

**Knowledge Development  
Center for Services Leadership  
2012 Faculty Research Abstracts**

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# CSL Faculty Network Research Abstracts

## Overview

Through its faculty network of 60 members, the Center for Services Leadership (CSL) is focused on conducting cutting-edge service(s) research that delivers significant business value to companies and significant academic value to faculty and the CSL. This unique approach enables the CSL to address leading-edge service(s) opportunities and challenges of businesses while also driving thought leadership in the service(s) field.

Through its research, the CSL and its Faculty Network are known as leaders in knowledge development in the services discipline.

The collection of abstracts is representative of current and recently published research being conducted by the CSL Faculty Network. This is not an exhaustive collection of all the research being done. This list will continue to grow and become more dynamic throughout the year as contributions are added.

This collection of abstracts is organized around themes identified in the 'Moving Forward and Making a Difference: Research Priorities for the Science of Service' (*Journal of Service Research*, Feb 2010, and <http://wpcarey.asu.edu/csl/knowledge/Research-Priorities.cfm>).

All contributions are authored by the CSL's 60 Faculty network members. To view brief bios and contact information for these faculty members please follow the links provided.

Research Faculty

[http://wpcarey.asu.edu/csl/knowledge/research\\_faculty.cfm](http://wpcarey.asu.edu/csl/knowledge/research_faculty.cfm)

Global Faculty

[http://wpcarey.asu.edu/csl/knowledge/global\\_faculty.cfm](http://wpcarey.asu.edu/csl/knowledge/global_faculty.cfm)

Distinguished Faculty

[http://wpcarey.asu.edu/csl/knowledge/distinguished\\_faculty.cfm](http://wpcarey.asu.edu/csl/knowledge/distinguished_faculty.cfm)

## **MOVING FORWARD AND MAKING A DIFFERENCE: RESEARCH PRIORITIES FOR THE SCIENCE OF SERVICE\***

Amy L. Ostrom, Arizona State University  
Mary Jo Bitner, Arizona State University  
Stephen W. Brown, Arizona State University  
Kevin A. Burkhard, Arizona State University  
Michael Goul, Arizona State University  
Vicki Smith-Daniels, Arizona State University  
Haluk Demirkan, Arizona State University  
Elliot Rabinovich, Arizona State University

Given the significant, sustained growth in services experienced worldwide, Arizona State University's Center for Services Leadership embarked on an 18-month effort to identify and articulate a set of global, interdisciplinary research priorities focused on the science of service. Diverse participation from academics in a variety of disciplines working in institutions around the world—in collaboration with business executives who lead organizations ranging from small startups to Global 1000 companies—formed the basis for development of the priorities. The process led to the identification of 10 overarching research priorities. In addition, for each priority, several important and more specific topic areas for service research emerged from the process. The intent is that the priorities will spur service research by shedding light on the areas of greatest value and potential return to academia, business, and government. Through academic, business, and government collaboration, we can enhance our understanding of service and create new knowledge to help tackle the most important opportunities and challenges we face today.

Research Category: **Service Thought Pieces**

\* This article appeared in *Journal of Service Research*, "Moving Forward and Making a Difference: Research Priorities for the Science of Service," 13 (1), 4-36.

## **THE SERVICE IMPERATIVE\***

Mary Jo Bitner, Arizona State University  
Stephen W. Brown, Arizona State University

This paper captures our thinking regarding what we call the “service imperative” or the compelling global need to focus energy around service research and service innovation.

The service imperative has resulted from the relentless growth of services in economies around the world, combined with a relative lack of investment in service innovation and research by companies, governments and academic institutions. We discuss the resulting need to build a stronger and deeper science of service on a foundation of research and innovation. We also present existing best practices of innovative organizations that focus on their customers and compete effectively through service. We conclude with practical guidance for companies, universities, and governments in support of the service imperative. It is our belief that widespread embracing of the service imperative can lead to improved prosperity for nations, new ways to compete for companies, and improved well being for individuals worldwide.

Research category: **Service Thought Pieces**

\*This paper appeared in the 50<sup>th</sup> Anniversary Edition of *Business Horizons*, January-February 2008.

## **AN ANALYSES OF PARADIGMS IN SERVICE RESERACH\***

Bård Tronvoll, University of Karlstad  
Stephen W. Brown, Arizona State University  
Dwayne D. Gremler, Bowling Green State University  
Bo Edvardsson, University of Karlstad

Service research has successfully evolved over several decades and is becoming a research discipline of its own. Throughout its development, this research has mainly focused on practical issues related to managerial relevance. There has been little, if any, ontological and epistemological discussions, nor much commentary about the paradigmatic assumptions of the research field. Major dialog about a service dominate logic (SDL) and the movement to create a multidisciplinary service science also suggest some of the limitations of service research to date. Recognizing these shortcomings, this paper assesses to core characteristics of major services articles, examines different epistemological foundations and then proposes a framework to describe and better understand the development and future of service research. The framework offers a guide to paradigmatic and methodological analysis of service research and contributes to discussion about the future of this emerging discipline.

## **UNDERSTANDING SERVICE SYSTEMS AND OPERATIONS: A CLOSER LOOK AT THE MINORITY REPORTS**

James C. Spohrer, IBM

\* Haluk Demirkan, Arizona State University

While there is a rapid growth in the number of researchers and practitioners joining the service science community to better understand services, service operations and service innovation, this community has not yet reached consensus on precise answers to two fundamental questions: “What is service?” and “Where is the science (in service science)?” After performing an extensive review, this paper examines possible answers to these two fundamental questions from the traditional economist perspective (intangible product, service sector, prices and productivity), a splinter marketing perspective (service-dominant-logic and value-cocreation) and a splinter systems perspective, closer to ecology (diversity, sustainability and quality of life). Then, it proposes the Abstract-Entity-Interaction-Outcome-Universals (AEIOU) theory to discuss the science of service systems as a new way to describe the understanding and innovation of service-producing entities instead of following traditional “bricks-and-mortar product development processes and platforms,” and seeks a formal and universal framework in which to understand entity, interaction, and outcome patterns of service systems. The AEIOU theory defines service separation as customers' absence from service production, which denotes the spatial separation between service production and consumption. Service separation increases customers' perceptions of not only access and benefit conveniences but also performance and psychological risks. Specifically, relative to experience services, for credence services, the effects of separation on service convenience are mitigated, and the effects on perceived risk are magnified.

Research Category: **Service Thought Pieces**

\* Corresponding Author

Spohrer, J. C. and Demirkan, H., “Understanding Service Systems and Operations: A Closer Look at the Minority Reports,” Working paper, Arizona State University, 2011.

## **SERVICE-ORIENTED TECHNOLOGY AND MANAGEMENT: PERSPECTIVES ON RESEARCH AND PRACTICE FOR THE COMING DECADE**

\* Haluk Demirkan, Arizona State University  
Robert J. Kauffman, Singapore Management University  
Jamshid A. Vayghan, IBM  
Hans-Georg Fill, University of Vienna  
Dimitris Karagiannis, University of Vienna  
Paul P. Maglio, IBM

Service-oriented technologies and management have gained attention in the past few years, promising a way to create the basis for agility so that companies can deliver new, more flexible business processes that harness the value of the services approach from a customer's perspective. Service-oriented approaches are used for developing software applications and software-as-a-service that can be sourced as virtual hardware resources, including on-demand and utility computing. The driving forces come from the software engineering community and the e-business community. Service-oriented architecture promotes the loose coupling of software components so that interoperability across programming languages and platforms, and dynamic choreography of business processes can be achieved. Nevertheless, one of today's most pervasive and perplexing challenges for senior managers deals with how and when to make a commitment to the new practices. The purpose of this article is to shed light on multiple issues associated with service-oriented technologies and management by examining several interrelated questions: Why is it appropriate now to study the related business problems from the point of view of services research? What new conceptual frameworks and theoretical perspectives are appropriate for studying service-oriented technologies and management? What value will a service science and business process modeling offer to the firms that adopt them? And, how can these approaches be implemented so as to address the major challenges that organizations face with technology, information and strategy? We contribute new knowledge in this area by tying the economics and information technology strategy perspectives to the semantic and design science perspectives for a broader audience. Usually the more technical perspective is offered on a standalone basis, and confined to the systems space – even when the discussion is about business processes. This article also offers insights on these issues from the multiple perspectives of industry and academic thought leaders.

Research Category: **Service Thought Pieces**

\* Corresponding Author

Demirkan, H., Kauffman, R.J., Vayghan, J.A., Fill, H-G., Karagiannis, D. and Maglio, P.P., (2009) "Service-Oriented Technology and Management: Perspectives on Research and Practice for the Coming Decade," *The Electronic Commerce Research and Applications Journal*, 7 (4), 356-376, Jan .

## **AN INTERDISCIPLINARY PERSPECTIVE ON IT SERVICES MANAGEMENT AND SERVICE SCIENCE**

Indranil Bardhan, University of Texas at Dallas

\* Haluk Demirkan, Arizona State University

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Robert J. Kauffman, Singapore Management University

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The increasing importance of information technology (IT) services in the global economy prompts researchers in the field of information systems (IS) to give special attention to the foundations of managerial and technical knowledge in this emerging arena of knowledge. Already we have seen the computer science (CS) discipline embrace the challenges of finding new directions in design science toward making services-oriented computing approaches more effective, setting the stage for the development of a new science of service science, management, and engineering (SSME). This article addresses the issues from the point of view of service science as a fundamental area for IS research. We propose a robust framework for evaluating the research on service science, and the likely outcomes and new directions that we expect to see in the coming decade. We emphasize the multiple roles of producers and consumers of services-oriented technology innovations, as well as value-adding seller intermediaries and systems integrators, and standards organizations, user groups and regulators as monitors. The analysis is cast in multidisciplinary terms, including CS and IS, economics and finance, marketing, and operations and supply chain management. Evaluating the accomplishments and opportunities for research related to the SSME perspective through a robust framework enables in-depth assessment in the present, as well as an ongoing evaluation of new knowledge in this area, and the advancement of the related management practice capabilities to improve IT services in organizations.

Research Category: **Service Thought Pieces**

\* Corresponding Author

Bardhan, I., Demirkan, H., Kannan, P.K. Kauffman, R. J. and Sougstad, R. (2010) "An Interdisciplinary Perspective on IT Services Management and Services Science", *Journal of Management Information Systems*, 26 (4), 13-65, Spring.

## **TRANSFORMING PRODUCT FIRMS INTO SUCCESSFUL SERVICE PROVIDERS**

Stephen W. Brown, Arizona State University  
Anders Gustafsson, Karlstad University  
Lars Witell, Karlstad University

Many product dominant firms have started to emphasize the service side of their business in order to establish a relationship with their customers throughout the entire life-cycle of their installed product base. There are several reasons for doing this, from increased profits and an improved competitive position to making a radical change in the way they do business. A change from being a manufacturer or product company to being a service provider can be described as an evolutionary transition from pure goods into a more service-oriented mixture of market offerings. Despite the attractiveness and the pitfalls of moving into services, relatively little guidance is available to help firms make such a transition. This work addresses that gap by examining the factors that differentiate traditional manufacturers and product firms from those that are successfully transitioning into services. This research is based on over 20 case studies, a large survey of European-based companies and the authors' personal experiences

Research category: **Service Infusion and Growth**

\* An article based on part of this research appears in the Wall Street Journal, June 22, 2009

## **MATCH OR MISMATCH: STRATEGY-STRUCTURE CONFIGURATIONS IN THE SERVICE BUSINESS OF MANUFACTURING COMPANIES**

Heiko Gebauer, University of St Gallen  
Bo Edvardsson, Karlstad University  
Anders Gustafsson, Karlstad University  
Lars Witell, Karlstad University

A new trend seems to be emerging for multinational manufacturing companies to make a strategic reorientation into becoming service providers. For some companies such as Kone and IBM, the revenues from services are 50% or more of their total sales. Despite the increasing interest in exploring various aspects of the service part of the business in manufacturing companies, existing research has not focused on the interdependencies between different service strategies and organizational designs. This paper studies different service strategies in manufacturing companies and highlights the organizational design necessary for implementing each service strategy. The service strategies explored are after-sales service providers, customer support service providers, outsourcing partners and development partners. Each service strategy is supported by organizational design factors related to the service orientation of corporate culture, the service orientation of human resource management and the service orientation of organizational structures. This research concludes that a specific strategy-structure configuration is needed in order to succeed with a chosen service strategy.

Research category: **Service Infusion and Growth**

Forthcoming in *Journal of Service Research*

# **SERVICE DIFFERENTIATION AS A MODERATOR IN RELATIONSHIPS AMONG MARKET TURBULENCE, CUSTOMER CENTRICITY, INNOVATIVENESS AND BUSINESS PERFORMANCE\***

Heiko Gebauer, University of St Gallen  
Anders Gustafsson, Karlstad University  
Lars Witell, Karlstad University

This paper examines the relationship among the complexity of customer needs, customer centricity, innovativeness, service differentiation, and business performance within the context of companies' transitions from being product providers to being service providers. The basis for the empirical investigation is a survey of 332 manufacturing companies. One key finding of the study is that a strong emphasis on service differentiation can lead to a manufacturing firm's strategies for customer centricity being less sensitive to increasingly complex customer needs, and can increase a firm's payoff for customer centricity. In contrast, the payoff from innovativeness appears to be higher if the firm focuses its resources on either product or service innovations, that is, a dual focus does not work well. This finding illustrates the interrelation among customer centricity, innovativeness and service differentiation as a company transitions from being a product provider to a service provider, and therefore has important implications for both managers and researchers.

Research category: **Service Infusion and Growth**

In second round of review in *Journal of Business Research*

# ADOPTING A SERVICE LOGIC IN MANUFACTURING: CONCEPTUAL FOUNDATION AND METRICS FOR MUTUAL VALUE CREATION \*

Christian Grönroos, Hanken School of Economics Finland  
Pekka Helle, Hanken School of Economics Finland

This article offers an answer to the call for understanding how product manufacturers can move onto a new level of competitive advantage by adopting a service perspective (logic), and for the development of metrics that enhances marketing accountability. The article takes the stance that developing industrial services into a separate business is not enough, but in order to take a *quantum leap* the whole business should be transformed into a service business. In order to make such a transformation process possible and the outcome of it measurable, the article develops a number of constructs:

- Practice matching (enabling the creation of a foundation of service-based business engagement)
- Mutual value creation and value sharing (enabling the understanding of how mutual gains in the engagement can be created and shared between the parties)
- Joint productivity and joint productivity gain (enabling measurement of incremental value reciprocally created between the parties)

Metrics are developed and tested in a longitudinal empirical study.

Research category: **Service Infusion and Growth**

\* This research has been published in the *Journal of Service Management*, (21)5:564-590

# **RETURN ON RELATIONSHIPS: CONCEPTUAL UNDERSTANDING AND MEASUREMENT OF MUTUAL GAINS FROM RELATIONAL BUSINESS ENGAGEMENTS**

Christian Grönroos, Hanken School of Economics Finland  
Pekka Helle, Hanken School of Economics Finland

Relationship is based on the idea of creating a win-win situation for parties involved in a business relationship. The purpose of this project is to develop a model of mutual value creation and reciprocal return on relationships assessment which enables calculation of joint and separate gains from a relational business engagement. The empirical part is based on a longitudinal empirical study including several empirical cases.

Following a practice matching process, resulting in mutual innovation and aligning of their processes, resources and competencies, the parties in a business engagement make investments in the relationship. This enables the creation of joint productivity gains. Valuation of joint productivity gains produces an incremental value, which can be shared between the parties through a price mechanism.

Based on this shared value and costs of investments in the relationship, a reciprocal return on the relationship can be assessed and split between the business parties. Thus, the financial outcome of the development of customer relationships as well as an assessment of the return on relationships with customers/suppliers can be established. This forms a basis of further development of marketing metrics and financial contribution of marketing, and of developing financial measures of intangible assets called for by the finance and investor communities.

## **THE SERVICE INFUSION CONTINUUM: GROWING SERVICES IN PRODUCT-DOMINANT COMPANIES**

Valarie A. Zeithaml, University of North Carolina  
Stephen W. Brown, Arizona State University  
Mary Jo Bitner, Arizona State University

Our research examines the question: What do executives of product-dominant companies need to do strategically inside their organizations to successfully grow services? Through a review of existing literature, combined with interviews with executives from five leading product-dominant companies, we develop what we call The Service Infusion Continuum that provides a strategic framework to guide executives in making the transformational changes needed to grow services. The continuum arrays services ranging from traditional entitlement services, or services supporting products, to the higher value, complex services and solutions supporting customers. As firms strive to successfully move across the continuum, we identify and examine six factors that they must change. We refer to these factors as the 6C's – customization, capabilities, company structure, culture, collaboration with customers and challenges. We provide managerial insights for managers who seek to infuse services into their strategies and identify research and practice gaps that remain to be addressed.

Research Category: **Service Infusion and Growth**

This research was supported by five *Fortune 100* Center for Services Leadership member firms. A working paper based on this research is under review at a journal.

## **A CONCEPTUAL FRAMEWORK OF THE DOMAIN OF EVIDENCE-BASED DESIGN\***

Roger S. Ulrich, Texas A&M University  
Leonard L. Berry, Texas A&M University  
Xiaobo Quan, Center for Health Design  
Janet Turner Parish, Texas A&M University

The physical facilities in which healthcare services are performed play an important role in the healing process. Evidence-based design in healthcare is a developing field of study and holds great promise for benefiting key stakeholders: patients, families, physicians, nurses, other staff, and healthcare organizations. In this paper, we present and discuss a conceptual framework intended to capture the current domain of evidence-based design in healthcare. In our framework, the built environment is represented by nine design variable categories: audio environment, visual environment, safety enhancement, wayfinding system, sustainability, patient room, family support spaces, staff support spaces, and physician support spaces. Further, we present a series of matrices that indicate knowledge gaps concerning the relationship between specific healthcare facility design variable categories and participant and organizational outcomes. From this analysis, we identify fertile research opportunities from the perspectives of key stakeholders.

Research Category: **Transformative Service and Quality of Life**

\*This paper appeared in *Health Environments Research & Design Journal*, Fall 2010, pp. 95-114.

## **VALUES-BASED SERVICE FOR SUSTAINABLE BUSINESS: LESSONS FROM IKEA**

Bo Edvardsson, Karlstad University  
Bo Enquist, Karlstad University

This book is the first to examine the role of values in developing and managing sustainable service organisations. The focus is on the role of values in creating customer and shareholder value. The first chapter describes and defines values-based service and sustainable business. The chapter also introduces IKEA and the company's business model. Chapter 2 provides an overview of the history of IKEA and the social and environmental perspectives. In Chapter 3, the concept of customer value is discussed. In Chapters 4–6, values-based service thinking is developed within the areas of service experience, service brand, and service leadership. Finally in Chapter 7, IKEA is compared with Starbucks, H&M, and Body Shop and we present five principles for a sustainable, values-based service business.

Research Category: **Transformative Service and Quality of Life**

\* Book published 2009 by Routledge, London.

## **COMMUNITY ACTION RESEARCH\***

Julie Ozanne, Virginia Tech  
Laurel Anderson, Arizona State University

This article describes a research and action method that has proven useful for both service innovation and design and for transformative services impact. Community action research is an alternative research method that uses the community as the unit of analysis. This approach seeks to forge alliances with relevant stakeholders in the community to explore and develop solutions to local problems. Co-creation occurs at all points in the process. The broad research approach is explained and the principles that guide this methodology are explored. In particular, the focus of this paper is on the complexities and dilemmas of doing community action research and findings from a field study focused on health and health services that are used to illustrate these issues. The field research occurred in a community with a high rate of diabetes. The ultimate goal of this research method is to develop sustainable community-based solutions and services to pressing consumer health and social problems.

Research Category: **Transformative Service and Quality of Life**

This article is forthcoming in the *Journal of Public Policy and Marketing*

# **WILL THE “REAL” ADOLESCENT PLEASE SIGN IN? SELF-SOCIALIZATION ON THE INTERNET**

Laurel Anderson, Arizona State University  
Deborah McCabe, Arizona State University

This paper examines the ubiquitous internet as a service that is a context for socialization for both younger and older adolescents. Our research finds that the internet adds dimensions to and takes away elements in the socialization process that have not been manifest in the same way in the past. The lack of the usual adult socialization agents in this service context challenges the more traditional view of adolescent socialization. Instead, our research finds a transcendent theme of self-socialization. Without the more traditional structured socialization contexts that include parents and other adult socialization agents, “self-socialization” occurs as adolescent gain even more independence and agency than has traditionally been the case and with peers are co-constructing their own environment and socialization on the internet. In particular, we see an impact on such norms as deception, privacy and “realness.” We also examine the carryover of this socialization to the offline world.

Research Category: **Transformative Service and Quality of Life**

This paper is under review at the *Journal of Public Policy and Marketing*.

# **REPAY NOW OR REPAY LATER: EXAMINING THE EFFECTS OF INFORMATION DISCLOSURE ON CONSUMER DEBT REPAYMENT DECISIONS**

Linda C. Salisbury, Boston College  
Katherine N. Lemon, Boston College

Consumers are repaying debt more slowly than ever before. Experts argue that disclosing more information to credit consumers will enable them to reduce debt more effectively. We examine this within the context of credit card debt repayment, seeking to understand how information disclosure influences consumer repayment behavior. We examine effects of minimum required payment (MRP) and supplemental interest cost information on debt repayment decisions. We examine differential effects of “time” versus “money” information and temporal framing of cost information. Results reveal a strong negative effect of MRP information on repayment amount. This effect is attenuated by disclosing interest cost and time-to-payoff information. Temporal framing of information, consumer temporal orientation and financial knowledge moderate these effects. We provide insights into types of information (“time” versus “money”) that should be provided to consumers to improve debt repayment and specific marketing approaches that might reduce the firm’s credit risk by reducing default rates.

Research Category: **Transformative Service and Quality of Life**

\* Salisbury, Linda C. and Katherine N. Lemon (2009), “Repay Now or Repay Later: Examining the Effects of Information Disclosure on Consumer Debt Repayment Decisions,” Working Paper, Boston College.

# THE EFFECT OF SERVICE EVALUATIONS ON BEHAVIORAL INTENTIONS AND QUALITY-OF-LIFE

Tracey Dagger, University of Queensland  
Jill C. Sweeney, University of Western Australia

Understanding the contribution of marketing to economic and social outcomes is fundamental to broadening the focus of marketing. The authors develop a model that integrates the impact of service quality and satisfaction on both economic and societal outcomes. The model is validated using two random samples (n=778, n=340) involving intensive health services. The results indicate that technical and functional service quality influence service satisfaction, and that these constructs, in turn, have a significant impact on behavioral intentions. Importantly, technical and functional service quality, and service satisfaction have a significant influence on the quality-of-life perceptions of customers. These are important findings given the movement towards recognising social and environmental outcomes, such as emphasised through triple bottom line reporting. The findings have important implications for improving the quality-of-life of customers and for enhancing customers' behavioral intentions towards the organization.

Research Category: **Transformative Service and Quality of Life**

\* Dagger, T. and Sweeney, J. (2006), "The Effect of Service Evaluations on Behavioural Intentions and Quality-of-Life", *Journal of Service Research*, 9 (1), 2-19.

# **A HIERARCHICAL MODEL OF HEALTH SERVICE QUALITY: SCALE DEVELOPMENT AND INVESTIGATION OF AN INTEGRATED MODEL**

Tracey Dagger, University of Queensland  
Jill C. Sweeney, University of Western Australia  
Lester Johnson, Melbourne Business School

This research develops and tests a multidimensional hierarchical scale for measuring health service quality; further, the ability of the scale to predict satisfaction and intentions was examined. Data were collected from three field studies in two different health care contexts, oncology clinics (n=1118) and a general medical practice (n=215). Service quality was found to comprise four primary dimensions and multiple sub-dimensions:

Interpersonal quality comprised interaction and relationship  
Technical quality comprised outcome and expertise,  
Environment quality comprised atmosphere and tangibles; and  
Administrative quality comprised timeliness, operation and support.

The research provides managers with an understanding of the dimensions on which quality is assessed. Managers can use this knowledge to monitor, improve and benchmark service quality perceptions. As service quality has an impact on satisfaction and behavioral intentions this is critical to all service providers.

Research Category: **Transformative Service and Quality of Life**

\* Dagger, T., Sweeney, J. and Johnson, L. (2007) "A Hierarchical Model of Health Service Quality: Scale Development and Investigation of an Integrated Model", *Journal of Service Research* 10 (2), 123-142.

# **UNEXPECTED BENEFITS OF SERVICE IMPROVEMENT AT THE CUSTOMER-EMPLOYEE INTERFACE: A FIELD EXPERIMENT IN THE HEALTHCARE INDUSTRY**

Tracey Dagger, University of Queensland  
Peter Danaher, Melbourne Business School  
Jill C. Sweeney, University of Western Australia  
Janet McColl-Kennedy, University of Queensland

This study examines whether customer service training of frontline staff not only improves interpersonal quality perceptions but also improves evaluations of other more difficult-to-evaluate attributes. We term this a “selective halo” effect. A field experiment (n=772) is used to examine this effect in a health care environment. Findings indicate that customer ratings of interpersonal quality are significantly higher for frontline staff receiving customer service training than for the control group. Moreover, the ratings of some attributes not manipulated in the experiment were also significantly higher than for the control group, namely, atmosphere, operational processes, technical expertise, and outcome perceptions. This supports our selective halo effect and indicates that there are unexpected benefits resulting from improving the interpersonal quality of frontline staff. Namely, that perceptions of difficult-to-evaluate attributes also increase, thereby enhancing the overall service experience. Perceptions of easy-to-evaluate attributes did not improve as a result of customer service training.

# **THE RESTORATIVE QUALITIES OF AN ACTIVITY-BASED, THIRD PLACE CAFÉ FOR SENIORS: RESTORATION, SOCIAL SUPPORT, AND PLACE ATTACHMENT AT MATHER’S—MORE THAN A CAFÉ\***

Mark S. Rosenbaum, Northern Illinois University  
Jill C. Sweeney, University of Western Australia  
Carla Windhorst, Mather’s Foundation

This article highlights the restorative qualities of an actual café that represents a “hybrid third place.” Similar to third places, the café studied in this work offers its customers food, beverages, and opportunities to participate in social activities. By drawing upon attention restoration theory (ART), the authors show that the café’s built environment, or servicescape, features the three stimuli that are required to facilitate personal restoration and promote relief from symptoms associated with mental fatigue. The authors also explore how social activities and social integration promote customer restoration and investigate how perceived restorativeness is related to commercial social support, place attachment, and customer health.

Research Category: **Transformative Service and Quality of Life**

\* Corresponding Author

## **PEOPLE AS VIRTUAL PRODUCTS: ANALYZING HUMAN EXCHANGES ON CRAIGSLIST AND GUMTREE.COM**

Mark S. Rosenbaum, Northern Illinois University\*  
Kate L. Daunt (Reynolds), Cardiff Business School

This article examines marketing as exchange in the context of online personal advertisements that appear on U.S.-based Craigslist and U.K.-based Gumtree.com. Building on the person-as-product paradigm, we put forth a resource exchange framework that details 13 product, or human, characteristics that people offer and seek in free, online personal advertisements. In addition, we reveal differences between heterosexual and homosexual Internet users in their use of photographs and personal descriptions in their advertisements. The results reveal the extent to which online classified sites are changing American society, as people are engaging in physical, service, and informational exchanges in ways that are not available in print advertisements. We discuss health implications regarding the use of personal advertisements on Craigslist, as the site is being used by groups of consumers who seek and provide sexual activities and those who desire discrete relationships with others.

Research Category: **Transformative Service and Quality of Life**

\* Corresponding Author

# THE EFFECT OF INSTANT MESSAGING SERVICES ON SOCIETY'S MENTAL HEALTH

Mark S. Rosenbaum, Northern Illinois University\*  
Ipkin Anthony Wong, Institute for Tourism Studies, Macau

This article shows how instant-messaging (IM) service providers are helping and hindering societal mental health among young adults. IM services provide users with an ability to obtain instantaneous and inexpensive support in their time of need. However, excessive Internet usage may place IM users at risk for experiencing symptoms associated with Internet addiction and Adult Attention Deficit Hyperactivity Disorder (ADHD).

A framework obtained from coding qualitative data is proposed. The framework is tested with structural equation methodology and latent mean analysis from data collected from younger-aged Chinese and American IM users.

The findings show that IM users in both China and America are obtaining social support from their virtual networks. However, both groups of IM users are showing signs of elevated levels of Internet addiction and of being at-risk for ADHD. This research highlights that excessive IM/Internet usage may be hindering mental health among young adults and the problem is likely to grow in the future.

Research Category: **Transformative Service and Quality of Life**

\* Corresponding Author

## INNOVATIVE HEALTHCARE DELIVERY

Ann M. Mirabito, Baylor University  
Leonard L. Berry, Texas A&M University

Critics of the American healthcare system recite a long list of problems: rising out-of-pocket costs, inconvenient access, overuse of emergency departments, uncoordinated medical records, and declining numbers of primary care doctors. To address these issues, some new venues have evolved, such as retail and urgent care clinics, but the emergency department has become the only service provider available to all patients on a 24/7 basis. It is time to reinvent the system. The concept of patient-centered medical homes offers a structure for integrating innovations that can transform the delivery of healthcare. In this model, each patient develops an ongoing relationship with a primary care physician supported by a team of caregivers. An integral feature is the electronic medical record, which facilitates coordinated communication and decisions. Access expands beyond the traditional physician office visit to satellite services tailored to individual needs. Services center on whole-person care, including wellness and preventive counseling as well as acute and chronic care. Adoption of the patient-centered medical home transforms healthcare delivery into a system that benefits everyone.

Research Category: **Transformative Service and Quality of Life**

\* This paper is published in *Business Horizons*, March/April 2010, pp. 157-169.

# **LESSONS PATIENT-CENTERED MEDICAL HOMES CAN LEARN FROM HEALTH MAINTENANCE ORGANIZATIONS' MISTAKES**

Ann M. Mirabito, Baylor University  
Leonard L. Berry, Texas A&M University

Patient-centered medical homes (PCMHs) have been endorsed by primary and specialty care medical associations, payers and patient groups as an innovative structure for transforming healthcare delivery. The cornerstone principle of the PCMH is the primary care physician's coordination of a patient's use of healthcare services, including visits to specialists, to improve effectiveness and efficiency. This principle aligns with the vision behind the creation of health maintenance organizations (HMOs), managed care organizations that were once embraced by physicians, patients and policy analysts but have since lost much of their luster. Many patients and physicians rejected HMOs as too restrictive, objecting particularly to the concept of gatekeeping. This paper reviews the HMO experience and identifies lessons applicable to PCMHs that build on HMO strengths and avoid HMO mistakes.

Research Category: **Transformative Service and Quality of Life**

\* This paper is published in *Annals of Internal Medicine*, February 2, 2010, pp. 182-185.

## **THE ROLE OF 'THIRD PLACE' SOCIAL SUPPORT IN CANCER PATIENTS' QUALITY OF LIFE\***

Mark S. Rosenbaum, Northern Illinois University  
Jill Smallwood, Living Well Cancer Resource Center

To date, cancer centers have operated under the premise that they were offering cancer patients and survivors healthful benefits by offering them an array of courses and activities. This work reveals that a cancer center's courses and activities per se do not influence a patron's quality of life. Indeed, a center's courses and activities serve as a natural forum for nurturing employee-patron social support, which significantly improves a cancer patient's perceived emotional, social, and cognitive well-being. Rather than permit employee-patron social support to emerge perchance and inconsistently among its patrons, Living Well Cancer Resource Center has altered its practices. Living Well is now strategically managing in-house social support by sending its employees to oncology practices to meet with cancer patients at the point of their initial cancer diagnosis. Hence, newly diagnosed cancer patients may receive immediate dosages of therapeutic medical procedures (i.e., surgery, chemotherapy, and radiation) and social support, which together represents a "complete" solution to cancer health care and to a cancer patient's health and well-being.

Research Category: **Transformative Service and Quality of Life**

\* This paper is published in *Annals of Internal Medicine*, February 2, 2010, pp. 182-185.

## **WHAT'S THE HARD RETURN ON EMPLOYEE WELNESS PROGRAMS?\***

Leonard L. Berry, Texas A&M University  
Ann M. Mirabito, Baylor University  
William B. Baun, MD Anderson Cancer Center, Houston

Employee wellness programs have often been viewed as a nice extra, not a strategic imperative. But the data demonstrate otherwise, according to Berry, of Texas A&M University; Mirabito, of Baylor University; and Baun, of the University of Texas MD Anderson Cancer Center. Their research shows that the ROI on comprehensive, well-run employee wellness programs is impressive, sometimes as high as six to one. To achieve those kinds of results, employers cannot merely offer workers a few passes to a fitness center and nutrition information in the cafeteria. The most successful wellness programs are supported by six essential pillars: engaged leadership at multiple levels; strategic alignment with the company's identity and aspirations; a design that is broad in scope and high in relevance and quality; broad accessibility; internal and external partnerships; and effective communications. Companies in a variety of industries—including Johnson & Johnson, Lowe's, H-E-B, and Healthwise—have built their employee wellness programs on all six pillars and have reaped big rewards in the form of lower costs, greater productivity, and higher morale. Those benefits are not easy to achieve, and verifiable paybacks are never a certainty. But the track record inspires emulation, especially when you see the numbers.”

## **FABLE HOSPITAL 2.0: THE BUSINESS CASE FOR BUILDING BETTER HEALTH CARE FACILITIES\***

Blair L. Sadler  
Leonard L. Berry  
Robin Guenther  
D. Kirk Hamilton  
Frederick A. Hessler  
Clayton Merritt  
Derek Parker

Despite deep and vocal disagreements over health care reform, virtually everyone believes that the current system is not economically sustainable. We are spending too much and getting too little in return. This recognition has spurred health care leaders to examine every aspect of hospital operations. But what about the health care building itself, the physical environment within which patient care occurs? Too often, cost-cutting discussions have overlooked the hospital structure. Changes in the physical facility provide real opportunities for improving patient and worker safety and quality while reducing operating costs.

Research Category: **Transformative Service and Quality of Life**

\*This paper appeared in *The Hastings Center Report*, January/February 2011, pp. 13-23.

# **SURROUNDED BY SERVICES: A NEW LENS FOR EXAMINING THE INFLUENCE OF SERVICES ON CONSUMER WELLBEING**

Laurie Anderson  
Amy Ostrom  
Mary Jo Bitner

We advance a new research lens for examining the well-being of consumers by recognizing that services are so pervasive that to a large extent they structure the world within which consumers live. We call this new lens Transformative Service Research and define it as “*Service research that centers on creating uplifting changes and improvements in the well-being of both individuals (consumers and employees) and communities.*” In our efforts to develop theory regarding consumer well-being, we create a novel conceptual framework of consumers embedded in a system of services systems, influenced by services as structures and going between their own cultural world and the cultural worlds of services. An impetus for this framework was a four-year ethnographic study in a subsistence community. Findings from this study are used to illustrate the conceptualization.

## **A PRACTICAL GUIDE TO COMBINING PRODUCTS AND SERVICES\***

Venkatesh Shankar, Texas A&M University  
Leonard L. Berry, Texas A&M University  
Thomas Dotzel, McGill University

Hybrid solutions – goods and services combined into innovative offerings – can help firms attract new customers and increase demand from existing customers. This article presents four potential hybrid combinations with guidelines for determining which is most appropriate and most likely to be successful.

Research Category: **Service Innovation**

\*This paper appeared in *Harvard Business Review*, November 2009, 94-99.

# **AN ORGANIZATIONAL LEARNING AND ROUTINES THEORY OF SERVICE INNOVATION\***

Andrew S. Gallan, Case Western Reserve University

In an attempt to better understand and explain dynamic service innovation, we expand theory on ostensive and performative organizational routines (Feldman and Pentland 2003) and pragmatic learning theory (cf. Jayanti and Singh 2010) to evaluate the effects of organizational change and customer needs heterogeneity on quality of care and service productivity. In a setting where a new intermediate stroke care unit challenges healthcare providers to simultaneously enhance patient outcomes and increase patient throughput, we longitudinally study a service innovation through a mixture of embedded observation, semi-structured interviews and monthly surveys.

Thus far, we find that significant interactions and tensions between ostensive routines (structures) and performative routines (processes and behaviors) have to take place in order for service providers to meet both customer expectations and organizational requirements. It appears that organizational routines interact through the effort of learning communities; the exchange of information and ongoing development of new ostensive routines may provide a company with strategic dynamic capabilities.

Research Category: **Service Innovation**

\* This working paper is based on work at the department of neurology, Case Western Reserve School of Medicine, where the first author has a secondary appointment, with the sponsorship of University Hospitals.

## **SERVICE INNOVATION IS DIFFERENT**

Steve Markham, North Carolina State University  
Thomas Hollmann, North Carolina State University

The differences between goods and services are well known. A substantial body of knowledge exists about how goods are developed, however, we know very little about the practice of service development. Drawing on the Best Practices data from the Product Development and Management Association this research project compares and contrasts different development methods, processes, tools, organizational structures and managerial practices used to develop goods and services. We find that services innovation practices differ in fundamental ways from goods innovation, such that service innovators focus more strongly on the front-end and back-end of innovation while goods innovators focus predominantly on the middle phase in the stage gate process. The contrast in product development techniques leads to management tools to help innovation managers apply the appropriate tools and techniques to services development. In addition, a number of service practices are applicable to goods development with a significant reduction on development time and costs.

# **A THEORY FOR ENGAGING STRANGERS IN REQUIREMENTS ENGINEERING**

Tuure Tuunanen, University of Auckland  
Ken Peffers, University of Nevada  
Charles Gengler, City University of New York

This paper motivates the need for a theory for engaging strangers in requirements engineering (RE), reviews four literatures that speak to the information requirements of the RE process, uses elements from the four literatures to design a theory, demonstrates use of the theory in a major system development project, and evaluates that use. Strangers are people, including organizational outsiders, those who are remote from RE activities, culturally distant participants, and the disabled, for whom engagement in RE activities require special consideration. We develop an applicable theory to address the problem that can serve as the basis for designed RE methods, using existing or designed techniques, to accommodate particular target RE participant populations that include strangers. The paper demonstrates and evaluates the use of the new theory, in a major RE effort done with Helsingin Sanomat, one of the biggest daily newspapers in Scandinavia.

## **OPPORTUNITIES FOR INNOVATION IN THE DELIVERY OF RETAIL INTERACTIVE SERVICES**

Leonard L. Berry, Texas A&M University  
Ruth N. Bolton, Marketing Science Institute  
Cheryl H. Bridges, Texas A&M University  
Jeffrey Meyer, Bowling Green State University  
A. Parasuraman, University of Miami  
Kathleen Seiders, Boston College

In today's volatile economy, innovation in providing interactive services to consumers through a variety of channels is critical in retailing. Interactive service innovations offer opportunities for retailers by creating new markets or offering new benefits in existing markets. They also pose threats as existing customers encounter new alternatives offered by competitors. This article explores some of the most promising opportunities in interactive retail services; namely, the increasing power of consumers, channel synergies, pre- and post-transaction service, optimal use of resources, and consumer heterogeneity. In discussing these areas of opportunity we identify knowledge gaps and suggest research questions relevant to these gaps that warrant attention. Collectively, these questions offer a research agenda for the topic of interactive retail service innovation.

Research Category: **Service Innovation**

\*This paper is published in *Journal of Interactive Marketing*, May 2010, pp. 155-167.

## **CUSTOMER-TO-CUSTOMER INTERACTIONS: BROADENING THE SCOPE OF WORD OF MOUTH RESEARCH**

Ruth Bolton  
Marnix S. Bugel  
Oliver Gotz  
Barak Libai  
Hans Riselada  
Ko de Ruyter  
Andrew T. Stephen

The increasing emphasis on understanding the antecedents and consequences of customer-to-customer (C2C) interactions is one of the essential developments of customer management in recent years. This interest is driven much by new online environments that enable customers to be connected in numerous new ways, and also supply researchers' access to rich C2C data. These developments present an opportunity and a challenge for firms and researchers who need to identify the aspects of C2C research on which to focus, as well as develop research methods that take advantage of these new data. Our aim here is to take a broad view of C2C interactions and their effects, and to highlight areas of significant research interest in this domain. We look at four main areas: The different dimensions of C2C interactions, social system issues related to individuals and to online communities, C2C context issues including product, channel, relational and market characteristics; and the identification, modeling and assessing the business outcomes of C2C interactions.

Research Category: **Service Innovation**

\*This paper is published in *Journal of Service Research*, 13 (3), 2010, 267-82.

## **SERVICE INNOVATION AND CUSTOMER CO-CREATION PROCESS**

Laurel Anderson, Arizona State University  
Andrea Ordanini, Bocconi University, Italy  
Mary Jo Bitner, Arizona State University  
Antonella Caru, Bocconi University, Italy  
Emma Qiu, Fudan University, China  
Andrew S. Gallan, Case Western Reserve University

This international research project examines customer-focused service innovation and customer co-creation processes in the healthcare industry in three different countries: US, Italy, and China. We seek to understand different styles and processes of co-creation and innovation, looking at leading and innovative hospitals across these three country contexts. To explore the phenomenon, we have used interpretive methodologies to gain an in-depth and holistic understanding of co-creation and customer-focused innovation styles, processes and meanings. We have conducted interviews with CEOs and other high-level hospital executives to explore processes, metaphors, and critical incidents in service co-creation and innovation. Our major contribution will be to better understand the theoretical and managerial development of service innovations specifically through the identification of co-creation processes and styles, cultural differences and similarities, and leader vs. innovator differences and similarities in processes/ styles. We will also reveal the negotiated meaning of co-created and customer-focused service innovation within the healthcare industry.

Research Categories: **Service Innovation, Service Experience and Co-Creation**

This work is supported in part by a grant from the Marketing Science Institute (MSI) and support from the Center for Services Leadership, Arizona State University.

# **PRIVACY AND VALUE CO-CREATION FOR IT-ENABLED SERVICE SYSTEMS: CUI BONO?**

Ellen Chan, Portland State University  
Robert R. Harmon, Portland State University  
\* Haluk Demirkan, Arizona State University

Almost all IT enabled service systems such as Google, Facebook, Apple, Microsoft, Skype are facing criticisms on their use of customer data and their failure to protect customer privacy. These service companies rely on customers to participate actively in the co-creation of value by providing personal information, data and preferences. Such important resources and assets, if mishandled by companies, can cause harm to customers. Misuse and poor privacy protection for customer information can create ethical, legal, and business consequences, diminish trust and inhibit relationship building between customers and service providers, and affect future value co-creation. This paper identifies the different facets of privacy, explores the intersection of privacy and co-creation of value, and offers suggestions for future research regarding how businesses and customers can benefit from the service while ensuring privacy is protected.

Research Category: **Service Innovation**

\* Corresponding Author

Chan, E., Harmon, R. and Demirkan, H. "Privacy, Value Co-creation, and Service Innovation: Cui Bono?" the 2012 Hawaii International Conference on System Sciences, Maui, Hawaii, Jan 2012.

## **THE IMPACT OF MISSION FULFILLMENT ON THE INTERNAL AUDIENCE: PSYCHOLOGICAL JOB OUTCOMES IN A SERVICE SETTING\***

Taewon Suh, Texas State University  
Mark B. Houston, Texas Christian University  
Steven M. Barney, SSM Health Care  
Ik-Whan G. Kwon, Saint Louis University

The way a firm fulfills (or fails to fulfill) its mission statement may play a role in internal marketing and affect its most committed employees. Our model suggests that mission fulfillment influences an employee's motivation (i.e., employee engagement), social identity (organizational identification), and emotional resources (emotional exhaustion). These psychological states in turn drive affective commitment and turnover intentions, two variables of continued interest to researchers and managers. We find empirical support for this model using data from 3999 employees of a healthcare service system. For managers, our results imply the importance of aligning an organization's actions with its stated mission, given that employees are attuned to and affected by such an alignment. Further, managers should actively communicate to employees the organization's efforts and accomplishments in fulfilling its mission.

Research Category: **Service Culture**

\*\*Suh, Taewon, Mark B. Houston, Steven Barney and Ik-Whan G. Kwon (2011), "The Impact of Mission Fulfillment on the Internal Audience: Psychological Job Outcomes in a Service Setting," *Journal of Service Research*, 14 (May), forthcoming.

# **A CROSS-NATIONAL AND CROSS-CULTURAL APPROACH TO GLOBAL MARKET SEGMENTATION: AN APPLICATION USING CONSUMERS' PERCEIVED SERVICE QUALITY**

James Agarwal  
Ruth Bolton  
Naresh K. Malhotra

International service is the fastest growing sector of the world economy, but few studies have examined global market segmentation strategies for services. This study shows that consumer perceived service quality (PSQ) differs across cultures and countries and these differences yield meaningful market segments. It focuses on culture-based differences in PSQ that arise from people's life experiences, based on prior conceptual work that links individualism-collectivism at the level of the individual consumer (rather than based on nationality) to independent versus interdependent self-construal. It analyzes survey data describing banking services in India and the USA. Thus, the paper provides a theory-based, empirically supported tool for the measurement, management and customization of PSQ in global settings. This tool can be used to derive managerial insights into vertical and horizontal market segments for global services, guiding the development of global marketing strategies for services and improving business performance. We illustrate its use for banking services.

Research Category: **Service Culture**

This paper is published in *Journal of International Marketing*, 18(3), 2010, 18-40.

**EMPLOYEE EMOTIONAL COMPETENCE:  
CONSTRUCT CONCEPTUALIZATION AND VALIDATION OF A CUSTOMER-  
BASED MEASURE\***

Cécile Delcourt, University of Liege, Belgium  
Allard C. R. van Riel, Radboud University, The Netherlands  
Marcel van Birgelen, Radboud University, The Netherlands  
Dwayne D. Gremler, Bowling Green State University

When customers experience intense emotions during service encounters, they are attentive to how well employees perceive, understand, and regulate these emotions—that is, the extent to which employees display emotional competence. This paper examines employee emotional competence (EEC) from a customer perspective in a service encounter context. Using this specific conceptualization of the topic, the authors develop a short, valid, and reliable measure of EEC that consists of customer perceptions of employee ability in terms of perceiving, understanding, and regulating customer emotions. The measure is strongly correlated with customer evaluations of the service encounter. This scale can be used by scholars to further explore the role of EEC in service contexts and by managers to observe and assess EEC in service encounters, determine the correlation of EEC with outcomes of interest, and use EEC in recruitment and hiring processes.

Research Category: **Service Culture**

\* This paper is currently under review at a journal.

# EVALUATING STORE DESIGN RESPONSIVENESS TO PRODUCT LINE MARGIN CHANGES: AN EMPIRICAL ANALYSIS OF U.S. PUBLIC RETAILERS\*

Jeff Shockley, Radford University  
Lawrence A. Plummer, University of Oklahoma  
Aleda V. Roth, Clemson University  
Lawrence D. Fredendall, Clemson University

This paper subjects to rigorous empirical scrutiny the influence of retail store design responsiveness on firm ROA performance. We posit that on average, retail store systems, which are adjusted dynamically to be responsive to changes in product line gross margin, will improve retail firm performance (ROA). We employ an econometric model to test our theory using company panel data collected from Compustat, 10-K, and S&P industry reports for “bricks and mortar” store retailers for the period 1994 – 2006.

The study findings/contributions include:

On average, store capital and labor are not managed as efficiently as might be expected.

Store system capital investment must be responsive to product line gross margin shifts to expand firm profits.

The financial benefits of being design responsive are only realized in the short-term (within one year); and therefore, dynamic adjustments are needed.

Research Category: **Service Design**

\* This is a working paper that will be presented at an invited Retail Operations track at the POMS 21st Annual Conference.

# **A STRUCTURED APPROACH TO ASSESSING RETAIL STORE OPERATIONS STRATEGY: THEORY, CONSTRUCT DEVELOPMENT AND MEASUREMENT\***

Jeff Shockley, Radford University  
Aleda V. Roth, Clemson University  
Lawrence D. Fredendall, Clemson University

An information processing view of organizational design strategy is used to develop a conceptual model that addresses six theory-based operational constructs of retail store design strategy. Salient retail store design constructs pertain to 1) managing the customer's in-store shopping task uncertainty (i.e., factors associated with the difficulty of product use by the end customers, the service production complexity, and the product turnover); 2) design choices for managing customer encounters (i.e., factors associated with design for self-service and employee task empowerment); and 3) customer service encounter information requirements, which is proposed to be the integrating mechanism driving retail store design strategy.

Contributions of this paper are:

- A new organizational framework to understand and manage retail store design strategies.
- A validated measurement instrument to use in evaluating and monitoring strategic store design choices.
- A series of future store design applications for the measures and framework.

Research Category: **Service Design**

\* This article is a working paper which is currently under journal review as of December 31, 2009.

## THE SHORT- AND LONG-TERM EFFECTS OF A REMODELED SERVICESCAPE\*

Elisabeth Brügger, Maastricht University  
Bram Foubert, Maastricht University  
Dwayne D. Gremler, Bowling Green State University

Service companies spend vast amounts of money to remodel their establishments. However, little is known about the longitudinal effects of such store makeovers and the differential impact on customers' psychological responses or actual purchase behavior. In this study a natural experiment in the fast-food industry is used to examine the short- and long-term effects of store remodeling on psychological measures (cognitions, affect, and behavioral intentions) and actual customer behavior (average customer spending and store traffic). In the short term, customers' cognitions and behavioral intentions improve significantly, as does customer spending, but not store traffic. In the long term, the positive short-term effects diminish. Adaptation-level theory suggests that customers' initial experiences may lose strength over time as the remodeled store environment becomes the new frame of reference. The findings imply that relying solely on customers' psychological responses or ignoring the time-variant character of remodeling effects may lead to inappropriate managerial decisions.

Research Category: **Service Design**

\* Brügger, Elisabeth, Bram Foubert, and Dwayne D. Gremler (2011), "Extreme Makeover: Short- and Long-Term Effects of a Remodeled Servicescape," *Journal of Marketing*, 75 (September), (forthcoming).

# UNDERSTANDING THE MECHANISMS BEHIND THE INFLUENCE OF SERVICE GUARANTEES\*

Jens Høgreve, University of Paderborn  
Dwayne D. Gremler, Bowling Green State University

Although service guarantees have received increasing attention in literature, surprisingly little is known about the extent to which they influence consumer behavior and even less about how they generate such effects. Economic theory suggests guarantees can have as many as four objectives incorporated in their design; they can be a quality signal, insure against losses, reduce search costs, and provide an incentive to coproduce the service adequately. In Study 1 all four warranty objectives are found to be frequently used in practice and Study 2 examines the extent to which these objectives have an impact on consumers. The objectives signal of quality and insurance against losses are found to be the primary service guarantee mechanisms affecting consumer behavior. Moreover, the objectives can be controlled by varying the amount of compensation or the ease of invoking the guarantee. The results provide insights how to design and manage service guarantees effectively.

Research Category: **Service Design**

\* This is currently a working paper.

## **STREET ART, SWEET ART? RECLAIMING THE “PUBLIC” IN PUBLIC PLACE**

Luca Visconti, Bocconi University  
John Sherry, University of Notre Dame  
Stefania Borghini, Bocconi University  
Laurel Anderson, Arizona State University

This research builds on servicescape research but focuses on the neglected area of public/collective services. In this multi-sited ethnographic research, we explore the ways in which active consumers develop meanings about the consumption of a public good, public space. We document four main ideologies of public space consumption resulting from dwellers' and street artists' conflict as well as common intent. We show how public space can be contested as private and commercialized by companies and artists, left untended as a liminal zone, or offered back as a collective good, where sense of belonging and dialogue restore it to a meaningful place. In so doing, we advance the understanding of agency while exploring the virtually neglected realm of public goods consumption, and space in particular. We show how the common nature of this public service stimulates dialectical and dialogical exchanges across stakeholders, and fuels forms of layered co-creation and agency. The most difficult question with public services is who makes the decisions: consumers, public agencies, private “experts”?

Research Category: **Service Design**

This paper has been conditionally accepted at the *Journal of Consumer Research*.

## **SERVICE BLUEPRINTING: A PRACTICAL TECHNIQUE FOR SERVICE INNOVATION\***

Mary Jo Bitner, Arizona State University  
Amy L. Ostrom, Arizona State University  
Felicia N. Morgan, University of West Florida

This article describes one technique—service blueprinting—that has proven useful for service innovation. Service blueprinting is securely grounded in the customer’s experience and it allows the clear visualization dynamic service processes. The technique is described in detail in the paper including real case examples that illustrate the value and breadth of its applications.

The cases illustrate how service blueprinting can be successfully applied for the following purposes:

- Providing a platform for innovation
- Recognizing interdependencies among people and functions in delivering service
- Facilitating both strategic and tactical innovations
- Designing moments of truth
- Visualizing and understanding the customer’s experience
- Transferring and storing innovation knowledge
- Creating ideal experiences

Clarifying competitive positioning

Guidelines for a service blueprinting workshop based on Arizona State University’s Center for Services Leadership programs are provided along with detailed insights for managers and academics.

Research Category: **Service Design**

\*This article is based on workshops and case studies with CSL member firms and others. The paper appeared in *California Management Review*, Spring 2008, 66-94.

## **PHYSICAL DISTRIBUTION SERVICE PERFORMANCE AND INTERNET RETAILER MARGINS: THE DROP-SHIPING CONTEXT\***

Elliot Rabinovich, Arizona State University  
Timothy Laseter, University of Virginia  
Manus Rungtusanatham, University of Minnesota

We investigate the relationship between Internet retailer margins and retailer promises regarding product distribution service. We focus particularly on a drop-ship context, to provide a purer separation of these activities and the related costs. We examine a sample of retail transactions with customers and find that product margins and the margins on shipping and handling are inversely proportional. We also find a direct relationship between promised product distribution service performance and shipping and handling margins even after key product characteristics known to influence the cost side of the margin equation are controlled for. These results confirm an intuitively logical view of the relationships among pricing and promised product distribution service performance. The study also offers insights for practitioners regarding the opportunity to enhance performance in this domain and demonstrates the benefit and power of employing objective measures drawn from the vast array of information captured via online transactions.

Research Category: **Service Design**

*\*Journal of Operations Management 26, No. 6, pp. 767-780*

## MULTILEVEL SERVICE DESIGN: FROM CUSTOMER VALUE CONSTELLATION TO SERVICE EXPERIENCE BLUEPRINTING

Lia Patrício, University of Porto  
Raymond P. Fisk, Texas State University-San Marcos  
João Falcão e Cunha, University of Porto  
Larry Constantine, University of Madeira

The proliferation of complex service systems raises new challenges for service design and requires new methods. Multilevel Service Design (MSD) is presented as a new interdisciplinary method for designing complex service systems. MSD synthesizes contributions from new service development, interaction design and the emerging field of service design. MSD enables integrated development of service offerings at three hierarchical levels: (1) Designing the firm's service concept with the customer value constellation of service offerings for the value constellation experience; (2) Designing the firm's service system, comprising its architecture and navigation, for the service experience; and (3) Designing each service encounter with the service experience blueprint for the service encounter experience. Applications of the MSD method are described for designing a new retail grocery service and redesigning a bank service. MSD contributes an interdisciplinary method to service design that accommodates the cocreative nature of customer experiences and enables experience integration from the design of the service concept through the design of the service system and service encounter.

# **A MULTIDISCIPLINARY DESIGN MODEL FOR NEW SERVICE OFFERING TRANSFERS AND INTERNAL INTEGRATION IN RETAIL CHAIN SERVICES: A RESEARCH AGENDA\***

Aleda V. Roth, Clemson University  
Jeff Shockley, Radford University

This article examines the question: *how can retail service chains instantiate new service offerings throughout their organizational design systems?* We address a central theme in new service innovation research: new service offerings and concepts will often require sticky information transfer of new knowledge gained externally from customers and competitors and internally from intra-firm employees, systems, and business entities. We develop a multidisciplinary, strategic design model that is useful for integrating and sharing knowledge across retail chain stores (RCS).

Illustrate effective new service offering transfer for effective execution at the store level.

Introduce the 3S's for service effectiveness measurement: 1) standards; 2) systems and 3) sensing mechanisms.

Conclude with research agenda for advancing scholarly research in retail chain services.

Research Category: **Service Networks and Value Chains**

\* Roth, A.V. and J. Shockley "A Multidisciplinary Design Model for New Service Offering Transfers and Internal Integration in Retail Chain Services" *MIS Review* (Special Issue on Service Science), forthcoming 2010.

## **THE SERVICE NETWORK EXPERIENCE: CUSTOMER EVALUATIONS OF PERFORMANCE AND BRAND IMAGE**

Felicia N. Morgan, University of West Florida  
Mary Jo Bitner, Arizona State University  
Amy L. Ostrom, Arizona State University

In complex service situations such as healthcare, telecommunications, B2B service solutions, and hospitality, a customer's service experience results from interactions with a set of service providers, all of whom deliver key components of the service solution. Such configurations of customer-facing firms that collectively co-produce a total service experience for customers are conceptualized as "service networks." This research establishes the service network as an important unit of analysis in service research.

The results of two experiments show that the images and associations resulting from experiences with providers in the network can shape customer evaluations of other members of the network, in particular, the brand image of a focal firm. By explicating the nature of relationships between the firms within a particular type of service network from the *customer's point of view*, this research provides a fresh operational perspective and practical implications for managing customer experiences, network relationships, and service brand strategies.

Research Categories: **Service Networks and Value Chains**

Working paper; research sponsored by the CSL

## **UNLIMITED SHELF SPACE IN INTERNET SUPPLY CHAINS: TREASURE TROVE OR WASTELAND?\***

Elliot Rabinovich, Arizona State University  
Rajiv Sinha, Arizona State University  
Timothy Laseter, University of Virginia

Internet retailing offers merchants limitless shelf space. This has led experts to highlight the existence of a “long tail” of offerings and assert that the future of online business is “selling less of more.” However, it is difficult for retailers to offer a large scope of products without having to handle large amounts of returns from customers. This is because customers can and do get overwhelmed by product variety. We shed light on this issue through an assessment of data from sales and returns of almost 7,000 products in a product category. We find that retailers can benefit from expanding the inventories’ scope to generate sales from a diversity of products. However, the success of this strategy will depend on managing recurrent execution and product failures. Furthermore, the gains that this strategy will bring to retailers will be bound by product attributes such as prices, size, and market longevity.

Research Categories: **Service Networks and Value Chains**

\*Working paper

## **ASSESSING MARKUPS, SERVICE QUALITY, AND PRODUCT ATTRIBUTES IN MUSIC CDS' INTERNET RETAILING\***

Elliot Rabinovich, Arizona State University  
Arnold Maltz, Arizona State University  
Rajiv Sinha, Arizona State University

We investigate the links among markups, service quality, and product attributes across customer, Internet-retailer, and wholesaler echelons. Little is known about how retail markups, in particular, are related to service quality and product attributes. To examine this issue, we developed a model of Internet retail profitability that separates revenues and costs related to sales transactions from other profit sources. This framework led us to synthesize studies that have focused on service quality dimensions in the Internet retailing space. Subsequently, we developed a critical-event study based on a profit model and the synthesis of service-quality dimensions in order to delineate service aspects that retailers need to address buyers' utility. Finally, we collected data from purchases across retailers in order to isolate markup-service quality relationships along our delineated service characteristics. We find that high markups are associated with superior performance by Internet retailers across several service quality dimensions (a service premium effect).

Research Categories: **Service Networks and Value Chains**

\* Production and Operations Management 17, No. 3, pp. 320-337.

## COORDINATION STRATEGIES IN A SAAS SUPPLY CHAIN

\* Haluk Demirkan Arizona State University  
Hsing K. Cheng, University of Florida  
Subhajyoti Bandyopadhyay, University of Florida

The computing industry is gradually evolving to cater to the demand for software-as-a-service (SaaS). Two core competencies that have emerged over the past few years are that of the ASP and the AIP. The arrangements between them result in system dynamics that is typical in supply chain networks. We examine the performance of a SaaS setup under different coordination strategies between these two players. Our analysis indicates that coordination between the monopoly ASP and the AIP can result in an outcome with the same overall surplus as that can be achieved by a central planner. Even though the players have an incentive to deviate, it is possible to create the right incentives so that the economically efficient outcome is also the Nash equilibrium. The results of the analysis have significant implications for the coordination strategies for providers in the burgeoning business model of delivering software services over the Internet.

Research Category: **Service Networks and Value Chains**

\* Corresponding Author

Demirkan, H., Cheng, Hsing K. and Bandyopadhyay, S. (2010) "Coordination Strategies in a SaaS Supply Chain," *Journal of Management Information Systems*, 26 (4), 121–146, Spring.

## **TAKING VALUE-NETWORKS TO THE CLOUD SERVICES: SECURITY SERVICES, SEMANTICS AND SERVICE LEVEL AGREEMENTS**

\* Haluk Demirkan, Arizona State University  
Michael Goul, Arizona State University

Cloud services have become an emerging solution for organizations striving to address today's need for agility, but little research has addressed transitioning multiple, collaborating organizations to what can be referred to as a "value-network cloud." We know that organizations adopting cloud services to execute business processes must concomitantly reconfigure their security solutions for their integrated intra- and inter-organizational collaborations. We address the question, "What is needed to make it possible for an entire value-network to take secure, collaborative business process executions to the cloud?" Future value-network cloud solutions will require completely new security approaches that will leverage contracted brokering solutions operating as part of the cloud solution. We view value-network cloud security service provisioning as a bundle decision characterized by a mix of communication patterns relevant to intra- and inter-enterprise collaboration. We propose a cloud service broker model – using semantics and SLA based middleware – to serve as a trusted interface between the enterprise, cloud service providers and other organizations collaborating in a value-network. The approach enables IT governance for value-network cloud services. The architectural requirements adapt design principles for infrastructure management tailored from approaches to how business cartels historically conducted secure business dealings.

Research Category: **Service Networks and Value Chains**

\* Corresponding Author

Demirkan, H. and Goul, M., "Taking Value-Networks to the Cloud Services: Security Services, Semantics and Service Level Agreements," *Information Systems and e-Business Management*, forthcoming, 2012.

## RELATIONSHIPS TAKE TWO: CUSTOMER ATTACHMENT STYLES' INFLUENCE ON CONSUMERS' DESIRE FOR CLOSE RELATIONSHIPS AND LOYALTY TO THE FIRM

Martin Mende, University of Kentucky  
Ruth N. Bolton, Marketing Science Institute  
Mary Jo Bitner, Arizona State University

Many firms invest heavily in customer relationship management to create close customer bonds. However, not all consumers welcome close relationships. We develop a framework that predicts why consumers differentially prefer close relationships with a firm and how they respond to closeness-enhancing activities.

Our framework – tested with data from the insurance industry - links customers' attachment styles with (a) customers' desire for closeness and (b) loyalty.

Illustrative insights:

- Customer attachment *anxiety* is positively linked and attachment *avoidance* is negatively linked with the preference for a close relationship.
- Customers of low attachment anxiety and avoidance indicate the highest loyalty potential, whereas avoidant customers signal the lowest loyalty.
- Managers can focus cross-selling efforts on customers of low attachment anxiety and avoidance to leverage repurchase likelihood.
- An attachment-informed manager might use high levels of attachment avoidance as early indicators of loyalty-averse customers.

The results provide managers with novel customer segmentation criteria and actionable guidelines that can help the firm tailor relationship marketing activities.

Research Categories: **Service Branding and Selling**

\* This article is based on research with The Co-operators. The paper appeared in the Marketing Science Institute (MSI) Working Paper Series, 09-112.

# **BRANDED CUSTOMER SERVICE: HOW ALIGNING FRONTLINE EMPLOYEE BEHAVIOR WITH THE BRAND PERSONALITY IMPACTS CUSTOMER-BASED BRAND EQUITY**

Nancy J. Sirianni, Arizona State University  
Mary Jo Bitner, Arizona State University  
Stephen W. Brown, Arizona State University  
Naomi Mandel, Arizona State University

We examine how service brand positioning and brand equity are impacted by personal interactions between employees and consumers through branded customer service, which refers to the strategic alignment of consumers' service experiences with brand promises.

In a series of experiments, we demonstrate that aligning employee behavior with the brand personality positively influences brand equity and we identify consumers' perceptions of brand authenticity as the underlying explanation. Results indicate that employees' brand-aligned behavior is most influential in shaping unfamiliar brands' equity when these brands perform successfully, and conversely, most influential in shaping familiar brands' equity when these brands fail consumers. We also find that the believability of employees' brand-aligned performances is important to consumers.

Our results have implications for the recruitment of frontline staff that credibly fit with the brand personality, as well as the design of internal marketing programs that can help brand managers strategically position service brands from the inside out.

Research Categories: **Service Branding and Selling**

Working Paper

## **THE COORDINATION STRATEGIES OF HIGH-PERFORMING SALESPEOPLE: INTERNAL WORKING RELATIONSHIPS THAT DRIVE SUCCESS\***

Michelle D. Steward, Wake Forest University  
Beth A. Walker, Arizona State University  
Michael D. Hutt, Arizona State University  
Ajith Kumar, Arizona State University

This article explores the process that salespeople follow in coordinating the activities of ad hoc team members during high-opportunity customer engagements in the business market. Depth interviews were conducted with salespeople and a survey was administered to sales managers from a *Fortune-100*, high-technology firm identify the processes involved in the coordination of expertise.

The study reveals that higher-performing salespeople are more likely to (1) consider relational as well as technical skills when matching team members to customer requirements, (2) attract their preferred experts to the team, and (3) define the appropriate time in the sales cycle to initiate contact with the customer and deploy the team to the customer organization. Key implications for account management are detailed.

Research Category: **Service Branding and Selling**

\* This article is based on research collaboration with a CSL member firm. The paper is forthcoming in the *Journal of the Academy of Marketing Science*.

## **WEARING COMMUNITY: WHY CUSTOMERS PURCHASE A SERVICE FIRM'S LOGO PRODUCTS\***

Mark S. Rosenbaum, Northern Illinois University  
Drew Martin, University of Hawaii, Hilo

The purpose of this research is to investigate customer purchase of a service organization's logo/branded merchandise. The article employs three separate studies; two are conducted with customers of Curves, the world's largest fitness franchise, and the other is conducted at a gym. Two empirical studies test a proposed mediation model. The third study shows the social influences that encourage customers to purchase a firm's logo products. The results show that a customer's integration into a service-based community encourages him or her to purchase the firm's logo merchandise. In addition, a customer's ability to identify with the firm mediates this relationship. The immersion of customers' self- and social identities in a firm emerges as a factor to enhancing their appreciation of the firm by purchasing financially lucrative logo consumables. Managers should understand that a key to selling organizational logo/branded merchandise is to encourage customers to form relationships with other customers and employees.

Research Category: **Service Branding and Selling**

\* This article is forthcoming in the *Journal of Services Marketing* (2012).

## **UNDERSTANDING UNETHICAL RETAIL DISPOSITION PRACTICE AND RESTRAINTS FROM THE CONSUMER PERSPECTIVE\***

Mark S. Rosenbaum, Northern Illinois University  
Ronald Kuntze, University of Tampa,  
Barbara Ross-Wooldridge, University of Texas-Tyler

This research expands marketing's knowledge regarding unethical retail disposition (URD). URD is a type of consumer fraud, whereby consumers purchase an item of merchandise with the intent of using it and returning it to a retailer. The authors develop a framework illustrating why consumers engage in either URD participation or restraint; next, they demonstrate support for the framework. The authors support and augment previous URD research by reporting that URD offenders employ eight neutralization techniques to remedy personal guilt associated with committing the fraudulent behavior. This research also takes a novel approach by illustrating that consumers describe six motivations underlying URD restraint. Most concerning for retailers is that four of the six reasons for restraint are tenuous. Thus, consumers who refrain from URD may be easily swayed to participate in this illicit behavior. The authors posit that URD may represent a means by which consumers express disdain and mistrust for retailers.

Research Category: **Service Branding and Selling**

\* This article appears in *Psychology and Marketing*, 28(1), 29-52 (January, 2011).

**WHY ATTACHMENT SECURITY MATTERS:  
HOW CUSTOMERS' ATTACHMENT STYLES INFLUENCE  
THEIR RELATIONSHIPS WITH SERVICE FIRMS AND SERVICE EMPLOYEES**

Ruth N. Bolton, Marketing Science Institute  
Martin Mende, University of Kentucky

Relational orientations vary across customers, so that marketing activities and service programs should be customized to individual customers or market segments. However, little is known about the underlying processes that influence how customers bond with a service firm and its employees. This article explains customer-firm and customer-employee relationships based on attachment theory. It provides theoretical and empirical evidence that customers with either high attachment assurance, attachment promotion, or both perceive both service firm and service employee more positively – in terms of satisfaction, trust and affective commitment – than customers with lower levels on these dimensions. However, the service firm and service employees are separate attachment targets, so this study also tests whether customers have a similar propensity to bond with both. It finds that insecurely attached customers who find the interpersonal bond with an employee deficient, compensate for this deficiency by being more likely to bond with the service firm. Companies that measure customer attachment styles can better segment markets, manage customer relationships and allocate resources. For example, customers with high levels of attachment assurance and high levels of attachment promotion toward the firm should be receptive to relationship building and are candidates for social service programs, whereas customers with low levels of attachment promotion are likely to be more responsive to financial programs.

## **COMPETING WITH QUALITY SERVICE IN GOOD TIMES AND BAD\***

Leonard L. Berry, Texas A&M University

The economic storm experienced globally is the perfect time for companies to recommit to improving service quality. Quality service creates value for customers, and superior value – the best way to compete at any time – is the *only* way to compete during a recession. This article discusses and dissects the pillars of competing with service excellence: great employees, reliable service, respect and pleasant surprises, and convenience.

Research Category: **Service Experience and Co-creation**

\*This paper appeared in *Business Horizons*, July/Aug. 2009, 309-317.

## **DRIVERS OF CUSTOMERS' SERVICE EXPERIENCES, A STUDY IN THE RESTAURANT INDUSTRY\***

Ute Walter, Örebro University  
Bo Edvardsson, Karlstad University  
Åsa Öström, Örebro University

This article identifies and describes the frequent drivers of favourable and unfavourable customer experiences as described by customers in their own words. The frequent drivers are social interactions, the core service and the physical context. Furthermore the dynamics of resource interactions in customer experiences are shown, with the customer participating as an actor involved when the service is co-created through interactions. The findings are illustrated by extracts from customer narratives and show how experiences come up and that experiences are processes occurring in a social and physical environment when people do things together. The study context is the restaurant setting.

For managers the results suggest that great effort needs to be put into understanding the process of customer experiences and the various interactions involved, especially social interactions and the crucial roles of management, contact employees and customers supporting these interactions.

Research Category: **Service Experience and Co-creation**

\* This article is based on a Critical Incident Technique study building on favourable and unfavourable narratives about customer experiences and an inductive data analysis. The paper will appear in *Managing Service Quality*, Vol 20 (3, May 2010).

## TOWARD A THEORY OF REPEATED PURCHASE DRIVERS CONSUMER SERVICES\*

Michael Paul, Bauhaus-University of Weimar  
Thorsten Hennig-Thurau, Bauhaus-University of Weimar  
Dwayne D. Gremler, Bowling Green State University  
Kevin P. Gwinner, Kansas State University  
Caroline Wiertz, City University

The marketing discipline's knowledge about the drivers of service customers' repeat purchase behavior is highly fragmented. This research attempts to overcome that fragmented state of knowledge by making major advances toward a theory of repeat purchase drivers for consumer services. Drawing on means-end theory, the authors develop a hierarchical classification scheme that organizes repeat purchase drivers into an integrative and comprehensive framework. They then identify drivers on the basis of 188 face-to-face laddering interviews in two countries (USA and Germany) and assess the drivers' importance and interrelations through a national probability sample survey of 618 service customers. In addition to presenting an exhaustive and coherent set of hierarchical repeat purchase drivers, the authors provide theoretical explanations for how and why drivers relate to one another and to repeat purchase behavior. The framework also provides companies with specific information about how to manage long-term customer relationships successfully.

Research Category: **Service Experience and Co-creation**

\*The full citation for this article is: Paul, Michael, Thorsten Hennig-Thurau, Dwayne D. Gremler, Kevin P. Gwinner, and Caroline Wiertz (2009), "Toward a Theory of Repeated Purchase Drivers for Consumer Services," *Journal of the Academy of Marketing Science*, 37 (2), 215-237.

## **PROFITING FROM SERVICE FAILURE AND RECOVERY**

Michael J. Howley, Jr., Drexel University  
Cheryl Burke Jarvis, Southern Illinois University  
Stephen W. Brown, Arizona State University  
James Ward, Arizona State University

Studies have investigated the effect of customer-firm identification on customer loyalty, but little work investigates how service failures can disrupt this bond, how such disruptions can be amended and the resulting financial consequences for the firm.

This study addresses the following questions. First, do service failures adversely impact customer self-identities? Second, what types of failures impact what aspects of identity? Third, what (if any) are the financial consequences of identity failures and corresponding recoveries? Our data comes from a survey of a large sample of respondents who reported actual service failures and experienced later recoveries. Moreover, we relate their perceptions to financial outcome data supplied by access to longitudinal transactional data for the same customers.

This research contributes in several ways. We develop a theory of how service failures negatively impact customer identity enhancement goals. We also provide managers with an empirical demonstration of the impact of specific identity-focused service recoveries on actual customer profitability.

Research Category: **Service Experience and Co-creation**

\*This research was sponsored by LensCrafters.

## **A PROCESS THEORY OF CUSTOMER DEFECTION IN BUSINESS-TO-BUSINESS RELATIONSHIPS**

Thomas Hollmann, North Carolina State University  
Mary Jo Bitner, Arizona State University  
Cheryl Burke Jarvis, Southern Illinois University

The results of this study will help marketing managers understand how their customers make defection decisions, providing them with a framework for managing customer relationships more successfully. Among the findings relevant for managers, the study illustrates how important it is for the supplier company to successfully meet both individual-level and organizational-level goals, values, and practices. The process and threshold perspective used here also demonstrates the importance of taking a more long-term perspective on defection. The results show that defection decisions are made over many months or even years, in which defection energy builds as a result of many events – often ones the vendor would consider small or overlook entirely – and that the decision is rarely the result of a single focal failure at the end of the relationship. This research also demonstrates that defection decisions can be influenced by events outside the core good/service delivery interactions that may grab the lion’s share of the manager’s attention.

Research Category: **Service Experience and Co-creation**

Working Paper

# **THE EFFECT OF UTILITARIAN, HEDONIC, AND ECONOMIC VALUE IN SELF-PRODUCTION VERSUS CO-PRODUCTION DECISIONS**

Thomas Hollmann, North Carolina State University

This study investigates the moderating role of relationship age on the relationship between customer satisfaction and customer defection behavior in business-to-business relationships. In the context of a business financial service provider, we show that the link between satisfaction and defection follows different functional forms for short-term, versus medium-term, versus long-term clients. For short-term clients, we find a linear relationship, i.e. higher levels of satisfaction protect against defection. For medium-term clients, we find no relationship between satisfaction and defection. For long-term clients, we find a quadratic, inverted U-shape relationship between satisfaction and defection. As a result, long-term clients at a mid-level of satisfaction are at the highest risk of defection. We discuss implications for research and practitioners and suggest several avenues for future research.

Research Category: **Service Experience and Co-creation**

Working Paper

# **CAPITALIZING ON KUDOS AND CRITICISM: THE INFLUENCE OF SOLICITING FEEDBACK AND COMPANY ACKNOWLEDGMENT ON CUSTOMER ATTITUDES AND REPATRONAGE BEHAVIOR**

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Most research investigating effects of customer voice on customer loyalty focuses on complaints rather than compliments. In three experiments, the effect of soliciting and acknowledging compliments and complaints on customer attitudes and behavior is investigated. Results reveal that customers asked for feedback view their service encounters more favorably than those not asked. Increased customer repatronage is shown in a 2-year field study of a large U.S. portrait studio chain for customers solicited for compliments. Soliciting feedback affects both immediate attitudes and elicits expectations for acknowledgment that bear heavily on whether companies maintain benefits of soliciting customer opinions; failure to acknowledge customer feedback (complaints and compliments) is detrimental. Customers must feel that their feedback, both positive and negative, is valued. Managers should implement processes to collect and acknowledge positive and negative feedback. We advocate a feedback management system that goes beyond recovering service failures to proactively cultivating positive customer attitudes.

Research Category: **Service Experience and Co-creation**

Bone, Sterling A., Katherine N. Lemon, Katie A. Liljenquist, R. Bruce Money, and Kristen B. DeTienne (2009), "Capitalizing on Kudos and Criticism: The Influence of Soliciting Feedback and Company Acknowledgment on Customer Attitudes and Repatronage Behavior," Working Paper, Boston College. Also published as part of the MSI Working Paper Series, MSI Report No. 09-113.

## **CUSTOMER POSITIVITY AND PARTICIPATION IN PROFESSIONAL SERVICES: AN EMPIRICAL TEST IN A HEALTHCARE CONTEXT**

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Theoretical development and empirical explorations of value co-creation have provided an emerging view of the impact of customer participation in service experiences. To more deeply explore how customer emotions during a service encounter impact behaviors and perceptions of the service experience, we develop a parsimonious model motivated by broaden and build theory of positive emotions of the effects of situation-specific emotions and customer participation on key markers of service management success. Results from analysis of data collected from 190 healthcare customers reveal that customers in this highly uncertain situation appear to 'activate' positive affect to facilitate the development of effective participation behaviors. In turn, customer positivity and participation are linked to service quality dimensions, which then help to predict customer satisfaction levels. In sum, it appears that a customer's positive outlook and effort help create meaningful interactions with service providers, enhancing the quality of and subsequent satisfaction with a service experience. This research suggests that healthcare and professional services management may benefit by assisting customers to focus on positive emotions, in order for them to actively participate in co-creating quality and satisfaction.

Research Category: **Service Experience and Co-creation**

\* This working paper is based on work at the Center for Services Leadership, Arizona State University, under the sponsorship of Mayo Clinic – Arizona, a CSL member organization.

## **CO-PRODUCTION: A FEAR-WEATHER SYNDROME?**

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An emerging perspective in marketing considers customers as actively involved in the production, delivery and consumption of services. While there are different terms for this – co-production, co-creation, prosumption – the underlying assumption is that customers are able and willing to be involved in the creation of value. In this paper we challenge this idea to some degree. Building on Prahalad's (2004) five phases of co-production (customer engagement, self-services, customer involvement, problem solving and co-designing), we investigate the association of these five phases on value co-production. We find that customers want to co-produce in all but one of the elements; problem solving. In other words, dissatisfied customers do not want to be involved in helping a company to find a solution to their problem. This finding is robust among high and low experienced users who neither of this group want to be involved in problem solving. From this we conclude that co-production is a fear-weather syndrome, i.e. only when the service functions as expected are customers willing to co-produce.

Research Category: **Service Experience and Co-creation**

Research in progress

## **THE SERVICE RECOVERY PARADOX: TRUE BUT OVERRATED?**

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This article explores the concept of a service recovery paradox—where customers are more satisfied after a service failure and recovery than they are after an adequately delivered service. The study was conducted in a banking context with over 11,000 customer interviews based on actual customer encounters with the bank.

The authors establish that the service recovery paradox is in fact real. More importantly the magnitude and frequency of a service recovery paradox is assessed and we conclude that they are rare events and the impact is small, but significant. Although reliable, error free service delivery is critical; the study highlights the valuable contribution of a strong service recovery program.

Research Category: **Service Experience and Co-creation**

The research paper appeared in the *Journal of Service Management* (formerly the *International Journal of Service Industry Management*, 2008, 19 (4). This paper received the Emerald Literati

## **IS CUSTOMER PARTICIPATION IN VALUE CREATION A DOUBLE-EDGED SWORD? EVIDENCE FROM PROFESSIONAL FINANCIAL SERVICES ACROSS CULTURES\***

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Emergent perspectives in marketing highlight new opportunities for co-opting customers as a means to define and cocreate value through their participation. This study examines how customer participation (CP) drives value creation and satisfaction for both customers and employees with different cultural value orientations in the context of professional financial services. Results from analyzing data collected from 349 pairs of customers and service employees in two national groups (Hong Kong and the United States) suggest that promoting CP could be a double-edged sword for firms: CP enhances customers' economic value attainment and strengthens the relational bond, but it also increases employees' job stress and hampers their job satisfaction. Moreover, the effects of CP on value creation depend on the cultural values; this result implies that arranging customers and service employees with "matched" cultural value orientations could facilitate the creation of value through CP.

Research Category: **Service Experience and Co-creation**

\* This article appeared in *Journal of Marketing*, May 2010, 48-64.

# EXPANDING UNDERSTANDING OF SERVICE EXCHANGE AND VALUE CO-CREATION: A SOCIAL CONSTRUCTION APPROACH

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Thorsten Gruber, The University of Manchester

According to service-dominant logic (S-D logic), all providers are service providers, and service is the fundamental basis of exchange. Value is co-created with customers and assessed on the basis of value-in-context. However, the extensive literature on S-D logic could benefit from paying explicit attention to the fact that both service exchange and value co-creation are influenced by social forces. The aim of this study is to expand understanding of service exchange and value co-creation by complementing these central aspects of S-D logic with key concepts from social construction theories (social structures, social systems, roles, positions, interactions, and reproduction of social structures). The study develops and describes a new framework for understanding how the concepts of service exchange and value co-creation are affected by recognizing that they are embedded in social systems. The study contends that value should be understood as value-in-social-context and that value is a social construction. Value co-creation is shaped by social forces, is reproduced in social structures, and can be asymmetric for the actors involved. Service exchanges are dynamic, and actors learn and change their roles within dynamic service systems.

## **BALANCING RISK AND RETURN IN A CUSTOMER PORTFOLIO\***

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Ruth Bolton, Marketing Science Institute  
Michael D. Hutt, Arizona State University  
Beth A. Walker, Arizona State University

Marketing managers can increase shareholder value by structuring a customer portfolio to reduce the vulnerability and volatility of cash flows. This article demonstrates how financial portfolio theory provides an organizing framework for (1) diagnosing the variability in a customer portfolio, (2) assessing the complementarity/similarity of market segments, (3) exploring market segment weights in an optimized portfolio, and (4) isolating the reward-on-variability that individual customers or segments provide. Using a 7-year series of customer data from a large business-to-business firm, the authors demonstrate how market segments can be characterized in terms of risk as well as return. Next, they identify the firm's efficient portfolio and test it against (1) its current portfolio and (2) a hypothetical profit-maximization portfolio. Then, using forward- and back-testing, the authors show that the efficient portfolio has consistently lower variability than the current customer mix or the profit-maximization portfolio. Guidelines are provided for incorporating a risk overlay into established customer management frameworks. The approach is especially well-suited for business-to-business firms that serve market segments drawn from diverse sectors of the economy.

Research Category: **Service Value Optimization and Measurement**

\* This paper will appear in *Journal of Marketing*, 75 (3), May, 2011 (forthcoming)

## **A VALUE-BASED INFORMATION TECHNOLOGY SERVICES PRICING STRATEGIES**

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Robert R. Harmon, Portland State University

While service orientation and commoditization are creating opportunities for customers of information technology (IT) services, it is also creating challenges for the service providers. Pricing strategies are the most important and also very complex decisions for today's IT service providers. Pricing strategies for IT services have traditionally focused on covering costs, achieving desired margins and meeting the competition. These pricing schemes range from simple approaches, easily copied by competitors, to complex models that are not easily managed. In order to be successful in today's competitive business world, the service providers need to define their pricing strategies by considering the customer's perceived value from the service they receive rather than using traditional cost-based pricing strategies. Prior research has generated considerable knowledge about the design of effective cost based pricing strategies. Today, however, increasing signs have accumulated that this wisdom might be inadequate in shaping appropriate insights for contemporary practice. This paper seeks to direct research attention toward the following question: How should information technology services firms determine their pricing strategies in order to establish longer-term value-oriented service relationships with customers? We articulate vendor cost-centric vs. customer value-centric pricing models to review the literature and relevant theories. In articulating this logic, we aim to shift thinking away from the traditional product focus toward more complex structures that are reflective of contemporary practice. The structures are designed around IT services capabilities and value-based approach. Successful value-based pricing is dependent on the IT organization's ability to understand and anticipate customer's value expectations, experiences, user-generated service definitions, designs and implementations.

Research Category: **Service Value Optimization and Measurement**

\* Corresponding Author

Demirkan, H. and Harmon, R., "A Value-Based Information Technology Services Pricing Strategies" Working paper, Arizona State University, 2011.

## **FRONTLINE EMPLOYEE MOTIVATION TO PARTICIPATE IN SERVICE INNOVATION IMPLEMENTATION**

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Amy Ostrom, Arizona State University

Front line employees often are in a prime position to accelerate acceptance of a new Self Service Technology (SST) by explaining its benefits and demonstrating its use to customers. Yet, often they are reluctant to do so.

This research examines employee behaviors and motivation regarding recommending a new SST to end customers. More than 300 sales and service employees in dealerships of a major manufacturer were surveyed to assess their motivation for recommending a new consumer SST.

Results of the research suggest that managers can improve employee motivation to participate in service innovation implementation by:

- Creating a sense of the importance of the innovation and building buy-in throughout the organization.
- Providing training for employees about how to use the SST themselves and how to demonstrate and recommend it to customers.

Establishing organizational processes that allow employees choice and independence regarding the implementation of their job tasks, even while emphasizing the value and importance of their participation.

Research Category: **Service and Technology**

\*This research benefited from the support of the Ford Motor Company. An article based on the research is forthcoming in *Journal of the Academy of Marketing Science*, 2010.

## THE INFLUENCE OF C2C COMMUNICATIONS IN ONLINE BRAND COMMUNITIES ON CUSTOMER PURCHASE BEHAVIOR\*

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Mavis Adjei, Southern Illinois University  
Stephanie M. Noble, The University of Mississippi

This article reports on a study of consumers' use of online message boards as a means of "customer-to-customer" service in providing product opinions, usage information, and other forms of guidance that influence purchase decisions. Increasingly, consumers use the internet as a form of service technology for pre-purchase information gathering. While technical specifications and potentially biased selling points can be gleaned from corporate web sites, online brand communities are becoming essential conduits for the customer-to-customer (C2C) sharing of product information and experiences. This study uses a *netnography* technique to code and analyze conversations between brand community members of two competitor firms. These data are combined with a survey component and actual purchase data to develop insights into how these communities operate and influence participants in important ways. This study provides several managerial insights, including considering the relative strengths and weaknesses of company-sponsored versus anonymous, and moderated versus open communities as service vehicles for the company.

Research Category: **Service and Technology**

\*Forthcoming in 2010, *Journal of the Academy of Marketing Science*.

## **ENCOURAGING EXISTING CUSTOMERS TO SWITCH TO SELF-SERVICE TECHNOLOGIES: PUT A LITTLE FUN IN THEIR LIVES**

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Matthew L. Meuter, California State University

There is clearly rapid growth of technological applications being used in the customer – firm interactions. In most situations where a technological service delivery option is implemented, existing customer are already using an interpersonal service delivery approach. This research helps us to better understand how consumers can be encouraged to switch from the interpersonal mode to a technologically based service delivery mode.

Here a predictive model based on consumer attitudes and anticipated outcomes (such as utility, enjoyment and social acceptance) is used to predict intentions to switch to a technologically based service delivery approach. The research was conducted within the banking industry. As expected, consumer attitudes toward technology were critical. In addition, it was determined that enjoyment is a stronger predictor of intentions to change than utility, even in the banking context.

Research Category: **Service and Technology**

This research paper appeared in the *Journal of Marketing Theory and Practice*, Fall 2007, 15 (4), pg. 281-296.

## **PROCESS COMPLETENESS: STRATEGIES FOR ALIGNING SERVICE SYSTEMS WITH CUSTOMERS' SERVICE NEEDS\***

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M. Kathryn Brohman, Queen's University  
Richard T. Watson, University of Georgia  
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The growth of electronic commerce, coupled with the continuing growth of the service sectors of the global economy, has spawned newfound attention to service systems. However, despite growing attention to IT-enabled customer service, most organizations still struggle with designing and implementing process flows to enable their customer service strategy. In this article we introduce the notion of “process completeness,” which is achieved when a firm’s service delivery system matches the typical customer’s breadth of expectations, and discuss a set of process completeness states and strategies in order to provide a vocabulary and a framework for research and practice concerned with the design of optimal workflow for customer service processes. Based on a set of six case studies, our work shows that identifying the optimal process completeness strategy is necessary for organizations in order to avoid either under-completeness, and customer dissatisfaction, or over-completeness, and an unnecessary depletion of limited resources.

Research Category: **Service and Technology**

\*The paper appeared in Business Horizons, Vol. 52, No. 4, July-August 2009, 367-376.

# INTERACTIVE SERVICES: A FRAMEWORK, SYNTHESIS AND RESEARCH DIRECTIONS

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This article briefly reviews marketers' current knowledge about interactive services. It defines interactive services as services that have some form of customer–firm interaction in an environment characterized by any level of technology (i.e., a high or low technology environment). Customers may interact with the firm's physical elements (including technology), processes and people in both service creation and delivery.

Consequently, customer participation directly influences service quality and behavioral outcomes (e.g., service usage, repeat purchase behavior and word-of-mouth)—as well as firm outcomes (efficiency, revenues and profits). Hence, a recurring theme throughout our article is that the nature of customer participation is critically important for the effective creation and delivery of interactive services. The article identifies key research areas and their relevance to managerial practice. This analysis yields a set of research questions that provides an agenda for future research.

Research Category: **Service and Technology**

\* The paper appeared in *Journal of Interactive Marketing* 2009 (23), pg 91-104.

## **CONSUMER INFORMATION SYSTEMS AS SERVICES: CASE STUDY OF IPTV SERVICES**

Tuure Tuunanen, University of Auckland  
Lesley Gardner, University of Auckland  
Martin Bastek, Deloitte

Consumer Information Systems (CIS) are Information System, which provide services primarily to consumers instead of addressing needs of users in traditional organizational settings. Examples of such systems are Internet protocol television (IPTV) services, which are being launch globally at the moment. Design of traditional services typically involves a trade-off between achieving high service productivity and quality. To this end, the use of mass customization has been proposed as a solution. Our paper presents a conceptual framework that can potentially enable designers to achieve such mass customization for consumers information systems. We present that we should consider CIS as services offered to consumers, not only as systems or software, in order to achieve this. We apply the framework to three New Zealand IPTV service offerings and investigate how it applies.

# TESTING THE RECRUITMENT OF LEAD USERS FROM VIRTUAL COMMUNITIES TO CO-CREATE INNOVATIVE IT ENABLED SERVICES FOR CONSUMERS

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Johanna Bragge, Helsinki School of Economics  
Wendy Hui, Stevens Institute of Technology  
Ville Virtanen, Helsinki School of Economics

Contemporary information systems and services must fulfill the needs of a variety of consumers instead of traditional organizational users. New ways to incorporate these consumers as users in development are required. The lead user method used in new product and service development is a promising approach to tackle this problem. However, the finding and recruiting of the lead users has been found very burdensome for the firms. We propose the use of virtual communities for the task. We tested empirically this new way of identifying and contacting the lead users for requirements discovery for an innovative mobile service. The proposed method was compared to a traditional way of recruiting lead users, namely snowballing. Our findings show that the proposed method can be considered to be at least as good method for lead user recruitment as snowballing in terms of perceived quality of the requirements discovered.

# **SELF SERVICE AND INTER-CUSTOMER INTERACTIONS: BLAME ATTRIBUTION, RESPONSIBILITY ASSIGNMENT, PERCEIVED SERVICE QUALITY AND REPEAT PURCHASING INTENTIONS**

Mei Li, Arizona State University  
Thomas Choi, Arizona State University  
Elliot Rabinovich, Arizona State University  
Aaron Crawford, Arizona State University

Inter-customer interactions play a significant role in the management of retail service operations. Our study takes place in a retail self-service setting where the service provider is not directly involved in the service operations (i.e., self-service terminals). Our research shows that fellow customers can exert influence on a focal customer's quality perception and repeat purchasing intentions. When negative inter-customer interaction occurs, how much a focal customer holds the service provider to be accountable leads to reduced service quality perception and reduced repeat purchasing intentions. However, this relationship does not hold when there is a positive inter-customer interaction. When positive inter-customer interaction occurs, how much a focal customer assigns responsibility to the service provider does not translate into enhanced service quality perception or repeat purchasing intention. Such counter-intuitive results give service providers specific strategies on how to actively manage their customers to be efficient technology users and encourage collaboration among customers.

## **THE TRICK OF THE TAIL: SUPERSTARS, NICHE AND PRODUCT RETURNS IN INTERNET RETAILING**

Rajiv Sinha, Arizona State University  
Elliot Rabinovich, Arizona State University  
Charles Noble, University of Mississippi  
Timothy Laseter, University of Virginia

Our paper explores and reconciles two seemingly contradictory theories for market growth and appropriate strategic responses in Internet retailing. The popular “Long Tail” view argues that the greater variety offered on the Internet expands the range of products that can be sold profitably by providing better matching between customer desires and available products. The “Superstar” or “Steep Tail” model offers an antithetical view, suggesting that the very best products will increasingly dominate categories due to the growth of “winner-take-all” markets. Our empirical research examines data from over 5,000 SKUs of an Internet retailer of durable consumer goods to understand how product popularity affects return rates and product profitability. While past research on media consumables generally supports the Long Tail view, our data on household durables shows significantly higher return rates in the distribution tail, supporting the Superstar perspective. However, this result is balanced with the finding that product margins are higher for niche products. Overall, these findings suggest the Long Tail view is not unilaterally dominant in online retailing and should be considered in tandem with a Superstar view.

# **INTERNET RETAIL OPERATIONS: INTEGRATING THEORY AND PRACTICE FOR MANAGERS**

Elliot Rabinovich, Arizona State University  
Timothy Laseter, University of Virginia

The rise of the Internet as the first choice for retail shoppers presents new challenges for retailers and suppliers. This book details how information technology evolved to play such a role in retail supply chain networks, how this has impacted supply chain networks, and how this has changed service operations. The first part of the text addresses information technology in relation to service and retail industries. The second part covers how the new supply chain dynamics impacts traditional service and retail delivery, the costs involved, the impacts on customer service, and customer expectations. The third part presents case studies of how different retailers meet challenges.

# HIGH TECH AND HIGH TOUCH: A FRAMEWORK FOR UNDERSTANDING USER ATTITUDES AND BEHAVIORS RELATED TO SMART INTERACTIVE SERVICES

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Smart services – services delivered via technology embedded in products, machines, and other physical objects – represent a fast-growing segment of the service innovation marketplace. This paper examines a specific category of smart services which we label “interactive smart services” in which a customer interacts via phone or the Internet with a service provider who is also able to access and control the customer’s equipment. We build a comprehensive framework for understanding user attitudes, acceptance and usage for this category of interactive smart services. The research employs a grounded theory approach and is supported by interviews with smart service users and providers in a B2B context in the United States, Germany and China. This research findings illustrate that the typical focus of service providers on technology features is not enough to increase usage behaviors of smart service customers. Instead, providers should emphasize the interpersonal relationship during the technology-mediated service interaction by providing control cues, raising social presence and trust building mechanisms.

Research Category: **Service and Technology**

This paper is under review at a journal.

## ROADMAPPING THE NEXT WAVE OF SUSTAINABLE IT

Robert Harmon, Portland State University

\* Haluk Demirkan, Arizona State University

This paper explores the strategic dimensions and drivers of sustainable IT and roadmaps its likely development as a disruptive innovative force over the next decade as it moves beyond the datacenter and throughout the IT organization, the firm, markets, and society at large. Its purpose is to provide a comprehensive view of the emerging industry to inform sustainable IT strategy development and stimulate future research.

The paper defines the emerging field of sustainable IT and its green IT and sustainable IT services dimensions. It identifies market segments, products and services, technologies, compliance and reporting requirements, organizational changes, and value migration and roadmaps a likely future landscape for the development of sustainable IT strategy.

Developing a sustainable IT strategy is a major issue for most organizations. Managers and researchers can use the results of this study to better understand the dimensions of sustainable IT and its likely future growth paths. Researchers will find the comprehensive approach to the topic useful for planning future technological innovations and determining their disruptive potential. Managers can use the results to benchmark their current situation and develop strategies for the next generation of sustainable IT service solutions.

Research Category: **Service and Technology**

\* Corresponding Author

Harmon, R. and Demirkan, H. (2011) "IT Services Innovation: The Next Wave of Sustainable IT?" by the special issue of IEEE IT Professional on Green IT, 19-25, Jan/Feb.

## **A REFERENCE MODEL FOR SUSTAINABLE E-LEARNING SERVICE SYSTEMS: EXPERIENCES WITH THE JOINT UNIVERSITY/TERADATA CONSORTIUM**

\* Haluk Demirkan, Arizona State University  
Michael Goul, Arizona State University  
Mary E. Gros, Teradata Corporation

Many e-learning service systems fail. This is particularly true for those sponsored by joint industry/university consortia where substantial economic investments are required up-front. This paper provides an industry/university consortia reference model validated through experiences with the eight year old Teradata University Network. The reference model addresses basic and advanced sustainability capabilities that integrate partner, application, faculty, student and e-learning service system issues. Our validation of the reference model includes a mapping to the literature regarding recent advances in e-learning service system infrastructures and supported capabilities. One outcome of that validation step is a comprehensive set of capability assessment questions to be used by consortia.

Research Category: **Service and Technology**

\* Corresponding Author

Demirkan, H., Goul, M. and Gros, M. (2010) "A Reference Model for Sustainable E-Learning Service Systems: Experiences with the Joint University/Teradata Consortium," *Decision Sciences Journal of Innovative Education*, 8 (1), 151-189, January.

## **SERVITIZED ENTERPRISES FOR DISTRIBUTED COLLABORATIVE COMMERCE**

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James C. Spohrer, IBM

Agility and innovation are essential for survival in today's business world. Mergers and acquisitions, new regulations, rapidly changing technology, increasing competition and heightened customer expectations mean companies must become more responsive to changing demands. This move to agility through innovation can be possible with the service oriented solutions offered by Collaborative Servitized Enterprises (CSE). In this article, the authors demonstrate the architecture of a CSE and develop a multidisciplinary research program, incorporating a more science-based approach to the effective, scalable, secure, and knowledge-driven design and development of collaborative servitized enterprises, to address some of today's commoditization lead issues. The authors' primary objective is to lay the foundation of an integrated service culture, which is characterized by a cross-disciplinary attitude that fulfills customers' needs. A secondary attitude within that culture is an awareness of the complexities associated with service tradeoff decision-making, requiring a careful balance of value, risk, cost, and quality of service.

Research Category: **Service and Technology**

\* Corresponding Author

Demirkan, H. and Spohrer, J. C., (2010) "Servitized Enterprises for Distributed Collaborative Commerce," *International Journal of Service Science, Management, Engineering and Technology*, 1 (1), 68-81.

## A SERVICE-ORIENTED WEB APPLICATION FRAMEWORK

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Robert R. Harmon, Portland State University  
Michael Goul, Arizona State University

The unprecedented convergence in the field of IT - emergent Web applications, Web 3.0, cloud computing, internet-enabled smartphones, RFID, high-performance computing, global high-speed communications, and advanced sensing and data analysis - is creating opportunities and also challenges for organizations. Today, a company's business highly depends on a robust, Web enabled, flexible information and communication infrastructure to foster corporate agility and productivity. This paper proposes a systematic framework for conceptualizing the implementation of a Service-Oriented Web Application Framework that includes inter- and intra-organizational business process, service and resource execution models for development and deployment of emergent Web applications that are easy to use, easy to understand, easily re-deployed, role-based and data centric. By breaking large monolithic solutions into flexible components, enabling out-of-the-box interoperability and process lifecycles, the Service-Oriented Web Application Framework provides opportunities for organizations to develop and deploy platform, technology and location independent, reduced risk and context-rich Web solutions.

Research Category: **Service and Technology**

\* Corresponding Author

Demirkan, H., Harmon, R. and Goul, M. (2011) "Service-Oriented Web Application Framework: Utility-grade Instrumentation of Emergent Web Applications," the special issue of the IEEE IT Professional on the Future of Web Applications: Strategies and Design, 15-21, September/October.

## SEEDING THE CLOUD BY RE-ALIGNING PEOPLE, PROCESS AND TECHNOLOGY

\* Haluk Demirkan, Arizona State University  
Michael Goul, Arizona State University  
George W. Brown, Value Chain Group, Inc.

To cut costs, mitigate risk and reduce the complexity, many organizations are exploring their IT landscapes with lenses that transcend business process management, organizational structure, services-based sourcing strategies, legacy application integration and virtualized resource management. We refer to this type of integrated exploration as a service-oriented transformation for agility. Today, a central driver for service-oriented transformation is the advent of cloud computing. Preparing an organization for adoption of cloud computing options may require a jolt to current IT practices, and that is the purpose of a Cloud Adoption Readiness Assessment (CARA). CARA is an integrated exploration that provides a path to follow to realize a culture suited for service-based computing – we refer to it as ‘seeding the cloud’ since CARA precedes consideration of entering into cloud computing contracts. In fact, CARA may result in service-oriented transformations that make little use of public cloud computing, major use of private clouds or some hybrid combination. In this article, we explain CARA and discuss results from its evolution and application at Intel Corporation.

For Intel, CARA signified the beginning of a journey. Whether faced with managing a complex federation of high technology supply chain partners, the journey has been grounded through close examination of process and services fusion. Intel’s agility agenda includes tighter integration of IT systems, reducing order-fulfillment lead times and inventory, managing overspends and enabling faster placement of orders, accelerating new product development, and reaching new customers.

Research Category: **Service and Technology**

\* Corresponding Author

Demirkan, H., Goul, M. and Brown, G.W., “Seeding the Cloud by Re-Aligning People, Process and Technology,” Working paper, Arizona State University, 2011.

## **SUSTAINABLE “DIGITAL UNIVERSE”: HOW SHOULD FIRMS ORGANIZE BUSINESS AND IT STRATEGY FOR A BETTER WORLD?**

\* Haluk Demirkan, Arizona State University  
Robert R. Harmon, Portland State University

Did you know the “internet of things” will expand to encompass around 16 billion devices by 2020? IDC Research indicates that the creation and replication of new digital information set a record in 2009 by growing to 800 billion gigabytes, 62 percent over the previous year; and between 2009 and 2020, the information in the Digital Universe will grow by a factor of 44 to 35 trillion gigabytes, the number of files in it to be managed will grow by a factor of 67, and the storage capacity will grow by a factor of 30. The growth of the digital universe in last five years will have a measurable impact on the environment, in terms of both power consumed and electronic waste. Power consumption that was 1kW per server rack in 2000 is now closer to 10kW. Customers building new datacenters are planning for 20kW per rack. Also, electronic waste is already accumulating at more than 1 billion units a year — mostly computers, laptops, mobile phones, but also personal digital electronics. This will make it clear to business executives and CIOs that much of next 10 years of their careers will be spent dealing with challenge of the mismatch of these growth rates and the sustainability of digital universe.

The emerging emphasis on a broader corporate social responsibility (CSR)-based definition of sustainable IT is likely to leave corporate IT groups ill prepared to deal with the full range of issues that make up the knowledge sphere and practice of CSR. Furthermore, the existing gap between IT groups and customers, both internal and external, and the lack of alignment between IT and business strategy should give one pause as IT tries to navigate the CSR/CS strategic waters without a full appreciation for the social responsibility dimensions and potential impacts on IT.

As the new discipline of sustainable IT grows and assumes, by choice or by mandate, a broader societal mission, there will be increasing pressure for integration with corporate sustainability and social responsibility strategies. The purpose of this paper is to define the CSR dimensions that impact IT, review the current state of sustainable IT, provide a sustainable IT strategy and innovation framework, and review the sustainable IT initiatives of a number of companies (such as Intel, IBM and HP) that are viewed as leaders in CSR as they plan for the future of sustainable IT.

Research Category: **Service and Technology**

\* Corresponding Author

Demirkan, H. and Harmon, R., “Sustainable “Digital Universe”: How should firms organize business and IT strategy for a better world?” Working paper, Arizona State University, 2011.

## LEVERAGING THE CAPABILITIES OF SERVICE-ORIENTED DECISION SUPPORT SYSTEMS IN THE CLOUD

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Using service-oriented decision support systems (DSS in Cloud) is one of the major trends for many organizations in hopes of becoming an agile business. After defining a list of requirements for service-oriented DSS, we propose a conceptual framework for DSS in cloud, and discuss about research directions. A unique contribution of this paper is its perspective on how to servitize the product oriented DSS environment, and demonstrate the opportunities and challenges of engineering DSS in cloud environment. When we define data, information and analytics we see that traditional measurement mechanisms do not work efficiently. Organizations may care about service accuracy and quality in addition the cost and delivery time. Service-oriented DSS (DSS in Cloud) proposes scale, scope and speed economies. This article contributes new knowledge in service science by tying the information technology strategy perspectives to the database and design science perspectives for a broader audience. Usually the more technical perspective is offered on a standalone basis, and confined to the database systems space – even when the discussion is about business processes.

Research Category: **Service and Technology**

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