An Integrated Approach to **New Food Product Development**

Edited by
Howard R. Moskowitz
I. Sam Saguy
Tim Straus



CRC Press is an imprint of the Taylor & Francis Group, an **informa** business

Contents

Foreword	ix
Preface	xi
Acknowledg	mentsxv
	Xvii
Contributors	sxxi
PART I	Setting the Agenda for Successful New Product Development
Chapter 1	The New Product Success Equation: Building Success into the New Product Development Process (a.k.a. An Objective-Based Product Development Process)
	Tim Straus
PART II	Defining and Meeting Target Consumer Needs and Expectation
Chapter 2	Strategic Planning
	Todd K. Abraham
Chapter 3	Innovation as Science
	Martinus A.J.S. van Boekel
Chapter 4	Innovation: Integrated and Profitable53
Chapter 4	Paul Chaudury
	Tun Chaudury
Chapter 5	Innovation Partnerships as a Vehicle toward Open Innovation and Open Business
	Helmut Traitler
Chapter 6	Trend Monitoring: Sorting Fad from Long-Lasting Profit-Building Trends
	David Christopher Wolf

vi Contents

Chapter 7	wide World of New Products: A Unique Perspective of New Products around the World That Have Hit Their Mark with the Consumer
	Lynn Dornblaser
PART III	The Right Food
Chapter 8	Consumer Packaged Goods Product Development Processes in the 21st Century: Product Lifecycle Management Emerges as a Key Innovation Driver
	Chip Perry and Max Cochet
Chapter 9	Personalizing Foods
	Heribert J. Watzke and J. Bruce German
Chapter 10	Creating Food Concepts to Guide Product Development and Marketing
	Howard R. Moskowitz, Michele Reisner, and Andrea Maier
Chapter 11	Defining and Meeting Customer Needs: Beyond Hearing the Voice of the Consumer
	Carole Schmidt
Chapter 12	Observing the Consumer in Context
	Jacqueline H. Beckley and Cornelia A. Ramsey
Chapter 13	Getting the Food Right for Children: How to Win with Kids 247 Bryan Urbick
PART IV	Proper Packaging and Preparation
Chapter 14	Food Packaging Trends
	Aaron L. Brody
Chapter 15	Evolution of Sensory Evaluation: How Product Research Is Being Integrated into the Product Design Process
	Stacey A. Cox and Robert Delaney

Contents

Chapter 16	Relevance Regained: Designing More "Democratic" Domestic Kitchen Appliances by Taking into Consideration User Needs and Other Relevant Opinions	1
	Grant Davidson, Tammo de Ligny, and Marco Bevolo	
Chapter 17	Chef Formulation and Integration: Ensuring that Great Food and Food Science Work Together	3
	Mario Valdovinos	
Chapter 18	Gastronomic Engineering	7
	Jose M. Aguilera	
Chapter 19	The Right Preparation Technique	9
	Dave Zino	
Chapter 20	Recent Developments in Consumer Research of Food	5
	Herbert L. Meiselman	
PART V	Positioned Correctly at the Shelf and in the Media	
Chapter 21	Getting the Package and Web Site Graphics Right with Consumer Co-creation	9
	Alex Gofman	
Chapter 22	Getting the Positioning Right: Advertising Planning38	7
	Jeffrey Ewald	
PART VI	Meet Corporate Logistics and Financial Imperatives	
Chapter 23	The Importance of Product Innovation	3
	Phillip S. Perkins	
Chapter 24	Alternative Processing Methods for Functional Foods	3
	Dietrich Knorr, Ana Balasa, Doerte Boll, Henry Jäger, Alexander Mathys, Esma Oba, and Marcus Volkert	

viii		Contents

Chapter 25	Accelerated and Parallel Storage in Shelf Life Studies	429
	I. Sam Saguy and Micha Peleg	
Chapter 26	Commercialization and Manufacturing J. Peter Clark and Leon Levine	457
Index		471

Foreword

At Nestlé, we believe that "sharing is winning." This simple but powerful concept covers a plethora of topics, domains, and disciplines such as science, technology, consumers' insights, in-depth business world understanding and, of course, the evolving dynamic global marketplace. The richness of knowledge included in this book maps out the innovative terrain and sketches tools for an integrated approach to new product development. In order to create value with consumers and customers, the challenge of new products demands sensitivity to, and integration of, many disciplines. Applying knowledge founded on solid scientific grounds and principles is the only feasible approach to renovate business practices and create innovative new ones, in order to succeed in the worlds of today and tomorrow. Learning is a lifelong journey. Only time will reveal how successfully this book will help that learning, making it real, and applying it in practice.

During the recorded history of mankind, food has evolved from helping people survive to becoming a vehicle to deliver much more than simple survival nutrients. The knowledge underlying the industrialization of modern foods is one of the most successful, yet least heralded achievements of science.

At Nestlé, we incorporate many disciplines and processes to enable us to predict new trends, envision long-term opportunities, perfect our science, and conceive new products that will drive our top and bottom line performance. As a worldwide leader in the food industry and in our journey to be the No. 1 nutrition, health, and wellness company, our vision is very broad, covering consumer trends as they evolve around the globe and impact various geographic sectors. Our strategy is science-based and consumer-centric, which simultaneously satisfy the aspects of food products, vision, and leadership. We are also looking at meeting future challenges, such as personalized nutrition, obesity and weight management, and healthy aging. We continuously and extensively investigate opportunities for food and health, such as food for the brain, life quality, wellness, performance, and personalization addressing the future information on genetic makeup or predisposition to food-related diseases. We look at foods that can ameliorate such conditions as obesity and diabetes, foods that enhance mood, and foods that are healthful and convenient, all with the goal of combining advances in science, betterment of human conditions, and, of course, growth in all aspects of our businesses. Most importantly, it is our utmost responsibility to bring all this to our consumers around the world in an understandable and convenient way, hence our increasing focus on combining product solutions with convenient solutions.

It is the awesome responsibility of the food industry to address the macrotrends that impact the very lives of our global population. As the population of the world is aging with an increasing number of adults over age 65 and a decreasing number of children under age 5, the macrostrategies must be altered to adapt to the appropriate nutrition. The food industry must ensure that nutrition, health, and wellness become,

x Foreword

and ultimately remain, central driving forces that firmly and significantly influence the strategic paths of all major food companies.

Sustainable winning in the marketplace is not straightforward, unless it is founded on well-defined strategy, values, leadership, and know-how. It requires an umbrella of overarching practices and topics. To enhance the success rate in new product development, it calls for innovation in all aspects of the food chain. Innovation must address the needs of expanding profits with specific new product lines, through the far greater vision as practiced by Nestlé, the world's largest food company. Facets in this vision span the range from the DNA revolution and how it could be incorporated into new product development, to alternative processing technologies, all grounded in sound scientific principles. Yet, vision alone cannot suffice. Vision in business requires management at all levels, applied well, productively, and inspirationally to all levels of the company as well as to life science, marketing, consumer science, sales, and many others.

It is my hope, on a personal basis, and speaking for my company, Nestlé, on a business and science foundation, that this book, written by experts who share their knowledge and experience, will have an impact on the industry's needs. I hope that this book will make that necessary, significant contribution to the industry, optimizing the overall new product development process in terms of speed and time to market. This will allow better utilization of our resources, and higher quality and healthier foods for the body and soul, just as the wisdom contained therein leads to much higher success rate(s) in the marketplace.

Doctor Werner J. Bauer

Executive Vice President

Nestlé S.A.

Chief Technology Officer

Head of Innovation, Technology and Research & Development

Vevey, Switzerland