Companies negotiate the Web through a wide range of activities. The effective use of this new medium requires an in-depth understanding of the interaction of, and interface between, systems design and consumer behavior in the online environment. This book — *Web Systems Design and Online Consumer Behavior* — examines the underlying connectivity between structural features and perceptual dimensions, the understanding of which ultimately influences the effectiveness of the deployment of commercial Web sites and ultimately, the bottom line of firms conducting business online.

Research in this complex subject area involves an interdisciplinary exploration of issues involving system features, multimedia design, Web site usability, and consumer behavior. The findings and conclusions are broadly based upon communications theory, environmental psychology, marketing and advertising research, user interface design, and information systems research. This book aims to provide an integrated look at this subject to further our understanding of the linkage among various disciplines, which are inherently connected with one another in electronic commerce. This book presents insights into these relationships from the multiple perspectives of scholars in various disciplines, as well as through both theoretical treatment and empirical investigations of the topic from a variety of viewpoints.

The audience for this book includes scholars and practitioners in the fields of user interface design, Web site development, system design for Web marketing, human computer interaction, user acceptance of information technology, and e-commerce related research and practices. This book explores many of these topics throughout its 19 chapters.

Section I consists of five chapters on consumer behavior in Web-based commerce. Chapters I and II deal with consumer search behavior, Chapter III with shopping behavior, Chapter IV with interactive advertising, and Chapter V with consumer complaints.

Chapter I, *e-Search: A Conceptual Framework of Online Consumer Behavior*, by Kuan-Pin Chiang, Ruby Roy Dholakia, and Stu Westin, addresses consumers’ goal-directed information search in the online marketplace. They present a conceptual framework that explains consumers’ online search behavior. This framework explores the consumers’ choice to search information online and two sets of variables — domain and system, and interruptions and information load, which affect information search between and within Web sites.

Chapter II, *Information Search on the Internet: A Causal Model*, by Byung-Kwan Lee and Wei-Na Lee, addresses consumers’ online information search behavior and pre-
sents a causal model with sixteen research propositions. The model encompasses a broad range of factors including Internet specific factors such as skills, prior online purchase experience, and attitude toward the Internet as well as general antecedents such as situational, product-related, and individual factors. They also discuss the contribution and implications of the model to furthering understanding of online information search behavior.

Chapter III, Two Models of Online Patronage: Why Do Consumers Shop on the Internet?, by Yue Pan and George Zinkhan, explores the topic of Internet shopping with a special emphasis on consumer patronage behavior. Based on a review of literature in both traditional retailing and e-commerce, the authors identify promising predictor variables that help explain consumer patronage behavior in Web-based commerce, through the use of two conceptual models.

Chapter IV, How Consumers Think About ‘Interactive’ Aspects of Web Advertising, by Jang-Sun Hwang and Sally J. McMillan, addresses how consumers think about interactivity and how they interact with Web advertising. After an overview of previous research on Web advertising, the authors describe an empirical study that surveyed consumer-based understanding of Web advertising. The study explores the importance of interactive Web advertising in consumers’ everyday lives.

Chapter V, Consumer Complaint Behavior in the Online Environment, by Ji-Young Hong and Wei-Na Lee, concerns the way consumers communicate their negative experiences with products and services. The chapter offers a comprehensive assessment of the Internet as a viable complaint communication channel and details its related threats and opportunities. The authors present an integrated conceptual model of consumer complaint behavior. They argue that an in-depth understanding of both the psychological mechanisms underlying consumer complaint behavior and the characteristics of online communication and business are essential for the Internet to serve as a viable channel for complaint communication.

Section II consists of four chapters dealing with Web site usability and interface design. These chapters address specifically the impact of Web design on users and online customers.

Chapter VI, Web Site Quality and Usability in E-Commerce, by Mei Cao and Qingyu Zhang, explores the factors that affect a customer’s perception of Web site quality. Based on a review of the literature on information systems success, ServQual, and the concept of consumer trust, the chapter examines and integrates four sets of factors that capture the quality of e-commerce Web sites, namely, system quality, information quality, service quality, and attractor. The chapter develops a framework relating Web quality to customers’ beliefs, attitudes, and intentions, and offers guidelines on Web interface design.

Chapter VII, Objective and Perceived Complexity and Their Impacts on Internet Communication, by Qimei Chen, provides a general framework for addressing the relationship between objective complexity and perceived complexity and their impacts on Internet communication effectiveness. Chen proposes feasible, tangible measures of objective complexity, perceived complexity and optimal complexity followed by seven propositions that chart their relationships. Chen hopes that an examination of these relationships helps better explain consumer behavior on the Internet.
Chapter VIII, *Personalization Systems and Their Deployment as Web Site Interface Design Decisions*, by Nanda Kumar, addresses the impact of the deployment of personalization systems as Web site interface design decisions. Kumar argues that Web site interface design decisions made by organizations, such as the type and level of personalization employed by a Web site, have a direct impact on the communication capability of that Web site. Underscoring the practical relevance of these design decisions, this chapter also explores the impact of the deployment of personalization systems on users’ loyalty towards a Web site.

Chapter IX, *Extrinsic Plus Intrinsic Human Factors Influencing the Web Usage*, by Manuel Jesús Sánchez-Franco, aims to synthesize existing research into a unified framework of Web acceptance and usage. Sánchez-Franco develops a theoretical model based on the technology acceptance model (TAM) and flow theory to describe the extrinsic and intrinsic motivations for Web users. Sánchez-Franco argues that good measures for predicting and explaining Web use are of great value for practitioners, and that users like Web sites that allow them to develop an enduring and cost-effective relationship with the provider.

Section III consists of four chapters dealing with systems design for electronic commerce. Chapters X, XI, and XII address this topic from a system-wide perspective, while the remainder of the section explores specific areas — Chapter XIII on intelligent agents and Chapter XIV on product catalog and shopping cart design.

Chapter X, *Converting Browsers to Buyers: Key Considerations in Designing Business-to-Consumer Web Sites*, by C. Ranganathan and Elizabeth E. Grandon, explores key elements in designing B2C Web sites. The authors examine Web site design from two perspectives — how consumers evaluate the effectiveness of retail sites and a description of the elements top e-retailers use in their Web sites. The authors discuss the gap between current Web site practices and online consumer expectations and identify some important considerations in designing an effective B2C site.

Chapter XI, *User Satisfaction with Web Portals: An Empirical Study*, by Li Xiao and Subhasish Dasgupta, discusses the difference between vertical and horizontal Web Portals, and examines the impact of user characteristics such as gender, age, experience, and Web use on user satisfaction with Web portals. The authors find that users’ satisfaction with Web portals varies based on their years of work experience and that users who use Web portals the least are least satisfied with them. The authors also find that users of vertical portals are more satisfied than users of horizontal portals.

Chapter XII, *Web Design and E-Commerce*, by Xiaoni Zhang and Margaret Myers, reviews current development and research in the two closely related areas of Web design and electronic commerce. The chapter covers current research findings in Web design, and discusses current issues such as online marketing and online payment methods as well as future developments in electronic commerce.

Chapter XIII, *Shopping Agent Web Sites: A Comparative Shopping Environment*, by Ming Wang, addresses the shopping agent technology as a new Internet marketing trend. Wang discusses the technological composition and functionality of a shopping agent and argues that such agents provide value to both merchants and consumers in a comparison shopping environment.

Chapter XIV, *Product Catalog and Shopping Cart Effective Design*, by Penelope Markellou, Maria Rigou, and Spiros Sirmakessis, argues that consumers least favor
sites that fail to support a quick and easy shopping experience. The chapter addresses two of the frequently demonstrated design problems in Web-based commerce: online product catalogs and shopping carts. The authors identify the design features that assure the effectiveness of these two most crucial e-shop components and offer guidelines to practitioners in the design of e-commerce sites.

Section IV consists of three chapters dealing with customer trust and loyalty online. Chapter XV explores factors influencing customer trust, while Chapters XVI and XVII address customer loyalty.

Chapter XV, *Customer Trust in Online Commerce*, by Marios Koufaris, argues that the main reason that only a small percentage of Web users buy products or services online is their lack of trust in online companies and the Web in general as a safe place to make purchases. This chapter reviews and summarizes current research in the area of online customer trust. It discusses how customer perceptions about a company, its Web site, and the Web in general, as well as individual customer characteristics, affect how customer trust develops in online companies. Koufaris also offers a number of guidelines for companies to help them increase their customers’ trust in them.

Chapter XVI, *Turning Web Surfers into Loyal Customers: Cognitive Lock-In Through Interface Design and Web Site Usability*, by Manlio Del Giudice, focuses on how Web site elements such as interface design, tools provided, usability, and information may influence customer satisfaction and switching behaviors. Del Giudice discusses the strategic role played by a well-designed Web site in creating a positive switching barrier, in both the traditional sectors, and the expanding networked environment. Furthermore, Del Giudice develops a model which estimates customer switching costs to help better understand and manage this phenomenon.

Chapter XVII, *Internet Markets and E-Loyalty*, by Changsoo Sohn and Dong-Il Lee, argues that building customer loyalty is one of the ways e-businesses are trying to survive in the Internet market. The authors provide an overview of the Internet market place and discusses the role of critical components such as trust and switching costs in building customer loyalty. The authors also offers some e-businesses guidelines for enhancing customer trust levels and for establishing high switching costs in Web-based commerce.

Section V consists of two chapters addressing social and legal aspects of Web systems design and their impact on online consumers. Chapter XVIII focuses on recent patent cases involving Web system design techniques, while Chapter XIX concerns cultural and social issues on the Internet.

Chapter XVIII, *Web Systems Design, Litigation, and Online Consumer Behavior*, by Cherie Ann Sherman, discusses the potential impact on online consumers of recent court decisions regarding the patenting of software techniques used in Web site development. Sherman warns of the threat to future e-commerce development posed by some software patents and business method patents that were awarded in error. Sherman argues that as corporations become more aggressive in patenting Web-related inventions and asserting those patents against infringing Web sites, consumers will ultimately experience less variety on the Web. Sherman hopes to convey the benefits of conducting a legal audit for each Web site.

Chapter XIX, *Affording Cultural and Social Presence in E-Marketing*, by Robert Pennington, extends the concept of affordance, which is the result of interaction be-
tween a human and an object, from its original context of product design to the design of mediated environments. Pennington considers vividness and interactivity in mediated environments as prerequisite qualities for inducing a sense of presence, that is, a consumer’s perception of actually participating in a non-mediated, i.e., real environment. Pennington argues that well-designed mediated environments provide consumers with opportunities to modify relationships with their environments, and thus afford them, through their behavior, a cultural and social presence in the online environment. All chapters underwent a rigorous, double-blind refereeing process before final acceptance. We believe the readers will find these chapters informative and enlightening.