Preface

Information systems (IS) are playing an increasingly differentiated role in a digital economy. Once designed and implemented to support the full or partial automation of an organization’s internal and inter-organizational processes, today’s networked and Web-based IS are routinely used to broaden and deepen an organization’s relations with its retail customers or consumers. Businesses are deploying Web-based IS not only to enable self-service sales transactions, but also to support and enhance a whole host of activities leading up to and beyond the transaction itself. These activities include brand awareness raising, product display and evaluation, search and recommendation, consumer decision-making, vendor evaluation, and consumer communities. At the same time consumers are adopting a more active stance and using web-based IS to participate to a greater degree than previously in the co-production, distribution, consumption, and peer evaluation of goods. In short, the emergence of Web-based IS has contributed to a transformation in the relations between enterprise and consumer, between consumer and other consumers, and the complexity of the systems used in support of this transformation.

The term Web-based consumer information systems (CIS) refers to a group of applications that use digital technologies to involve consumers in the production, distribution, and consumption of products and services; and in the generation of information about them. The emergence of CIS is due to a digital infrastructure that is increasingly interoperable—one that enables the capture, storage, retrieval, analysis, and display of information across a range of platforms, tools, and devices. As a result, today’s digital consumer is more likely than ever to actively seek, search, and evaluate information about a number of aspects that contribute to an informed transaction. These aspects include information about the range and attributes of the goods available, expert opinion, the experiences and evaluations of other consumers, and vendor reputation. In their design, CIS emphasize principles of participation, conversation, openness, connectedness, and community. Participation encourages critical mass; conversation encourages consumers to initiate and respond to feedback; and openness allows consumers to exchange information easily. A principle of connectedness underpins convergence between different applications within and across media; while the design of community spaces enables consumers to share and sustain their interests over a longer period of time. While the value described here is principally for consumers, organizations also leverage value from such systems through aggregation and personalization.

Despite the demonstrable take-up and use of Web-based CIS, there has been little systematic scholarly treatment of the topic that combines an understanding of consumers’ information needs, behaviors, and uses on the one hand, with an understanding of how to design and implement information systems that address these information needs and behaviors on the other. As the trend for CIS continues to grow, it is timely to afford them more attention, and to study and examine the design, implementation, and use of such systems in a more systematic fashion. With this aim in mind, the volume organizes its approach to CIS according to three themes: designing and building consumer information systems; business value of consumer information systems in a digital economy; and consumer value of consumer information systems in a digital economy. From one perspective, CIS are designed and implemented to support the information needs and decision-making processes of consumers, with information handled and evalu-
ated in some form at each stage of the purchasing process. At the pre-purchasing stage, consumers will typically spend a good deal of their time searching and browsing for information relevant to their needs, and channels through which this information can be found include web search, online advertising, and other online and offline consumers. At the purchasing stage, consumers will typically require navigational aids, information about product attributes, and consumers’ experiences and evaluations of particular goods and vendors. At the post-purchasing stage, information exchange and communication will continue as part of a businesses’ customer relationship management. Through using CIS consumers are able to reduce their search costs, browse widely or economize their attention as appropriate, and contribute consumer-generated content.

CIS are changing not only the quantity and quality of information available to the consumer, but are also changing the relations between consumers and enterprise, with the latter being able to leverage both participation and data from the former. For example, businesses can use CIS for consumer-facing solutions and innovation, aggregating the intelligence in the consumer base. In addition to delivering organizational solutions, businesses can also benefit from consumers’ willingness to participate in co-creation and co-production. For example, NIKEiD allows consumers to customize their own footwear, clothing, and equipment; Threadless allows the community to decide the design and production of t-shirts; Coca Cola has engaged with consumers through its eYeka co-creation community to elicit new ways of delivering on its ‘energizing refreshment’ promise; Starbucks uses its My Starbucks Idea community to involve consumers in the creation of new products for Starbucks; and Procter and Gamble’s Connect + Develop programme invites the public to contribute ideas for new products and solutions.

In a digital economy, consumers have the capacity to be a prosumer contributing actively to the shaping and reception of goods. Often consumers engaging in value co-creation are not interested in material value but are more interested in the experiential value of the activities (Kozinets, 2002). Taking advantage of the democratic potential of the Internet, consumers are using authoring and social media tools to generate and distribute digital content, as well as access the variety of information and opinions generated by others. Consumer generated content (e.g., product ratings, reviews, and recommendations) serve as salient sources of information for consumers’ decisions, and are indeed perceived to have greater reliability and relevance than commercial information sources. For example, research shows that 81% of travelers find user reviews and opinions important when determining which hotel to stay at during their trip (Forrester, 2010). As a result, companies are under scrutiny as consumer generated content exerts its influence, and negative evaluations sometimes have an effect that is often disproportionate to their quantity.

It is evident that CIS differ from conventional IS in a number of ways. First, as the name implies, it is consumers who are the main target group for CIS; and it is consumers who use such Web-based systems to explore and shape their experience with the enterprise, its products, and other consumers. In contrast, it is employees of organizations who are the main target group for conventional IS. Second, CIS are consumer-focused and aimed at enhancing the consumer experience, by enabling self-service, consumer search and decision making, and increasing channels of communication between consumers and others. Again, conventional IS are conventionally designed to support efficiency and productivity gains within an organizational context. Third, the democratic principles of participation, conversation, openness, connectedness, and community, characteristic of such Web-based CIS, are in marked contrast to the relatively more managed, hierarchical, environments typical of organizations. In sum, CIS can be regarded as a research area that investigates the design, development, and application of systems whose primary focus is the support and enhancement of the consumer experience. Pertinent research questions to consider are: What conditions have contributed to the emergence of CIS? What are the specific
characteristics of CIS in comparison to conventional office and business information systems? How can CIS be used to improve the consumer experience? How can particular consumer information processes (e.g. search, decision making) be improved? How should designers approach the complex problems of designing systems that will not only provide new information, but will also change the nature of the relationship between businesses and consumers? Responding to such questions requires a multi-disciplinary perspective (e.g., information systems, management, and marketing) on the design, use, and impact of CIS and the consumer practices they support. The book is organized into three main research themes: designing and building consumer information systems; business value of consumer information systems in a digital economy; and consumer value of consumer information systems in a digital economy.

OUTLINE OF THE BOOK

Designing and Building Consumer Information Systems

This section focuses on the design and development of CIS. It examines and discusses, for example: What challenges must be addressed when designing and developing CIS? What methodologies can be used to develop complex CIS?

Tuunanen, Myers, & Cassab’s chapter on Consumer Information Systems Development: Challenges for Cross-Disciplinary Research calls for a significant re-appraisal of the current information systems development methods used for designing and developing CIS. The chapter argues that in terms of their purpose and scope emerging CIS are fundamentally different from traditional IS. The focus of CIS, which shifts from organizational users to consumers, has subsequently raised the issue of whether current IS development methodologies are able to meet the specific objectives of CIS. One of the added complexities of CIS design identified in the chapter is that of CIS requirements and their analysis. What is the most efficient way to reach the end-users of a CIS? How can diverse system requirements be captured? How can consumers be involved most effectively in the systems development process? Given these challenges, the chapter proposes a research agenda focusing on the systematic development of CIS. Using an interactive television system as an illustrative example, the chapter highlights a series of issues that researchers as well as systems designers should consider in adopting a holistic approach to CIS development.

Bastek, Tuunanen, & Gardner’s chapter on Consumer Information Systems as Services – A Case Study of the IPTV Providers argues that, as a new type of information system, CIS not only provide services to consumers but also enable consumers to participate in the creation and production of the CIS. In this case, the CIS is regarded as the collection of services and tools through and with which consumers are able to access, process, and manipulate data over a network. The chapter presents a conceptual framework that describes the elements of the CIS and presents the results of an exploratory case study into the development of an Internet TV service. Viewing a CIS as a collection of services and tools requires systems developers to pay close attention to the characteristics of the service and where appropriate trade-offs between a high service level, productivity, and quality. In sum, the chapter provides an alternative view of a CIS as a collection of services and tools and an accompanying framework for the further development and mass customisation of CIS based digital services.

Robertson, Rabhi, & Peat’s work on A service-oriented approach towards real time financial news analysis examines the difficulties that retail investors face when wanting to gather news about companies in their financial portfolio; and proposes a service-oriented system designed to offer real time financial
news analysis to consumers. In the chapter consumers are individual investors who, because of associated perceived risks, will frequently engage in an intensive search for financial information prior to deciding on a share purchase. The CIS in this context are the tools that support consumers in their acquisition of financial and other information prior to their making a decision, and enabling consumers to conduct transactions without the intervention of financial intermediaries. The chapter focuses on the development of financial tools to support individual investors’ information search activities; and highlights the difficulties that consumers are faced with when obtaining information on the stocks in their portfolio from a multitude of different sources. With the aim of providing consumers with a useful tool to perform information searching and analysis, the chapter presents a prototype designed to address the challenges of providing investor information at different architectural layers, e.g. business process, analysis, data and infrastructure; a prototype designed to leverage existing news repositories and perform financial news analysis in real time.

Business Value of Consumer Information Systems in a Digital Economy

Section two focuses on the business value of CIS and identifies and examines such questions as: What CIS are being used by businesses for customer support and marketing purposes? What are the business benefits of CIS? How can CIS be used to involve consumers in the creation of business value?

Constantinides’s chapter on Social Media Marketing: Challenges and Opportunities in the Web 2.0 Marketplace reviews and discusses the role of social media in marketing. Social media, a subset of CIS, has radically changed the way in which consumers communicate, interact, share, and search information prior and after purchase. This is principally due to the fact that technologies enable the rapid communication of consumer-generated content, and afford new opportunities for networking and collaboration between consumers. The chapter outlines the nature, effects, and status of social media, and underscores their role as agents of customer empowerment. It explains social media’s capacities and possible role in corporate marketing strategy, and identifies different ways of engaging with social media as a marketing tool. The chapter proposes two possible social media marketing strategies: passive and active. The passive approach focuses on utilizing the social media domain as a source of consumer voice and market intelligence; while the active approach explores the use of social media as a tool for direct marketing and PR, a channel for customer influence, a way of supporting mass personalization; and a platform for facilitating business-consumer collaboration and innovation. The chapter concludes by identifying future research directions in consumer information systems and social media marketing.

Rashid & Wang’s chapter on Value of Co-creation in Cloud Service draws together the two timely topics of cloud computing and value co-creation, arguing that the value of cloud computing is co-created by service providers and consumers. Adoption of cloud computing services to solve organizational computing issues has become a distinctive trend. Software and IT infrastructures that are traditionally regarded as products that require up front capital investment are becoming more like utility services with consumers paying for actual consumption only. Since both organizational and individual users pay a fee to providers of cloud computing services for the services they consume they are both understood as consumers in this chapter. While the benefits of cloud computing to consumers have been identified and discussed in previous studies; this chapter’s contribution lies in its advancing the argument that the real value of cloud computing rests not in pre-defined benefits but in the interaction between service providers and consumers. This is particularly true for organizational consumers who have specific needs and require service providers to work with them to tailor their services. The chapter concludes by
outlining the business opportunities available in the co-creation of cloud services, and proposing future research directions.

Sasinovskaya & Anderson’s chapter on Customer involvement through online communities argues that consumers are becoming an important source of innovation and collaboration; with consumers’ desire to create value and to develop products creating a win-win situation for both consumers and companies alike. The chapter addresses questions such as: How can companies’ marketing and product development activities benefit from engaging in online communities? What motivates members to participate in online communities? What are the critical success factors and key risks in employing community models? To answer these questions three types of online communities are identified and reviewed; each of which potentially has business value, both for production innovation and for marketing. The chapter argues that not all communities serve the same purpose, and that companies who want to use CIS should ensure that the creation of the community and its tools meet a defined business objective. Illustrative examples are used to demonstrate how different communities display different characteristics and different ways of engaging with consumers.

Scifleet & Lin’s chapter on The Strategic Value of Consumer Information Systems: Changing the face of business and consumer connections at Nike continues the arguments submitted by previous chapters and provides empirical evidence to demonstrate the strategic importance of consumer information systems in value co-creation processes. This chapter discusses the theories, concepts and practices informing new modes of consumer co-creation and co-production in business and the role of consumer information systems in supporting those processes. The chapter uses Nike as a case study to illustrate how both the company and consumers are able to derive benefits from value co-creation process supported by consumer information systems. The chapter highlights the current gap in the information systems research and argues that the strategic value of CIS in terms of creating value for consumers is understudied; and the questions of social shaping of CIS have remained untouched.

Consumer Value of Consumer Information Systems in a Digital Economy

Section three provides a consumer perspective on CIS; discusses the role that CIS are now playing in consumer decision making; and addresses the implications that CIS have for the consumer online experience.

Lorenzo-Romero, Constantiniades, & Gómez-Borja’s work on Web Experience Effects in a Virtual Shopping Interaction Environment discusses the concepts of web atmospherics and web experience in the particular context of online shopping. Starting from the broader perspective of the user experience, the chapter identifies the main influences on consumer behavior in a web-based environment and assesses the role, degree and importance of usability, trust and other dimensions of web experience on consumer decision-making processes and responses. The chapter presents the results of a comparative study of how web experience (WE) factors influence consumer behavior in different cultural settings. The findings illustrate how WE factors affect consumer decision-making, and identifies how a consumers’ choice of online vendor will depend on the cultural setting. The chapter highlights the fact that when designing the user interface for consumer information systems, companies not only need to consider WE factors but also need to take into account the specific cultural setting.

Lin & Foster’s Electronic word-of-mouth (eWOM) and its influence on book purchasing decisions: A study of the Anobii digital bookshelf explores the effects of consumer review systems on consumer decision-making. The current literature has explored the importance and role of electronic word-of-mouth (eWOM) in marketing and sales and it is generally believed that positive eWOM is likely to lead to increased sales. Evidence also points to the fact that readers rely to a great extent on online consumer
reviews before they make a purchasing decision. This chapter contributes to previous studies in this area by providing insight into whether and how online consumer reviews influence readers’ attitudes towards books and their purchasing decisions. The chapter presents findings from an analysis of a set of consumer messages, posted to the book review site Anobii.com, about the influence of online book reviews on their book purchasing decisions. Based on the findings of the study, the chapter argues that a number of attributes of online consumer reviews e.g. source credibility, review format and quality, hosting website reputation, and informational and social influences, can determine whether and to what extent online book reviews influence readers’ attitudes and purchasing decisions.

Foster’s chapter *What do Chinese fashion consumers talk about when they talk about fashion? Exploring diffusion of innovation in a networked information economy* examines how fashion consumers influence each other’s adoption and consumption of fashion through online interaction. A distinctive feature of a networked information economy is the emergence of participative and interactive consumers, who actively contribute to the design of new products and play an influential role in ushering in the reception of goods into the marketplace. These new Internet-enabled consumer communities are said to be responsible for a new wave of fashion innovation. Through communications and the routine exchange of information online, consumers are able to influence fashion tastes and to an extent the direction of fashion trends. Building on Rogers’ diffusion of innovation theory the chapter presents findings from a content analysis of a selection of messages from a popular Chinese consumer fashion forum. The findings suggest that most Chinese fashion consumers are fashion followers rather than change agents. As such there is a tendency for Chinese consumers to use online forums less as a tool of influence and more as a way of acquiring information that enables users to be aware of and to follow current fashion trends. Recommendations for further research are provided.

The book is concluded with Foster’s chapter on *Valorising the cultural content of the commodity: On immaterial labour and new forms of informational work*. Drawing on the thesis of immaterial labour this chapter explores how these new forms of informational work e.g. information aggregation systems for accessing the judgments of many minds, the distribution of digital free, and opportunities for the co-production of information goods, have emerged to valorise the cultural content of the commodity. The chapter offers theoretical underpinning of the new forms of information work in the digital economy which also explains phenomena discussed in the previous chapters. The chapter begins by introducing the topic of information goods, and by identifying the main tenets of immaterial labour. This is followed by a discussion of these new forms of informational work within the context of proprietary and non-proprietary information production. The chapter concludes with a critique of the exploitation and use of immaterial labour in a networked information economy.

**REFERENCES**
