
Other Legislation 523	Appendix D Guidelines for Evaluating a
Planning for the Product Recall 524	New Products Program 565
Prior to the Recall 524	

Index 569