

Gerard Emilien · Rolf Weitkunat  
Frank Lüdicke *Editors*

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# Consumer Perception of Product Risks and Benefits

 Springer

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Editors

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# Foreword

Consumer products are extraordinarily diverse, as are the consumers who might accept or reject, use or misuse them. As a result, ensuring informed consumer decision-making requires the full range of expertise assembled in this encompassing volume. In the language of decision science,<sup>1</sup> that expertise includes capabilities in *analysis*, of the risks and benefits that products might bring; *descriptive* research, regarding consumers' intuitive understanding of those outcomes; and *interventions*, designed to inform those intuitions, so that consumers can make sound choices and producers can meet their needs.

*Consumer Perception of Product Risks and Benefits* summarizes analytical research relevant to premarketing evaluation of expected product performance, epidemiological tracking of actual consumer experiences, and weighing of those risks and benefits. It summarizes descriptive research regarding the cognitive, affective, social, economic, and political factors affecting consumers' decisions about acquiring and using consumer products. It summarizes intervention options and experiences, in the context set by its analytical and descriptive contributions, as well as the legal and ethical obligations imposed by the societies in which these transactions occur. Its coverage is open and eclectic, with authors drawn from varied disciplines and employment settings and contributions that provide access to varied approaches. A reader who knew nothing about these burgeoning fields before starting the book would have a good feeling for its sweep, excitement, and controversies upon finishing.

That reader would also realize the needless perils of designing and marketing products without incorporating the research summarized here. As reflected in the

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<sup>1</sup>Fischhoff, B. (2013). The sciences of science communication. *Proceedings of the National Academy of Sciences*, 110(Supplement 3), 14033–14039. doi:10.1073/pnas.1213273110; Fischhoff, B., & Kadavy, J. (2011). *Risk: A very short introduction*. Oxford: Oxford University Press; Fischhoff, B., Brewer, N., & Downs, J. S. (Eds.). (2011). *Communicating risks and benefits: An evidence-based user's guide*. Washington, DC: Food and Drug Administration. <http://www.fda.gov/AboutFDA/ReportsManualsForms/Reports/ucm268078.htm>

case studies scattered throughout the volume, some firms and agencies have long employed behavioral scientists to conduct descriptive research attuned to technical analyses of consumer products and the social context for interventions. Other organizations, though, may be too small to bring the requisite expertise on staff. They may also lack the absorptive capacity to secure it from internal sources. Overcoming those barriers is a strategic responsibility for their senior leadership. The editors and authors are to be commended for making that case so clear.

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# Preface

Books on consumer behavior often focus on undergraduate students. This book looks at a wider audience that also includes professionals in industry, research scientists, regulators, R&D and risk managers, policy makers, public health administrators, and advanced students. It covers topics ranging from consumer psychology to research methodology. It addresses regulatory aspects of marketing new products in the EU, the USA, and Asia. The book responds to the growing need for methodological guidance in consumer research and related areas. The field is rapidly growing and existing approaches often do not fully apply or not fully cover what is required. The general intention is to contribute to the discussion around establishing sound conceptual and methodological standards in the field.

The starting point of this journey is that most, if not all, consumer products present some combination of benefits and costs, the balance of which may vary considerably for different product types. Also, there is always the possibility that a product will not deliver the intended benefits and/or bring about unexpected risks. This can be so for a large array of reasons and applies to all types of services and products, including convenience products, preference products (e.g., beer, soft drinks, and toothpaste), shopping products, and high-involvement products. While such categories can help to organize the topics and questions, it must be realized that each product type is unique and requires individual consideration.

The idea that consumption can be conceived as risk-taking and at the same time risk-reducing behavior was formulated in the 1960s. The perception of risk has been characterized as a multifaceted construct, each different risk facet being related to a potential loss that a consumer may face. There are financial, performance, health, psychological, social, and time risks. The specific mix of risks is highly product specific and also depends on the individual consumer and the context. The study of product risk perception is at the heart of important societal discourses going beyond issues related to traditional risk analysis and marketing strategy development.

Theories of risk perception have often assumed that risks are being understood rationally and have focused on quantifying probabilities of outcomes, costs, and benefits. It has been argued that the relationship between perceived risk and

perceived benefits may, in a simple way, depend on the individual's general affective evaluation of the product and its expected utility. In many studies, risk perception is still measured by asking respondents to provide simple ratings of some sort. It becomes clear from the contributions of this book that simple approaches of this sort require updating, given the level of progress that has been made in many relevant scientific areas.

Consumer concerns, for example regarding food safety, have steadily increased since around the 1970s, yet only recently have risk perceptions been systematically studied. Product safety has since then received close attention from regulatory authorities, media, industry, and the general public. This attention is still intensifying due also to very novel types of products, like probiotic microorganisms added to food.

Risk communication presents a related formidable challenge. A general problem for all risk and hazard communications is that the modern world is already full of them, especially in the form of warnings. Warnings and disclosures are ubiquitous and have become part of everyday life. Research has shown that warnings can communicate benefits and risks to consumers successfully, but only if they are appropriately designed for the target audience, accounting for initial beliefs, message content, message modality, and source and receiver effects. Understanding how individuals interpret, process, and respond to risk and risk information is crucial to create effective messaging that will be understood and accepted.

These and other subjects on "Consumer Perception of Product Risks and Benefits" are critically reviewed and discussed in this book by a selection of excellent scholars. The book consists of 30 contributions organized into four parts that focus on Product Risks, Perception of Product Risks and Benefits, Consumer Behavior, and Regulation and Responsibility.

The first contribution of part I (Product Risks) on "Types of Consumer Products" by Ilene Zackowitz and collaborators describes which consumer factors impact purchase decisions and explores several categories of consumer products. In the second contribution, John Kozup discusses the "Risks of Consumer Products." An overview of the various product risks and their effects on consumers is presented. Dominique Deplanque discusses "Non-Clinical research-based product assessment" as a large number of guidelines and rules governing the market access process have been introduced, including the requirement for non-clinical evaluations prior to human use. Drugs and other medicines probably undergo the strictest non-clinical assessments, using not only animal models but also *in vitro* and *in silico* approaches. Rolf Weitkunat presents "Clinical Research-based Product Assessment" methodologies, describing how clinical trials, most developed in pharmacotherapy research, must be carefully adapted for meaningfully assessing consumer products. Olivier Ethgen and Olivier Bruyere discuss the field of "Epidemiological Product Assessment," reviewing major epidemiological concepts and methods employed to assess potential causal relationships between exposures and the occurrences of diseases, injuries, or other adverse outcomes. Viviane Kovess-Masfety reviews the "Individual and Population Risks." The contribution begins with a definition of risk in epidemiology. The consequences of the precautionary

principle are presented and the author concludes on the importance of addressing individual-level effects and mental health when evaluating and managing risks. Kim Hye Kyung introduces key principles and theoretical frameworks of “Risk Communication.” Given the highly interdisciplinary nature of risk communication, practitioners should be able to understand the complex dynamics of risk communication from numerous vantage points, at both the individual and societal level.

The first contribution of part II (Perception of Product Risks and Benefits) on “Comprehension of Products and Messages” by Christopher Cummings reviews distinct historical approaches to understanding and investigating product and message comprehension and the details of how comprehension has been conceptualized and measured across disciplines. “Perception of Product Risks” by Arnout Fischer addresses the psychological mechanisms of risk perception. Specific product dimensions trigger cognitive processes like dread and uncertainty that increase, or reduce, risk perception. Stefan Cano and Thomas Salzberger discuss the methodological challenges of “Measuring Risk Perception,” psychometrically a most complex concept. Salzberger and Cano then present “The Perception Risk Instrument (PRI)” capturing the domains of Perceived Health Risk and Perceived Addiction Risk and providing measures that are directly comparable across different tobacco and nicotine-containing products and subpopulations. Gerrod Parrott reviews “The Role of Emotions in Risk Perception.” The ways in which emotions affect the perception of risk are grounded in a conception of emotion involving appraisals, feelings, and the preparation of behavioral and cognitive action, considering biological, individual, and social levels of analysis. In “Rational Choice and Bounded Rationality,” Ronald Goldsmith presents an overview of consumer decision-making, emphasizing two major forces that frame consumer decisions, namely, the goals humans strive to attain and the resources they have. In “Temporal Discounting of Future Risks,” Chengyan Yue and Jingjing Wang discuss how temporal discounting can lead consumers to choose smaller, more immediate rewards over larger but more delayed ones. In the contribution on “Cognitive Styles and Personality in Risk Perception,” Eric Ping Hung Li describes current conceptualizations of risk perception in consumer behavior research, providing a review of the literature on personality traits, cognitive styles, risk perception, and cultural dimension frameworks. In “Consumer Values and Product Perception,” Katrin Horn explores the role of consumer values in the perception of product risks and benefits.

The first contribution of part III (Consumer Behavior) on “Perception, Attitudes, Intentions, Decision and Actual Behavior” by Arnout Fischer discusses how linear models that assume a causal link from perception over attitude, intention, and decisions to finally behavior have long dominated consumer behavior research, examples being the theory of planned behavior, the technology acceptance model, and the norm activation model. In the contribution on “Consumer Products and Consumer Behavior,” Antony Davies argues that in many markets, consumers face a choice problem in which the marginal costs of obtaining additional information necessary to improve a purchase decision exceed the marginal benefits of the improved decision. Consumer then often attempts to mitigate the lack of

information through the use of heuristics. The contribution on “Consumer Resistance” by Yany Gregoire and collaborators offers a review of consumer resistance. Two facets are consumer anti-consumption and revenge. The contribution on “Motivation” by Gregory Bonn shows that the scientific focus is often on cognitive or conscious deliberation. “Marketing and Market Research” are discussed by Burak Tunca, highlighting the contemporary developments that influence the current thinking in these areas. “Consumer Behavior Research Methods,” authored by Polymeros Chrysochou, distinguishes consumer behavior research methods based on the type of data used. The contribution describes important qualitative and quantitative methods, concluding with an evaluation of how to improve research quality in the field. In the contribution on “Use, Misuse and Abuse” of consumer products, the authors Michel Bourin and Abdeslam Chagrioui argue that the nonmedical use and abuse of medicines is a serious public health problem due to a variety of adverse health effects and addiction risks. Qing Wang and Naina Narain, in “Consumer Behavior in Special and Subpopulations,” provide an overview of research on consumer behavior in particular groups and summarize how the netnography approach can be applied for communicating with special populations.

In the first contribution of part IV (Regulation and Responsibility) on “Regulatory Prospective for Medicinal Products,” Louis Morris argues that more obviously than for other product types, the benefits of medical products are counterbalanced by their risks, rendering adequate risk communication essential to assure that people can weigh product risks and benefits to make informed decision. “Regulations of Consumer Products,” by Zahra Meghani, outlines that consumer product regulations in the USA, the European Union, and Japan vary significantly, depending on the product category. In “Manufacturer Responsibilities,” Elizabeth Goldsmith describes how manufacturers actually make products. It is their responsibility to make consistent, technologically advanced, high-quality products useful and safe for consumers and society, upholding ethics and industry standards and protecting the environment. In “Consumer Responsibilities,” Sue McGregor argues that there are no consumer rights without human rights and that we cannot be responsible consumers unless we are responsible humans. The contribution on “Society and Policy Maker’s Responsibilities” by Jennifer Kuzma focuses on the responsibilities of the public sector in consumer-product governance. The contribution on “Consumer Perception of Responsibility” by Sue McGregor is an inaugural attempt to conceptualize consumer perceptions of responsibility by consumers. The author makes the case for the emergent but under-researched phenomenon of consumers’ self-ascribed sense of social responsibility.

We hope that this book will stimulate the search for answers to the many important and difficult questions on consumer perception of product risks and benefits. This book would not have been possible without the support of many people, in particular the authors. The latter have devoted a large amount of time and effort to contribute to this edition. We therefore express our gratitude to all authors and are glad to say that for us the many interactions and discussions have been a most pleasurable and instructive experience. Being collaborators for Research & Development within Philip Morris Products S.A (part of Philip Morris International

group of companies) in Switzerland, we are grateful that our employer has provided us generously with the liberty to devote part of our time to this edition. This book is sponsored by Philip Morris International (PMI). The authors received an honorarium for contributing to this edition. The contributions reflect the views of the individual authors and not necessarily those of PMI or the editors.

Neuchatel, Switzerland  
October 2016

Gerard Emilien  
Rolf Weitkunat  
Frank Lüdicke

# Contents

## Part I Product Risks

<b>Types of Consumer Products</b> . . . . .	3
Ilene B. Zackowitz, Michael J. Vredenburgh, Meriel Bench, and Alison G. Vredenburgh	
<b>Risks of Consumer Products</b> . . . . .	23
John Kozup	
<b>Non-Clinical Research-Based Product Assessment</b> . . . . .	39
Dominique Deplanque	
<b>Clinical Research-Based Product Assessment</b> . . . . .	61
Rolf Weitkunat	
<b>Epidemiological Product Assessment</b> . . . . .	85
Olivier Ethgen and Olivier Bruyère	
<b>Individual and Population Risks</b> . . . . .	105
Viviane Kovess-Masfety	
<b>Risk Communication</b> . . . . .	125
Hye Kyung Kim	

## Part II Perception of Product Risks and Benefits

<b>Comprehension of Products and Messages</b> . . . . .	153
Christopher L. Cummings	
<b>Perception of Product Risks</b> . . . . .	175
Arnout R.H. Fischer	
<b>Measuring Risk Perception</b> . . . . .	191
Stefan Cano and Thomas Salzberger	

<b>The Perception Risk Instrument (PRI)</b> . . . . .	201
Thomas Salzberger and Stefan Cano	
<b>Role of Emotions in Risk Perception</b> . . . . .	221
W. Gerrod Parrott	
<b>Rational Choice and Bounded Rationality</b> . . . . .	233
Ronald E. Goldsmith	
<b>Temporal Discounting of Future Risks</b> . . . . .	253
Chengyan Yue and Jingjing Wang	
<b>Cognitive Styles and Personality in Risk Perception</b> . . . . .	267
Eric Ping Hung Li	
<b>Consumer Values and Product Perception</b> . . . . .	283
Katrin Horn	
<b>Part III Consumer Behavior</b>	
<b>Perception, Attitudes, Intentions, Decisions and Actual Behavior</b> . . . . .	303
Arnout R.H. Fischer	
<b>Consumer Products and Consumer Behavior</b> . . . . .	319
Antony Davies	
<b>Consumer Resistance: From Anti-Consumption to Revenge</b> . . . . .	345
Marcelo Vinhal Nepomuceno, Mina Rohani, and Yany Grégoire	
<b>Motivation</b> . . . . .	365
Gregory Bonn	
<b>Marketing and Market Research</b> . . . . .	383
Burak Tunca	
<b>Consumer Behavior Research Methods</b> . . . . .	409
Polymeros Chrysochou	
<b>Use, Abuse and Misuse</b> . . . . .	429
Michel Bourin and Abdeslam Chagraoui	
<b>Consumer Behavior in Subpopulations</b> . . . . .	459
Qing Wang and Naina Narain	
<b>Part IV Regulation and Responsibility</b>	
<b>Regulatory Prospective for Medicinal Products</b> . . . . .	477
Louis A. Morris	
<b>Regulations of Consumer Products</b> . . . . .	495
Zahra Meghani	

**Manufacturer Responsibilities** . . . . . 515  
Elizabeth Beard Goldsmith

**Consumer Responsibilities** . . . . . 527  
Sue L.T. McGregor

**Society and Policy Maker’s Responsibilities** . . . . . 547  
Jennifer Kuzma

**Consumer Perceptions of Responsibility** . . . . . 567  
Sue L.T. McGregor

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# List of Abbreviations

Apps	Applications
ADHD	Attention deficit hyperactivity disorder
ADI	Acceptable daily intake
ADME	Absorption, distribution, metabolism and elimination
ANOVA	Analysis of variance
APHIS	Animal and Plant Health Inspection Service
API	Application programming interface
AR	Attributable risk
BBB	Better Business Bureau
BPA	Bisphenol A
CAA	Consumer Affairs Agency
CAPI	Computer-assisted personal interviews
CATI	Computer-assisted telephone interviews
CBD	Compulsive buying disorder
CC	Calcium-collagen chelate
CDC	Center for Disease Control
CDIs	Cognitive debriefing interviews
CEV	Consciousness-emotion-value
CHDS	Christchurch Health and Development Study
CI	Consumers International, confidence interval
CFRB	Coordinated Framework on the Regulation of Biotechnology
CPSC	Consumer product safety commission
CSR	Corporate social responsibility
CTT	Classical test theory
CWB	Consumer well-being
dACC	Dorsal anterior cingulate cortex
DALY	Disability-adjusted life years
DAWN	Drug abuse warning network
DIY	Do-it-yourself
dLPFC	Dorsal lateral prefrontal cortex
DHS	Department of Homeland Security

DSM	Diagnostic and Statistical Manual of Mental Disorders
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, 5th edition
ED	Emergency department
ED 50	Median effective dose
EEG	Electroencephalography
EFSA	European Food Safety System
EMA	European Medicines Agency
EMR	Electromagnetic radiation
EPA	Environmental Protection Agency
EPPM	Extended parallel process model
ERG	Existence, relatedness, and growth
FDA	Food and Drug Administration
FFDCA	Federal Food, Drug and Cosmetic Act
fMRI	Functional magnetic resonance imaging
FS	Former smokers
FSBL	Food safety basic law
FTC	Federal Trade Commission
GEO	Genetically engineered organisms
GMO	Genetically modified organisms
GPSD	General Product Safety Directive
HIV	Human immunodeficiency virus
HSM	Heuristic systematic model
HTS	High-throughput screening
ICD	International classification of diseases
ICH	International Council for Harmonization
$I_E$	Incidence of the disease in exposed individuals
IGD	Internet gaming disorder
$I_{NE}$	Incidence of the disease in nonexposed individuals
iPSCs	Induced pluripotent stem cells
IRT	Item response theory
ISN	Informational subjective norms
$I_T$	Incidence of the disease in the total population (i.e., those who are exposed plus those who are not exposed)
ITT	Intention-to-treat
LA-25 NS	Never smokers from legal age of smoking to 25 years of age
LD 50	Median lethal dose
LOAELS	Lowest observed adverse effect levels
LOV	List of values
MAFF	Ministry of Agriculture, Forestry and Fisheries
MEC	Means-end chain
MGCFA	Multigroup confirmatory factor analysis
MHLW	Ministry of Health, Labor and Welfare
MMWR	Morbidity and Mortality Weekly Report
MRC	Medical Research Council in the UK

M RTP	Modified risk tobacco products
MSDS	Material safety data sheets
MTurk	Mechanical Turk
N Ac	Nucleus accumbens
NHST	Null hypothesis significance testing
NMR	Nicotine metabolite ratio
$N_{NC}$	Number of new cases of the disease over a given period of time
NOAELS	No observed adverse effect levels
NRT	Nicotine replacement therapy
NS	Never smokers
$N_T$	Total number of individuals initially free of the disease in the group followed over that given period of time
NTSB	National Transportation Safety Board
OR	Odds ratio
OSTP	Office of Science and Technology Policy
P	Prevalence of exposure to the risks factor in the population
PAR	Population-attributable risk
PCC	Posterior cingulate cortex
PCE	Perceived consumer effectiveness
PIGC	Perceived information gathering capacity
PMA	Premarket approval
PMDA	Pharmaceuticals and Medical Devices Agency
PRI	Perception risk instrument
PRI-P	Perceived risk instrument for personal risk
PRI-G	Perceived risk instrument for general risk
QSARs	Quantitative structure–activity relationship
RCB	Relevant channel beliefs
RCT	Randomized Clinical Trials
RISP	Risk information seeking and processing model
RR	Relative risk
RVS	Rokeach Value Survey
SAMHSA	Substance Abuse and Mental Health Services Administration
SARF	Social amplification of risk framework
SASH	Society for the Advancement of Sexual Health
SCQ	Smoking Consequences Questionnaire
SCQ-A	Smoking Consequences Questionnaire—adult version
SCT	Social cognitive theory
SCUBA	Self-contained underwater breathing apparatus
SDT	Self-determination theory
SES	Socioeconomic status
SEU	Subjective expected utility
S-ITQ	Smokers with intention to quit
SmPC	Summary of product characteristics
S-NITQ	Smokers with no intention to quit

SUD	Substance use disorder
SUTV	Stable unit treatment value
SVS	Schwartz Value Survey
TAM	Technology acceptance model
THC	Delta 9-tetrahydrocannabinol
THS	Tobacco heating system
TPB	Theory of planned behavior
UNCPG	United Nations Guidelines for Consumer Protection
USDA	US Department of Agriculture
VALS	Values and lifestyles
VAS	Visual analogue scales
vLPFC	Ventral lateral prefrontal cortex
vmPFC	Ventromedial prefrontal cortex
VS	Ventral regions of Striatum
VTA	Ventral tegmental area
YLD	Years lived with disability
YLL	Years of life lost

**Part I**  
**Product Risks**

# Types of Consumer Products

**Ilene B. Zackowitz, Michael J. Vredenburg, Meriel Bench,  
and Alison G. Vredenburg**

## 1 Characteristics of Consumers and Products

This introductory contribution considers the extensive range of consumers, consumer products and the categories within which they can be considered. Consumer products are those, which are used by the customer for personal consumption or for household use. No longer does the simple paradigm of storefronts and tangible products dominate today's consumer marketplace. Instead, intangibles, like digital goods, are becoming more common consumer products. Whether the item is baby food, a cosmetic like lipstick, or even a cosmetic for a character in a video game, there is one underlying similarity: they are purchased. This contribution describes how consumer factors, such as age, education and socio-economic status influence purchase decisions and examines both the obvious and not so obvious categories of products available to global consumers. Marketing considerations discussed include customer buying behavior, distribution and effective promotional efforts for the different categories of products.

### 1.1 *What Is a Consumer?*

A consumer is a person who pays to consume the goods and services produced by a seller (Boundless 2016). A Consumer does not purchase items for use in manufacturing or for resale. They make the decision about whether to purchase an item and are personally influenced by marketing and advertisement campaigns. Consumers participate in a global marketplace through purchasing goods. Outside

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of a few personally independent subsistence farmers, all human societies use products, whether they are tribe members in New Guinea or executives in Beijing. Even some of the most remote regions of the world participate in global consumerism; for example, the Inuit people of Canada have replaced many of their dog sleds with factory-produced snowmobiles (Muse 2009). Starting from the beginning of mankind, we as a people have innovated, created, and developed visionary items that now play crucial roles in our daily lives. When developing a product for consumer use, it is important to consider the diverse characteristics of the potential user population, user interface, and the environment in which products are anticipated to be used.

While we are all consumers, there are many important categorizations to consider. While some products are only intended for a very small subset of consumers, other products are almost universal. Factors such as age, socio-economic status (SES), education, language, disability, and gender are demographic characteristics and attributes that best determine which product types will meet their individual needs as consumers.

Age plays an important role when it comes to product selection. For example, seniors are more likely to require health care products than younger people. Popular adolescent products include skateboards, clothing, and cellphones and their applications (apps). Products for infants are purchased and used by parents and caretakers, while products marketed to preschoolers are often tailored towards creativity or learning. For each age group, designers must consider how products can affect their users. For example, infant products are made to be safe to touch and ingest. Items made for older adults may enhance safety and aid in activities of daily living, such as hearing aids, reading glasses, and shopping carts.

Socio-economic status (SES) not only influences the types of products people can purchase, but also what products they are exposed to through peers, colleagues, travel and work. Wealth has played a critical role in global consumerism since early trade. Product designers consider SES when targeting market segments to buy their product. For example, the grocery store “Food for Less” locates its outlets in low SES regions across the United States while Whole Foods Markets are in locations where there are wealthier consumers. People with lower SES are more likely to play the lottery and purchase more processed foods. On the other hand, wineries often target affluent communities.

The education level of consumers affects income and as a result, the types of products that are preferred. People with less education may be more influenced by short term costs, and give quality lower priority in product selection. People with more education have different expectations about products, experiences and user environments. More educated individuals may be more likely to purchase educational books, magazines, and other learning devices. In a broader sense, more education is often correlated with wealth, which in turn affects purchase decisions.

There are approximately 6909 distinct languages spoken worldwide (Anderson 2010) and almost 200 countries (World Atlas 2015) inhabit our seven continents. Even with such a demographically rich population, we all require the same basic products. It is interesting to consider how goods around the world are translated

through many different cultures and ways of life. For example, language becomes important when addressing product safety. Literacy affects whether consumers can read and understand instructions and warnings. This can become a major issue when it comes to prescriptions and over-the-counter medications, as well as other potentially hazardous products such as cleaners and electric tools.

People with disabilities require specialized products to increase the accessibility of environments and products. Individuals with cognitive deficits such as autism, Down syndrome and brain damage may benefit from technology products. For example, there are apps that help people with language impairment to speak. There are many products for people with physical limitations including wheelchairs, and other mobility devices, prosthetics, grabbing and reaching devices, bathing aids, remote controls and visual alarms.

## ***1.2 What Is a Consumer Product?***

What do an iPhone, a baby stroller, and a table saw have in common? They are all physical objects that can be held, broken and generally have a resale value. They must be manufactured, and transported to consumers. The economic principles of supply and demand are largely applicable to any of these goods. Whether a product is this book you are reading or the shirt on your back, a global economy flourishes with eclectic sourcing. While the details of your shirt's construction may differ, the same principle generally applies: the shirt's cotton may be from Egypt, its dyes from India, and it may be assembled in Vietnam. Clearly, manufacturing both simple and more sophisticated products can involve many parts of the world. Table 1 is an overview of the categories of consumer products that are discussed in detail within the contribution.

### **1.2.1 Variety of Products**

There is a difference between mass, special interest and tailored products. For example, computer binary representations of a song differ drastically from a pet Dalmatian, yet both the dog and digital media are considered consumer goods. A hundred years ago, classifying products was simpler; now intangible goods, such as computer data or a service agreement, diverge greatly from many traditional products. The very fabric of "supply and demand" is unraveled with a nearly infinite supply of digital goods. Thus, we must adopt a broad approach to understanding consumer products, due to their diverse nature. Though intangible products (i.e. service agreements, insurance policies, etc.) existed a century ago, they were slow and costly to draft. These intangible goods of the last century still behaved like tangible goods regarding supply and demand, as the documents were limited in supply. In contrast, downloading a media file often costs less than a cent of electricity. Thus, creating copies of a computer file, and therefore supply of that

**Table 1** Types of consumer products

Marketing considerations	Convenience	Staples	Luxury	Specialty	Unsought	Emergency
Buying behavior	Purchased often, little planning, brand loyalty	Purchased often, viewed as necessary, based on availability	Requires deliberation, comparison	Requires product specific interest	Unplanned, response to persuasive promotion	Unplanned, response to unexpected event
Price	Inexpensive	Inexpensive	Expensive	Moderate to expensive	Inexpensive to moderate	Inexpensive to expensive
Distribution	Wide, large market	Virtually all households, mass appeal	Smaller target market	Limited target market	Limited target market	Large target market
Promotion	Value focused	Low profit, rarely on sale	Specialized and exclusive outlets, status focus	Specialized outlets	Persuasive ads, sales, salespeople	Focused on availability
Examples	Prepared foods, soap, toilet paper	Rice, milk, bread	Designer clothing, electronics	Athletic gear, pet supplies	Door-to-door sales, in-store promotions	Drain cleaner, cold medicines, coffins

good, is nearly free, and can model the quantity of many digital goods by assuming infinite supply.

Eating is a biological imperative so almost all consumers purchase at least some food. As every person reading this book has consumed food, cuisine is used to differentiate different product categories. Rice is a food that is regularly purchased by most people of the world. Staple foods, such as rice, are examples of products with mass appeal, which tend to be competitively priced and are sold in large volumes relative to special interest or tailored products. Consequently, the largest sectors of the food production market are dedicated to the production of staple foods. Truffles and saffron, on the other hand, are luxury foods that are sold much less frequently, are difficult to acquire, and are purchased by a much smaller subset of consumers. Luxury foods are one type of special-interest products, but food does not need to be a luxury to be special-interest. Niche foods (i.e. kosher or halal foods, gluten free, mock meat for vegan diets) are not widely consumed, but are not necessarily expensive. Consequently, niche foods are also a subset of special-interest products.

There are several categories of products that are discussed in this contribution: Convenience products are designed to save consumers' time; staple products do not require much customer effort or forethought and have mass appeal; comparison shopping products require thought and deliberation; luxury and specialty products require significant thought or effort and may be tailored to the consumer; reactionary and emergency products are items that customers are not aware of or do not think about until they need them; intangible products such as digital goods and services; non-consumer, industrial products; and self-service and do-it-yourself consumer choices.

## 2 Convenience Products

A convenience product is a product that consumers purchase with little planning, is routinely purchased and appeals to a large target market, and the consumer purchases it with little planning (Lombardo 2015). Such products typically appeal to a large market segment (Product Decisions Tutorial 2015a). Consumers' purchasing considerations differ depending on how much thoughtfulness played a role in buying. Spontaneously adding a pack of gum to a purchase at the check-out line is an example of a convenience product. The consumer uses little forethought or comparison to alternatives and these products are widely available at outlets such as gas stations, supermarkets and corner stores.

## ***2.1 Products to Save Consumer's Time***

There are millions of products currently on the market that are designed to save consumer's time. Consumers often use convenience products with the justification that time is money. The necessity to decrease time spent on essential daily activities, such as cooking, cleaning and running errands applies to most consumers, and products designed specifically for those purposes increasingly meet this need.

In order to understand this movement towards convenience, we can recall the classic American lifestyle as portrayed in the media of the 1950s as an example. In that era, women were typically stay-at-home mothers, who had time to cook, clean, and care for children as their primary responsibility. Clearly, that style of running a household is outdated with the majority of women worldwide now participating in the workforce (United Nations 2010), which reduces the time they have to manage household tasks. The development of prepared foods stemmed from the need to reduce food preparation time. One interesting note is that product developers actually had to scale back their efforts to economize all cooking, especially for baked goods. Women still felt the need to contribute at least some amount of effort to baking goods, rather than just mixing powder and water that results in brownies or a cake. They felt they needed the process of baking to remain intact, while reducing the preparation time, which is why most baking mixes require adding eggs or oil, yet still much more convenient than baking from scratch (Shapiro 2004).

Disposable travel goods are a convenience product and are the result of different circumstantial influences. Most travelers do not have the luggage space for full-sized toiletries, especially for short trips. Airline restrictions severely limit the amount of liquids that individuals are allowed to bring in their carry-on bag. Widely available disposable travel goods provide a solution to both of these issues. Airports, convenience stores, and grocery stores stock these, providing consumers with a quick and easy way to accomplish their hygiene needs while traveling.

Smart phone applications (apps) are another product that many may consider convenience products but do not comport with the typical description (purchased often), since apps are generally purchased only once. Those who make use of smart phone apps would be the first to agree that convenience these products provide is life enhancing. Various apps are available to make numerous tasks more convenient; for example, users can quickly and conveniently complete tasks that used to be time-consuming such as banking. Consumers can use apps to quickly and conveniently perform many tasks from their cell phones like staying current on news, doing research, translating languages, monitoring fitness, connecting with friends, and reading books and magazines.

These technologies are slowly replacing various consumer products. Although print and paper magazines and newspapers are still being produced, movement towards a fully technological world is occurring. Garnering information about the world has never been easier, and is instantaneous for many consumers. Another enormous draw to these apps is that they are usually free or priced low, sometimes

eliminating the cost of subscriptions and decreasing the amount of paper waste as a byproduct.

## **2.2 *Widely Available and Inexpensive***

In order for convenience products to reach their target market, they must have widespread availability. These products include many household items that can be purchased from a wide variety of retail outlets including department stores, supermarkets, convenience stores, drug stores, warehouse clubs, discount stores and even vending machines. Consumers typically have sufficient knowledge about the convenience products they wish to purchase such that there is little need for research or comparison-shopping. Therefore, convenience products do not require complicated information-based ads; promotions are focused on value and reminding the consumer the product is available (Lombardo 2015).

Because of the high manufacturing volume of convenience products such as food, personal care and cleaning products, pricing per item tends to be relatively low. Consumers often see little value in shopping around for these items since additional effort yields minimal savings (Product Decisions Tutorial 2015a). Therefore, consumers do not need to spend a lot of time contemplating such purchases and comparing similar items. Examples of widely available convenience products include disposable diapers, fast food and toilet paper.

Although convenience products typically do not require comparison-shopping, these items often exhibit brand loyalty by their consumers (Lombardo 2015). For example, if consumers crave a drink and snack, they can acquire these items at virtually any convenience store. Most consumers demonstrate brand loyalty because they have a favorite kind of soft drink and snack chip. There will always be a market for convenience products, because people have the need to divert their energy into activities that matter to them more than everyday perfunctory rituals like cleaning, personal hygiene and food preparation.

## **3 Staple Products**

There are some products that do not require much customer effort or forethought and are used by virtually every type of household. Products purchased regularly and out of necessity are considered staple goods. Like convenience products, these items have lower profit margins and because they are generally priced low, rarely go on sale (Hudson 2015). These products are usually restocked as they run out since they are viewed as necessary. Therefore, demand for staple goods rarely changes even when the price changes.

Food is an important category of staple products. There are more than 50,000 edible plants in the world, but just 15 of them provide 90% of the world's energy

intake. Rice, corn and wheat make up two-thirds of this. Other staple foods include millet, tubers and dairy products (Dunn 1993). Food staples traditionally depend on what plants are native to a region. However, with improvements in agriculture, food storage and transportation, some food staples are changing. For example, in the South Pacific Islands, tubers such as taro are a traditional food staple whose consumption has fallen while consumption of cereal grains not native to the islands has increased by about 40% (Dunn 1993).

Staple goods differ depending on where the consumer lives. While most Americans stocking their households consider milk, eggs and bread to be staples, other countries consider rice and corn to be necessary food staples. Whether people live in China, the United States or a country in South America, they will probably use toilet paper and eat some form of rice. Not a lot of thought will typically go into the decision of whether to buy these products and selection is based on availability, price, or feature (such as brown, white, or jasmine rice, etc.).

Other products are not quite staples, but have mass appeal. They have more variation in product types than staple goods. Examples include flatware, dishes, pens, bed linens, off the rack clothing and other household items. Some of these items also have luxury versions. For example, kitchen knives are found in virtually every household (see Fig. 1) and in a wide variety of stores. However, there are also high-end specialty knives for professional chefs as discussed below.

**Fig. 1** Some products are used by virtually all households, such as kitchen knives (Photo by Alison Vredenburgh)

