

MARKETING MANAGEMENT JOURNAL

VOLUME 18
Issue 2
Fall 2008

**A Re-Inquiry of Hofstede's Cultural Dimensions:
A Call for 21st Century Cross-Cultural Research**

Linda M. Orr and William J. Hauser

**Technology Readiness and the Likelihood to Use Self-
Service Technology: Chinese vs. American Consumers**

Kevin M. Elliott, Juan (Gloria) Meng and Mark C. Hall

**Understanding B2C Brand Alliance Between
Manufacturers and Suppliers**

Sunil Erevelles, Veronica Horton and Nobuyuki Fukawa

**Consumer Acceptance of Technology Products:
The Impact of Tactical Selling Approaches**

Michael T. Elliott and Frank Q. Fu

**Intraorganizational Knowledge Sharing Among Key
Account Salespeople: The Impact on Buyer
Satisfaction**

Michelle D. Steward

**The Impact of Governance on the Development of
Trust in Buyer-Seller Relationships**

Edward O'Donnell, Michael L. Mallin and Michael Y. Hu

Predictive Validity of a Behavioral Interview Technique

Gary C. Oliphant, Katharine Hansen and Becky J. Oliphant

The Impact of Cognitive Age on Seniors' Lifestyles

Rajesh Iyer, Timothy H. Reisenwitz and Jacqueline K. Eastman

**Service Quality and Customer Satisfaction: An
Empirical Investigation in Indian Mobile
Telecommunications Services**

Abdolreza Eshghi, Sanjit Kumar Roy and Shirshendu Ganguli

**An Examination of the Validity of the Downs and Hazen
Communication Satisfaction Questionnaire**

*Jim DeConinck, Julie Johnson, James Busbin and Frank
Lockwood*

**Enhancing Stimulus Integration in a Consumer
Information Processing System: A Theoretical
Foundation**

Brad D. Carlson and Margaret A. White

**Does Source Credibility Affect How Credit Cards are
Marketed to College Students?**

Kenneth E. Clow, Karen E. James and Sarah Stanley

**The Influence of *Kelo V. City of New London,
Connecticut* on the Use of Eminent Domain in Place
Marketing and Economic Development**

*Geoffrey T. Steward, Jerilyn Bowie-Hill, Anne K. Keaty and
Rajesh Srivastava*

MARKETING MANAGEMENT JOURNAL

Volume 18, Issue 2

Fall 2008

EDITORS

Mike d'Amico

and

Dale Lewison

University of Akron

Charles Pettijohn

Missouri State University

PRODUCTION EDITOR

Lynn Oyama

HEALTHCAREfirst, Inc.

The Marketing Management Journal (ISSN 1534-973X) is published semi-annually by the Marketing Management Association. Subscriptions, address changes, reprint requests and other business matters should be sent to:

Professor Charles E. Pettijohn

Executive Director

Marketing Management Association

Missouri State University

Springfield, MO 65897

Telephone: (417) 836-4188; FAX: (417) 836-4466

Manuscript Guidelines and Subscription Information: see pages v-vi.

Copyright © 2008, The Marketing Management Association

Published by the Marketing Management Association
Jointly sponsored by the University of Akron and Missouri State University

PUBLICATIONS COUNCIL OF THE MARKETING MANAGEMENT ASSOCIATION

Brian Engelland
Mississippi State University

Bob McDonald
Texas Tech University

Chris Hopkins
Clemson University

Mandeep Singh
Western Illinois University

Rob Moore
Missouri State University

Robin Luke
Missouri State University

EDITORIAL REVIEW BOARD

C. L. Abercrombie
The University of Memphis

Ramon Avila
Ball State University

Ken Anglin
Minnesota State University

Tim Aurand
Northern Illinois University

Thomas L. Baker
Clemson University

Nora Ganim Barnes
University of Massachusetts

Blaise J. Bergiel
Nicholls State University

William Bolen
Georgia Southern University

Lance E. Brouthers
University of Texas

Stephen W. Brown
Arizona State University

Peter S. Carusone
Wright State University

Wayne Chandler
Eastern Illinois University

Lawrence Chonko
Baylor University

Reid Claxton
East Carolina University

Dennis E. Clayson
University of Northern Iowa

Kenneth E. Clow
University of Louisiana

Victoria L. Crittenden
Boston College

J. Joseph Cronin, Jr.
Florida State University

Michael R. Czinkota
Georgetown University

Alan J. Dubinsky
Purdue University

Joel R. Evans
Hofstra University

O. C. Ferrell
University of New Mexico

Charles Futrell
Texas A&M University

Jule Gassenheimer
University of Kentucky

Faye Gilbert
Georgia College and State University

David W. Glascoff
East Carolina University

David J. Good
Grand Valley State University

Joyce L. Grahn
University of Minnesota

John C. Hafer
University of Nebraska

Jan B. Heide
University of Wisconsin-Madison

Paul Hensel
University of New Orleans

Roscoe Hightower
Florida A & M University

G. Tomas M. Hult
Michigan State University

Thomas N. Ingram
Colorado State University

Molly Inhofe Rapert
University of Arkansas

L. Lynn Judd
California State University

William Kehoe
University of Virginia

Bruce Keillor
Youngstown State University

Bert J. Kellerman
Southeast Missouri State University

Scott Kelley
University of Kentucky

Roger A. Kerin
Southern Methodist University

Ram Kesavan
University of Detroit-Mercy

Gene Klippel
Michigan Tech University

Rick Leininger
Saginaw Valley State University

Jay Lindquist
Western Michigan University

Eldon Little
Indiana University-Southeast

Robin Luke
Missouri State University

Richard J. Lutz
University of Florida

Lorman Lundsten
University of St. Thomas

Barbara McCuen
University of Nebraska at Omaha

Charles S. Madden
Baylor University

Naresh Malhotra
Georgia Institute of Technology

Nancy Marlow
Eastern Illinois University

William C. Moncreif
Texas Christian University

John C. Mowen
Oklahoma State University

Jeff Murray
University of Arkansas

Rajan Natarajan
Auburn University

Donald G. Norris
Miami University

David J. Ortinau
University of South Florida

Ben Oumlil
University of Dayton

Feliksas Palubinskas
Purdue University-Calumet

Bill Pride
Texas A&M University

E. James Randall
Georgia Southern University

John Ronchetto
The University of San Diego

Ilkka Ronkainen
Georgetown University

Bill Schoell
University of Southern Mississippi

Bill Sekely
University of Dayton

Terence A. Shimp
University of South Carolina

Judy A. Siguaw
Cornell-Nanyang Institute of Hospitality Management, Singapore

Tom J. Steele
University of Montana

Gerald Stiles
Minnesota State University

John Summey
Southern Illinois University

Ron Taylor
Mississippi State University

Vern Terpstra
University of Michigan

George Tesar
University of Wisconsin

Paul Thistlethwaite
Western Illinois University

Donald L. Thompson
Georgia Southern University

Carolyn Tripp
Western Illinois University

Irena Vida
University of Ljubljana

Scott Widmier
Kennesaw State University

Timothy Wilkinson
Montana State University

Thomas Wotruba
San Diego State University

Gene Wunder
Washburn University

TABLE OF CONTENTS

A Re-Inquiry of Hofstede's Cultural Dimensions: A Call for 21st Century Cross-Cultural Research <i>Linda M. Orr and William J. Hauser</i>	1
Technology Readiness and the Likelihood to Use Self-Service Technology: Chinese vs. American Consumers <i>Kevin M. Elliott, Juan (Gloria) Meng and Mark C. Hall</i>	20
Understanding B2C Brand Alliances Between Manufacturers and Suppliers <i>Sunil Erevelles, Veronica Horton and Nobuyuki Fukawa</i>	32
Consumer Acceptance of Technology Products: The Impact of Tactical Selling Approaches <i>Michael T. Elliott and Frank Q. Fu</i>	47
Intraorganizational Knowledge Sharing Among Key Account Salespeople: The Impact on Buyer Satisfaction <i>Michelle D. Steward</i>	65
The Impact of Governance on the Development of Trust in Buyer-Seller Relationships <i>Edward O'Donnell, Michael L. Mallin and Michael YHu</i>	76
Predictive Validity of a Behavioral Interview Technique <i>Gary C. Oliphant, Katharine Hansen and Becky J. Oliphant</i>	93
The Impact of Cognitive Age on Seniors' Lifestyles <i>Rajesh Iyer, Timothy H. Reisenwitz and Jacqueline K. Eastman</i>	106
Service Quality and Customer Satisfaction: An Empirical Investigation in Indian Mobile Telecommunications Services <i>Abdolreza Eshghi, Sanjit Kumar Roy and Shirshendu Ganguli</i>	119
An Examination of the Validity of the Downs and Hazen Communication Satisfaction Questionnaire <i>Jim DeConinck, Julie Johnson, James Busbin and Frank Lockwood</i>	145
Enhancing Stimulus Integration in a Consumer Information Processing System: A Theoretical Foundation <i>Brad D. Carlson and Margaret A. White</i>	154
Does Source Credibility Affect How Credit Cards are Marketed to College Students? <i>Kenneth E. Clow, Karen E. James and Sarah Stanley</i>	168
The Influence of <i>Kelo v. City of New London, Connecticut</i> on the Use of Eminent Domain in Place Marketing and Economic Development <i>Geoffrey T. Stewart, Jerilyn Bowie-Hill, Anne K. Keaty and Rajesh Srivastava</i>	179

FROM THE EDITORS

The Marketing Management Journal, first published in Fall, 1991, is dedicated as a forum for the exchange of ideas and insights into the marketing management discipline. Its purpose was and continues to be the establishment of a platform through which academicians and practitioners in marketing management can reach those publics that exhibit interests in theoretical growth and innovative thinking concerning issues relevant to marketing management.

Submissions to *The Marketing Management Journal* are encouraged from those authors who possess interests in the many categories that are included in marketing management. Articles dealing with issues relating to marketing strategy, ethics, product management, communications, pricing and price determination, distribution sales management, buyer behavior, marketing information, international marketing, etc. will be considered for review for inclusion in *The Journal*. *The Journal* occasionally publishes issues which focus on specific topics of interest within the marketing discipline. However, the general approach of *The Journal* will continue to be the publication of combinations of articles appealing to a broad range of readership interests. Empirical and theoretical submissions of high quality are encouraged.

The Journal expresses its appreciation to the administrations of the College of Business Administration of the University of Akron and the College of Business of Missouri State University for their support of the publication of *The Marketing Management Journal*. Special appreciation is expressed to Lynn Oyama of HEALTHCAREfirst, Inc. and the Center for Business and Economic Development at Missouri State University for contributing to the successful publication of this issue.

The Co-Editors thank *The Journal's* previous Editor, Dub Ashton and his predecessor David Kurtz, *The Journal's* first Editor, for their work in developing *The Marketing Management Journal* and their commitment to maintaining a quality publication.

MANUSCRIPT AND SUBMISSION GUIDELINES
MARKETING MANAGEMENT JOURNAL
January 2009

Scope and Mission

The mission of *The Marketing Management Journal* is to provide a forum for the sharing of academic, theoretical, and practical research that may impact on the development of the marketing management discipline. Original research, replicated research, and integrative research activities are encouraged for review submissions. Manuscripts which focus upon empirical research, theory, methodology, and review of a broad range of marketing topics are strongly encouraged. Submissions are encouraged from both academic and practitioner communities.

Membership in the Marketing Management Association is required of the author or at least one co-author of each manuscript accepted for publication. A page fee is charged to support the development and publication of *The Marketing Management Journal*. Page fees are currently \$25 per page of the final manuscript.

Submission Policy

Manuscripts addressing various issues in marketing should be addressed to either:

Mike d'Amico
Marketing Management Journal
Department of Marketing
College of Business Administration
University of Akron
Akron, OH 44325-4804

Charles E. Pettijohn
Marketing Management Journal
Department of Marketing
College of Business Administration
Missouri State University
Springfield, MO 65897

Manuscripts which do not conform to submission guidelines will be returned to authors for revision. Only submissions in the form required by the Editorial Board of *The Marketing Management Journal* will be distributed for review. Authors should submit four copies (4) of manuscripts and should retain the original. Photocopies of the original manuscript are acceptable. Upon acceptance, authors must submit two final manuscripts in hard copy and one in diskette or CD form.

Manuscripts must not include any authorship identification with the exception of a separate cover page which should include authorship, institutional affiliation, manuscript title, acknowledgments where required, and the date of the submission. Manuscripts will be reviewed through a triple-blind process. Only the manuscript title should appear prior to the abstract.

Manuscripts must include an informative and self-explanatory abstract which must not exceed 200 words on the first page of the manuscript body. It should be specific, telling why and how the study was made, what results were, and why the results are important. The abstract will appear on the first page of the manuscript immediately following the manuscript title. Tables and figures used in the manuscript should be included on a separate page and placed at the end of the manuscript. Authors should insert a location note within the body of the manuscript to identify the appropriate placement.

Tables and figures should be constructed using the table feature of MICROSOFT WORD for Windows.

Final revision of articles accepted for publication in *The Marketing Management Journal* must include a CD in MICROSOFT WORD for Windows in addition to two printed copies of the manuscript.

Accepted manuscripts must follow the guidelines provided by the MMJ at the time of acceptance. Manuscripts must be submitted on 8½ by 11 inch, bond paper. Margins must be one inch. Manuscripts should be submitted in 11-Times Roman and should not exceed thirty typewritten pages inclusive of body, tables and figures, and references.

References used in the text should be identified at the appropriate point in the text by the last name of the author, the year of the referenced publication, and specific page identity where needed. The style should be as follows: "...Wilkie (1989)..." or "...Wilkie (1989, p. 15)."

Each reference cited must appear alphabetically in the reference appendix titled "REFERENCES." References should include the authors' full names. The use of "et al." is not acceptable in the reference section. The references should be attached to the manuscript on a separate page.

The Editorial Board of *The Marketing Management Journal* interprets the submission of a manuscript as a commitment to publish in *The Marketing Management Journal*. The Editorial Board regards concurrent submission of manuscripts to any other professional publication while under review by the *Marketing Management Journal* as unprofessional and unacceptable. Editorial policy also prohibits publication of a manuscript that has already been published in whole or in substantial part by another journal. Authors will be required to authorize copyright protection for *The Marketing Management Journal* prior to manuscripts being published. Manuscripts accepted become the copyright of *The Marketing Management Journal*.

The Editorial Board reserves the right for stylistic editing of manuscripts accepted for publication in *The Marketing Management Journal*. Where major stylistic editing becomes necessary, a copy of the accepted manuscript will be provided to the author(s) for final review before publication.

Subscription Information

Communications concerning subscriptions, changes of address, and membership in the Marketing Management Association should be addressed to the Executive Secretary of the Marketing Management Association, Dr. Michelle Kunz, Department of Management and Marketing, College of Business and Public Affairs, Morehead State University, Morehead, KY 40351-1689, (Telephone: 606-783-5479).

Annual membership dues for the Marketing Management Association are \$35 and include a subscription to *The Marketing Management Journal*. The subscription rate for non-members is \$35. The library rate is also \$35.

A RE-INQUIRY OF HOFSTEDE'S CULTURAL DIMENSIONS: A CALL FOR 21st CENTURY CROSS-CULTURAL RESEARCH

LINDA M. ORR, *The University of Akron*
WILLIAM J. HAUSER, *The University of Akron*

Given the impact of Hofstede's Cultural Dimensions over the past quarter of a century, many scholars and practitioners have utilized these dimensions. However, numerous researchers have questioned his methodology, while others misused the dimensions in terms of the original purpose. Yet surprisingly, very few studies have performed an exact replication. This study summarizes Hofstede's work and critiques his cross-cultural model. In order to test Hofstede's constructs on different populations, three quantitative analyses were performed using domestic U.S., Asian, and Australian samples. This study found serious problems with Hofstede's factor structure. Additionally, the study suggests the need for re-examining the cultural dimensions within the global information based context of the early 21st century. This is not meant to criticize Hofstede, but instead to pinpoint fallacies to enable researchers to build from his work in more appropriate directions.

INTRODUCTION

In 1980, Geert Hofstede published *Culture's Consequences*. This influential study soon became a major source of reference about value differences around the world. *Culture's Consequences* has been translated into numerous languages since its original publication and was fully revised in 2001. Additionally, *Culture's Consequences* has been cited more than any other book in social sciences (Yoo and Dunthu 2002). Hofstede has been cited over 5,000 times, with more than 3,000 of these citations being to *Culture's Consequences* (IACCP 2007). Hofstede's work has made it beyond higher-level research and has worked its way into everyday teachings. Many of his citations are in basic principles of marketing, international business, advertising, and consumer behavior textbooks.

Hofstede's work has inspired a multitude of international marketing research and has been the dominant research paradigm in cross-cultural studies of national attitudes for some time because of the simplicity of its theory and

applicability of its implications. Hofstede's work has inspired a great improvement in the discipline by specifying a theoretical model which serves to coordinate research efforts (Redding 1995). This theoretical model has served as the foundation for many other research efforts. In sum, Hofstede's initial four (later five) fundamental dimensions of culture still serve today as basic, fundamental criteria in most interdisciplinary, cross-culturally comparative research.

However, Hofstede's work has been misconstrued and misinterpreted in many subsequent studies. More importantly, surprisingly few exact replications, attempting to empirically examine Hofstede's factors, have been conducted. Furthermore, many subsequent studies have taken and utilized Hofstede's work with surprisingly little questioning of his results. Thus, due to the tremendous impact that Hofstede has had on the scientific community, an exact replication study is a necessary step. While replication studies may not hold the highest regard within academic research because they do not bring "anything new to the table," replication studies for works this important must be done. If not, as researchers, we will continue to utilize faulty theories and models. Thus, a replication study of Hofstede's

work is necessary in order to assess the appropriate content, as well as the reliability and validity of Hofstede's cultural dimensions.

Thus, the purpose of this study is to perform a very close replication of Hofstede's original study. To do this, first, a review of Hofstede's methodology is presented. This review was conducted because many researchers may not be fully aware of the almost haphazard manner in which the cultural dimensions were initially developed. The results of three studies designed to analyze face validity are preformed. Following these analyses, three re-inquiry studies are presented. Hofstede's instrument was obtained and reproduced with no alterations and administered with multiple international samples. The examination of the data in this study was conducted with more statistical rigor than any other replication study known to the authors. As we have progressed well into the new millennium, cross-cultural research is no doubt one of the most important subsections of marketing and international business research. It is imperative that we have a solid foundation and understanding from which to build future research.

BACKGROUND

As mentioned, Hofstede's famous study is widely recognized as a major break-through in cross-cultural social science studies. There are almost no publications, either from the disciplines of sociology, anthropology, history, law, economics or business administration, that do not refer to Hofstede's work and his five fundamental dimensions of culture when explaining correspondences and distinctions between cultures (IRIC online 2002). Geert Hofstede is among the 20 most cited Europeans in the 2000 Social Science Citation Index (Institute for Research on Intercultural Cooperation 2001), 57th in the world, with 416 articles referring to him. In fact, Hofstede's influence is becoming even more pronounced, with the number of citations increasing, not decreasing, each subsequent year. Simply put, Hofstede's dimensions are still utilized widely even as we have progressed well into the new

millennium. Thus, given the widespread acceptance of Hofstede's instrument, it was used for this research.

Hofstede's work is based on "mental programs." Due to the process of socialization, these mental programs are developed in the family in early childhood and reinforced in schools and organizations, and other areas throughout our lives, experiences, and upbringings. Thus, due to the shared common experiences of people living in the same country, these mental programs contain a component of national culture. They are most clearly expressed in the different values that predominate among people from different countries (Hofstede 1980).

From 1967 to 1972, Hofstede administered 117,000 questionnaires to employees of IBM in over 60 different countries (Hofstede 1980). His study resulted from the collaboration of researchers from five countries and his survey was pre-tested in ten countries (De Cieri and Dowling 1995). By 1980, he had developed his own cultural dimensions, Individualism-Collectivism, Power Distance, Uncertainty Avoidance, and Masculinity-Femininity.

Power distance is defined as the degree that unequal distributions of power are expected and accepted. Power distance "represents a nation's unique score on how to deal with social inequality. Inequality can occur in areas such as prestige, wealth, and power; different societies put different weights on status consistency among these areas" (Hofstede 1984, p. 65). Uncertainty avoidance is the extent to which people feel threatened by ambiguous situations and have created beliefs and institutions that try to avoid these (Hofstede and Bond 1984, p. 419-420). Individualism-Collectivism "describes the relationship between the individual and the collectivity which prevails in a given society," where "individualism is defined as a situation in which people are supposed to look after themselves" and "collectivism is defined as a situation in which people belong to in-groups or collectivities which are supposed to look after

them in exchange for loyalty” (Hofstede 1984, p. 148 and Hofstede and Bond, 1984, p. 419-420). Finally, masculinity-femininity “describes the division of social roles between women and men in a society.” The predominant socialization pattern is for men to be more assertive and for women to be more nurturing. “Masculinity is defined as situation in which the dominant values in society are success, money, and things” and “femininity is defined as a situation in which the dominant values in society are caring for others and the quality of life” (Hofstede 1984, p. 176; Hofstede and Bond 1984, p. 419-420).

A group of researchers calling themselves the Chinese Culture Connection (1987) conducted further analysis of the Hofstede dimensions in Asian cultures and added a fifth dimension, Confucian Dynamism. In the 2001 edition of *Culture's Consequences*, Hofstede has included a chapter on this dimension and called it long-term versus short-term orientation. Confucian Dynamism conceptually incorporates many diverse elements of Confucian cultures. Empirically, however, Confucian Dynamism has consisted of two negatively correlated sets of items, described by the Chinese Culture Connection as a positive and a negative pole. More specifically, “there were four positively loaded values in this grouping, all reflecting Confucian work ethics.” These four items were, ordering relationships, thrift, persistence, and a sense of shame – all represented by single items. “Counterpointed against this hierarchical dynamism were four negatively loaded values advocating checks and distraction at the personal, interpersonal, and social levels” (Chinese Cultural Connection 1987, p. 150). These items were, reciprocation, personal steadiness, protecting your face, and respect for tradition. Thus, Confucian Dynamism begins to address traditional eastern values.

HOFSTEDE'S METHODOLOGY

IBM had occasionally surveyed employees to judge attitudes toward job satisfaction prior to 1960. In 1967, a team of researchers was gathered together to standardize the surveys in

order to permit longitudinal and cross-national investigation. The first instrument consisted of 180 items, which were chosen through existing surveys, pilot studies, and literature review (e.g., Baehr 1954; Herzberg et al. 1957; Hinrichs 1968; Vroom 1964; Wherry 1954). After the initial survey, individual site survey administrators were still customizing the surveys to their specific needs. Thus, most of the surveys at this point varied considerably from site to site. Therefore, a 1970 task force of researchers, including Hofstede, took over with a new approach. They wanted to derive an instrument that used the previous questions but had no more than 60 items. The criteria for these questions were:

The core questions should cover all the major area or dimensions of job attitudes (content validity);

- The areas of job attitudes covered should be meaningful in terms of theories of human motivation and organization;
- The questions should be *reasonably reliable*;
- Core questionnaire items should universally apply to all employees of the corporation;
- Questions should be translatable;
- The questions should be chosen from those used before, to permit longitudinal studies;
- Questions should be acceptable to the corporation's managers;
- All core questions should be useful information to managers; and
- The number should not exceed 60 items (Hofstede 1975).

In 1971, Hofstede and colleagues reduced the number of items from 180 to 120. His decision was to eliminate items that did not frequently appear in the literature. Hofstede next ran an exploratory factor analysis with a sample of 700 employees on all 120 items. After varimax rotation, he was left with 15 factors. The first three factors explained 77 percent of the variance. Therefore, he kept the items for those three factors and eliminated the other items. He was left with three dimensions: *management, satisfaction, and culture*. Hofstede and colleagues (1971) had 146 items at this point, including demographic variables. Next, he took

his new survey with 146 items and administered it to 5 separate populations, which follow.

- Technical experts, France, 1968, n = 436
- Technical experts, U.K., 1968, n = 436
- Head office clerks, secretaries and other nonprofessional employees, U.K., 1969, n = 535
- Unskilled direct manufacturing operators, Japan, 1970, n = 231
- Unskilled direct manufacturing operators, U.K., 1970, n = 296

To analyze the data, Hofstede performed separate factor analyses with each population. Management questions explained 21-27 percent (depending on the sample) of the variance and the weakest factor, culture, explained 11-19 percent of the variance (see Tables 1 and 2). However, the three components that Hofstede derived, management, satisfaction, and culture, were not one-dimensional. In fact, the "culture" components contained thirteen constructs, some of which contained zero or only one item. In other words, even though there was no data or

quantitative evidence to refer to, Hofstede conceptually decided which components should be a part of each of the three factors.

From the previous analyses, Hofstede devised his new instrument. The final questionnaire encompassed 60 core questions: 58 from factor analysis and two new items. Subsequently, Hofstede administered the same work satisfaction survey in other countries and derived his "cultural" dimensions. The following paragraphs will describe how each of the Hofstede cultural dimensions, as we know them today, are derived through the use of theoretical reasoning and factor analysis.

Hofstede began administering the instrument in individual countries at this stage. Each factor analysis was performed separately for each country and then standardized, normalized means were calculated to derive a factor score. Hofstede himself admits that factor structure does not hold across populations (Hofstede 1984, p. 43). In fact, as mentioned, he never intended his instrument to be used at the

TABLE 1
Hofstede et al. (1971) Factor Analysis

	Number of variables	Number of factors with eigen-values>1	% of total variance explained	% of variance explained by first factor
Satisfaction questions:				
1. T. E. France	54	15	62	17
2. T. E. U.K.	54	15	62	16
3. Clerks U.K.	52	15	63	20
4. Operators Japan	51	15	68	24
5. Operators U.K.	54	15	65	20
Management questions:				
1. T. E. France	50	14	62	22
2. T. E. U.K.	50	14	61	21
3. Clerks U.K.	50	13	63	24
4. Operators Japan	48	15	72	27
5. Operators U.K.	50	14	65	24
Culture questions:				
1. T. E. France	42	12	58	13
2. T. E. U.K.	42	14	61	11
3. Clerks U.K.	40	11	59	17
4. Operators Japan	40	13	63	16
5. Operators U.K.	42	11	59	19

TABLE 2
Hofstede's Factors

Satisfaction Factor	Number of Items	Management Factor	Number of Items	Culture Factor	Number of Items
S1	3	M1	5	C1	2
S2	1	M2	2	C 2	2
S3	3	M3	2	C 3	1
S3A	3	M4	2	C4	2
S4	3	M5	0	C4A	1
S4A	1	M6	0	C5	0
S5	1	M7	1	C6	2
S6	1	M8	1	C6A	1
S6A	1	M9	1	C7	3
S7	2			C8	1
S8	1			C9	0
S9	1			C10	0
S10	1			C11	0
				C12	0
				C13	1

individual level. Hofstede (1984, pp. 43 and 55) admits,

“A between-cultures analysis had not been done at that time; first, because the main purpose of the survey operation was organization development – that is, use within parts of the organization – within made the within-analysis obvious, and second, I must confess that the difference between within- and between-culture analysis had not occurred to us at that time. If it had, we might have come to a very different selection of, in particular, the ‘culture’ survey items...From the earliest surveys onward, it had been clear that questions dealing with hierarchical relationships received systematically different answers in different countries.”

From this point forward, while it is somewhat unclear in past writings, Hofstede derived his four separate cultural dimensions from the

“culture” factor as he saw themes emerge. He derived these dimensions theoretically instead of empirically. In other words, he examined the “culture” factor and made educated guesses at which items should make up each of his four cultural dimensions.

The first dimension was power distance. Hofstede noticed that the question, “How frequently are employees afraid to express disagreement with their managers?” was receiving similar answers within cultures (but not between). He then decided to choose this one core question as his entire power distance dimension (Hofstede 1984). Two additional questions were added based on ecological correlations and this formed the Power Distance dimension.

Next, according to Hofstede (1984, p. 55), “the uncertainty avoidance index was developed in an analogous way. I had an earlier theoretical interest in the phenomenon of stress which was

measured by the question 'How often do you feel nervous or tense at work?'" Scores on this question differed greater by country than by occupation. Thus, Hofstede was able to deduce that a cultural dimension existed around people's differing reactions and exceptions to uncertainty and anxiety.

A potentially rich source of data was also available in the "work goal importance" questions (Hofstede 1984). After normalizing the data on these 14 questions, Hofstede realized that a structure emerged similar to Maslow's hierarchy of needs (Hofstede 1984). Through a review of the literature and a long process of analysis and deduction, Hofstede later decided that these 14 questions measured two constructs - Masculinity and Individualism. Subsequently, Hofstede subjected the above mentioned questions for all four factors, plus others that had shown a reasonable amount of stability over time to a factor analysis with orthogonal rotation. The final 32 items explained 49 percent of the variance and became his initial set of questions to measure his cultural dimensions.

Even though the masculinity and individualism constructs were derived from the same variables and even though the above factor loadings would empirically be three constructs, Hofstede took a different approach. For reasons which are not explained anywhere in the literature, according to Hofstede (1984, p. 62), "Factor one represents an Individualism-low Power Distance factor...I shall continue to treat them as two dimensions because they are conceptually distinct...Factor 2 is a masculinity factor... and factor three corresponds to uncertainty avoidance" (Hofstede 1984, p. 62). These items can be found in Table 3. As can be seen, some items are included in overlapping dimensions. The obvious confusion of this methodology, along with its limitations, is discussed in the following sections.

LIMITATIONS

Other than the obvious methodological problems which stem from the above described

analyses, numerous other limitations exist with Hofstede's research. While the overall findings of Hofstede's research are extremely relevant to today's cross-cultural studies, and the rigor is possibly unmatched even today, major constraints exist with Hofstede's research. First, and through no fault of Hofstede, there is a question of time relevancy. Researchers have questioned whether the dimensions developed from data collected between 1966 and 1973 were artifacts of the period of analysis (e.g., Baumgartel and Hill 1982; Warner 1981). Hofstede investigated the correlations between his data and other variables like geographic, economic, demographic, and political national indicators. Over forty years have passed since the beginning of the study. Just a simple map of the world looks very different today than it did in 1966. While these correlations were beneficial, they are not only out dated, but the cultures themselves have changed.

Second, Hofstede's research may suffer from sampling problems. Several researchers have argued that the constraints derived from Hofstede's research population of IBM employees (e.g., Graves 1986; Merker 1982; Triandis 1982). The use of employees from one company allowed Hofstede to reduce the other sources of variance and concentrate on culture. However, several criticisms have come from this fact. First, IBM employed mostly males at the time of the survey. In the words of Milton Bennett (1996), "the differences between men and women is the greatest culture conflict of all." More differences exist between men and women than from country to country, especially when analyzing things like masculinity/femininity, power distance, and individualism/collectivism.

In lieu of the sampling issue, all the subjects in the survey were from the same corporate culture. Additionally, although Hofstede surveyed many countries, all subjects were employees of an American company. Additionally, most employees were from white-collar positions. Hofstede (1980) himself discusses the problems of ethnocentrism that exist in previous scales. As Hamden-Turner and

TABLE 3
Original Hofstede Items and Factor Groupings

Construct	Item Label in Present Stud	Hofstede Item
Individualism and Collectivism Items	ic1 ic10 ic11 ic12 ic13 ic14 ic15 ic2 ic3 ic4 ic5 ic6 ic7 ic8 ic9	Have good working conditions (good lighting, adequate work space, an attractive office, etc.)? I would not support my work group if I felt they were wrong. If the group is slowing me down, it is better to leave and work alone. It is better to work in a group than alone. Groups make better decisions than individuals. I prefer to be responsible for my own decisions. Contributing to the group is the most important aspect of work. Have considerable freedom to adopt your own approach to the job? Have a job that leaves sufficient time for your personal or family life? Fully use your skills and abilities on the job? Have a job on which there is a great deal of day-to-day learning? Competition among employees usually does more harm than good. Decisions made by individuals are usually of higher quality than decisions made by groups. It is important to stick with my work group, even through difficulties. My personal accomplishment is more important than group success.
Items were used to measure both Individualism and Masculinity (Because items had factor loadings above 0.5 on each construct)	icandmf1 icandmf2 icandmf3	Have challenging work to do; work from which you can get a personal sense of accomplishment. Having interesting work to do is just as important as having high earnings. Most employees want to make a real contribution to the success of their company.
Masculinity and femininity items	mf1 mf10 mf11 mf12 mf13 mf14 mf15 mf16 mf17 mf18 mf19 mf2 mf3 mf4 mf5 mf6 mf7 mf8 mf9	Live in an area desirable to you and your family? Have the security that you will not be transferred to a less desirable job? Work in a congenial and friendly atmosphere? A corporation should have a major responsibility for the health and welfare of its employees and their immediate families. A corporation should do as much as it can to help solve society's problems (poverty, discrimination, pollution, etc.). Most companies have a genuine interest in the welfare of their employees. The private life of an employee is properly a matter of direct concern to his company. It is important for me to have a job that provides opportunity for advancement. It is important that I outperform others in the company. It is important for me to have a job that provides an opportunity for high earnings. It is important for me to work in a prestigious or successful company. Have an opportunity for high earnings? Work with people who cooperate well with one another? Have the security that you will be able to work for your company as long as you want to? Have an opportunity for advancement to higher-level jobs? Have a good working relationship with your manager? Get the personal recognition you deserve when you do a good job? Have a job that allows you to make a real contribution to the success of your company? Work in a company that is regarded in your country as successful?
Power Distance items	pd1 pd10 pd11 pd12 pd13 pd14 pd15 pd16 pd17 pd2 pd3	Employees lose respect for a manager who asks them for their advice before he makes a final decision. For getting ahead in industry, knowing influential people is usually more important than ability. Even if an employee feels that he deserves a salary increase, he should not ask his manager for it. My superiors should make most decisions without consulting me. It is improper to disagree with one's supervisor. I would never argue with my supervisor. I believe that those superiors who ask opinions too often of subordinates are weak or incompetent. I believe that superiors are entitled to special privileges. <i>This question asks the respondent to circle his preferred manager type among three choices, from the most consultative to the least consultative.</i> Employees should participate in the decisions made by management. Company rules should not be broken; even when the employee thinks it is in the company's best interests.

TABLE 3
(continued)

Construct	Item Label in present study	Hofstede item
Power Distance Items (continued)	pd4	Employees should never express disagreement with their managers.
	pd5	Employees should always be told very clearly their duties and responsibilities, and how to perform their jobs.
	pd6	Most employees have an inherent dislike of work and will avoid it if they can.
	pd7	A good manager gives his employees detailed and complete instructions as to how they should do their jobs; he does not merely give general directions and depend on them to work out the details.
	pd8	In general, the better managers in a company are those who have been with the company the longest time.
	pd9	There are few qualities in a man more admirable than dedication and loyalty to his company.
Uncertainty Avoidance items	ua1	A good manager does not get too involved in the details of an employee's job; rather, these details are left to the employee.
	ua2	Staying with one company for a long time is usually the best way to get ahead in business.
	ua3	A large corporation is generally a more desirable place to work than a small company.
	ua4	Companies should not change their policies and practices very often.
	ua5	It is important for me to work for a company that provides high employment stability.
	ua6	Clear and detailed rules/regulations are needed so workers know what is expected of them.
	ua7	It is better to work in a well-defined job where the requirements and procedures are clear.

Trompenaars (1997) noted, they doubt that American IBM managers serving in foreign countries are much different than American IBM managers in America.

Inclusive with the sampling issue is the matter of the original sample size. While the sample eventually grew to quite some size, the original constructs were derived from very few workers. According to Hair and colleagues (1998), the minimum sample size is five observations per variable to be analyzed. However, ten observations per variable are better, and some even recommend 20 per variable. Therefore, Hofstede's results were sample specific and they took advantage of random correlations. Some samples were as low as 231 for 146 items.

Hamden-Turner and Trompenaars (1997) bring up another important criticism of Hofstede's work. "Are cultural categories linear and exclusive?" Hamden-Turner and Trompenaars (1997) do not feel that if you are an individualist you cannot be a collectivist. Perhaps some people tend to be very individualistic at work, but family oriented and collectivistic at home.

Another criticism is that culture cannot be best expressed in a mathematical language, as Hofstede does. This point can be best summarized by a story given by Hamden-Turner and Trompenaars (1997). A learned researcher diced a piece of cheese with a kitchen gadget and then wrote a learned dissertation on the cubic nature of cheese. We get out of factor analysis what we put into it, nothing more, and nothing less. As the previous section described, Hofstede's determinations were haphazard at best.

Another problem with Hofstede's work is that the study did not begin as a cultural study. It initially began as a work satisfaction study. Hofstede was a brilliant researcher who noticed the dimensions as they developed. However, the original survey was not designed for its final purpose. The survey was refined and changed several times to make the necessary adjustments. Thus, the dimensions were derived empirically, rather than theoretically.

Finally, Hofstede (1980) specifically identified the ecological fallacy that exists with his work. The ecological fallacy can be defined as "confusion between within-system and

ecological correlations.” Similarly, he readily admits that within-culture variations can be as great as if not greater than between-culture variations. This is an important observation to make. While it is helpful to understand that the majority of Chinese citizens tend to be very collective, marketers sell to the individual, managers recruit, train and hire the individual, and psychologists, economists, and all social scientists are concerned with the individual and groups existing in their society.

The above mentioned limitations have been examined and identified in numerous replication studies over the last four decades. Søndergaard (1994) located 61 replications of Hofstede's research. Full confirmation of Hofstede's dimensions was found in only four studies (Hoppe 1990; Shackelton and Ali 1990). Partial confirmation was found in another fifteen studies (e.g., Ashkanini 1984; Chow et al. 1991; Forss 1989; Huo and Randall 1991; Lowe 1994; Maldonado 1983; Pooyan 1984; Westwood and Everett 1987; Yeh 1988). Lowe's (1994) study is particularly interesting because he used IBM employees from Hong Kong and the United Kingdom for his sample. Lowe was not able to find differences between the two countries for Hofstede's uncertainty avoidance dimension (Søndergaard 1994).

After Søndergaard's (1994) study, other authors have critiqued and replicated Hofstede's work and applied his dimensions to various contexts (e.g., Fernandez, Carlson, Stepina, and Nicholson 1997; Kelleher 2000; Marshall 1997; Naumov and Puffer 2000; Robertson and Hoffman 2000; Smith, Dugan, Peterson, and Leung 1998; Sopachitwattana 2000; Trompenaars 1993; Trompenaars 1997; Van Oudenhoven 2001; Van Oudenhoven, Mechelse, and de Dreu 1998; Verbeke 2000; Yeh and Lawrence 1995). Most of these studies have come to very similar conclusions as the ones prior to 1994. No known rigorous study using Hofstede's exact instrument has found complete confirmation to Hofstede's work. In fact, Trompenaars (1993) examined Hofstede's dimensions and arrived at his own dimensions, which, according to Trompenaars, overcome

the difficulties with Hofstede's research. Trompenaars' book (1993) has become a harsh debate between Hofstede and himself (for full details, see, Hamden-Turner and Trompenaars 1997; Hofstede 1996; Hofstede 1997).

THE METHODOLOGY OF THE RE-INQUIRY

Even with all the replication studies that exist in the literature, very few have been exact replications, using Hofstede's actual, original items. In fact, prior to 2001, Hofstede did not make these original items readily available. Thus, the purpose of this study was to produce a very similar replication study. A further aim of this study was to analyze the dimensions using multiple statistical techniques in order to examine the items and constructs as thoroughly as possible. In order to start this process, Hofstede's original instrument was obtained from *Culture's Consequences*. The survey was administered in two different forms. The first study was an attempt to assess face validity. In the second study, convergent and discriminant validity was assessed. Finally, the data is tested through confirmatory factor analysis utilizing structural equations modeling.

In order to ascertain the effects of the instrument on a non-homogeneous sample (e.g., samples from more than one company) a number of different samples were used. This was also done to increase the probability of variance from other sources, such as gender, while minimizing the confounding effects of such factors as occupational status (e.g., white collar) within one over-arching corporate culture environment.

Study One

In study one, Hofstede's instrument, with no modifications, was administered to two samples (refer to Table 3). The first sample included 123 undergraduate students and the second sample included 65 graduate students, and the third sample contained 13 marketing and management faculty. The undergraduate class took the survey after a whole class period

dedicated to teaching Hofstede's cultural dimensions. All samples were given the survey with thorough definitions of each of Hofstede's four cultural dimensions at the top of the instrument. The subjects were then instructed to ascertain which dimension each survey item was attempting to measure by circling IC (individualism/collectivism), MF (masculinity/femininity), UA (uncertainty avoidance), or PD (power distance) after each item.

As can be seen in Table 4, the task proved to be quite difficult. The graduate students performed better than the faculty, followed by the undergraduate students, ascertaining correctly 64.62 percent, 44.25 percent, and 32.25 percent of the time respectively. For a face validity assessment, the percentages should be much higher, whether the sample is common workers or especially trained researchers and academics such as those used in this study. The individualism items were easiest to identify while the masculinity items were the hardest to classify.

Study Two

In study two, Hofstede's exact survey with no modifications was given to three different samples. Two out of the three samples were in America. The first sample consisted of graduate

students at a large mid-south university. Of the 161 respondents, 58 percent were American and 41.6 percent were Far Eastern. Respondents were required to have full time work experience in order to participate in the study. This criteria was added to the survey so that all respondents could identify with the work-related questions that appear on Hofstede's instrument. Respondents had work experience ranging from 1 to 40 years and were between 22 and 59 years of age. A second sample of non-student adults was taken in America (N = 233). Demographic characteristics of this sample were very similar to sample one, except 97.4 percent of the sample was American. Finally, a third sample was gathered from non-student adults in Australia (N = 210). Due to the widespread cultural differences that exist in Australia, this sample was extremely diverse. The sample contained people with varying nationalities representing a total of 21 countries.

Data were analyzed in many different ways in order to demonstrate that the factor structure does not hold in any circumstance. Reliabilities were assessed for each of the four factors with the three combined samples and with the samples separately. Likewise, factor analyses were run with each sample separately and combined. Exploratory factor analyses were used to remain consistent to Hofstede's original methodology and many different techniques were utilized. Varimax and oblique rotations

TABLE 4
Face Validity Assessments: Average Number of Times
Ascertained Correctly Across Dimension

	Faculty sample	Graduate sample	Undergraduate sample	Average of all three samples
Masculinity items	28%	40.73%	15%	27.91%
Individualism items	55%	78.24%	46%	59.75%
Power Distance items	41%	60.94%	33%	44.98%
Uncertainty avoidance items	53%	78.57%	35%	55.52%
Average	44.25%	64.62%	32.25%	47.04%

were tried to remain true to Hofstede. Likewise, factors were extracted by examining eigenvalues greater than one and by “forcing” the solution to only four factors. Additionally, even though Hofstede did not use confirmatory factor analysis, this study attempts to do so. All analyses will be discussed subsequently.

Reliabilities

Reliabilities were examined subsequent to performing the factor analyses. The results are presented in Table 5. Some reliabilities were extremely low (.3405) and some are relatively high (.8131). Curiously, the data shows no consistent pattern across the samples. In other words, masculinity has the only adequate reliabilities in sample two, but is the second lowest in sample one, both of which were American samples.

Exploratory Factor Analyses

As mentioned, factor analyses were examined in many possible ways. Data are presented for each sample separately and then are presented by combined samples. As can be seen in Table 6, in all samples, when the number of components is not forced, the instrument explained around 70 percent of the variance. However, rotation could not account for coverage many times, and when it could, the number of factors ranged between 15 and 20. When the data were forced into four

components, explainable variance dropped to around 30 percent.

These statistics seem discouraging, but it is even more discouraging to analyze what items are loading with which construct. In all analyses, items had no pattern as to which construct they loaded with. This is the case for all samples separately and together, with varimax and oblique rotation, and with Eigen values greater than one or forced factors. Due to space constraints, all 32 factor structures cannot be presented. Explanation or classification of each component is not possible. The components' items have no pattern or similarities. There was absolutely no theoretical and empirical structure which emerged.

Confirmatory Factor Analysis

Next, structural equations modeling was used to analyze the data because of its ability to be used as a confirmatory technique, instead of as an exploratory technique, even though Hofstede did not originally employ this technique. Since the relationships and constructs had already been established by Hofstede, the model just needed to be analyzed to assess the adequacy of the model. The three previous mentioned samples were utilized to test the model.

The results of the model showed an *inadequate* fit. The chi-squared/df ratio was equal to 5.345

TABLE 5
Reliabilities (Study 2)

	Sample 1 (US graduate students)	Sample 2 (US non- student adults)	Sample 3 (Australian)	All samples together
Masculinity	.5254	.7593	.8131	.7574
Individualism	.4816	.3703	.6527	.4920
Power Distance	.6974	.3510	.7003	.7417
Uncertainty Avoidance	.6330	.3405	.6845	.5655

	Sample 1 (US graduate students)		Sample 2 (US non-student adults)		Sample 3 (Australian)		All samples together	
	Number of factors	Variance explained	Number of factors	Variance explained	Number of factors	Variance explained	Number of factors	Variance explained
Varimax rotation/ Eigen values greater than one	19	70%	Rotation could not converge in 100 iterations	69.6%	Rotation could not converge in 100 iterations	69.2%	15	60%
Oblique rotation/ Eigen values greater than one	Rotation could not converge in 100 iterations	70%	20	69.6%	Rotation could not converge in 100 iterations	69.2%	15	60%
Varimax rotation/ Four "forced" components	4	31.7%	4	30%	4	37%	4	36%
Oblique rotation/ Four "forced" components	4	30%	4	30%	4	37%	4	36%

(8493 with 1589 d.f.). Ratios under three indicate an acceptable fit (Carmines and McIver 1981). The Root Mean Square Error of approximation (RMSEA) by Browne and Cudeck (1993), which is a goodness of fit measure that accounts for model complexity, was 0.85. Browne and Cudeck (1993) state that RMSEA values of about .05 or less indicate a close fit of a model in relation to the degree of freedom. Likewise, the normed fit index (Bentler and Bonnett 1980) was 0.887, which should be above 0.90, which indicates an acceptable level of fit (Hair, Anderson, Tatham and Black 1998). Results of these analyses are presented in Tables 7 and 8.

The reliabilities and the variances explained by each of the latent constructs are presented in Table 8. The highest reliability was for the masculinity construct ($\alpha = 0.73$), followed by power distance ($\alpha = 0.58$), then by Uncertainty avoidance ($\alpha = 0.40$), and then with individualism having the lowest reliability ($\alpha = 0.33$). According to Hair et al. (1998), the indicator reliabilities should exceed .50, which roughly corresponds to a standardized loading of 0.70.

The results of the variance explained by each construct had even worse results. The highest variance extracted was for the uncertainty avoidance construct (16.54 percent), followed by power distance (10.33 percent), then by individualism (10.33 percent), and then by masculinity having the lowest total variance extracted (7.97 percent). According to Hair et al. (1998), guidelines suggest that the variance extracted value should exceed .50 for a construct. None of the constructs had value above this percentage.

In regards to factor loadings, some items have high factor loadings and are significant. However, a larger number have very low loadings and are not significant. Amazingly, not one single power distance item is significant. While masculinity, individualism, and uncertainty avoidance may be adequate constructs (by these criteria only) once a few unnecessary items are eliminated, power distance has clear empirical problems.

Additionally the correlations among latent constructs are provided in Table 9. The most striking correlation is that of masculinity and

TABLE 7
CFA Results

	Masculinity Reliability = 0.73 Variance Extracted = 7.97%	Individualism Reliability = 0.3 Variance Extracted = 9.15%	Power Distance Reliability = 0.58 Variance Extracted = 10.33%	Uncertainty Avoidance Reliability = 0.40 Variance Extracted = 16.54%	T-value
mf1_1	0.55				12.212***
mf2_1	0.50				10.099***
mf3_1	0.66				12.224***
mf4_1	0.64				11.968***
mf5_1	0.58				11.241***
mf6_1	0.66				12.190***
mf7_1	0.62				11.652***
mf8_1	0.64				11.998***
mf9_1	0.57				11.031***
mf10_1	0.66				12.216***
mf11_1	0.70				12.682***
mf12_1	-0.10				-2.282*
mf13_1	-0.02				-0.503
mf14_1	0.04				0.832
mf15_1	-0.08				-1.878
mf16_1	-0.04				-0.991
mf17_1	-0.15				-3.455***
mf18_1	-0.13				-2.97**
mf19_1	-0.05				-1.101
ic1_1		0.64			13.368***
ic2_1		0.55			11.858***
ic3_1		0.54			11.767***
ic4_1		0.63			13.366***
ic5_1		0.58			12.329***
ic6_1		0.08			1.825
ic7_1		-0.03			-0.757
ic8_1		-0.05			-1.262
ic9_1		0.05			1.150
ic10_1		0.02			0.418
ic11_1		-0.01			-0.245
ic12_1		-0.04			-0.906
ic13_1		-0.09			-2.043*
ic14_1		-0.07			-1.728
ic15_1		-0.22			-5.047***
pd1_1			0.05		0.545
pd2_1			-0.09		-0.998
pd3_1			0.30		1.12
pd4_1			0.75		1.136
pd5_1			0.19		1.101
pd6_1			0.52		1.133
pd7_1			-0.10		-1.013
pd8_1			0.33		1.126
pd9_1			0.17		1.091
pd10_1			-0.07		-0.909
pd11_1			0.29		1.121
pd12_1			0.55		1.133
pd13_1			0.46		1.132
pd14_1			0.79		1.136
pd15_1			0.32		1.125
pd16_1			0.62		1.134
pd17_1			-0.73		-1.135

TABLE 7
CFA Results (continued)

	Masculinity Reliability = 0.73 Variance Extracted = 7.97%	Individualism Reliability = 0.3 Variance Extracted = 9.15%	Power Distance Reliability = 0.58 Variance Extracted = 10.33%	Uncertainty Avoidance Reliability = 0.40 Variance Extracted = 16.54%	T-value
ua7_1				0.82	16.436***
ua6_1				0.11	2.493*
ua5_1				0.77	15.673***
ua4_1				0.45	10.032***
ua3_1				-0.15	-3.386***
ua2_1				-0.01	-0.105
ua1_1				-0.08	-1.862

*p < .05

**p < .01

***p < .001

Items listed in Table 4.

TABLE 8
CFA Results: Correlations Among Latent Constructs

	Masculinity	Individualism	Power Distance	Uncertainty Avoidance
Masculinity	1.000			
Individualism	0.987	1.000		
Power Distance	-0.218	-0.093	1.000	
Uncertainty Avoidance	-0.012	-0.059	-0.651	1.000

individualism (0.987). Perhaps this is because Hofstede used the same items to measure each construct. Hofstede states, "...reversing the sign of the scores (for the items for individualism), I have called this dimension 'Masculinity'" (Hofstede 1984, p 189). Items that load negatively on a construct are not a separate construct, just the opposite "pole" of that construct. Power distance and Uncertainty avoidance also have a high correlation between them (-0.651). Many of the power distance items relate to the supervisor's responsibility to establish clear rules and regulations (e.g., "Employees should always be told very clearly their duties and responsibilities, and how to perform their jobs" and "A good manager gives his employees detailed and complete instructions as to how they should do their jobs; he does not merely give general directions and depend on them to work out the details"). Conceptually, one can see how these items correlation with uncertainty avoidance. People

high in uncertainty avoidance want clear rules and regulations so that there is less uncertainty to deal with.

DISCUSSION

This study has attempted to empirically assess the validity of Hofstede's cultural dimensions. Substantial questions have arisen in this analysis as to the reliability and validity of Hofstede's methodology and instrumentation. In fact, the analysis discussed in this re-inquiry does seem to reify many of the limitations of Hofstede's work discussed earlier.

First, the samples used in this analysis were comprised of diverse individuals who were not part of an over-arching collectivity, namely IBM employees. Thus the impact of a corporate culture was not in play here. Not only does this minimize the corporate-wide

socialization effects as to how one should think and act within that corporate culture, it minimizes the possibility of socially desirable respondents by the respondents.

Second, limitations around the lack of the mutual exclusivity of the dimensions also surfaced in this re-inquiry. This analysis found significant overlap within and across many of the constructs. Thus, with the samples used herein, there were no clearly identifiable factors supporting the instrumentation and, to a large degree, the methodology in its current state.

Third, and probably most importantly, the analysis questions the relevance of the original dimensions and their meaning to 21st century businesses and individuals. What do the dimensions mean to individuals within and across different cultures? What about sub-cultural differences that exist in many countries and regions? Most importantly, what effect do traditional social institutions have on the dimensions defined by Hofstede? For example, strong religious dogma and practices in a culture will most likely strongly impact an individual's perception of individualism as well as culturally sanctioned definitions of masculine and feminine roles. Similarly, legal, economic, and educational institutions within the given social structure will dramatically influence how one responds to Hofstede's dimensions.

This analysis also tends to support a number of Hofstede's critics as to the applicability of the four (or five) dimensions. In general, the dimensions only attempt to measure cultural differences at the individual level and are therefore psychologically reductionistic. Cross-cultural analysis requires an understanding the impact of the socialization and other sociological factors that brought these about. As a matter of fact, Hofstede has long contended that an ecological fallacy is contained in the cultural dimensions. If anything, the current analysis suggests that a reverse ecological fallacy may be the case where individual characteristics are being

assigned to an entire group or in this case culture. This analysis discussed supports the need to understand differences at the societal level. Currently, this lack of understanding of the causality between the individual level and the socio-structural level precludes any clear indication of what is actually causing differences within and across Hofstede's dimensions.

Finally, the impact of the Internet and relatively seamless global communications on a society's cultural stance cannot be over-estimated in the early 21st century. Short of extreme governmental control, it is nearly impossible for individuals in any culture to not have access to and be influenced by information on other cultures, attitudes, and behaviors. Future research on Hofstede's cultural dimensions must investigate the impact of global communications on cultural dimensions and individual responses to them.

CONCLUSIONS

Hofstede's seminal work has been the benchmark for cultural analysis for the last three decades. However, it has been subject to criticism on both the theoretical and empirical levels. The intent of this investigation was to test Hofstede's constructs with a non-homogenous population (i.e., individuals that were not from one company only) in order to ascertain the validity and reliability of the measures. In order to do so a number of samples drawn from American, Far Eastern Asians, and Australians were used. Analyses were performed into the face validity, convergent, and discriminant validity of Hofstede's constructs. Likewise, Hofstede's factors were subjected to exploratory and confirmatory factor analysis where they performed poorly. This investigation has concluded that Hofstede's factors overlap significantly and do not share a common factor structure within or between cultures.

While it is outside the scope of this investigation, it appears that Hofstede's

theoretical constructs need to be thoroughly re-examined within the context of early 21st century cross-cultural attitudes and patterns of behavior. Cross-cultural relationships (positive and negative) have changed dramatically over the past quarter of a century, be they political, economic, or from a business perspective. Worldwide political systems, such as communism, have dramatically lost their influence since Hofstede first posited his cultural dimensions. Free market economies have taken a foothold (to varying degrees) in many cultures while businesses have become more global in their reach and influence.

At the same time, the changes mentioned above have exacerbated within society changes in many regions of the world. As political and economic systems decayed, long constrained cultural and sub-cultural differences have re-emerged, in a number of cases, to the point where the country has been divided into a number of smaller cultural or historically "tribal" based enclaves. With this in mind, Hofstede's original dimensions may be inaccurate, or at the least, outdated in defining contemporary cultural differences be they within or across different cultures.

With regard to research implications, empirical establishment of convergent, discriminant, and nomological validity for the cultural dimensions are of first importance. If the constructs are not defined empirically, then they cannot be measured. Likewise, if Hofstede's dimensions cannot be operationalized, then they cannot be correlated with other concepts or used in other studies to have practical significance. The study of cross-cultural values is simply too important in this time of globalization. Hofstede's dimensions are not reasonable empirically. Although there may be a conceptual gold mine underneath it all, a theory is worthless to investigators if it cannot be operationalized.

In conclusion, the purpose of this re-inquiry was to re-examine Hofstede's original methodology to test the validity with a number of diverse samples. While this study found

both validity and reliability issues with the original constructs and instrumentation, it is not our intent to denigrate Hofstede's original conceptualization. Instead, we recommend that additional research be undertaken to build on Hofstede's cross-cultural dimensions to better adapt them to the 21st century global environment. As such, each construct should be thoroughly re-examined and both be theoretically and operationally redefined within contemporary cross-cultural and business environments.

Hofstede's work has contributed significantly to the foundations of cross-cultural analysis and understanding. But like any good model, it needs to constantly be re-examined, re-defined, and adapted to the current environment. Therefore, future studies should attempt to build on, strengthen, and adapt what has been learned from Hofstede's seminal work. Perhaps as we have moved well into this new millennium very different cross-cultural values, attitudes, and behaviors exist.

REFERENCES

- Ashkanini, Mohammed G. A. (1984), *A Cross-Cultural Perspective on Work Related Value*, Unpublished doctoral dissertation, International University, San Diego.
- Baehr, Melany E. (1954), "A Factorial Study of the SRA Employee Inventory," *Personnel Psychology*, 7, 319-336.
- Baumgartel, Howard and Thomas Hill (1982), "Geert Hofstede: Culture's Consequences: International Differences in Work-Related Values," *Personal Psychology*, 35(1), 192-196.
- Bennett, Milton (1996), *Better Together Than A-P-A-R-T: Intercultural Communication: An Overview*, [videorecording]. Newtonville, Mass.: Intercultural Resource Corporation.
- Bentler, Peter M. and Douglas G. Bonnett (1980), "Significance Tests and Goodness of Fit in the Analysis of Covariance Structures," *Psychological Bulletin*, 88, 588-606.

- Berry, John W. (1997), "Preface." In Berry, J. W., Poortinga, Y. H. and Pandey, J. (Ed), *Handbook of Cross-Cultural Psychology, Volume 1: Theory and Method*. Needham Heights, MA: Allyn and Bacon.
- Browne, Michael W. and Robert Cudeck (1993), "Alternative Ways of Assessing Model Fit," In *Testing Structural Equation Models*, Kenneth A. Bollen and Scott J. Long, eds. Newbury Park, CA: Sage.
- Carmines, Edward G. and John P. McIver (1981), "Analyzing Models with Unobserved Variables," In *Social Measurement, Current Issues*, George W. Bohrnstedt and Edgar F. Borgatta, (Ed), Beverly Hills: Sage.
- Chinese Culture Connection (1987), "Chinese Values and the Search for Culture-Free Dimensions of Culture," *Journal of Cross-Cultural Psychology*, 18, 143-164.
- Chow, Chee W., Michael D. Shields and Yoke Kai Chan (1991), "The Effects of Management Controls and National Culture on Management Performance," *Accounting, Organizations, and Society*, 209-226.
- De Cieri, Helen and Peter J. Dowling (1995), "Cross-Cultural Issues in Organizational Behavior," In Cooper, C. L. and D. M. Rousseau (Ed), *Trends in Organizational Behavior*. West Sussex, England: John Wiley and Sons.
- Etzioni, Amitai (1975), *A Comparative Analysis of Complex Organizations (Revised ed.)*. New York: The Free Press.
- Fernandez, Denise Rotondo, Dawn S. Carlson, Lee P. Stepina and Joel D. Nicholson, (1997), "Hofstede's Country Classification 25 Years Later," *Journal of Social Psychology*, 137(1), 43-54.
- Forss, Kim (1989), *Comparative Management in Public Administration: A Pilot Study of Values and Attitudes in Two Organizations*, The Central Bureau of Statistics, The National Institute for Civil Service Training and Development and the National Tax Board.
- French, John R. P. and Bertram Raven (1959), "The Bases of Social Power," In D. Cartwright (Ed), *Studies in Social Power*. Ann Arbor Michigan: ISR.
- Galton, Francis [1883] (1928). *Inquiries into Human Faculty and its Development*. London: Dent.
- Graves, Desmond (1986), *Corporate Culture Diagnosis and Change: Auditing and Changing the Culture of Organizations*. London: Frances Pinter.
- Hair, Joseph F., Ronald E. Anderson, Rolph L. Tathan and William C. Black (1998), *Multivariate Data Analysis: (5th ed.)*. Upper Saddle River, NJ: Prentice Hall.
- Hamden-Turner, Charles and Fons Trompenaars (1997), "Response to Geert Hofstede," *International Journal of Intercultural Relations*, 21(1) 149-159.
- Herzberg, Fredrick, Bernard Mausner, O. Peterson and Dora F. Capwell (1957), *Job Attitudes: Review of Research and Opinion*. Pittsburgh, PA: Psychological Service of Pittsburg.
- Hinrichs, J. R. (1968), "A Replicated Study of Job Satisfaction Dimensions," *Personnel Psychology*, 21(4), 479-503.
- Hofstede, Geert, A. L. Kraut and S. H. Simonetti (1971), *Development of a Core Attitude Study Questionnaire for International Use*, Corte Madera, CA: Select Press.
- (1975), *The Stability of Attitude Survey Questions: In Particular Those Dealing with Work Goals*, Unpublished paper, Brussels: European Institute for Advanced Studies in Management.
- (1980), *Culture's Consequences: International Differences in Work Related Values*, Thousand Oaks, CA: Sage Publications, Inc.
- (1983), "National Cultures in Four Dimensions: A Research-Based Theory of Cultural Differences Among Nations," *International Studies of Management and Organization*, 13, 46-75.
- (1988), "The Confucius Connection: From Cultural Roots to Economic Growth," *Organizational Dynamics*, 16, 4-22.

- (1994), Forward in U. Kim, Harry C. Triandis, C. Kagitcibasi, Sang-Chin and G. Yoon, (Ed), *Individualism and Collectivism: Theory, Method and Applications*, (pp. ix-xiii), Thousand Oaks, CA: Sage Publications, Inc.
- (1996), "Riding the Waves of Commerce: A Test of Trompenaars' 'Model' of National Cultural Differences," *International Journal of Intercultural Relations*, 20(2), 189-198.
- (1997), "Riding the Waves: A Rejoinder," *International Journal of Intercultural Relations*, 21(2), 287-290.
- (2001), *Culture's Consequences: International Differences in Work Related Values*, 2001 edition, Thousand Oaks, CA: Sage Publications, Inc.
- Hoppe, Michael H. (1990), "Testing the Construct Validity of Geert Hofstede's Masculinity-Femininity Dimension on Elites from Nineteen Countries," Paper for XIth International Congress of Cross-Cultural Psychology, Liege.
- Hsu, Francis L. K. (1971), "Psychosocial Homeostasis and Jen: Conceptual Tools for Advancing Psychological Anthropology," *American Anthropologist*, 72, 23-44.
- Huo, Pau Y. and Donna M. Randall, (1991), "Exploring Subcultural Differences in Hofstede's Value Survey: The Case of the Chinese," *Asia Pacific Journal of Management*, 8(2), 159-173.
- Institute for Research on Intercultural Cooperation (2001), "Europeans in the 2000 Social Science Citation Index," http://cwis.kub.nl/~fsw_2/iric/index2.htm.
- International Association of Cross-Cultural Psychology (2007), "New IACCP Honorary Fellows," http://www.iaccp.org/news_page.php?thisID=441&newstype=news.
- Jahoda, G. and B. Krewer (1997), "History of Cross-Cultural and Cultural Psychology," In J. W. Berry, Y. H. Poortinga, and J. Pandey, (Ed), *Handbook of Cross-Cultural Psychology, Volume 1: Theory and Method*. Needham Heights, MA: Allyn and Bacon.
- Kahle, Lynn R. (1983), *Social Values and Social Change: Adaptation to Life in America*, New York: Praeger.
- Kelleher, B. R. (2000), "A Cross-Cultural Study of Work-Related Values: An Investigation Across Three Countries Using Hofstede's Cultural Indices," Dissertation Abstracts International Section A: Humanities and Social Sciences, 60(7-A), 2555.
- Lowe, S. (1994), "Hermes Revisited," Paper for the ISPAB Conference, Bangkok.
- Maldonado, E. M. (1983), "Mexican-American Participation in Law Enforcement in California: Law Enforcement the Impact of Cultural Related Value Differences," Unpublished doctoral dissertation, Claremont Graduate School, Claremont.
- Marshall, R. (1997), "Variances in Levels of Individualism across Two Cultures," *Journal of Cross-Cultural Psychology*, 28(4), 490-496.
- Martinsons, M. G. and R. I. Westwood (1997), "Management Information Systems in the Chinese Business Culture: An Explanatory Theory," *Information and Management*, 32 (5), 215-229.
- Merker, S. (1982), "Geert Hofstede: 'Culture's Consequences'," *Behavioral Science*. 27 (2), 195-197.
- Naumov, Alexander I. and Shelia M. Puffer (2000), "Measuring Russian Culture Using Hofstede's Dimensions," *Applied Psychology: An International Review*, 49(4), 709-718.
- Parsons, Talcott and Edward A. Shils (1951), *Toward a General Theory of Actions*, Cambridge, Massachusetts: Harvard University Press.
- Pooyan. Abdullah (1984), "Acculturation, Acculturative Stress, and their Relationships to Both Work and Non-Work Outcomes," Unpublished doctoral dissertation, Dallas: University of Texas.
- Redding, S. Gordon (1994), "Comparative Management Theory: Jungle, Zoo, or Fossil Bed?" *Organization Studies*, 15(3), 232-359.
- Robertson, Christopher J. and James J. Hoffman (2000), "How Different Are We? An Investigation of Confucian Values in the United States," *Journal of Managerial Issues*, 12, 34-47.

- Rokeach, Milton (1973), *The Nature of Human Values*, New York: The Free Press.
- SØndergaard, Mikael (1994), "Research Note: Hofstede's Consequences: A Study of Reviews, Citations and Replications," *Organization Studies*, 15(3), 447-456.
- Schwartz, Shalom H. and W. Bilsky (1987), "Toward a Universal Psychological Structure of Human Values," *Journal of Personality and Social Psychology*, 53(3), 550-562.
- Shackelton, Viv J. and Abbas H. Ali (1990), "Work Related Values of Managers: A Test of Hofstede's Model," *Journal of Cross-Cultural Psychology*, 21(1), 109-118.
- Smith, Peter B., Shaun Dugan, Ark Peterson and Wok Leung (1998), "Individualism: Collectivism and the Handling of Disagreement. A 23 Country Study," *International Journal of Intercultural Relations*, 22(3), 351-367.
- Sopachitwattana, P. (2000), "An Examination of the Effects of Participative Management and Cultural Values on Organizational Commitment for American and Thai Managers," *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 61(3), 1075.
- TØnnies, Ferdinand (1963) [1887], *Community and Society*, New York: Harper and Row.
- Triandis, Harry C. (1982), "Culture's Consequences," *Human Organization*, 41 (1), 86-90.
- Trompenaars, Fons (1993), *Riding the Waves of Culture: Understanding Diversity in Global Business*, New York: Irwin.
- Tucker, Ledyard R. and Charles Lewis (1973), "The Reliability Coefficient for Maximum Likelihood Factor Analysis," *Psychometrika*, 38, 1-10.
- Van Oudenhoven, Jan Pieter (2001), "Do Organizations Reflect National Cultures? A 10-Nation Study," *International Journal of Intercultural Relations*, 21(1), 149-159.
- , L. Mechelse, and C. K. W. de Dreu (1998), "Managerial Conflict Management in Five European Countries: The Importance of Power Distance, Uncertainty Avoidance, and Masculinity," *Applied Psychology: An International Review*, 47(3), 439-455.
- Verbeke, Willem (2000), "A Revision of Hofstede et al.'s (1990) Organizational Practices Scale," *Journal of Organizational Behavior*, 21(5), 587-602.
- Vroom, Victor H. (1964), *Work and Motivation*, New York, Wiley.
- Warner, Malcolm (1981), "Culture's Consequences," *Journal of General Management*. 7 (1), 75-78.
- Westwood, Robert G. and James E. Everett (1987), "Culture's Consequences: A Methodology for Comparative Management Studies in Southeast Asia," *Asia Pacific Journal of Management*, 4 (3), 187-202.
- Wherry, Robert J. (1954), "An Orthogonal Rotation of the Baehr and Ash Studies of the SRA Employee Inventory," *Personnel Psychology*, 7, 365-380.
- Yeh, Ryh-Song (1988), "Values of American, Japanese, and Taiwanese Managers in Taiwan: A Test of Hofstede's Framework," 48th Annual Meeting of the Academy of Management, Anaheim. *Academy of Management Best papers Proceedings 1988*.
- Yeh, Ryh-Song and John J. Lawrence (1995), "Individualism and Confucian Dynamism: A Note on Hofstede's Cultural Root to Economic Growth," *Journal of International Business Studies*, 26(3), 655-670.
- Yoo, Boonghee and Naveen Donthu (2002), "Books in Review," *Journal of Marketing Research*, (39) August, 388-389.

TECHNOLOGY READINESS AND THE LIKELIHOOD TO USE SELF-SERVICE TECHNOLOGY: CHINESE VS. AMERICAN CONSUMERS

KEVIN M. ELLIOTT, Minnesota State University
JUAN (GLORIA) MENG, Minnesota State University
MARK C. HALL, Minnesota State University

This study compares Chinese and American consumer's readiness and willingness to use new technology through the use of the Technology Readiness Index (Parasuraman 2000). The findings show that Chinese consumers exhibit higher levels of discomfort and insecurity, and lower levels of optimism and innovativeness with regard to using new technology. The findings also indicate that American consumers are more likely than Chinese consumers to use self-service technologies to complete retail transactions. Strategies aimed at increasing the likelihood of using retail self-service technologies may need to vary when focusing on Chinese versus American consumers.

INTRODUCTION

The proliferation of new self-service technologies found in the retail environment today suggests a need to assess the extent to which consumers are ready and willing to actually use the new technology. Self-service technologies are likely to become increasingly more important as retailers around the globe continue to strive to minimize costs and maximize service in order to remain competitive in the marketplace. Common self-service technologies being used today by retailers include: 1) telephone-based technologies and interactive voice response systems, 2) direct online connections and Internet-based interfaces, 3) interactive freestanding kiosks, and 4) video or CD technologies (Bitner, Ostrom and Meuter 2002). Specific examples of self-services would include automated hotel checkout, banking via ATMs or by telephone, self-scanning checkouts at grocery or discount stores, Internet shopping, and paying bills online.

While the use of self-service technologies in the retail setting within the United States has seen an increasing level of acceptance by consumers, the same should not be assumed for other countries throughout the world. Some countries have been very receptive to new retail self-service technology, while others have been slow to accept and adopt it. Getting consumers to try a new self-service technology for the first time is a critical first step in getting them to embrace the technology. Not only must consumers change their behaviors, but they must also become co-producers of the service, with responsibility for delivery of the service and for their own satisfaction (Bendapudi and Leone 2003).

The purpose of this study is to compare Chinese and American consumers on their propensity to use self-service technology in a retail setting and on their levels of Technology Readiness. The Technology Readiness Index (TRI) was introduced by Parasuraman (2000). It measures the "propensity to embrace and use new technologies for accomplishing goals in home life and at work." The TRI identifies four dimensions of technology belief that impact an individual's level of techno-readiness. Two of the dimensions are considered contributors and two are considered inhibitors of technology adoption. Finally, this research attempts to

determine the extent to which the propensity to use self-service technology is influenced by the four dimensions of technology readiness and whether the influence patterns vary across Chinese and American consumers.

Chinese consumers were selected for comparison with American consumers because China is one of the fastest growing economies in the world. The 11.5 percent increase in economic output for the three months ending September 2007 has China on track to surpass Germany as the world's third-largest economy by early 2008 (International Herald Tribune 2007). Moreover, China is expected to become the second largest consumer market by 2015 (Boston Consulting Group 2007).

Moreover, thanks to a rapidly growing middle class, consumer consumption in China is expected to rise sharply by 2015, driven by the expanding consumer group of "upper aspirants" whose household income is between \$40K - \$100K (McKinsey Group 2006). In addition, it is anticipated that by 2025 the majority of the Chinese population will live in urban communities with better access to technological advances.

As a result of all this growth, retailers around the world will seemingly be aiming more and more at Chinese consumers in the foreseeable future. China offers an excellent opportunity for growth for many retailers who provide self-service options to complete retail transactions. A better understanding of similarities and differences between Chinese and American consumers with regard to their technology readiness and likelihood to use self-service retail technology to complete retail transactions should give retailers a better understanding on how best to market to both consumer groups.

SELF-SERVICE TECHNOLOGIES

The importance of self-service technology in the retail environment has grown significantly over the last decade. Many retailers today are investing in self-service technology to improve service quality and to cut costs (Weijters,

Rangarajan, Falk, and Schillewaert 2007). Self-service technologies allow retailers to standardized their interaction with consumers, which results in a more consistent service atmosphere independent of employees' personality and mood (Hsieh, Yen, and Chin 2004). In addition, self-service technologies allow consumers to be productive resources involved in the service delivery, thus allowing retailers to handle demand fluctuations without expensive adjustment of employee levels (Curran, Meuter, and Surprenant 2003).

Not all consumers embrace self-service technology in the retail environment today. Some consumers actively seek out self-scanning checkouts, online banking services, and Internet shopping options. Other consumers, however, intentionally avoid such self-service technologies. For example, some retailers who are using in-store Internet kiosks have found that not all consumers are interested in using the new technology (Mearian 2001).

The extent to which consumers desire to use new technology is commonly influenced by such factors as consumer attitudes toward specific technologies (Bobbitt and Dabholkar 2001; Curran et al. 2003), the level of technology anxiety exhibited by consumers (Meuter, Ostrom, Bitner, and Roundtree 2003), and consumer capacity and willingness (Walker, Lees, Hecker and Francis 2002). Mick and Fournier (1998) argue that consumers can simultaneously exhibit positive feelings (such as intelligence or efficacy) and negative feelings (such as ignorance or ineptitude) towards new technology. Venkatesh (2000) found that "computer playfulness" and "computer anxiety" serve as anchors that users employ in forming perceptions of ease of use about new technology. Therefore, consumers can be arrayed along a hypothetical technology-belief continuum with their position on the continuum correlating with their propensity to embrace technology (Parasuraman 2000).

Studies have also shown that perceived performance satisfaction, usefulness, self-efficacy, inherent novelty seeking, need for

interaction with a service employee, self-consciousness and social influence may impact a consumers attitude toward using technology (Davis, Bagozzi, and Warshaw 1989, 1992; Dabholkar and Bagozzi 2002; Ellen, Bearden and Sharma 1991; Lin and Hsieh 2006). In addition, some consumers have shown a preference to self-service technology because of ease of use or because it helps them avoid interaction with retail employees (Dabholkar 1996; Meuter, Ostrom, Roundtree and Bitner 2000). Not surprisingly, Szymanski and Hise (2000) also found convenience to be a key factor influencing e-satisfaction with technology use in retailing.

Several studies have looked at user profiles to explain receptiveness to self-service technologies. For example, Barczak, Ellen and Pilling (1997) looked at consumers' use of ATMs, automatic deposits/withdrawals, and telephone banking and identified the consumer profiles of security conscious, maximizers, instant gratifiers, and hassle avoiders. Other studies have looked at age profiles of consumers to predict the adoption rate of consumer-related technologies (Gilly and Zeithaml 1985).

TECHNOLOGY READINESS

Research has shown that consumers who are "ready" to use self-service technology are more likely to try it. Davis (1989) developed the technology acceptance model (TAM) that identifies potential drivers and inhibitors of technology acceptance. Parasuraman (2000) proposed a "Technology Readiness Index" (TRI), which measures the "propensity to embrace and use new technologies for accomplishing goals in home life and at work." The TRI identifies four dimensions of technology belief that impact an individual's level of techno-readiness. Two of the dimensions are contributors and two are inhibitors of technology adoption.

The contributors are: 1) Optimism – the degree to which individuals believe that technology can benefit their lives and give them more

control over their life, and 2) Innovativeness – a natural desire to experiment with new technologies, as well as to be a thought leader. The inhibitors are: 1) Discomfort – a feeling of lacking both control over technology and the confidence in making the technology work, and 2) Insecurity – a need for assurance that a technology-based product, service or process will operate reliably and accurately. The four dimensions are relatively independent of each other, therefore, an individual could harbor both contributor and inhibitor feelings towards technology.

CULTURAL INFLUENCES ON INDIVIDUAL BEHAVIOR

Culture has been defined as "the collective programming of the mind which distinguishes the members of one group from another" (Hofstede 1980). Cultural differences have been observed and reported in a number of studies to have a significant impact on consumer decision-making and individual behavior (Erumban and de Jong 2006; Leo, Bennett and Hartel 2005; Lin and Peng 2005; Singh 2006). Hofstede (1980) originally identified four dimensions of culture which influence the way people interact and behave. A fifth dimension was added later (Hofstede 2001). The five dimensions are briefly discussed below.

1) Individualism/Collectivism – Cultures differ from one another in terms of the perceived role of the individual versus the role of the group. This dimension refers to the degree to which individuals in a society prefer to act as individuals rather than as members of a social group. People in individualistic societies (e.g., American society) are inclined to make their own choices and therefore more inclined to be innovative and adopt new ideas (Erumban et al. 2006). In contrast, members in collective societies tend to conform to the norms of the group or society and are less likely to accept new ideas. Individualists tend to be concerned primarily with separating the self from others by displaying qualities of uniqueness and not allowing others to influence them. Collectivists, however, are concerned

with affiliating and maintaining a connectedness.

2) Power Distance - The power distance dimension refers to the degree to which members of society accept an uneven distribution of power. Cultures with large power distance tend to be hierarchical, while cultures with small power distance tend to value equality where knowledge and respect are perceived as sources of power. Research has shown that individuals are more innovative when they are given autonomy and empowerment (Mumford and Licuanan 2004). Moreover, cultures with a high degree of power distance tend to be less open to new ideas because this may require decision-making on issues where little information is known (Lee and Peterson 2000).

3) Uncertainty Avoidance – The uncertainty dimension concerns the extent to which people seek to avoid, or feel threatened by, ambiguous or risky situations. Individuals in cultures characterized by high uncertainty avoidance may be risk averse in trying new ways of doing things, and tend to emphasize continuity and stability rather than innovation and change. Consumers in high uncertainty avoidance cultures are likely to wait for others to try new products and base their expectations on others (Singh 2006). In cultures with low uncertainty avoidance, members may more readily embrace change, may show more initiative, and may be more accepting of different views and new ideas.

4) Masculinity/Femininity – Masculine societies place a high value on earnings, recognition, achievement, competition, and material things. Feminine societies are characterized by care giving, nurturing, co-operation, and concern for social relationships and quality of life. Hofstede (2001) found that organizations in masculine cultures emphasized innovative activities, such as training.

5) Long-Term/Short-Term Orientation - Hofstede (2001) added a fifth cultural dimension called Confucian Dynamism (later

changed to Long/Short-Term Orientation), and reflects whether a society has a long-term or a short-term orientation. This dimension, based on Confucianism, captures the distinctive cultural characteristic of East Asian cultures: diligence, patience, frugality, and long-term orientation. A society with a long-term orientation places a high value on traditional values. Cultures with a short-term orientation place less importance on tradition and are more open to new ideas (i.e., products).

Chinese vs. American Culture

The U.S. and China have been shown to be culturally very different (Hofstede 1980). The Chinese culture is characterized as a highly collective society that prefers to conform to the norms of society and appears less likely to accept new retail self-service technology (i.e., self-scanning check-outs, Internet shopping, paying bills online), than an individualistic society (i.e., American society) that is inclined to make individual choices and therefore seemingly more likely to be innovative and adopt new ideas. The Chinese culture also is characterized as a high power distance society, thus not likely to be open to new ideas because of the lack of information available.

In addition, the Chinese culture is viewed as a long-term society that values patience and traditional values. Patience and traditional values do not lend themselves to the quick adoption of new technology. However, a short-term orientation and the fast pace lifestyle of the typical American does suggest a greater likelihood of adopting new technologies. The U.S. and Chinese cultures are relatively similar in uncertainty avoidance and masculinity as compared to other countries throughout the world, thus no differences are distinguishable on these two cultural dimensions.

Given the cultural influences identified by Hofstede (1980, 2001), it is hypothesized that American consumers will exhibit significantly higher levels of “Optimism” and “Innovativeness” towards using new self-service technology than will Chinese

consumers. Moreover, it is also hypothesized that Chinese consumers will exhibit significantly higher levels of “Discomfort” and “Insecurity” towards using new technology than will American students. Chinese consumers were socialized in an eastern culture, which tends to be more of collective society that exhibits high levels of power distance, and long-term orientation. American consumers were socialized in a western culture that emphasizes individualism, a low degree of power distance, and a short-term orientation.

HYPOTHESES

Based upon the underlying assumptions of the TRI and the cultural influences identified by Hofstede (1980; 2001), the following hypotheses are proposed:

Hypothesis 1 – *American consumers will exhibit a higher level of Optimism towards using technology than Chinese consumers.*

Hypothesis 2 – *American consumers will exhibit a higher level of Innovativeness towards using technology than Chinese consumers.*

Hypothesis 3 – *Chinese consumers will exhibit a higher level of Discomfort towards using technology than American consumers.*

Hypothesis 4 – *Chinese consumers will exhibit a higher level of Insecurity towards using technology than American consumers.*

Hypothesis 5 – *American consumers will be more likely to use self-service technologies to complete retail transactions than Chinese consumers.*

Hypothesis 6 – *The TRI dimensions of Optimism, Innovativeness, Discomfort, and Insecurity will all be significant predictors of likelihood to use self-service technologies for Chinese consumers.*

Hypothesis 7 – *The TRI dimensions of Optimism, Innovativeness, Discomfort, and Insecurity will all be significant predictors of*

likelihood to use self-service technologies for American consumers.

METHODOLOGY

Questionnaire

A 41-item questionnaire was first developed in English by the principal researchers. The questionnaire was next translated into Chinese by native speakers. The questionnaire was then back-translated into English. The back-translated version of the questionnaire was then compared with the original English version by an English native speaker. The few discrepancies in the questions were resolved after discussing them with the translators.

Technology readiness was assessed through the use of the 36-item Technology Readiness Index (TRI) scale developed by Parasuraman (2000). The TRI is a Likert type scale with responses ranging from “Strongly Agree” (5) to “Strongly Disagree” (1). The TRI measures an individual’s propensity to adopt and use innovative technology by assessing how “techno-ready” individuals are. In addition, the TRI helps explain how and why different individuals adopt technology. The TRI does this by looking at both forces that attract consumers to innovative products and forces that may repel them away from new products.

The TRI scale has demonstrated high internal reliability. Coefficient alpha scores range from .74 to .81 (Parasuraman, 2000) across the four dimensions of the scale. The TRI scale has also demonstrated high construct validity by being able to discriminate across different levels of consumer ownership of products/services for which one might a priori expect different levels of technology readiness to be very relevant.

“Likelihood to use self-service technology” was operationalized using a 5-item, 5-point Likert-type scale. The five retail self-service technology items selected were based on: 1) previous research that identified common self-service technologies found in the retail environment (Bitner, Ostrom and Meuter 2002;

TABLE 1
Likelihood of Using Self-Service Technology

-
1. How likely are you to use bank ATM services?
 2. How likely are you to shop online for retail products?
 3. How likely are you to use self-service checkouts at retail stores?
 4. How likely are you to purchase e-airline tickets?
 5. How likely are you to pay bills online?

*Likert-type scale – (“1” = Very Unlikely) (“5” = Very Likely)

Meuter, Bitner, Ostrom and Brown 2005), and 2) common technology interfaces found in both the Chinese and U.S. retail settings (online/Internet interfaces and self-checkouts). Table 1 identifies the five areas of self-service technologies that were assessed for likelihood of use. The self-service technologies include banks ATMs, online/Internet shopping, self-service checkouts, e-airline tickets, and online bill paying.

Data Collection

Data were collected using two independent convenience samples. One sample consisted of 237 Chinese students enrolled in a large regional university in China. The other sample included 231 American students at a large Midwestern regional university within the United States. Students were surveyed via a personal questionnaire in China and an online questionnaire in the United States. College students were deemed as viable respondents in this study because most college students are active and well informed consumers. Therefore, they are likely to be exposed to and often given the opportunity to use new self-service technologies before many other consumers within the general population. In addition, China’s teenagers and “twentysomethings” enjoy significant spending power because of generous relatives, and are eager to try many Western goods that are flowing into China (Boston Consulting Group 2007).

Data Analysis

First, mean scores for all Chinese and American respondents were calculated for each of the four

dimensions (Optimism, Innovativeness, Insecurity, and Discomfort) comprising the 36-item TRI scale. Mean scores for the five-item “Likely to Use Self-Service Technology” scale were also computed for all respondents. Next, t-tests were conducted to assess differences in mean scores for Chinese and American respondents across the four dimensions comprising the TRI scale. T-tests were also used to determine differences in Chinese and American consumers across the five “Likely to Use Self-Service Technology” questions.

Finally, regression analysis was used to assess the relative importance of the four dimensions of the TRI scale in predicting likelihood of using self-service technology for both Chinese and American consumers. The four dimensions of the TRI scale were used as the independent variables, with the sum score of the five “Likely to Use Self-Service Technology” questions as the dependent variable.

RESULTS

TRI Dimensions - (Chinese vs. American Consumers)

Table 2 shows the results of t-tests for assessing differences in mean scores between Chinese and American consumers across the four dimensions comprising the TRI. American consumers exhibited a significantly higher level of “Optimism” towards using new technology than did Chinese consumers (3.97 vs. 3.59). This finding provides support for Hypothesis #1. American consumers appear to have a stronger belief than Chinese consumers that technology can benefit their lives, as well as give them more control over their life.

Table 2 also shows that American consumers reported a significantly higher level of “Innovativeness” related to the propensity to use new technology than did Chinese consumers (3.52 vs. 3.04). This result provides support for Hypothesis #2. American consumers exhibited a greater desire to experiment with new technologies than did Chinese consumers.

Chinese consumers reported a significantly higher level of “Discomfort” towards using new technology than American consumers (3.25 vs. 3.15). This finding provides support for Hypothesis #3. Chinese consumers exhibited a greater feeling of lack of control over technology and the confidence in making the technology work. In addition, Chinese consumers also reported a significantly higher level of “Insecurity” towards using new technology than American consumers (3.56 vs. 3.37). This result provides support for

Hypothesis #4. Chinese consumers feel a greater need for assurance that a technology-based product will operate reliably and accurately as compared to American consumers.

Likelihood to Use Self-Service Technologies

In order to assess differences in Chinese and American consumers related to the likelihood to use self-service technology, t-tests were also conducted using the mean scores for the five questions asking the likelihood of using specific self-service technologies. As shown in Table 3, American consumers reported significantly greater likelihood of use for all five retail self-service technologies.

American consumers appear to be more likely to use ATMs, to shop online, to use self-checkouts, to purchase airline e-tickets, and to pay bills online. These findings provide

TABLE 2
Mean Scores For Technology Readiness Index Dimensions
(Chinese vs. American Consumer)

TRI Dimension	Chinese Consumer	American Consumer	t Value	Significance
Optimism	3.59	3.97	9.495	.000
Innovativeness	3.04	3.52	8.491	.000
Discomfort	3.25	3.15	-2.127	.034
Insecurity	3.56	3.37	-3.944	.000

*Likert-type scale – (“1” = Strongly Disagree) (“5” = Strongly Agree)

TABLE 3
Mean Scores For Likelihood To Use Self-Service Technologies
(Chinese vs. American Consumer)

Self-Service Technology	Chinese Consumer	American Consumer	t Value	Significance
ATM	4.06	4.39	3.448	.001
Shop Online	3.68	3.90	2.085	.038
Self-Checkout	3.60	4.34	7.866	.000
Purchase E-Ticket	3.51	4.32	8.410	.000
Pay Bills Online	3.58	3.97	3.814	.000

*Likert-type scale – (“1” = Very Unlikely) (“5” = Very Likely)

support for Hypothesis #5. These findings could partially be a result of the current availability of the five self-service technologies in China as compared to the United States, however, cultural values seemingly also play a role in the responses of the consumers.

Predicting Likelihood to Use Self-Service Technology

In order to further analyze the difference between Chinese and American consumers with regard to the usage of self-service technology, regression analysis was utilized to assess the relative importance of the four dimensions of the TRI scale in predicting the likelihood of using self-service technology to complete retail transactions for both Chinese and American consumers. Table 4 shows the relative importance of the four factors of the TRI scale in predicting the likelihood of using self-service technology for Chinese consumers.

Although not an absolute test for the importance for each predictor, standardized

beta coefficients are often useful in determining the relative importance of independent variables in predicting dependent variables. Optimism and Insecurity were significant predictors of Likelihood to Use Self-Service

Technology for Chinese consumers. Innovativeness and Insecurity were not significant predictors. Optimism appears to be the strongest predictor of technology usage (beta = .477), followed by Insecurity (beta = -.236). This finding provides only partial support for Hypothesis #6, as only two of the four TRI dimensions were significant predictors of self-service technology usage.

Table 5 shows the relative importance of the four factors of the TRI scale in predicting the likelihood of using self-service technology for American consumers. Three of the four TRI dimensions were significant predictors of Likelihood to Use Self-Service Technology. Insecurity appears to be the strongest predictor (beta = -.351) for American consumers, followed closely by Optimism (beta = .340). Discomfort was also a significant predictor

TABLE 4
Predicting Likelihood of Using Self-Service Technology
(Chinese Consumers)

TRI Dimension	Standardized Beta	t Value	Significance
Optimism	.477	7.130	.000
Innovativeness	-0.50	-7.782	.435
Discomfort	.107	1.469	.143
<u>Insecurity</u>	<u>-.236</u>	<u>-3.189</u>	<u>.002</u>

*Note: R = .454 R Square = .206

TABLE 5
Predicting Likelihood of Using Self-Service Technology
(American Consumers)

TRI Dimension	Standardized Beta	t Value	Significance
Optimism	.340	5.158	.000
Innovativeness	.115	1.701	.090
Discomfort	.168	2.360	.019
<u>Insecurity</u>	<u>-.351</u>	<u>-5.052</u>	<u>.000</u>

*Note: R = .526 R Square = .2277

(beta = .168) of Likelihood to Use Self-Service Technology, however, the positive relationship between the two constructs was somewhat surprising. The higher the Discomfort level, the greater the Likelihood to Use Self-Service Technology. Since only three of the four TRI dimensions were significant predictors of self-service technology usage for American consumers, Hypothesis #7 was only partially supported.

DISCUSSION/IMPLICATIONS

This study has attempted to assess differences between Chinese and American consumers with respect to their technology readiness and their resulting likelihood to use self-service technologies to complete retail transactions. Marketers need to take steps to encourage consumers to use and adopt self-service technologies that are offered within the retail setting. The results of this study suggest that strategies aimed at increasing the likelihood of using self-service technology may need to vary when focusing on Chinese versus American consumers. New technologies introduced into the American culture, characterized by small power distances, weak uncertainty avoidance, strong individualism, short-term orientation, and masculinity should have little trouble being accepted and adopted.

However, what might be true for the American consumer may not hold true for the Chinese consumer. Overall, American consumers appear to be more willing to use self-service technology to complete retail transactions than are Chinese consumers. Therefore, different strategies at the organizational level that can be adjusted at the regional level to account for cultural differences may be needed when focusing on Chinese consumers. Newman and Nollen (1996) report that businesses perform better when management practices are matched with natural cultures.

Of specific interest in this study, the levels of Optimism and Insecurity towards using new self-service technology appear to be the most

important TRI influences on the likelihood of using retail self-service technologies for both Chinese and American consumers. Discomfort was also shown to impact American consumers' likelihood to use self-service technologies, although in an opposite direction as hypothesized. A possible explanation for this finding regarding Discomfort and the Likelihood to Use Self-Service Technology might be that American consumers' feeling of lack of confidence in making new technology work does not supersede their cultural influences of individualism, low uncertainty avoidance, and short-term orientation.

Since Chinese consumers exhibited significantly higher levels of both Discomfort and Insecurity towards using new technology than did American consumers, retailers need to emphasize to the Chinese consumer how safe the self-service technology is with respect to protecting identity theft and preventing the selling of consumer information. In addition, since consumers in both strong collectivists and uncertainty avoidance cultures like to wait for others to try out a new product or idea and base their future behavior on the experiences of others, stressing that Internet shopping, online banking, and paying bills online are common practices for many consumers throughout countries like the United States should also help to reduce the anxiety of using the self-service technologies for the Chinese consumer. Moreover, since high power distance cultures tend to accept what they are told by authority figures, role models and well-respected individuals within the Chinese culture could be used to advise Chinese consumers to use the various retail self-service technologies available.

Providing detailed information regarding how the different technology-based retail transactions work should also enhance the trust Chinese consumers have in the self-service technologies. As a result of this detailed information, Chinese consumers will also be more informed about the new technology and should then be able to discuss the different

types of technologies among themselves, which should lead to more rapid adoption processes of the new self-service technologies.

Also, since American consumers appear to have a stronger belief that technology can benefit their lives (Optimism) than do Chinese consumers, retailers need to focus on the specific benefits of using the new self-service technologies when developing strategies for the Chinese consumer market. Most Chinese consumers will not be prone to using new technology unless they perceive a benefit from doing so. Stressing benefits such as saving time, access to information, reducing transaction costs, or more control over the purchasing process could all be potential benefits that may motivate the Chinese consumer to consider using the new technology. Pleasure derived from using the technology could even be a potential benefit. For example, Bauer, Falk and Hammerschmidt (2006) identified the importance of hedonic aspects in technology-dominated retail settings.

CONCLUSION

Retailers need to continually assess consumers' propensity to accept and use the new self-service technology that they offer. This study has examined technology readiness factors that may impact Chinese and American consumers' willingness to use self-service technology to complete retail transactions. Since Chinese consumers exhibited higher levels of Discomfort and Insecurity, as well as lower levels of Optimism, and Innovativeness towards using new technologies than did American consumers, retailers may need to adjust their marketing strategies aimed at enhancing the likelihood of consumers using their new technologies to account for cultural differences between Chinese and American consumers. What works for American consumers may not have the same impact on Chinese consumers.

LIMITATIONS AND FURTHER RESEARCH

One limitation of this study relates to the sampling frame and sampling methodology. Convenience samples of Chinese and American college students were used, therefore, generalizing the findings to the general consuming publics in both China and the United States should be done with care. A second limitation has to do with the scope of this study. Assessing and predicting the likelihood of using self-service technology is a complex issue. This study has provided limited insight into the relative importance of predictors of using technology to complete a retail transaction because only a small sampling of predictor factors was analyzed. A final limitation pertains to the measurement of "likelihood to use self-service technology." This study conceptualized the construct via a self-developed, five-item scale. Although the five-item scale did generate a Cronbach's alpha of .743, other dimensions of self-service technology exists that could have been included in the measurement of this construct.

Further studies should examine whether the relative importance of the dimensions of technology readiness differs across other cultures. In addition, other predictors of propensity to use technology should be examined, as well as other types of self-service technologies. Future research might also investigate why the TRI dimension of Innovativeness (a natural desire to experiment with new technologies) does not appear to help predict the likelihood of using self-service technologies within a retail setting. Finally, future studies could examine whether the relationship between the technology readiness dimensions and "likelihood to use self-service technology" will vary across demographic characteristics of consumers.

REFERENCES

- Bauer, Hans H., Tomas Falk and Maik Hammerschmidt (2006), "eTransQual: A Transaction Process-Based Approach for Capturing Service Quality in Online Shopping", *Journal of Business Research*, Vol. 59 (7), pp. 866-875.
- Barczak, Gloria, Pam S. Ellen and Bruce K. Pilling, (1997) "Developing Typologies of Consumer Motives for Use of Technologically Based Banking Services", *Journal of Business Research*, Vol. 38, pp. 131-139.
- Bendapudi, Neeli and Robert P. Leone (2003), "Psychological Implications of Customer Participation in Coproduction", *Journal of Marketing*, Vol. 67 (February), pp. 14-28.
- Bitner, Mary Jo, Stephen W. Brown, Amy L. Ostrom and Matthew L. Meuter, (2002), "Implementing Successful Self-Service Technologies", *Academy of Management Executive*, Vol. 16 (4), pp. 96-109.
- Bobbitt, Michelle L. and Pratibha A. Dabholkar (2001), "Integrating Attitudinal Theories to Understand and Predict Use of Technology-Based Self-Service", *International Journal of Service Industry Management*, Vol. 12 (5), pp. 423-450.
- Boston Consulting Group (2007), "Winning the Hearts and Minds of China's Consumers", http://www.bcg.com/publications/files/Winning_Chinas_Consumers_Sept_2007.pdf.
- Curran, James M., Matthew L. Meuter and Carol F. Surprenant (2003), "Intentions to Use Self-Service Technologies: A Confluence of Multiple Attitudes", *Journal of Service Research*, Vol. 5 (3), pp. 209-224.
- Dabholkar, Pratibha A. (1996), "Consumer Evaluations of New Technology-Based Self-Service Options: An Investigation of Alternative Models of Service Quality", *International Journal of Research in Marketing*, Vol.13 (1), pp. 29-51.
- Dabholkar, Pratibha A. and Richard P. Bagozzi (2002), "An Attitudinal Model of Technology-Based Self-Service: Moderating Effects of Consumer Traits and Situational Factors", *Journal of the Academy of Marketing Science*, Vol. 30 (3), pp.184-201.
- Davis, Fred D. (1989), "Perceived Usefulness, Perceived Ease of Use and User Acceptance of Information Technology", *MIS Quarterly*, Vol.13 (3), pp. 319-340.
- Davis, Fred D., Richard P. Bagozzi and Paul R. Warshaw (1989), "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models", *Management Science*, Vol. 35 (8), pp. 982-1003.
- Davis, Fred D., Richard P. Bagozzi and Paul R. Warshaw (1992), "Extrinsic and Intrinsic Motivation to Use Computers in the Workplace", *Journal of Applied Social Psychology*, Vol. 22 (14), pp. 1109-1130.
- Ellen, Pam S., William O. Bearden and Subhash Sharma (1991), "Resistance to Technological Innovations: An Examination of the Role of Self-Efficacy and Performance Satisfaction", *Journal of the Academy of Marketing Science*, Vol.19 (4), pp. 297-307.
- Erumban, Abdul Azeez and Simon B. de Jong (2006), "Cross-Country Differences in ICT Adoption: A Consequence of Culture?", *Journal of World Business*, Vol. 41, pp. 302-314.
- Gilly, Mary C. and Valarie A. Zeithaml (1985), "The Elderly Consumer and Adoption of Technologies", *Journal of Consumer Research*, Vol.12 (December), pp. 353-357.
- Hsieh, An-Tien, Chang-Hua Yen and Ko-Chien Chin (2004), "Participative Customers as Partial Employees and Service Provider Workload", *International Journal of Service Industry Management*, Vol. 15 (2), pp. 187-199.
- Hofstede, Geert (1980), *Culture's Consequences: International Differences in Work Related Values*, Sage: Beverly Hills, CA.
- Hofstede, Geert (2001), *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*, Sage: Thousand Oaks, CA.
- International Herald Tribune (2007), "China Says Economy Still Growing Fast," October 24, <http://www.ihf.com/articles/ap/2007/10/25/business/AS-FIN-ECO-ChinaEconomy.php>.

- Jiun-Sheng, Chris Lin and Pei-ling Hsieh (2006), "The Role of Technology Readiness in Customers' Perception and Adoption of Self-Service Technologies", *International Journal of Service Industry Management*, Vol. 17 (5), pp. 497-517.
- Lee, Sang M. and Suzanne J. Peterson (2000), "Culture, Entrepreneurial Orientation, and Global Competitiveness", *Journal of World Business*, Vol.35, pp. 401-416.
- Leo, Cheryl, Rebekah Bennett and Charmine E.J. Hartel (2005), "Cross-Cultural Differences in Consumer Decision-Making Styles" *Cross Cultural Management*, Vol.12 (3), pp. 32-62.
- Lin, Chien-Huang and Ching-Huai Peng (2005), "The Cultural Dimension of Technology Readiness on Customer Value Chain in Technology-Based Service Encounters", *Journal of American Academy of Business*, Vol. 7 (1), pp. 176-180.
- McKinsey Group (2006), "Made in China to Sold in China: The Rise of the Chinese Urban Consumer", http://www.mckinsey.com/mgi/publications/china_consumer/.
- Mearian, Lucas (2001), "Staples Installing Internet Kiosks in All U.S. Retail Stores", *Computerworld*, January 30, 1-3.
- Meuter, Matthew L., Amy L. Ostrom, Robert I. Roundtree and Mary Jo Bitner (2000), "Self Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters", *Journal of Marketing*, Vol. 64 (July), pp. 50-64.
- Meuter, Matthew L., Amy L. Ostrom, Mary Jo Bitner and Robert I. Roundtree (2003), "The Influence of Technology Anxiety on Consumer Use and Experiences With Self-Service Technologies", *Journal of Business Research*, Vol. 56 (11), pp. 899-906.
- Meuter, Matthew L., Mary Jo Bitner, Amy L. Ostrom and Stephen W. Brown (2005), "Choosing Among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-Service Technologies", *Journal of Marketing*, Vol. 69 (2), pp. 61-83.
- Mick, David Glenn and Susan Fournier (1998), "Paradoxes of Technology: Consumer Cognizance, Emotions, and Coping Strategies", *Journal of Consumer Research*, Vol. 25 (September), pp. 123-147.
- Mumford, Michael D. and Brian Licuanan (2004), "Leading for Innovation: Conclusions, Issues, and Directions", *Leadership Quarterly*, Vol.15, pp. 163-171.
- Newman, Karen L. and Stanley D. Nollen (1996), "Culture and Congruence: The Fit Between Management Practices and National Culture", *Journal of International Business Studies*, Vol. 27 (4), pp. 753-779.
- Parasuraman, A. (2000), "Technology Readiness Index (TRI): A Multiple-Item Scale to Measure Readiness to Embrace New Technologies", *Journal of Service Research*, Vol.2 (4), pp. 307-320.
- Singh, Sangeeta (2006), "Cultural Differences in, and Influences on, Consumers' Propensity to Adopt Innovations", *International Marketing Review*, Vol. 23 (2), pp. 173-191.
- Szymanski, David M. and Richard T. Hise (2000), "E-Satisfaction: An Initial Examination", *Journal of Retailing*, Vol. 76 (3), pp. 309-322.
- Venkatesh, Viswanath (2000), "Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model", *Information Systems Research*, Vol. 11 (4), pp. 342-365.
- Walker, Rhett H., Margaret-Craig Lees, Robert Hecker and Heather Francis (2002), "Technology-Enabled Service Delivery: An Investigation of Reasons Affecting Customer Adoption and Rejection", *International Journal of Service Industry Management*, Vol.13 (1), pp. 91-106.
- Weijters, Bert, Devarajan Rangarajan, Tomas Falk and Niels Schillewaert (2007), "Determinants and Outcomes of Customer Use of Self-Service Technology in a Retail Setting", *Journal of Service Research*, Vol.10 (1), pp. 3-21.

UNDERSTANDING B2C BRAND ALLIANCES BETWEEN MANUFACTURERS AND SUPPLIERS

SUNIL EREVELLES, The University of North Carolina, Charlotte

VERONICA HORTON, The Management Mind Group

NOBUYUKI FUKAWA, Louisiana State University

The term “brand alliance” has been used rather loosely in both the trade and academic literature. In an attempt to clarify the potential confusion, we present a typology of the common types of brand alliances in B2C markets. In doing so, we distinguish between strategic alliances and brand alliances, and between brand alliances and co-branding. We next examine various types of composite brand alliances, including ingredient, umbrella, licensing and complementary brand alliances. Having done this, we focus on the theoretical rationale for manufacturer-supplier brand alliances in B2C markets. The analysis indicates that a manufacturer-supplier brand alliance benefits the supplier with a reduced probability of entry of competitors, while the supplier rewards the manufacturer with the lower wholesale price, thus increasing its profits. Future research directions are proposed.

INTRODUCTION

Brand alliances are often used to jointly present multiple brands to consumers. The assumption here is that the alliance would enhance the perceptions of each individual brand or the combined offering in the minds of the consumer. At a basic level, brand alliances are formed so that individual brands can *co-operate* in their marketing efforts for mutual benefit. For instance, “advertising alliances” between brands occur when multiple brands are jointly presented in the same advertisement. Similarly, “joint sales promotions” use multiple brands together to stimulate demand for each or all of them (Helmig, Huber and Leeflang 2007). Other examples of co-operative brand alliances include “dual branding,” which occurs when two brands utilize the same facilities, such as restaurants where customers can choose either or both of these brands (Levin and Levin 2000). Similar alliances can also occur with multiple brands. In yet another example of a brand alliance, known as a “bundling alliance,” multiple brands are simply jointly packaged, each brand usually representing an independent product that, when bundled, creates additional

value in the minds of consumers. We term such forms of co-operative alliances as “non-composite brand alliances.”

However, brands can also be more intrinsically involved and go beyond mere provisional associations. In such cases, multiple brands may be integrated to form a new composite offering (Park, Jun and Shocker 1996; Monga and Lau-gesk 2007) that generates unique perceptions among consumers. We term such forms of intrinsically integrated alliances as “composite brand alliances.” Composite brand alliances are created to facilitate an advantageous association of the composite offering in the minds of consumers (Dickinson and Barker 2007; Voss and Gammoh 2004). In practice, the duration of such brand alliances varies significantly between short-term and long-term (Dickinson and Barker 2007).

While a brand extension strategy deals with how a single brand can be extended into another product category, a brand alliance strategy is focused on how multiple brands can fit with each other to add value in the minds of consumers. Both brand extension and brand alliance strategies are widely used by marketers in practice. Despite this, research on brand extensions has been extensive in recent years

(e.g., Oakley, Duhachek, Balachander and Sriram 2008; Shine, Park and Wyer 2007; Choi 1998), while there has been relatively little research on brand alliance strategies. Thus, although a large and growing number of firms are using brand alliance strategies, our theoretical and practical knowledge base is more focused on to how to extend a single brand into a new product category (Monga and Lau-gesk 2007).

A brand extension strategy usually involves the use of a *single* established brand name in one category to introduce products in a different category (Choi 1998). In a brand alliance strategy, by contrast, marketers have to deal with multiple independent brands simultaneously. In doing so, they need to understand the fit between the product categories of each partner brand (product fit), as well as whether one brand fits well with another brand (brand fit) in the joint offering (Simonin and Ruth 1998; Prince and Davies 2002). Thus, in general, in a brand alliance strategy, two or more independent brands are combined, so as to increase the perceived value of the composite offering to the consumer.

OVERVIEW OF PAPER

The paper is focused on brand alliances in B2C markets and is divided into three sections. In the first section, we define the concept of “brand alliances” and distinguish it from “co-branding.” Having done this, in the second section, we identify, describe and develop a typology for the different types of composite brand alliances. In doing so, we also assess the state of the limited literature in the area. Finally, we focus on one type of composite brand alliance, ingredient brand alliances between manufacturers and suppliers. We attempt to analyze some basic questions about the dynamics of such alliances. We seek to understand why manufacturers and suppliers enter into brand alliances. More specifically, we attempt to explain why a manufacturer would enter into a brand alliance with a supplier that results in strengthening the supplier’s position in the marketplace, which in turn could result in

reducing the manufacturer’s influence in the brand alliance. We also evaluate the profit potential for both the manufacturer and supplier.

It should be noted that this paper focuses on B2C markets and examines only “brand alliance” strategies. It does not examine “co-branding” relationships, which will be distinguished from brand alliances in the next section. Thus the analysis and discussion does not include joint-branding activities through advertising by the supplier in the marketing of the integrated product. This implies that the discussion focuses on an alliance “without advertising,” as opposed to one “with advertising.” This paper also does not examine B2B markets. Please see Erevelles, Stevenson, Srinivasan and Fukawa (2007) for an analysis of “co-branding relationships” in B2B markets. The model developed in this paper for “brand alliances” and the model for “co-branding” in Erevelles, Stevenson, Srinivasan and Fukawa (2007) share similarities on the foundation for association, but differ in the joint-branding activities involved.

Distinguishing Between Brand Alliance and Co-Branding Strategies

The strategy of brand alliances has in recent years enjoyed widespread use by marketers in B2C markets. However, the term “brand alliance” has been used rather loosely in both the trade and academic literature. Terms such as co-marketing, advertising alliances, joint-marketing, composite branding, and co-branding have sometimes been used to refer to similar or related marketing activities. In an attempt to clarify the potential confusion, we will, in this paper, distinguish between “brand alliance” and “co-branding” strategies and then discuss the common types of brand alliances in B2C markets.

A “brand alliance” can be defined simply as the association between two or more independent brands so that the perceived value of integrated offering is enhanced in the minds of the consumer. It does not involve explicit joint-

branding efforts (through advertising) by the partners in the alliance, that seek to present the integrated offering as “one” entity in the marketplace. It also does not involve a change in the “meaning” of the integrated product, in such a way that the integrated product would effectively cease to exist in the absence of the brand alliance. The association between Mercedes-Benz and Bose is a good example of a “brand alliance” between a manufacturer and a supplier. Mercedes-Benz and Bose are widely considered as premium brands in their categories (Memmer 2002). Although the two brands enhance the reputation and profitability of each other through the brand alliance, there are no joint-branding (advertising) efforts that present the combined product as a single entity in the marketplace. Further, in the absence of a brand alliance, the combined product would not meaningfully cease to exist in the marketplace.

Co-branded products, on the other hand, constitute “a separate and unique” (c.f., Park, Jun and Shocker 1996) entity in the marketplace. They involve joint-branding efforts (through advertising) that seek to present themselves as a single entity. These efforts aim to create a new “meaning” for the integrated offering in the minds of consumers. Consequently, co-branding is considered by some as the ultimate form of brand alliance strategy (Helmig, Huber and Leeflang 2007; Kippenberger 2000). A good example of a manufacturer-supplier co-branding relationship is the one between Dell and Intel. The “Intel Inside” campaign involves substantial cooperative marketing activities in the form of advertising that seek to present the integrated offering as a single entity with a unique “meaning” and advantage in the marketplace. Since 1985, Intel has had a long-term commitment to support Dell with all types of resources, including monetary support for its advertisements (see Parker 1995; Hesseldahl 2005; Dell and Fredman 1999, p.13; Dell 2007; Cantrell 2006), to enhance the attractiveness of the integrated product in the marketplace. As a result of these efforts, by 1992, 80 percent of consumers preferred to purchase computers with Intel microprocessors (Arnott 1994).

Whenever Dell buys an Intel chip, it also receives cash back from Intel in the form of a percentage of its ad budget (Hesseldahl 2005). Dell sometimes passes this incentive to the consumer in the form of lower prices (Mackenzie Financial Corporation 2005). Thus Intel, by assisting in lowering the price of end product, plays a further role in defining the integrated product.

COMPOSITE BRAND ALLIANCES

A strategic alliance is a relatively long-term collaborative arrangement between firms that share resources to achieve the individual targets of each firm (Parkhe 1993; Varadarajan and Cunningham 1995). Strategic alliances are a rapid and convenient way to access resources and skills that exist in other companies. In a broader sense, a strategic alliance serves to enhance the flow of knowledge among alliance partners. While motives for the formation of strategic alliances vary, the general reason for firms forming strategic alliances are the payoffs that are received from cooperation. With alliances, companies are able to improve their strategic positions, share costs and take bigger risks (Eisenhardt and Schoonhoven 1996).

Brand alliances are one form of strategic alliance. As described earlier, a brand alliance is an association between two or more independent brands so that the perceived value of the integrated offering is enhanced in the mind of the consumer. Brand alliances include both composite and non-composite brand alliances. Non-composite brand alliances occur when individual brands co-operate in their marketing efforts for mutual benefit. Examples of such alliances have been described earlier. Composite brand alliances occur when multiple brands are combined to form a new integrated offering. There are four major types of composite brand alliances: ingredient brand alliances, complementary brand alliances, licensing brand alliances and umbrella brand alliances. In the following section, we distinguish and describe the types composite brand alliances. A typology of major brand alliances is presented in Figure 1. Table 1

summarizes the major types of brand alliances in B2C markets along with examples, while Table 2 summarizes some important characteristics of successful brand alliances.

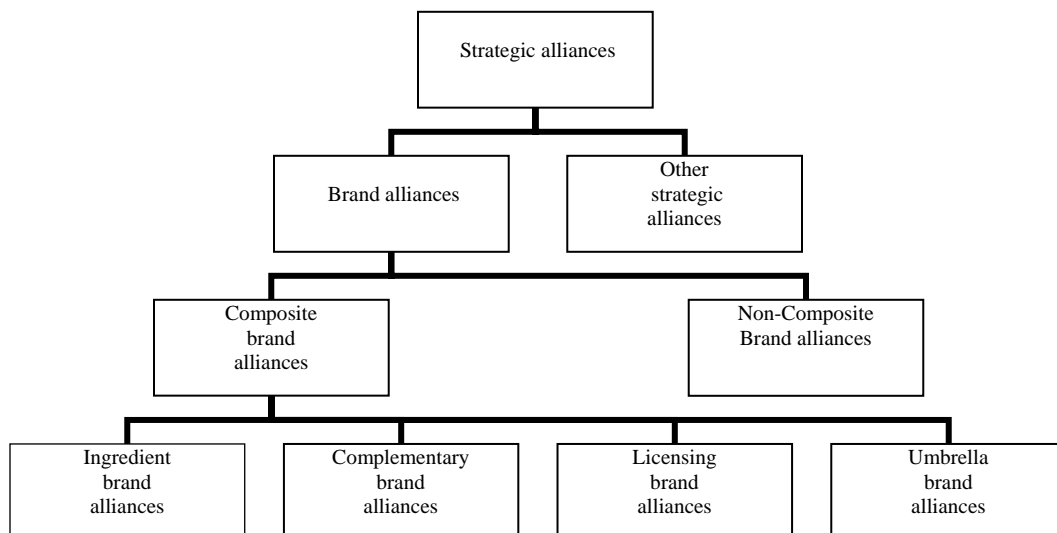
Ingredient Brand Alliances

In ingredient brand alliances, “key attributes of one brand are incorporated into another brand as ingredients” (Desai and Keller 2002). In other words, ingredient brand alliances involve the integration of an ingredient brand (e.g., NeutraSweet) with a host-brand (e.g., Coca-Cola). See Table 3 for further examples of ingredient brand alliances in B2C markets. Ingredients are normally considered an “intrinsic” attribute of a product, while a brand name is normally considered an “extrinsic” attribute of the product (Richardson, Dick and Jain 1994). Thus, the idea of branding ingredients is unique in that it involves the addition of extrinsic cues (the brand name) to components that are usually considered as intrinsic cues (the ingredient). The goal is to enhance the perceptions of the combined brand in consumers’ minds. Janiszewski and Osselar (2000) find that perceived quality for a high-quality host brand in an alliance with a high-quality branded ingredient will be higher than

the perceived quality for the same host brand without the branded ingredient.

Norris (1992) suggests that an ingredient brand alliance strategy is either supplier-initiated or manufacturer-initiated. In a supplier-initiated brand alliance strategy, the supplier aims to establish its brand by the exposure of its brand name in the end product. On the other hand, in a manufacturer-initiated brand alliance strategy, a manufacturer uses the established brand name of the supplier to enhance attitudes towards its own product (Norris 1992). In some instances, a single brand can be involved in both a supplier- and manufacturer-initiated brand alliance. For example, the “Intel Inside” campaign was originally supplier-initiated. However, once Intel established its brand name, manufacturers of unknown brands started to use Intel’s established brand name to enhance consumer perceptions for their own brands (Vaidyanathan and Aggarwal 2000), i.e., making it a manufacturer-initiated brand alliance. Cleverly, the “Intel Inside” campaign promoted the supplier’s brand name itself rather than other aspects of the supplier’s product (Prince and Davies 2002). As a result of Intel’s enhanced visibility, unknown manufacturers, hoping to capitalize on Intel’s brand name

FIGURE 1
Types of Brand Alliances in B2C Markets



entered the market, which in turn further enhanced Intel’s sales.

In a manufacturer-initiated ingredient brand alliance strategy, a manufacturer could use the established supplier’s brand to differentiate its own brand from competitors (Desai and Keller 2002). Clearly, the manufacturer should select a partner carefully by looking at several aspects of the partner brand, especially perceived quality and attitudes toward the supplier’s brand (Abbo 2005). In an empirical study, McCarthy and Norris (1999) found that branded ingredients benefit manufacturer brands more when consumer quality perceptions towards the manufacturer’s brand is moderate than it is high. Vaidyanathan and Aggarwal (2000) observe that established ingredient brands enhance the consumer evaluation of manufacturer brands. Specifically, they find that established national ingredient brands facilitate consumer evaluations not only when manufacturer’s brand is a national brand but also when manufacturer’s brand is a private label.

Although most research on ingredient brand alliances, especially for manufacturer-initiated ingredient brand alliances, deals with an established ingredient brand, it has been suggested that in some cases, a new ingredient brand may enhance evaluation of the manufacturer’s brand (Desai and Keller 2002). Nunes, Dull and Patrick (2003) suggest that being distinctive in a market either through patent protection (e.g., NutraSweet) or by being dominant in a market (e.g., Ocean Spray in the cranberry juice market) are critical for the success of ingredient brand alliances. In some cases of ingredient brand alliances, there may be some long-term disadvantages for the supplier. Norris (1992), for example, notes that the costs incurred by a supplier in order to get exposure with the final consumer may be a prohibitively high burden to sustain over a long term. This is especially so if the supplier has a low margin, which is not uncommon in ingredient brand alliances.

TABLE 1
Major Types of Brand Alliances in B2C Markets

Types	Description	Examples
Complementary brand alliances	Provide more comprehensive or superior product or service, complementary features	FedEx - Kinko’s FedEx Kinko’s – Geek Squad Circle K convenience store -76 gasoline station Delta airlines Sky Miles credit card - American Express
Licensed brand alliances	Allowing brand identity elements to be featured in other organization's goods or service for a fee or royalty, resulting in expansion of the market or greater margins	Apple – Bose Disney to promote devices with Motorola Cinnabon - Lotta Luv Cosmetics (for cinnamon scented lip gloss and lip balms)
Umbrella brand alliances	The usage of one brand to name multiple products within a same organization to take advantage of parent brand awareness and associations	Citigroup - Smith Barney Pearson - Prentice Hall Kraft- Chese Nips Toyota Corolla
Ingredient brand alliances	The supplier’s end-product or service becomes one of the ingredients of the manufacturer’s offering	Mercedes - Bose Betty Crocker Fudge Brownies – Hershey’s Dutch Cocoa Williams Sonoma cookware - Du Pont Teflon Pillsbury - M&Ms for cookie dough

Umbrella Brand Alliances

Umbrella brand alliances usually occur between parent and sub-brands within a single firm. Umbrella brand alliances can also occur when a firm with a well known brand name enters into a marketing alliance with another firm with a lesser known brand name. In this case, the well known brand usually becomes the parent brand in the brand alliance, with the goal of leveraging its awareness in the marketplace.

Umbrella brand alliances involve the labeling of multiple products with a single parent brand name. [See Sullivan (1990) for a discussion on umbrella branding.] In other words, firms aim to reduce their marketing costs and maximize their visibility by using the same brand name in multiple product categories (Erdem and Sun 2002). A firm usually jointly labels the sub-brand with the umbrella brand (parent brand), so as to leverage the awareness of the parent brand to the advantage of the sub-brand. In some cases, when a firm has a financial relationship with another firm, the two brands may enter into an umbrella brand alliance. For example, when General Motors acquired a 42 percent stake in Daewoo Motors in 2002, General Motors let Daewoo use its initials (GM) as the parent brand to increase consumer confidence towards the Daewoo brand, which was facing difficulties at that time. In other cases, after a firm has acquired a lesser known brand, an umbrella brand alliance may be created within the same organization. For example, Kraft, one of the top 10 umbrella brands (c.f., AC Nielsen 2006) takes advantage of umbrella brand alliances to maximize the use of its brand reputation. After obtaining the Cheese Nips brand, Kraft put its brand name on the label as the parent brand. This is believed to have dramatically increased the market share for Cheese Nips, which was in effect, endorsed by Kraft (Baar and Thompson 1998). On the other hand, a firm may decide not to have an alliance, even if it owns the sub-brand. This may occur if the firm aims to build a new brand with a completely different brand image. General Motors initially decided not to form an umbrella brand alliance between its parent

brand (GM) and its new brand, Saturn (Aaker 1996, p.65), in order to create a new and unique image for the Saturn brand. Later however, it decided to form an umbrella brand alliance, though the wisdom of this move has been questioned (Munk 2005). An umbrella brand alliance strategy is also useful in global markets to facilitate the marketing of an unknown sub-brand in markets where the parent brand is well known or regarded (Datamonitor 2004).

In implementing umbrella brand alliances, it is important to understand the effects of independent marketing activities of the parent brand on the performance of the sub-brand. In this regard, Sullivan (1990) suggests a framework to analyze and measure these spillover effects, both positive and negative. In a similar vein, Erdem and Sun (2002) empirically investigate spillover effects of marketing-mix variables in umbrella brand alliances. Specifically, they investigate how promotional activity in one product category influences the market performance of the same umbrella brand in other product categories.

In general, the theoretical basis for the effectiveness of an umbrella brand alliance is consistent with signaling theory literature (e.g., Wernerfelt 1988). Kirmani and Rao (2000) suggest that two major types of signals exist. The first type can be termed “default-independent signals,” and requires an immediate marketing expenditure, such as a promotion-mix expenditure, at the time of sending the signal. “Default-contingent signals,” on the other hand, refer to the parent brand’s implicit or explicit promise about the performance of its product, when it enters into a brand alliance. The conceptual basis for the functioning of default-independent signals is that since a firm needs to generate profits to justify its substantial initial expenditure for a brand, consumers would conclude that a firm would aim to ensure the performance of the product (sub-brand) involved in the brand alliance in order to ensure the future sales of the brand and its own reputation. In terms of the default-contingent signals, such as warranties, they argue that firms keep their commitment

(e.g., guarantees of high quality) for its brand because breaking such promises would jeopardize its future revenue and increase costs (e.g., costs for repair). Montgomery and Wernerfelt (1992) further elaborate on the risk reducing aspect of umbrella brand alliances, observing that umbrella branding reduces the perceived risk for the same brand in a new or different product category.

Licensing Brand Alliances

The marketing practice of licensing brand alliances has increased substantially in recent years (Wiedmann and Ludewig 2006). In a recent study, the licensing industry was believed to be as large as \$175 billion (Johannes 2006). Licensing brand alliances involve “contractual arrangements whereby firms can use the names, logos, characters, and other facets of other brands to market their own brands for some fixed fee” (c.f., Keller 1998, p. 288). Despite its popularity as a marketing activity, this practice is still considerably under-researched (Wiedmann and Ludewig 2006).

A licensing brand alliance is not just a method for revenue generation, but also a way for brand-building for both the licensee and licensor brands in the alliance. (O’Neill 2007). It is advisable for licensor brands to have a strategic purpose when entering into a licensing brand alliance, and focus on brand-building for the long-term, rather than on short term revenue generation. Too often, licensor companies enter

into an excessive number of licensing brand alliances, as it results in increased and easy revenues without much investment. Consequently, the practice may sometimes have been misused when companies anticipate lower-than-expected earnings (Neff 2000).

Some (e.g., Petrecca and Snyder 1999) consider licensing brand alliances as just one of the many ways of brand building, similar in many respects to sales promotions, public relations or advertising. There is, however, a fundamental difference between brand-related promotional activities and a licensing brand alliance. While promotional or other marketing activities for brand building involve monetary expenditures, licensing, instead, generates revenue (O’Neill 2007) for both the licensor and licensee brands in the alliance.

Entering into licensing brand alliances has also grown as a popular way for launching new products. The use of licensing brand alliances and/or multiple trademark strategies for the introduction of new packaged products in North America has more than doubled from 4 percent in 2000 to 8.6 percent in 2005 (Datamonitor, 2005). In addition, more firms have started to license their corporate brands (Petrecca and Snyder 1999), sometimes to unrelated products (c.f., Keller 1998, p. 294). As of 2003, licensing brand alliances involving corporate brands accounted for 18.2 percent of the total licensing revenues in the U.S. (Riotto 2004).

TABLE 2
Important Characteristics of Successful Brand Alliances

<u>Characteristics</u>	<u>Descriptions</u>
Creation of new value	Use brand names of two different offerings on the same new offering to create distinct value from each original offering
Synergy effect	The use of two established brand names to get synergy effect or use of one established brand name to leverage on that value
Distinguishability	The combined offering is different or perceived to be different than its individual original parts
Perceived as single entity	The new offering is perceived as a single new entity that is distinguishable from its original components
Added value	The value of the new offering goes beyond the added value of two existing offerings

The degree of “fit” is an important variable in licensing brand alliances. It is important to choose a brand alliance partner that fits well with what the corporate brand represents (Jeffries 2007). If done right, a licensing brand alliance should result in products that are “indistinguishable from the licensor’s own products” (Jeffries 2007).

Although licensing brand alliances may be an efficient way of generating revenues without a substantial new marketing investment, the practice of licensing comes with a risk. Oftentimes problems with poorly managed licensing brand alliances hurt not only the licensee, but also the licensor’s brand as well (Reily 2005). For example, a controversial incident involving genetically modified corn in Taco Bell branded taco shells had an impact on Taco Bell restaurants rather than on the licensee, Kraft Foods, which actually manufactured the chips (Lueck, Merrick, Millman and Moore 2000). Consequently, a licensor needs to find a trustworthy partner, maintain a close relationship with it and retain a certain level of control in order to minimize this kind of risk. From a brand management standpoint, it is also preferable that consistency be maintained in package design and displays. Ford, for example, has rigid guidelines for its licensing brand alliances with the objective of maintaining consistency for “boxes, store-displays and end-caps” across multiple licensees (Greenberg 2003).

Perry and Groff (1986) study licensing dynamics in a monopolistically competitive environment. They find that licensing usually intensifies intrabrand competition and reduces the retail price of the product. They argue that when the associated fixed costs are brand-specific, firms in a licensing alliance can share those fixed costs, thus reducing price and possibly increasing consumer welfare. Further expanding on this discussion, Lane (1988) finds that although licensing alliances reduce prices for consumers and increase consumer welfare, it also discourages firms from implementing promotions to facilitate consumer trial, thus in a way decreasing consumer welfare. Thus, he argues that whether licensing increases consumer welfare or not depends both on the degree of the welfare increase due to the reduced price and the degree of the welfare decrease due to the reduced promotion for the brand involved in the licensing alliance.

Complementary Brand Alliances

Complementary brand alliances involve symmetric branding arrangements between or among brands that complement one another. The complementary brand alliances between FedEx Kinkos and Geek Squad or between Best Buy and Geek Squad are good examples of such arrangements. In the former case, both FedEx and Kinkos are well established brand names for different services. These two brands complement each other; FedEx helps Kinkos customers physically deliver the documents

TABLE 3
Examples of Ingredient Brand Alliances in B2C Markets

Brand Alliance Partners		Product with Brand Alliance
(Supplier)	(Manufacturer)	
KC Masterpiece ®	Frito Lay ®	Potato chips
Dove ®	Smuckers ®	Ice cream topping
NutraSweet ®	Coca-Cola®	Diet Coke®
Dolby ®	Sony ®	Stereo Systems
Gore Tex ®	North Face ®	Outerwear
Intel®	HP ®	Personal Computers

they created at Kinkos, while FedEx customers can create the documents at Kinkos prior to shipping them out via FedEx. In recent times, FedEx has initiated another complementary brand alliance with Geek Squad, a computer support company, whose brand is owned by Best Buy (Cheung 2007). Complementary brand alliances can be between brands owned by the same firm (e.g., Best Buy and Geek Squad) or between brands owned by different firms (Fedex and Geek Squad).

Each brand in a complementary brand alliance tends to supplement and support the brands involved in the alliance. Ugglä (2004) describes a similar arrangement that involves reciprocal relationships among partner brands that he refers to as a “symmetrical” arrangement. Complementarity among brands involved in a complementary brand alliance facilitates its attribute profile more than the favorable evaluation of each brand, thus influencing consumers’ choice and preference for the combined offering (see Park et al. 1996). Samu et al. (1999) describes complementarity as the degree to which “consumers’ perception of the necessity of one product for the performance or use of the second product” occurs. Building on this description, complementarity in brand alliances can be described as the extent that consumers feel that a certain brand needs another brand for facilitating a more complete satisfaction of their needs.

Complementary brand alliances are significantly different from other types of brand alliances, where partner relationships are usually asymmetrical. For example, in licensing brand alliances, the licensee brand benefits from the licensor brand in return for a licensing fee to the licensor. In ingredient brand alliances, especially at its early stages, a supplier of the ingredient brand asks the manufacturer to identify its branded ingredient in the final product, thus effectively marketing itself to end users. In other words, a supplier tries to “reinforce a single attribute through the presence of a partner brand” (Ugglä 2004). As Osler (2007) argues, “by their very nature as a

discretionary additive, ingredient brands only ever account for less than 50 percent of the total brand equity that resides within the offer,” implying the asymmetric relationship between the manufacturer’s brand and the ingredient brand. In umbrella brand alliances, a firm often leverages its established parent brand to market its sub-brands. Thus a sub-brand benefits from its parent brand. Thus, the symmetrical relationships among partner brands in most complementary brand alliances are distinguishable from the relationships associated with other types of brand alliances.

To the best of our knowledge, the issue of complementarity has not empirically been examined in the context of brand alliances. In the context of brand extensions, however, Shine, Park and Wyer (2007) have empirically studied the the issue of complementarity. Not surprisingly, a synergy effect usually occurs when the extended product category shares similarities with the parent-brand category. However, Shine, Park and Wyer (2007) find that even when the extended category is not similar to the parent-brand category, consumers have a favorable evaluation if the extensions are complementary. In other words, they empirically demonstrate the positive effects of complementarity on consumer perceptions, when the parent-brand category and the extended-brand category are not similar. Undoubtedly, empirical studies on complementarity in a brand alliance context are needed.

INGREDIENT BRAND ALLIANCES BETWEEN MANUFACTURERS AND SUPPLIERS

Having described the different types of composite brand alliances, we now focus on one type of composite brand alliance: the ingredient brand alliance between manufacturers and suppliers. In most cases, such brand alliances occur when both brands are relatively well established (e.g., *North Face*-manufacturer and *Gore Tex* -supplier) and when there is a distinctive advantage to

combine the strengths of both brands. The focus of this section is to conduct an initial examination on ingredient brand alliances between manufacturers and suppliers, to examine why such alliances even occur. Our objectives are to address the motives of the manufacturer and the supplier in an ingredient brand alliance in B2C markets. We would also like to examine how each party in an ingredient brand alliance benefits from the alliance. For an expansion of the analysis in this paper to a “co-branding” context, and a derivation of the functions involved, please refer to Erevelles, Stevenson, Srinivasan and Fukawa (2007). The following section summarized the dynamics of a manufacturer-supplier brand alliance.

Manufacturer- Supplier Brand Alliances

In a manufacturer-supplier brand alliance, the manufacturer faces a consumer-driven retail demand for the product, which may depend on the individual brand strengths of both the supplier and the manufacturer. Therefore, the choice of the appropriate brand alliance enables a supplier to influence consumer demand. Aghion and Bolton (1987) suggest that an incumbent seller who faces a threat of entry will sign a long-term contract to prevent entry of a competitor. Our model also considers the downstream demand faced by the manufacturer in response to the brand alliance with the supplier.

The supplier aims to maximize its returns, taking into account the behavior of the manufacturer. Initially, the supplier sets its wholesale price, “w” and the penalty, “f” that will be paid by the manufacturer if it breaks its contract with the supplier and selects a competing entrant instead. The manufacturer uses this information to decide whether to enter into the brand alliance or not. If it enters into the brand alliance, it then chooses the retail price, “p.” The manufacturer then buys from the supplier at the agreed upon wholesale price, “w”; or switches to another supplier, paying a per-unit penalty, “f” to the incumbent supplier. Therefore, the competing entrant can sell to the manufacturer, if and only if its price is at least

equal to the difference between the original supplier’s wholesale price and the penalty for switching that must be paid by the manufacturer.

The manufacturer’s challenge is to decide whether to enter and stay in a brand alliance consisting of a wholesale price, “w,” and penalty, “f” with the incumbent supplier. If other competing suppliers enter the marketplace, the manufacturer has to decide whether to switch over to them and pay the penalty, “f” to the incumbent supplier. The manufacturer’s objective is to maximize its profits. Thus, the demand for the product depends on the manufacturer’s choice of retail price and the wholesale price from the supplier.

Analyzing the Manufacturer’s Profits without a Brand Alliance

The manufacturer’s expected profits without a brand alliance can be expressed as a function of the supplier’s cost and the probability of entry by a competing supplier, if one is present in the marketplace. If entry occurs by a competing supplier, then the supplier and the entrant compete in prices. Consequently, prices are driven down to $\max\{c, c_e\}$. Therefore, the supplier makes zero profits, as wholesale prices are driven down to marginal costs. The manufacturer’s profit function without a brand alliance, but with entry by a competing supplier is denoted by $\Pi_{M,NA1}$:

$$\Pi_{M,NA1} = \frac{(p-c)(\alpha-p)}{\beta} \quad (4)$$

where “p” is the retail price offered to the consumer and “c” is the supplier’s cost. The demand, “D,” depends on the manufacturer’s choice of retail price. The profit maximizing price thus is given by: $p = (\alpha+c)/2$, and the demand, $D = (\alpha-c)/2 \beta$.

The manufacturer’s profits thus are:

$$\Pi_{M,NA1} = \frac{(\alpha-c)^2}{4\beta} \quad (5)$$

If there is no entry by competitors; the manufacturer faces monopolistic prices from

the supplier. The supplier's monopolistic wholesale price is given by: $w_m = (\alpha+c)/2$. Therefore the manufacturer's profit function, $\Pi_{M,NC2}$, is given by:

$$\Pi_{M,NA2} = \frac{(\alpha-c)^2}{16\beta} \quad (6)$$

The manufacturer's expected profit without a brand alliance is given by:

$$\Pi_{M,NA} = \phi \frac{(\alpha-c)^2}{4\beta} + (1-\phi) \frac{(\alpha-c)^2}{16\beta} \quad (7)$$

where ϕ is the probability of entry. If entry occurs and there is no brand alliance in place, then both suppliers compete in prices and a price equilibrium ensues. Thus, entry occurs only if $c_e \leq c$. Therefore, the probability of entry is given by:

$$\phi = \text{Probability}(c_e \leq c) = \frac{[c-c_l]}{[c_h-c_l]}$$

Analyzing Manufacturer Profits in a Brand Alliance

When a brand alliance exists between the manufacturer and an incumbent supplier, the manufacturer's expected profits can be expressed as the same function of supplier's cost, both when there is entry by a competing supplier and when there is no entry. The manufacturer will switch to the entrant only if the latter offers at least as much profit potential as does the supplier. In the presence of a brand alliance consisting of a wholesale price, "w" and penalty, "f"; the manufacturer's profit, denoted by $\Pi_{M,A}$, is given by:

$$\Pi_{M,A} = (p-w)(\alpha-p)/\beta$$

The profit maximizing price is given by $p=(\alpha+w)/2$, which in turn implies that the manufacturer's optimal profit is:

$$\Pi_{M,A} = (\alpha-w)^2/4\beta$$

(The "optimal" profit represents the point at which returns from customer demand are maximized). Thus, the manufacturer's expected profits are given by:

$$\Pi_{M,A} = \phi' \frac{(\alpha-c)^2}{4\beta} + (1-\phi') \frac{(\alpha-c)^2}{4\beta} \quad (8)$$

where ϕ' is the probability of entry in the presence of a brand alliance.

Analyzing the Supplier's Profits

The supplier's profit in a manufacturer-supplier brand alliance can be expressed as a function of the supplier's wholesale price and the supplier's cost. The supplier's profits without a brand alliance, denoted by $\Pi_{S,NA}$ is given by:

$$\Pi_{S,NA} = \phi \cdot 0 + (1-\phi) \frac{(\alpha-c)^2}{4\beta} \quad (9)$$

The first term represents the supplier's profits when there is entry, and is zero, since the wholesale price is driven down to the marginal cost under Bertrand competition. The second term is the supplier's profit when there is no entry. Thus, the supplier's profits in the presence of a brand alliance are given by:

$$\Pi_{S,A} = \phi' f \frac{(\alpha-w)}{2\beta} + (1-\phi') \frac{(\alpha-w)(w-c)}{2\beta} \quad (10)$$

where ϕ' is the probability of entry with a brand alliance. For an understanding of the solution and proof, please see Erevelles, Stevenson, Srinivasan and Fukawa (2007). The optimal wholesale price w^* and the optimal penalty f^* can thus be formulated as follows:

$$w^* = \frac{(\alpha - (\alpha-c)(1+3\phi)^{1/2})}{2} \quad (11)$$

$$f^* = w^* - \frac{c-c_l}{2} \quad (12)$$

Equations (11) and (12) provide the conditions for an interior solution consisting of a non-zero wholesale price, "w*" and a non-zero penalty, "f*." In other words, the supplier's profits are higher with a brand alliance than without a brand alliance. Thus, the supplier is strictly better off with a brand alliance, while the manufacturer is no worse off, given that its individual rationality constraint is satisfied. Further, the incumbent supplier exploits the manufacturer's uncertainty regarding the entrant's cost. By entering into a brand

alliance, the supplier now becomes less vulnerable to the threat of entry from a competing entrant and, in return, rewards the manufacturer with a lower wholesale price.

In sum, the manufacturer enters into a brand alliance that may result in strengthening the supplier's position in a market in return for an increase in its profits. The supplier is better off with the brand alliance than without brand alliance partly because of a lower probability of entry by competing entrants. The manufacturer will benefit from the brand alliance through a lower wholesale price, which thus results in higher profits. Thus, due to "individual rationality" constraints both the manufacturer and supplier would be better off in the brand alliance than without it. The above discussion involves a brand alliance model "without advertising." For an understanding of a co-branding model "with advertising," please see Erevelles, Stevenson, Srinivasan and Fukawa (2007).

CONCLUSION

The strategy of using brand alliances in B2C marketing has grown in popularity in recent years. However, the term "brand alliance" has been used in both trade and academic literature rather loosely to describe a variety of marketing activities. In an attempt to clarify the potential confusion, we have presented a typology of the most common types of brand alliances in B2C markets. We distinguish between "brand alliance" and "co-branding" strategies, and then conceptually examine the different types of composite brand alliances. We then more rigorously study one of them, B2C ingredient brand alliances between manufacturers and suppliers. Our analysis indicates that both the manufacturer and supplier benefit monetarily from a brand alliance. The supplier benefits from the brand alliance through a lower probability of entry from a competing entrant, while the manufacturer benefits from a lower wholesale price.

The discussion and typology presented in this paper may provide a foundation for further research on brand alliances, and helps highlight the different conceptual nature of each type of co-branding. Further, by distinguishing between "brand alliances" and "co-branding," this paper may help reduce the potential confusion and construct validity issues that may arise in future research. Finally, this paper makes a contribution by examining the theoretical rationale for why ingredient brand alliances between manufacturer and supplier occur. Thus, a basic foundation is laid for future study of this phenomenon.

Clearly, considerable future research is needed in the area of brand alliances for a more thorough understanding of the area. Among the four types of composite brand alliances, more empirical research is needed in the areas of complementary, umbrella, and licensing brand alliances. Also, researchers are encouraged to further investigate hybrid brand alliance strategies: a combination of two or more types of brand alliances or a combination of a brand alliance with another type of strategic alliance. Such types of hybrid alliances are becoming increasingly common, yet relatively little insight is available in the literature. Further, brand alliances also need to be further studied in a B2B context. The B2B market differs considerably from the B2C market in that institutions rather than individuals are involved in decision making. In addition, it is generally acknowledged that cognitive rather than emotional factors dominate decision making in B2B markets. It would be interesting to evaluate how these two factors (institutional decision making and cognitive decision making) affect customer responses to brand alliances. More research is also needed in the area of co-branding. As stated earlier, co-branding differs from brand alliances in that joint-branding efforts through advertising is involved. Readers with interest in co-branding are referred to Erevelles et al. (2007), where a co-branding model, using the same basis as this model but also including joint-branding efforts, is presented in a B2B setting.

The contribution in this paper should be considered an initial one. Research on brand alliances in B2C markets is still relatively in its infancy, especially when compared to research in other areas such as brand extensions. However, it is reasonable to conclude that this paper provides a useful conceptual framework that may be used as a foundation for future research.

REFERENCES

- Aaker, David (1996), *Building Strong Brands*, New York, NY, Free Press.
- Abbo, Marie-Hélène (2005), "An Exploratory Study on the Impact of Two Ingredient Branding Strategies on the Host Brand", *CAHIERdeRECHERCHE N°4*, June, pp. 17-30.
- ACNielsen (2006), "Top Brands, Special Report", *AdNews*, January 13, available at <http://au.nielsen.com/trends/documents/AdNewsTop100lowres.pdf>
- Aghion, Philippe and Patrick Bolton (1987), "Contracts as a Barrier to Entry," *American Economic Review*, Vol. 77 (3), pp. 388-401.
- Arnott, Nancy (1994), "Inside Intels Marketing Coup," *Sales & Marketing Management*, Vol. 146 (2), pp. 78-81.
- Baar, Aaron and Stephanie Thompson (1998), "Kraft Branding Effort Set," *Adweek*, June 15, available at http://www.adweek.com/aw/eseach/article_display.jsp?vnu_content_id=524736&imw=Y
- Cantrell, A. (2006). "Dell to Get Served by AMD," *CNN Money.com*, available at http://money.cnn.com/2006/05/18/technology/dell_earnings/
- Choi, Jay Pil (1998), "Brand Extension as Informational Leverage," *Review of Economic Studies*, Vol. 65 (225), pp. 655-69.
- Cheung, Humphre (2007), "Geek Squad Testing Out Stores Inside of Fedex/Kinkos," *Tgdaily*, May 24, available at <http://www.tgdaily.com/content/view/32186/118/>
- Datamonitor (2004), "Kraft: Custard Could Be Treat for Smaller Players," *MarketWatch: Global Round-up*, Vol. 3 (12), pp. 76.
- Datamonitor (2005), "Risk-reducing Strategies like Co-branding and Licensing Catch on," *MarketWatch: Drinks*, Vol. 4 (6), p.17.
- Dell (2007). Dell at a Glance, Dell Corporate Website, retrieved May 2007, available at <http://www.dell.com/content/topics/global.aspx/corp/background/en/facts?c=us&l=en&s=corp&~section=004>
- Dell, Michael and Catherine Fredman (1999). *Direct From Dell*, New York, Harper Collins.
- Desai, Kalpesh Kaushik and Kevin L. Keller (2002), "The Effects of Ingredient Branding Strategies on Host Brand Extendibility," *Journal of Marketing*, Vol. 66 (1), pp. 73-93.
- Dickinson, Sonia and Alison Barker (2007), "Evaluations of Branding Alliances between Non-profit and Commercial Brand Partners: the Transfer of Affect," *International Journal of Nonprofit & Voluntary Sector Marketing*, Vol. 12 (1), pp. 75-89.
- Eisenhardt, Kathleen M. and Claudia Bird Schoonhoven (1996), "Resource-based View of Strategic Alliance Formation: Strategic and Social Effects in Entrepreneurial Firms," *Organization Science*, Vol. 7 (2), pp. 136-50.
- Erdem, Tulin and Baohong Sun (2002), "An Empirical Investigation of the Spillover Effects of Advertising and Sales Promotions in Umbrella Branding," *Journal of Marketing Research*, Vol. 39 (4), pp. 408-420.
- Erevelles, Sunil, Thomas H. Stevenson, Shuba Srinivasan and Nobuyuki Fukawa (2007) "An Analysis of B2B Ingredient Co-branding Relationships," *Industrial Marketing Management*, Forthcoming.
- Greenberg, Karl (2003), "Ford Expands Plan to License Brands," *Brandweek*, Vol. 44 (24), p.12.
- Helmig, Bernd, Jan-Alexander Huber, and Peter Leeflang (2007), "Explaining Behavioural Intentions toward Co-branded Products," *Journal of Marketing Management*, Vol. 23 (3/4), pp. 285-304.
- Hesseldahl, Arik (2005), "Will Apple Push 'Intel Inside'?" *Business Week Online*, p.29.
- Janiszewski, Chris and Stijn M. J. Van Osselaer (2000), "A Connectionist Model of Brand-Quality Associations," *Journal of Marketing Research*, Vol. 37 (3), pp. 331-350.

- Jeffries, Nancy (2007), "Capitalizing on a Corporate Brand," *License! Global*, Vol. 10 (6), p. 78.
- Johannes, Amy (2006), "A Sporting Try: Sports Marketing, Corporate Brands Make Licensing Inroads," *Promo*, Vol. 19 (7), pp. 9-10.
- Keller, Kevin L. (1998) *Strategic Brand Management*, Upper Saddle River, NJ, Prentice Hall, p. 288
- Kippenberger, T (2000), "Co-branding as a New Competitive Weapon," *The Antidote*, Vol. 5 (6), pp. 12 – 15.
- Kirman, Amna and Akshay R. Rao (2000), "No Pain, No Gain: A Critical Review of the Literature on Signaling Unobservable Product Quality," *Journal of Marketing*, Vol. 64 (2), pp. 66-79.
- Lane, W. J. (1988), "Compulsory Trademark Licensing," *Southern Economic Journal*, Vol. 54 (3), 643-655.
- Levin, Irwin P. and Aron M. Levin (2000), "Modeling the Role of Brand Alliances in the Assimilation of Product Evaluations," *Journal of Consumer Psychology*, Vol. 9 (1), pp. 43-52.
- Lueck, Sarah, Amy Merrick, Joel Millman and Stephen D. Moore (2000) "Corn-Recall Cost Could Reach into the Hundreds of Millions," *Wall Street Journal*, November 3.
- Mackenzie Financial Corporation (2005), "Intel Denies Wrongdoing in Response to AMD Antitrust Lawsuit," *The Canadian Press*, September 1, available at http://www.mackenziefinancial.com/en/pub/media_centre/news/includes/ztechnology/050901/z090124.shtml
- McCarthy, Michael S. and Donald G. Norris (1999), "Improving Competitive Position Using Branded Ingredients," *Journal of Product & Brand Management*, Vol. 8 (4), pp. 267-85.
- Memmer, Scott (2002), "Top 10 Sound Systems in Cars Over \$30,000 for 2002," *Edmunds.com*, Available at (<http://www.edmunds.com/reviews/list/top10/58886/article.html>)
- Monga, Alokparna Basu and Loraine Lau-Gesk (2007), "Blending Cobrand Personalities: An Examination of the Complex Self," *Journal of Marketing Research*, Vol. 44 (3), pp. 389-400.
- Montgomery, Cynthia A. and Birger Wernerfelt (1992), "Risk Reduction and Umbrella Branding," *Journal of Business*, Vol. 65 (1), pp. 31-50.
- Munk, Jonathan (2005) "GM to Put Logo on its Vehicles," *logodesign.com*, June 30, Available at http://www.logodesign.com/logo_design/2005/06/
- Neff, Jack (2000), "P&G Steps Up Licensing for Brands, Technology," *Advertising Age*, Vol. 71 (30), pp. 16-17.
- Norris, Donald G. (1992), "Ingredient Branding: A Strategy Option with Multiple Beneficiaries," *Journal of Consumer Marketing*, Vol. 9 (3), pp. 19-31.
- Nunes F. Paul, Stephen F. Dull and Lynch D. Patrick (2003) "When Two Brands are Better Than One", *Customer Relationship Management*, (Available at www.accenture.com)
- Oakley, James L., Adam Duhachek, Subramanian Balachander and S. Sriram (2008), "Order of Entry and the Moderating Role of Comparison Brands in Brand Extension Evaluation," *Journal of Consumer Research*, Vol. 34 (5), pp. 706-712.
- O'Neill, Elizabeth Helene (2007), "Getting Your Brand Ready for Licensing Success," *Licensing Journal*, Vol. 27 (10), pp. 14-18.
- Osler, Rob (2007), "The Type-role-purpose Brand Taxonomy," *Journal of Brand Management*, Vol. 14 (6), pp. 430-441.
- Park, C. Whan, Sung Youl Jun and Allan D. Shocker (1996), "Composite Branding Alliances: An Investigation of Extension and Feedback Effects," *Journal of Marketing Research*, Vol. 33 (4), pp. 453-466.
- Parkhe, A. (1993), "Strategic Alliance Structuring: A Game Theoretic and Transaction Cost Examination of Interfirm Cooperation," in *Academy of Management Journal* Vol. 36 (4), pp. 794-829.
- Parker, George (1995), "Fear of Commitment", *MC: Marketing Computers*, Vol. 15 (9), p. 82.

- Perry, Martin K. and Robert H. Groff (1986), "Trademark Licensing in a Monopolistically Competitive Industry," *RAND Journal of Economics*, Vol. 17 (2), pp. 189-200.
- Petrecca, Laura and Beth Snyder (1999), "Corporate Brands Put Licensing in Spotlight (Cover story)," *Advertising Age*, Vol. 70 (25), pp. 1-74.
- Prince, Melvin and Mark Davies (2002), "Co-branding Partners: What Do They See in Each Other?," *Business Horizons*, Vol. 45 (5), pp. 51-55.
- Reily, Stephen (2005), "Turning CPG Brands into Licensing Stars," *Brandweek*, Vol. 46 (24), p. 27.
- Richardson, Paul S., Alan S. Dick and Arun K. Jain (1994), "Extrinsic and Intrinsic Cue Effects on Perceptions of Store Brand Quality," *Journal of Marketing*, Vol. 58 (4), pp. 28-36.
- Riotto, Charles M. (2004), "The US Licensing Market," *Brand Strategy* (185), p. 38.
- Samu, Sridhar, Shanker Krishnan and Robert E. Smith (1999), "Using Advertising Alliances for New Product Introduction: Interactions Between Product Complementarity and Promotional Strategies," *Journal of Marketing*, Vol. 63 (1), pp. 57-74.
- Shine, Byung Chul, Jongwon Park and Robert S. Wyer (2007), "Brand Synergy Effects in Multiple Brand Extensions," *Journal of Marketing Research*, Vol. 44 (4), pp. 663-670.
- Simonin, Bernard L. and Julie A. Ruth (1998), "Is a Company Known by the Company It Keeps? Assessing the Spillover Effects of Brand Alliances on Consumer Brand Attitudes," *Journal of Marketing Research*, Vol. 35 (1), pp. 30-42.
- Sullivan, Mary (1990), "Measuring Image Spillovers in Umbrella-branded Products," *Journal of Business*, Vol. 63 (3), pp. 309-329.
- Uggla, Henrik (2004), "The Brand Association Base: A Conceptual Model for Strategically Leveraging Partner Brand Equity," *Journal of Brand Management*, Vol. 12 (2), pp. 105-123.
- Vaidyanathan, Rajiv and Praveen Aggarwal (2000), "Strategic Brand Alliances: Implications of Ingredient Branding for National and Private Label Brands," *Journal of Product & Brand Management*, Vol. 9 (4), pp. 214-228.
- Varadarajan, P. Rajan and Margaret H. Cunningham (1995), "Strategic Alliances: A Synthesis of Conceptual Foundations," *Journal of the Academy of Marketing Science*, 23 (4), pp. 282-96.
- Voss, Kevin E. and Bashar S. Gammoh (2004), "Building Brands through Brand Alliances: Does a Second Ally Help?" *Marketing Letters*, Vol. 15 (2/3), pp. 147-159.
- Wernerfelt, Birger (1988), "Umbrella Branding as a Signal of New Product Quality: an Example of Signaling by Posting a Bond," *RAND Journal of Economics*, Vol. 19 (3), pp. 458-66.
- Wiedmann, Klaus-Peter and Dirk Ludewig (2006), "Examining the Effects of Brand Licensing," in *Advances in Consumer Research - Asia-Pacific Conference Proceedings* Vol. 7: Association for Consumer Research, pp. 146-147.

Acknowledgement

The authors acknowledge the very helpful contributions of Professor Shuba Srinivasan. The authors also acknowledge the research assistance of Edil Demirel during the creation of this manuscript.

CONSUMER ACCEPTANCE OF TECHNOLOGY PRODUCTS: THE IMPACT OF TACTICAL SELLING APPROACHES

MICHAEL T. ELLIOTT, *University of Missouri—St. Louis*

FRANK Q. FU, *University of Missouri—St. Louis*

This study applies an extended adoption model based on the technology acceptance model (TAM) and theory of reasoned action (TRA) to examine the impact of three specific sales tactics (i.e., product-focused, competitive-focused, and customer-focused) on the adoption of a consumer technology innovation. The findings indicate that the selling tactics had a differential effect on the relationships between perceived usefulness, perceived ease of use, normative pressures, perceived enjoyment, and adoption outcomes (i.e., attitude toward usage and purchase intention). Specific consumer behavior and sales management implications are discussed.

INTRODUCTION

Consumer adoption of technology products continues to be a challenge for marketers. New products fail at a rate of between 33 percent and 90 percent, depending on the industry (Peter and Donnelly 2006). U.S. packaged goods companies introduce 30,000 products each year, but 70 percent to 90 percent do not stay on the store shelves for more than 12 months (Gourville 2006). Faced with a rapid proliferation of technological advancements and the bombardment of new technology categories, many consumers are overwhelmed. These innovations often require consumers to change their behavior and/or incur transaction costs. More importantly, consumers are not always able to recognize the full advantages of technology innovations (Campbell 1999).

Consumer technology products and services have shorter lifecycles, are more complex, require a great deal of consumer learning, and are perceived as more risky than other innovations (Rogers 1995). Since learning about technological innovation involves exposure to new and sometimes difficult information, research indicates that using a conversational mode rather than a written mode

may increase the perceived usefulness of marketing information (Lee, Lee and Schumann 2002; Wilkie and Dickson 1985). A salesperson can customize information about a new product or service to help facilitate customer understanding. If a customer has a better understanding of the technology, the probability of his or her adoption of the new technology also increases (Davis 1989; Rogers 1995). Given the aforementioned challenges faced by marketers of innovative products, the question is whether there are selling approaches that enhance the likelihood of consumer technology adoption.

Personal selling is a “critically important element in the marketing mix of almost every industrial firm” (Spiro and Perreault 1979, p. 435). The importance of personal selling is especially salient during new product commercialization (Atuahene-Gima 1997). The value of personal selling stems from the premise that salespeople can facilitate consumers’ decision of adoption by implementing the appropriate selling tactics (Sujan, Weitz and Sujan 1988). Over the years, multiple studies have demonstrated that vigorous sales force support is critical to new product success (Booz, Allen and Hamilton 1982; Cooper 2000; Hultink and Atuahene-Gima 2000). However, despite the role of personal selling as an important promotional

tool, academic research on selling approaches has been limited largely to business-to-business (B2B) settings (Spiro and Weitz 1990; Sujan, Weitz and Sujan 1988; Weitz 1978). More to the point, the effectiveness of alternative personal selling tactics has not been sufficiently evaluated in a business-to-consumer (B2C) context.

B2C marketing refers to a transaction that occurs directly between a company and a consumer. Examples of B2C salespeople are telemarketers, residential real estate brokers, and retail store salespeople (Johnston and Marshall 2006). It represents a significant section of the U.S. economy. In fact, most of the 26 million Americans who are employed in sales occupations work in B2C selling environments (Spiro, Rich and Stanton 2008). Unlike B2B environments, B2C environments involve consumers as single decision makers. The B2C decision making process is typically treated as more spontaneous and less complicated than its B2B counterpart (Johnston and Marshall 2006). In consumer markets, the challenge of salespeople is to understand how prospects perceive a new product and develop effective ways of positioning and communicating values associated with the new product. It is therefore essential for them to understand the effectiveness and appropriateness of different tactical selling approaches.

The purpose of this study is to provide marketers of new consumer technology products guidance in the development of effective selling tactics. In the context of an experimental shopping scenario for a consumer technology innovation, we examine the impact of personal selling tactics on the consumer technology adoption process. This study answers the call of Ziamou and Ratneshwar (2003) for research examining the effectiveness of sales presentations as communication strategies for launching product innovations in the marketplace. Specifically, we use a model combining the theory of reasoned action [TRA] (Fishbein and Ajzen 1975) with an extended version of the technology acceptance model

[TAM] (Davis 1989). The sales tactics are adapted from the taxonomy of selling techniques used in B2B buyer-seller relationships as set forth by DelVecchio et al. (2002). One approach, *customer-focused*, highlights a salesperson's attempt to link the benefits of the new product with the unique needs of customer. A second approach, *product-focused*, emphasizes the attributes and benefits of the innovative product being offered. The third approach, *competitive-focused*, relates similar customers and competitive products to the innovation. If specific selling tactics can be shown to have a differential effect on elements of the TAM and TRA and to strengthen the relationship between the key dimensions, this study can provide marketers with insight into appropriate selling tactics for innovative products.

CONCEPTUAL DISCUSSION

Consumer Adoption of Technological Innovations

Since its introduction more than a decade ago (Davis 1989), TAM has received a great deal of attention among IS researchers in their efforts to predict and explain user acceptance of information technology. Several empirical studies have validated the usefulness of this model, and TAM is widely considered a "robust, powerful, and parsimonious model" for predicting and explaining user acceptance of an innovation (Venkatesh and Davis 2000, p. 187). This model has been applied in understanding the adoption of several consumer technology products including mobile chat services (Nysveen, Pederson and Thorbjornsen 2005) and cellular phones (Kwon and Chidambaram 2000). The TAM model which consists of five concepts: perceived ease-of-use, perceived usefulness, attitudes towards use, intention to use, and actual use, focuses on the attitudinal determinants of intention to use a specific technology or service. To date, research has focused on the moderating effects of experience, gender, and age of the technology user on the relationship between the independent and dependent variables

(Jarvenpaa and Todd 1997; Thompson, Higgins and Howell 1994; Venkatesh and Davis 2000).

Based on TAM, both perceived ease-of-use and perceived usefulness were included in this study. Perceived ease-of-use is defined following Davis (1989, p. 320), as “the degree to which a person believes that using a particular system would be free of effort.” In essence, perceived ease-of-use reduces uncertainty about the cause-effect relationship involved in the innovations’ capacity to solve an individual’s problem. Positive effects of ease-of-use on usage intention have been found in a number of studies on various information systems (Agarwal and Karahanna 2000; Venkatesh 2000). Perceived usefulness is defined as “the degree to which a person believes that using a particular system would enhance his or her performance” (Davis 1989, p. 320). In the context of consumer innovations, usefulness relates to compatibility with the existing values, past experiences, and needs of potential adopters (Rogers 1995). In previous consumer based studies, perceived usefulness has been found to influence usage intentions (Nysveen, Pederson and Thorbjornsen 2005).

Given the fact that this study examines the adoption of a consumer technology, non-utilitarian motives such as expressiveness and enjoyment are used. These motives have been investigated in studies of mobile services within both uses/gratifications and domestication research (Leung and Wei 2000). Dabholkar and Bagozzi (2002) found “fun” to be a significant driver of attitudes, even for more utilitarian service. *Perceived expressiveness* is defined as individuals’ ability to express their emotions or identity (Cassidy et al. 1992). Results from domestication studies indicate that the sending, receiving, or filtering, and sharing of messages is an expressive communication activity to displaying style and social capital (Skog 2002). *Perceived enjoyment* refers to “the extent to which the activity of using the computer (technology) is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated” (Davis, Bagozzi and Warshaw 1992, p. 1113).

Normative pressure is defined as “a person’s perception that most people who are important to her/him think s/he should or should not perform the behavior in question” (Fishbein and Ajzen 1975, p. 302). Normative pressure - or social norm - is revealed to influence behavioral intention in numerous studies based on the theory of reasoned action. The relationship between normative pressure and behavioral intention is also supported in previous consumer studies (Hung, Ku and Chang 2002).

Tactical Selling Approaches

A single, universally accepted taxonomy of selling tactics does not exist in B2C environments. However, in the B2B context, the concept of adaptive selling as a distinct selling approach has been advanced based on the principle of communication adaptation (Eckert 2006; Park and Holloway 2003; Spiro and Weitz 1990; Weitz 1981). These communication adaptations include employing different influence strategies (Spiro and Perreault 1979); altering communication styles (Merrill and Reid 1981); and considering source credibility, similarity, and physical attractiveness of the message sender (Dwyer, Richard and Shepard 1998; Lichtenthal and Tellefsen 2001). Message factors include the order of the arguments, the sided-ness of the arguments, and the basis for the appeal being made (O’Keefe 2002). Of particular note, a recent study by DeVecchio et al. (2002) utilizes a taxonomy of selling tactics based on message adaptation. It identifies three specific selling tactics (i.e., *product-focused*, *competitive-focused*, and *customer-focused*) used in managing different buyer-seller relationships.

Product-focused tactics focus on a one-way communication that informs or educates the buyer (Weitz and Bradford 1999). This selling strategy is aimed at the attributes and performance of the product. The statements used by the salesperson adopting this approach emphasize the technical details associated with either the product or its application. Such

information may concern aspects of the core product (e.g., quality and satisfaction ratings; performance and safety specifications), peripheral benefits (e.g., warranties; financing options), price (e.g., this item has been discounted), retail outlet (e.g., good return policy), or manufacturer details (e.g., country of origin). The salesperson is interested in uncovering the existence of a need and then persuading the consumer to purchase. The communication behaviors tend to be declarative statements made by the salesperson rather than questions asked by the buyer (DelVecchio et al. 2002).

The competitive-focused approach recognizes that the buyer faces a set of challenges (and opportunities) but views these as common to other buyers in the category. Because the challenges are viewed as similar to others, the salesperson does not “engage in detailed diagnosis of the buyer’s problem, but recommends a set of solutions that have proven successful in similar situations” (DelVecchio et al. 2002, p. 40). In addition, the salesperson adopting this approach recognizes the buyer’s position within his or her industry and draws comparisons with competitive focus that includes comparisons relevant to both the buyer and to the seller. This approach involves more attempts to influence the buyer, and frequently draw comparisons to similar product categories and customers (DelVecchio et al. 2002). Media studies indicate that comparative ads are often more effective than non-comparative ads in generating attention, brand awareness, message processing, and increased purchase intentions (Hill and King 2001). In certain situations, making comparisons may be particularly effective for promoting dynamically-continuous or discontinuous innovations by mapping existing category attributes to the new offering.

The customer-focused approach views customer’s problems as unique and in need of customized responses (DeComier and Jobber 1993). According to DelVecchio et al. (2002, p. 39), “a salesperson attempting to develop the most customer-focused type of relationship will engage in creative problem solving and suggest

innovative solutions.” These techniques would include acknowledging the seller’s viewpoint and encouraging a discussion of personal or relational matters. Their findings indicate that when approaching buyers occupying higher levels of authority within an organization, the customer-focused approaches tend to garner higher responsiveness ratings. Spiro and Weitz (1990) argue that empathic ability is vital to effective selling ability. They believe that sellers gain “unique insights” by being able to place themselves psychologically and emotionally in the position of the customer.

Although the three selling tactics are originally developed in B2B settings, we expect that the framework can be easily applied to the B2C context. The marketing literature on persuasion indicates that salespeople are viewed as a valuable source of information (Swan et al. 1988). Not surprisingly, consumers often seek advice from them (Schuster and Danes 1986). For example, consumers typically perceive that salespeople who work in specialty stores such as Best Buy and Circuit City possess useful information about a new technology due to their experience and product training. The influence from salespeople can therefore be used to reduce consumer’s uncertainty and facilitate product adoption (Atuahene-Gima 1997; Hultink and Atuahene-Gima 2000). A typical B2C encounter is brief and spontaneous, compared to its B2B counterpart. Therefore, it is critical to understand the effectiveness of different tactical selling approaches in a B2C context. This study explores the potential moderating role of different selling tactics on the relationships between perceived usefulness, perceived ease of use, normative pressures, perceived enjoyment, and technology adoption outcomes (i.e., attitude toward usage and purchase intention).

HYPOTHESES DEVELOPMENT

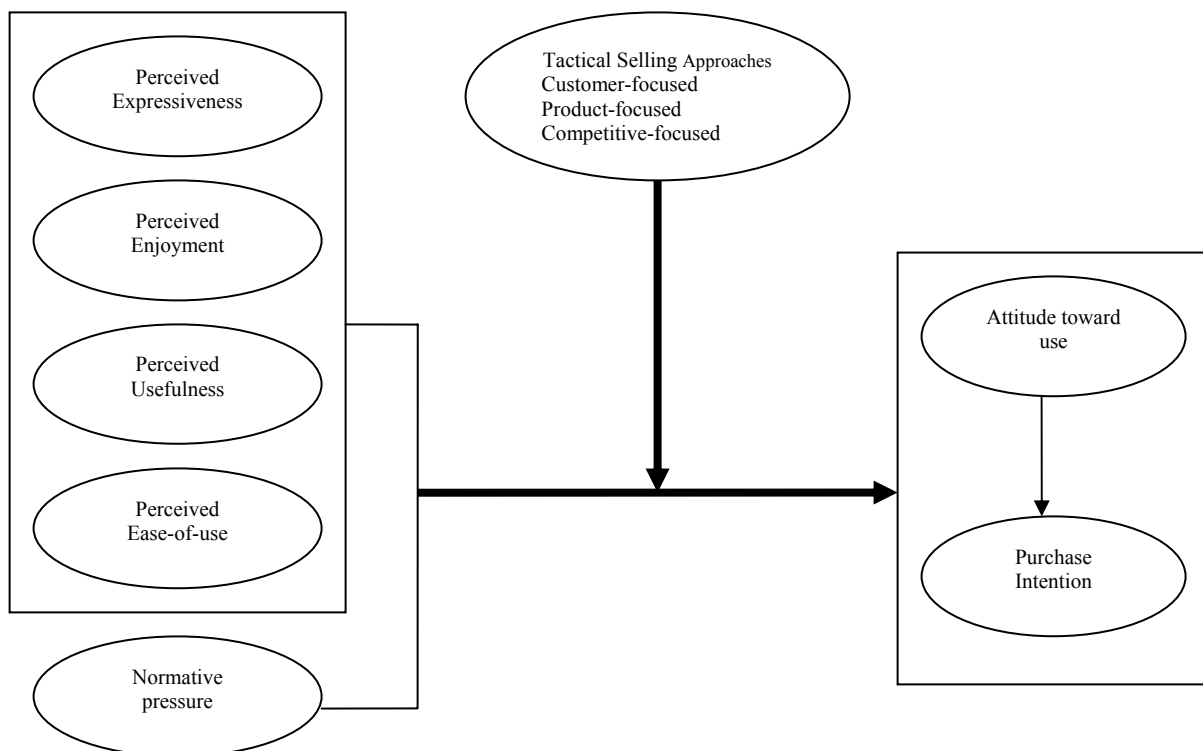
As discussed previously, the linkages among the elements of the TAM and TRA have been studied extensively over the past decade. However, a meta-analysis of TAM literature mentions that the role of external variables has

received limited attention (Legris, Ingham and Colletette 2003). Based on a detailed analysis of 22 articles from six journals, the authors found that only 60 percent of TAM studies considered external variables (e.g., age, technology experience, education) and that there was “no clear pattern with respect to the choice of the external variables considered.” The literature on diffusion of innovation suggests that information about technological innovations can travel through a variety of communication sources to members of a social system (Rogers 1995). That is, a salesperson can customize information about a new product/service to help facilitate customer understanding. If a consumer has a better understanding of the technology, the probability of his/her adoption also increases (Davis 1989; Rogers 1995). We explore the role of tactical selling approaches on consumer adoption of technology within the context of a sales encounter.

The relationship between perceived usefulness and technology adoption is strongly influenced by the belief that an innovation is compatible with existing practices and habits. Innovations that require changes in customers’ routine require a relatively longer diffusion process before gaining customer acceptance. If the buyer is familiar with older technologies, he or she is more capable of judging the present innovation in terms of its superiority over prior offerings (Ostlund 1973). The competitive-focused selling approach allows sales representatives to draw favorable comparisons between the usage of the product by similar consumers (e.g., testimonials) as well as offer evidence of its relative advantage compared to similar products or brands. Thus, we predict:

H₁: Employing competitive-focused selling tactics will positively impact the relationship between perceived usefulness and attitude toward use (H_{1a})/purchase intentions (H_{1b}).

FIGURE 1
Conceptual Framework: Impact of Selling Tactics on Consumer Technology Adoption



Alternatively, perceived lack of usefulness is manifested in a lack of understanding of the product's functionality and may create "fear effects" and extreme resistance to the innovation (Veryzer 1998). Consumer resistance stems from the item not fitting with the customer's knowledge structure, product schema, or consumption patterns. Studies indicate that where consumers are explicitly shown an innovation (e.g., by a friend or salesperson or at tradeshows), perceived compatibility or usefulness is likely to have an immediate effect (Olshavsky and Spreng 1996). Therefore, consumers are able to acclimate and move through the process of mental adoption of the new product. This type of selling situation requires informing the buyer about the product. The buyer is interested in knowing whether the product will meet his or her needs and requires concrete product specifications and visual cues. Thus, we posit:

H₂: Employing product-focused selling tactics will positively impact the relationship between perceived usefulness and attitude toward use (H_{2a})/purchase intentions (H_{2b}).

Compared to perceived usefulness, perceived ease of use is more important in determining satisfaction in the consumption process. When an item has ease of use, it is free from effort and lacks complexity. If a technological innovation is viewed as complex, it probably will not be perceived as being easy to try or as having operations and /or advantages easily recognized and explained to others. Complexity has also been linked to increased purchase risk (Holak and Lehmann 1990). The ability of the new product to be understood in terms of how it is to be operated and the benefits that it offers have a considerable impact on consumer evaluation. Moreover, the ability of a product to be readily understood reduces the investment of time and effort required by customers to learn how to use it. Similar to perceived usefulness, perceived ease of use is best achieved with a product-focused strategy. By using the product-focused approach, the salesperson encourages direct user-product interface to reduce consumer apprehension about product

performance and safety. Thus, we predict:

H₃: Employing product-focused selling tactics will positively impact the relationship between perceived ease of use and attitude toward use (H_{3a})/purchase intentions (H_{3b}).

The potential for an innovation to tap into the personal expressiveness of the consumer can be greatly enhanced by the sales interaction. We posit that a customer-focused approach allows the salesperson to uncover latent motives by creating linkages with feelings associated with intrinsic motivation (Deci and Ryan 1985) and/or peak experiences (Waterman 1990). The objective of the sales presentation is to show how the innovation can potentially fulfill unmet needs and to define what is possible and worth having in life (e.g., E-books allow intellectuals greater portability). Subsequently, feelings of personal expressiveness and self-realization are linked to the point where the innovation is seen to enhance personal potentials. Thus:

H₄: Employing customer-focused selling tactics will positively impact the relationship between expressiveness and attitude toward use (H_{4a})/purchase intentions (H_{4b}).

Perceived enjoyment, which is adapted from Davis et al. (1992), reflects a consumer's inherent satisfaction and playfulness derived from a specific activity. When consumers first have direct experience and interface with a new technology, a sense of intense curiosity and anticipation can often occur. For example, in any Windows-based systems, software manufacturers are attempting to provide interfaces that are "fun," "cute," and tie into social functioning. Such design features aim to create enjoyment albeit with the goal of enhancing attitude toward usage. Given this perspective, we posit that the "hands on" approach often used in the product-focused selling strategy will play a role in affecting the relationship between perceived enjoyment and technology product adoption. Thus:

H₅: Employing product-focused selling tactics will positively impact the relationship between enjoyment and

attitude toward use (H_{5a})/purchase intentions (H_{5b}).

Normative pressure can be particularly relevant in the purchase of technology products. High technology products that are socially visible, viewed as luxuries, or become relevant to a group's functioning are susceptible to normative pressure (Lord, Lee and Choong 2001). The competitive-focused selling approach draws comparisons to similar consumers and usage situations. For instance, when the salesperson recounts the successful experience of product usage by ordinary consumers, an identification effect occurs and enhances the believability and relevance of the message (Reinartz 1999). Thus, we posit:

H₆: Employing competitive-focused selling tactics will positively impact the relationship between normative pressure and purchase intentions.

Due to the considerable individual interest and situational influences (e.g., purchase risk) associated with many high technology purchases, involvement is a key determinant of how information is processed and attitudes are changed. According to the elaboration likelihood model, marketers should focus on central, product-related features and factual information for high involvement situations (Petty, Cacioppo and Schumann 1983). The product-focused strategy allows salespersons to strengthen the linkage between attitudes and purchase intention by highlighting the performance of the innovation on one or more critical attributes, reinforcing or altering brand selection criteria, or providing information to add new information to the consumer's belief structure. Thus:

H₇: Employing product-focused selling tactics will positively impact the relationship between attitude toward use and purchase intentions.

METHODOLOGY

Procedure

To investigate the research hypotheses, a field experiment was conducted to assess the effects of three alternative selling strategies on the adoption of an innovative consumer technology product. A between-subjects design assessed the moderating effects of the selling strategy on the interrelationship among perceived ease of use, perceived usefulness, expressiveness, enjoyment, attitude toward usage, and purchase intent.

A pretest of ten consumer electronics products taken from a recent Consumer Electronics Conference web site was conducted to determine an appropriate focal product category. Since we wanted to simulate a high involvement shopping scenario with a salesperson-buyer interaction, the pretest product categories included popular home entertainment products such as media players, high definition televisions, cameras, and navigation devices. A pretest of 80 student participants was conducted and revealed that based on a 1 (strongly disagree) to 5 (strongly agree) Likert scale, the portable media player rated high on innovativeness ($M = 3.67$) but relatively low on product knowledge ($M = 2.67$) and brand familiarity ($M = 2.26$). More importantly, there were no gender differences among any of the criterion variables ($p = 0.01$). As a result, the portable media player was selected as the focal product category.

A total of 312 subjects were recruited for the main study. They consisted of marketing students from a Midwestern university who were offered course credit to participate. Participation was voluntary. Their median age was 22 with an age range of 19-52 years. In terms of gender, the participants group had slightly more males (55 percent male, 45 percent female).

To simulate a personal selling encounter, student subjects were asked to pretend that they were visiting a local electronics retailer. After

APPENDIX

Summary of Experimental Stimuli



Product Description

Introducing the portable media player! It lets you take all your movies, music and photos in a light, pocket-sized device. You can also tune in the radio, record your favorite talk show, or make personal voice memos with the built-in microphone.

Product-focused sales interaction (abridged version)

After arriving at the store, you were greeted by one of the store's sales representatives, Tom Small. After introducing himself, Tom recited the key features of the portable media player. He said, "This multi-media device is loaded with 30 or 60 GB of memory. At this capacity you can carry tens of thousands of photos, 240 hours of movies (500 Kbps MPEG4-SP), or up to 30,000 songs (WMA encoded at 64 Kbps), all in the palm of your hand." Tom also emphasized that it displays your media in a widescreen, 16:9 format.

Competitive-focused sales interaction (abridged version)

After arriving at the store, you were greeted by one of the store's sales representatives, Tom Small. After introducing himself, Tom said that the portable media player was one of the store's most popular products. He told you about Susan who recently purchased a portable media player. Susan was a college student whose daughter was involved in several extracurricular activities and she needed a device that could store a large number of digital photos and videos. Tom also mentioned another college student, Mark, who bought the portable media player because of its flexibility. It has FM radio capabilities and could record radio programs like a TIVO. He further explained that Mark could use the portable media player like a traditional tape recorder to record class lectures.

Customer-focused sales interaction (abridged version)

After arriving at the store, you were greeted by one of the store's sales representatives, Tom Small. After introducing himself, Tom asked you several questions such as: "Are you thinking about buying the portable media player for yourself or as a gift?" "Have you ever owned one before," and "Would you use this media player for leisure, business, or both?"

Tom continued to ask you questions about situations in which you might need to have access to music or would like to relax by watching a movie. He also asked whether you own a cell phone or a MP3 player and if they fulfilled your needs. Tom also queried you about how useful some of the features might be. He asked, "Are there situations where you could use a handheld FM radio?" "Do you ever wish you could record your favorite radio programs?" In general, he made sure you understood what the media player does.

viewing an illustration and product specification for the portable media player, subjects were told to imagine that they were approached by a retail salesperson and provided information regarding the new technology product. Each subject was provided information that represented one of the three basic tactical selling approaches advanced by DelVecchio et al. (2002) – namely, product-focused, competitive-focused, and customer-focused (see Appendix). Special attention was given to assure that each selling scenario was similar in length, focused on similar product attributes, and concluded with the salesperson asking for the order. After completing that task, participants were directed to complete the questionnaire about their perceptions of the media player and the likelihood of adoption. Finally, the subjects were asked to write what they thought was the purpose of the study was. No subject listed the hypothesis as the purpose of the study. The entire process took approximately 20 minutes.

Measures

The measures of the TRA and an extended version of the TAM were refined from a similar study of mobile chat services (Nysveen, Pedersen and Thorbjørnsen 2005). In preparation, a set of items were developed through expert review to determine the relevant issues in the adoption of a portable media player. These scales measured: *perceived expressiveness*, *perceived enjoyment*, *perceived usefulness*, *perceived ease of use*, *normative pressure*, *attitude toward use*, and *intention to use*. A pretest of a convenience sample of 67 undergraduate students provided feedback on the clarity and validity of the items. After factor analysis and reliability assessments were performed, a total of 27 of the original 35 items were retained for the experimental study.

Subjects were asked to rate their level of agreement with statements using a five-point, Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5). Perceived ease of use, perceived usefulness, and attitude toward

use were measured using items developed from adapting the original items of Davis (1989). Given the nature of portable media players, perceived enjoyment included elements of “entertainment value” (Leung and Wei 2000), “enjoyment” (Papacharissi and Rubin 2000), and “fun-seeking” (Leung and Wei 1998). Perceived expressiveness measured how well a product expresses values beyond instrumental utility (Mittal 1994) and serves as a status item (Leung and Wei 2000). Normative pressure was based on measures developed by Taylor and Todd (1995) and Mathieson (1991) and revised for our setting.

Following the two-step approach suggested by Anderson and Gerbing (1988), we first estimated a measurement model that consists of all seven constructs. The maximum likelihood

estimation generated a modest fit $\chi^2 = 963.87$, $DF = 474$, $NFI = 0.86$, $RFI = 0.84$, $IFI = 0.92$, $TLI = 0.91$, $CFI = 0.922$, and $RMSEA = 0.058$). The fit was unsatisfactory as indicated

by the fact that the relative chi-square χ^2 / DF was above 2.0 and both NFI and RFI were below 0.9. In addition, modification indices suggested that deleting six items and allowing two error terms to be correlated would improve the model significantly. The modification

resulted in a better overall fit $\chi^2 = 440.94$, $DF = 302$, $NFI = 0.93$, $RFI = 0.91$, $IFI = 0.98$, $TLI = 0.97$, $CFI = 0.98$, $RMSEA = 0.038$). Comparison of the two models shows that the incremental chi-square is significant with 172

degrees of freedom $\Delta\chi^2 = 522.93$, $p = 0.001$).

Descriptive statistics and construct intercorrelations are presented in Table 1. Results of the confirmatory factor analysis are reported in Table 2. As shown in Table 2, all item loadings on their corresponding construct were significant, an indicator of convergent validity. To test discriminant validity, we set

TABLE 1
Descriptive Statistics and Intercorrelations

	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)
1 Expressiveness	2.58	0.83	1.00					
2 Enjoyment	3.76	0.81	.311**	1.00				
3 Usefulness	3.67	0.79	.158**	.557**	1.00			
4 Ease of Use	3.87	0.73	0.097	.311**	.229**	1.00		
5 Attitude	5.35	1.05	.239**	.692**	.519**	.264**	1.00	
6 Normative Pressure	2.14	0.86	.494**	.359**	.269**	.158**	.363**	1.00
7 Intention to Purchase	3.74	1.45	.281**	.517**	.421**	0.099	.513**	.362**

Note: ** $p < 0.01$, * $p < 0.05$.

N = 312.

the latent construct correlations to 1, one at a time. A chi-square test revealed that all latent construct correlation were significantly different from one, demonstrating discriminant validity.

Based on these results, we accepted the revised measurement model and used it for subsequent analyses. Following a similar paradigm used by Nysveen, Pedersen and Thorbjornsen (2005), we modeled perceived expressiveness, perceived enjoyment, perceived ease of use, and normative pressure as exogenous variables, whereas perceived usefulness, attitude, and intention to purchase were modeled as endogenous variables. Prior to testing the moderating effects, we first estimated the structural relationships of the model by pooling together all three groups to build a baseline for comparison purposes (Avlonitis and Panagopoulos 2006). After consulting modification indices, we added a path from perceived enjoyment to perceived usefulness. This change decreased the chi-square statistic

by $\Delta\chi^2 = 121.1$ (DF = 1; $p = 0.000$). The final

model demonstrated a good fit $\chi^2 = 445.07$, DF = 305, NFI = 0.92, RFI = 0.91, IFI = 0.98, TLI = 0.97, CFI = 0.98, and RMSEA = 0.038). Overall, the results support the model tested by Nysveen, Pedersen and Thorbjornsen (2005) with one noticeable difference: the relationship between perceived ease of use and purchase

intention was negative. The results are reported in Table 3.

RESULTS

Manipulation Checks

To check the effectiveness of the tactical selling approaches manipulation, analysis of variance was employed with measures of perceived customer-focused (coefficient alpha = .950), perceived competitive-focused (coefficient alpha = .851), and perceived product-focused (coefficient alpha = .787) as the dependent variables. Subjects in the customer-focused scenario considered the salespersons behavior to be more consistent with that approach than other strategies ($M_{\text{cust}} = 3.81$, $M_{\text{comp}} = 1.89$, $M_{\text{prod}} = 1.66$, $F = 201.7$, $p = 0.01$). In the competitive focused condition, subjects rated the salesperson more consistent with that approach ($M_{\text{comp}} = 4.35$, $M_{\text{cust}} = 2.63$, $M_{\text{prod}} = 2.16$, $F = 161.9$, $p = 0.01$). Last, subjects who were exposed to the product-focused selling scenario rated the salesperson as being more consistent with that approach ($M_{\text{prod}} = 4.54$, $M_{\text{comp}} = 3.20$, $M_{\text{cust}} = 3.12$, $F = 128.3$, $p = 0.01$).

Hypotheses Testing

The effects of the tactical selling approaches on consumer perceptions were assessed by applying multigroup equation modeling to test for invariant pattern of causal structure. The

TABLE 2
Summary of Confirmatory Factor Analysis Results (Measurement Model)

	Loadings
Perceived Expressiveness (Alpha = 0.786)	
1 Buying the portable media player would reflect the type of person I am.	0.75
2 I believe using a portable media player would give me status among my friends.	0.67
3 I think that using a portable media player expresses my personality.	0.82
Perceived Enjoyment (Alpha = 0.920)	
1 I think I would find the portable media player entertaining.	0.88
2 Using the portable media player would be exciting.	0.82
3 It would be fun to use the portable media player.	0.86
4 In my opinion, the portable media player would be boring to use (R).	0.70
5 I believe I would enjoy the portable media player.	0.88
Perceived Usefulness (Alpha = 0.789)	
1 The portable media player would be a convenient way of watching movies or listening to music anytime.	0.71
2 The light, pocket-size of the portable media player would be very convenient for me.	0.81
3 The portable media player would be useful as a multi-media device.	0.74
4 The portable media player would be a good way of storing my family photos.	0.57
Perceived Ease of Use (Alpha = 0.925)	
1 Learning to use the portable media player would be easy for me.	0.89
2 I believe it would be easy to make the portable media player to do what I want it to do.	0.88
3 I believe it would be easy to understand and use the features of the portable media player.	0.91
4 It would be easy for me to become skillful at using the portable media player.	0.80
Attitude (Alpha = 0.915)	
1 Good/bad	0.85
2 Wise/foolish	0.77
3 Favorable/unfavorable	0.84
4 Beneficial/useless	0.81
5 Positive/negative	0.88
Normative Pressure (Alpha = 0.788)	
1 I believe people important to me would want me to own a portable media player.	0.54
2 People I look up to would expect me to own a portable media player.	0.83
3 My friends would expect me to use a portable media player.	0.91
Intention to Purchase (Alpha = 0.841)	
1 Unlikely/likely	0.88
2 Impossible/possible	0.64
3 Improbably/probable	0.90
Fit Indices	
Chi-Square Statistic	440.90
Degree of Freedom	302
RMSEA	0.038
CFI	0.98
IFI	0.98
TLI	0.97

Note: All factor loadings are standardized and significant at $p < 0.01$.

procedure involves establishing a multigroup baseline model against which we can compare subsequent models “in which equality constraints are specified” (Byrne 2001, p. 250). We allowed the hypothesized structural paths to be freely estimated across the three types of selling tactics before comparing the fit of this model with one in which we arbitrarily set those paths to be equal across the three subsamples (Avlonitis and Panagopoulos 2006). For the purpose of clarity, we denoted the

freely estimated model as M_{free} and that of the equality model M_{equal} . As shown in Table 3, the χ^2 of the M_{free} was 1313.2 (DF = 915), whereas that of the M_{equal} was 1351.5 (DF = 939). Since the chi-square difference between the two models was significant $\Delta\chi^2 = 38.3$ Δ DF = 24; $p = 0.032$), we concluded that all structural paths are not equal across the three types of selling tactics.

TABLE 3
Estimated Coefficients for the Three Selling Tactics

Relationships	M_{free}	M_{equal}	Selling Tactics		
			Customer-focused	Competitive-focused	Product-focused
DV: Attitude					
H1a: Usefulness on Attitude	0.159**	0.106	-0.056	0.231*	0.134
H2a: Usefulness on Attitude	0.159**	0.106	-0.056	0.231*	0.134
H3a: Ease of Use on Attitude	-0.005	0.009	0.232***	-0.114	-0.029
H4a: Expressiveness on Attitude	0.055	0.042	0.098	0.064	0.014
H5a: Enjoyment on Attitude	0.618***	0.715***	0.786***	0.534***	0.633***
DV: Intention					
H1b: Usefulness on Intention	0.111	0.019	0.178	-0.113	-0.115
H2b: Usefulness on Intention	0.111	0.019	0.178	-0.113	-0.115
H3b: Ease of Use on Intention	-0.132**	-0.088**	-0.012	-0.201***	-0.106
H4b: Expressiveness on Intention	0.106	0.079	0.011	0.204	0.165
H5b: Enjoyment on Intention	0.280***	0.359***	0.473**	0.321*	0.286**
H6: Norm. Pressure on Intention	0.132*	0.140**	0.071	0.295***	0.045
H7: Attitude on Intention	0.219**	0.215***	0.031	0.230*	0.306**
Chi-square	445.1	1351.5		1313.2	
D.F.	305	939		915	
RMSEA	0.038	0.058		0.038	
CFI	0.98	0.93		0.93	
IFI	0.98	0.93		0.93	
TLI	0.97	0.92		0.92	

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Shaded area highlights hypothesized selling strategy.

As displayed in Table 3, perceived usefulness had a positive and significant impact on consumers' attitude towards using the new product when salespeople used competitive-focused selling tactics ($\beta = 0.231$, $p = 0.098$). In contrast, the relationship between perceived usefulness and intention to use was insignificant using this sales approach ($\beta = -0.113$, $p = 0.435$). Therefore, H1a was supported, but H1b was not. In the product-focused condition, both the relationships between perceived usefulness and attitude toward use ($\beta = 0.134$, $p = 0.328$) and intention to use ($\beta = -0.115$, $p = 0.397$) were not significant. Therefore, H₂ was not supported.

H₃ predicts that perceived ease of use would impact consumers' attitude and intention to purchase when salespeople choose product-focused selling tactics. This hypothesis was not supported as the coefficients were insignificant for both the ease of use and attitude to use relationship ($\beta = -0.029$, $p = 0.766$) and the ease of use and intention to purchase relationship ($\beta = -0.106$, $p = 0.270$). However, in the customer-focused condition, the ease of use had a significant effect on attitude ($\beta = 0.232$, $p = 0.003$). In addition, we had a surprising finding that the relationship between ease of use and purchase intention when salespeople used competitive-focused tactics was significant but negative ($\beta = -0.201$, $p = 0.019$).

The results in Table 3 show that perceived expressiveness had no significant impact on either attitude ($\beta = 0.098$, $p = 0.227$) or purchase intention ($\beta = 0.079$, $p = 0.937$) when salesperson used customer-focused selling tactics. Therefore, H₄ was not supported. In contrast, perceived enjoyment had positive and significant impacts on both consumers' attitude and purchase intention. For the perceived enjoyment – attitude relationship, the positive and significant effect holds for all three sets of selling tactics, i.e., the customer-focused selling tactics ($\beta = 0.786$, $p = 0.000$), the competitive-focused selling tactics ($\beta = 0.534$, $p = 0.000$), and the product-focused selling tactics ($\beta = 0.633$, $p = 0.000$). Similarly, perceived

enjoyment had positive and significant impacts on purchase intention when salespeople used customer-focused tactics ($\beta = 0.473$, $p = 0.033$), competitive-focused tactics ($\beta = 0.321$, $p = 0.069$), and product-focused tactics ($\beta = 0.386$, $p = 0.016$). These results partially supported H₅.

According to H₆, perceived normative pressure influences consumers' purchase intention positively when competitive-focused selling tactics are used. The findings indicated that perceived normative pressure had a positive and significant impact on purchase intention ($\beta = 0.295$, $p = 0.006$). Finally, the effects of attitude on purchase intention under a product-focused selling approach, was supported ($\beta = 0.306$, $p = 0.014$). Though not predicted, attitude had a positive effect on purchase intention when salespeople used competitive-focused tactics ($\beta = 0.230$, $p = 0.065$). Thus, H₇ was partially supported.

DISCUSSION AND IMPLICATIONS

Is there a best way to sell technology products to consumers? Drawing guidance from the technology acceptance and theory of reasoned action literature, our findings indicate that personal selling can differentially affect the relationships between key elements in the technology adoption process. This study also focuses attention on the use of message-based tactical selling techniques which have received less attention in the sales literature and applies it to a B2C context. The message-based taxonomy (i.e., product-focused, competitive-focused, and customer-focused) tested in this study is an amalgamation of various sales orientations and is applicable to a wide range of selling situations.

The competitive-focused tactics affect a broader range of technology acceptance variables than the product-focused or customer-focused strategies. When consumers are approached by salespeople employing the competitive-focused strategy, perceived usefulness is positively related to attitude toward usage (H_{1a}). The effectiveness of

competitive-focused strategy is consistent with research that suggests that consumers often use existing knowledge about existing competing products (a base) to better understand innovative products or services (the target) (Gregan-Paxton and John 1997; Yamauchi and Markman 2000). The other mechanism in which this relationship may operate is group identification influence. Such influence occurs when an individual has internalized the group's values and attitudes. For instance, when a seller of smartphones shows how the product is consistent with the lifestyle of other socially active young singles, the perceived usefulness of the innovation is enhanced.

As predicted, the competitive-focused approach positively impacts the relationship between normative pressures (H_6) with purchase intention. Many consumer technologies are consumed in public and are associated with a strong group commitment to specific brands (e.g., Apple computer or Harley Davidson). To fully capitalize on this selling approach, salespeople need to categorize consumers into similar benefit/need groups and understand which product attributes are consistent with their consumption beliefs. The sales training and development process may play a critical role by providing category-specific benchmarks. Moreover, collaborative efforts, such as team selling, provide salespeople with vital information about consumer usage problems as well as success stories.

The results of technology acceptance were mixed for the product-focused approach. The fact that perceived usefulness was not related to attitude/purchase intention (H_2) is revealing. Since the product-focused tactics rely on attribute-based instead of more holistic, attitude-based evaluations, consumers may not be able to assess usefulness. Conversely, the relationship was significant between attitude toward usage and purchase intention (H_7). The experiential nature of the product-focused approach buoyed the "fun, hedonic" aspect of product evaluations. This experience is likely to be enhanced in the case of a discontinuous,

new-to-the-world technology product. Further, the product-focused approach may be best suited for less experienced salespeople who use canned (i.e., tell and sell) presentation styles. Finally, promotional tactics such as product sampling, trial offers and demonstrations should be relied on to strengthen the attitude toward use and purchase intention relationship.

For the customer-focused tactics, the hypothesized relationship for perceived expressiveness and attitude/purchase intention (H_4) was not supported. The fact that perceived expressiveness was not a strong driver of intention to use the portable media player may be indicative of the lack of self-identity associated with some technology innovations. Rather, other social and psychological mechanisms appear to be at play here. In hindsight, we might expect more of a gender or involvement moderation of this relationship (Nysveen, Pederson and Thorbjornsen, 2005).

Some surprising findings were revealed. The perceived ease of use and attitude toward use relationship was evident in the customer-focused condition, not the product-focused scenario (H_3). One explanation to this counterintuitive finding is that salespersons using the customer-focused tactics assumed lower consumer product knowledge and a lack of evaluative criteria. Effective questioning can be used to uncover common usage problems experienced when interfacing with particular technology products. The finding that perceived enjoyment is a strong driver of attitude and purchase intention among those in the customer-focused condition in addition to the hypothesized product-focused condition (H_5) highlights the importance of the dyadic relationship in selling. A salesperson could spend additional time sharing information about his or her family status and educational background with a client with whom he or she wishes to have a strong personal bond. The customer-focused approach is likely to be more effective for experienced salespeople with strong relational skills.

LIMITATIONS AND FUTURE RESEARCH

The findings reported here are subject to some limitations. First, the subjects were undergraduate business students. College students are heavy users of technology products. Despite our attempts to minimize the influence of product knowledge and involvement, they may exhibit a set of attitudes and behaviors that differs from the general population. Second, we examine a single product category, portable media players. This limits the generalizability of our findings to consumer technology innovations that are hedonic, recreational in nature and consumed by a younger consumer group. Finally, the external validity of our findings is reduced by the use of a shopping scenario that describes an asymmetric interaction that is typically dyadic. Findings from our laboratory setting might be enhanced by the use of role playing or video reenactments of personal selling scenarios.

Future research should continue to focus on modifying the technology acceptance model for business-to-consumer situations. The proposed extensions applied to TAM in the present study— the integration of normative pressures, perceived expressiveness, and perceived enjoyment – represent a similar perspective that other consumer based studies have taken in this research stream (e.g., Nysveen, Pederson and Thorbjornsen 2005; Kwon and Chidambaram 2000). Of particular note is the strong positive relationship of perceived enjoyment with both attitudes toward usage and purchase intention across all three personal selling conditions. For consumer innovations, an alternative conceptualization of TAM that takes into account the dual hedonic-utilitarian aspects of technology acceptance is needed.

Additional research is warranted into other situations and circumstances in which there is partial mediation of external variables of the original TAM constructs of perceived usefulness and perceived ease of use. For instance, the role of expertise may represent an important theoretical consideration in

technology acceptance and usage. A novice consumer may rely more on attribute-based information (i.e., product-focused approach) in order to understand the usefulness of the technology innovation.

REFERENCES

- Agarwal, Ritu and Elena Karahanna (2000), "Times Flies When You're Having Fun: Cognitive Absorption and Beliefs about Information Technology Usage," *MIS Quarterly*, 24 (4), 665-94.
- Anderson, James C. and David W. Gerbing (1988), "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach," *Psychological Bulletin*, 103 (3), 411-423.
- Atuahene-Gima, Kwaku (1997), "Adoption of New Products by the Sales Force: The Construct, Research Propositions and Managerial Implications," *Journal of Product Innovation Management*, 14 (6), 498-514.
- Avlonitis, George J. and Nikolaos G. Panagopoulos (2006), "Role Stress, Attitudes, and Job Outcomes in Business-to-Business Selling: Does the Type of Selling Situation Matter?" *Journal of Personal Selling & Sales Management*, 26 (1), 67-77.
- Booz, Allen & Hamilton (1982), *Management of New Products*, New York: Booz, Allen & Hamilton, Inc.
- Byrne, Barbara M. (2001), *Structural Equation Modeling with AMOS, Basic Concepts, Applications, and Programming*, Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Campbell, Tricia (1999), "Back in Focus," *Sales & Marketing Management*, 151 (2), 56-61.
- Cassidy, Jude, Ross D. Park, Laura Butovsky and Julia M. Braungart (1992), "Family-peer Connects – The Roles of Emotional Expressiveness within the Family and Children's Understanding of Emotions", *Children Development*, 63, 603-618.
- Cooper, Lee G. (2000), "Strategic Marketing Planning for Radically New Products," *Journal of Marketing*, 64, 1-16.

- Dabholkar, Pratibha A. and Richard P. Bagozzi (2002), "An Attitudinal Model of Technology-Based Self-Service: Moderating Effects of Consumer Traits and Situational Factors," *Journal of the Academy of Marketing Science*, 30 (3), 184-201.
- Davis, Fred D. (1989), "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," *MIS Quarterly*, 13 (3), 319-40.
- _____, Richard P. Bagozzi and Paul R. Warshaw (1992), "Extrinsic and Intrinsic Motivation to Use Computers in the Workplace", *Journal of Applied Social Psychology*, 22 (14), 1111-1132.
- DeCormier, Ray A. and David Jobber (1993), "The Counselor Selling Method: Concepts and Constructs," *Journal of Personal Selling and Sales Management*, 13, 39-59.
- Deci, Edward L. and Richard M. Ryan (1985). *Intrinsic Motivation and Self-determination in Human Behavior*, New York: Plenum Press.
- DelVecchio, Susan K., James E. Zemanck, Roger P. McIntyre and Reid P. Claxton (2002), "Buyers' Perceptions of Salesperson Tactical Approaches," *Journal of Personal Selling and Sales Management*, 22, 39-49.
- Dwyer, Sean, Orlando Richard and C. David Shepard (1998), "An Exploratory Study of Gender and Age Matching in the Salesperson-Prospective Customer Dyad: Testing Similarity-Performance Predictions," *Journal of Personal Selling and Sales Management*, 18 (4), 55-69.
- Eckert, James A. (2006), "Adaptive Selling Behavior: Adding Depth and Specificity to the Range of Adaptive Outputs," *Mid-American Journal of Business*, 21 (1), 31-39.
- Fishbein, Martin and Icek Ajzen, (1975), *Belief, Attitude, Intention, Behavior: An Introduction to Theory and Research*, Addison-Wesley, Reading, MA.
- Gregan-Paxton, Jennifer and Deborah Roedder John (1997), "Consumer Learning by Analogy: A Model of Internal Knowledge Transfer", *Journal of Consumer Research*, Vol. 24, pp. 266-284.
- Goff, Brent G., Danny N. Bellenger and Carrie Stojack (1994), "Cues to Consumer Susceptibility to Salesperson Influence: Implications for Adaptive Retail Selling," *Journal of Personal Selling and Sales Management*, 16(2), 25-39.
- Gourville, John T. (2006), "Eager Sellers and Stony Buyers," *Harvard Business Review*, 84 (6), 98-106.
- Hill, Mark E. and Maryon King (2001), "Comparative vs. Noncomparative Advertising: Perspectives on Memory," *Journal of Current Issues and Research in Advertising*, 23 (Fall), 33-52.
- Holak, Susan L. and Donald R. Lehmann (1990), "Purchase Intentions and the Dimensions of Innovation: An Exploratory Model," *Journal of Product Innovation Management*, 7, 59-73.
- Hultink, Erik Jan and Kwaku Atuahene-Gima (2000), "The Effect of Sales Force Adoption on New Product Selling Performance," *Journal of Product Innovation Management*, 17, 435-450.
- Hung, Shin-Yuan, Cheng-Yuan Ku and Chia-Ming Chang (2002), "Empirical Test of the WAP Adoption Model", *working paper*, Department of Information Management, National Chung Cheng University, Chia-Yi.
- Jarvenpaa, Sirkka L. and Peter A. Todd (1997), "Consumer reactions to electronic shopping on the World Wide Web", *International Journal of Electronic Commerce*, 1 (2), 1997, 59-88.
- Johnston, Mark W. and Greg W. Marshall (2006), *Churchill/Ford/Walker's Sales Force Management*, 8th ed., Boston: McGraw-Hill Irwin.
- Kwon, Hyosun Stella and Laku Chidambaram (2000), "A Test of the Technology Acceptance Model: The Case of Cellular Telephone Adoption," *Proceedings of the HICSS-34*, Hawaii, 3-6 January.
- Lee, Eun-Ju, Jinkook Lee and David W. Schumann (2002), "The Influence of Communication Source and Mode on Consumer Adoption of Technology Innovations," *Journal of Consumer Affairs*, 36 (1), 1-27.

- Legris, Paul, John Ingham and Pierre Colletette (2003), "Why Do People Use Information Technology? A Critical Review of the Technology Acceptance Model," *Information and Management*, 40 (3), 191-204.
- Lord, Kenneth R., Myung-Soo Lee and Peggy Choong (2001), "Difference in Normative and Informative Social Influence," *Advances in Consumer Research*, 28 (1), 280-85.
- Leung, Louis and Ran Wei (2000), "More than Just Talk on the Move: Uses and Gratifications of the Cellular Phone", *Journalism & Mass Communication Quarterly*, 77 (2), 308-320.
- _____ and _____ (1998), "The Gratifications of Pager Use: Sociability, Information-seeking, Entertainment, Utility, and Fashion and Status", *Telematics and Informatics*, 15 (4), 253-264.
- Lichtenthal, J. David and Thomas Tellefsen (2001), "Toward a Theory of Business Buyer-Seller Similarity," *Journal of Personal Selling and Sales Management*, 21(1), 1-14.
- Mathieson, Kieren (1991), "Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behavior," *Information Systems Research*, 2 (3), 173-91.
- Merrill, David W. and Roger H. Reid (1981), *Personal Styles and Effective Performance*, Radnor, PA: Chilton.
- Nysveen, Herjorn, Per E. Pedersen and Helge Thorbjornsen (2005), "Explaining Intention to Use Mobile Chat Services: Moderating Effects of Gender," *Journal of Consumer Marketing*, 22 (4), 247-256.
- O'Keefe, Daniel J. (2002), *Persuasion: Theory and Research*, 2nd Ed., Thousands Oaks, CA: Sage.
- Olshavsky, Richard W. and Richard A. Spreng (1996), "An Exploratory Study of the Innovation Evaluation Process," *Journal of Product Innovation Management*, Vol. 13, 512-529.
- Ostlund, Lyman E. (1973), "Factor Analysis Applied to Predictors of Innovative Behavior", *Decision Sciences*, 4, 92-108.
- Papacharissi, Zizi and Alan M. Rubin (2000), "Predictors of Internet Use," *Journal of Broadcasting and Electronic Media*, 44 (2), 175-196.
- Park, Jeong-Eun and Betsy B. Holloway (2003), "Adaptive Selling Behavior Revisited: An Empirical Examination of Learning Orientation, Sales Performance, and Job Satisfaction," *Journal of Personal Selling and Sales Management*, 23(3), 239-251.
- Peter, J. Paul and James H. Donnelly, Jr. (2006), A Preface to Marketing Management, 10th edition, Boston: McGraw-Hill.
- Petty, Richard E., John T. Cacioppo and David Schumann (1983), "Central and Peripheral Routes to Advertising Effectiveness," *Journal of Consumer Research*, 10 (2), 135-146.
- Reinartz, Ronald D. (1996), "Testimonial Ads Win Loyalty and Attract Customers," *Bank Marketing*, 28 (3), 25-30.
- Rogers, Everett M. (1995), *Diffusion of Innovations*, 4th edition, New York: The Free Press.
- Schuster, Camille P. and Jeffrey E. Danes (1986), "Asking Questions: Some Characteristics of Successful Sales Encounters," *Journal of Personal Selling and Sales Management*, 6 (1), 17-28.
- Skog, Berit (2002), "Mobiles and the Norwegian Teen: Identity, Gender and Class," in *Perpetual Contact: Mobile Communication, Private Talk, Public Performance*, James E. Katz and Mark A. Aakhus, eds., Cambridge: Cambridge University Press, 255-273.
- Spiro, Rosann L., Gregory A. Rich and William J. Stanton (2008), *Management of a Sales Force*, 12th ed., New York: McGraw-Hill Irwin.
- _____ and William D. Perreault, Jr. (1979), "Influence Use by Industrial Salesmen: Influence-Strategy Mixes and Situational Determinants," *The Journal of Business* 52 (3), 435-455.
- _____ and Barton A. Weitz (1990), "Adaptive Selling: Conceptualization, Measurement, and Nomological Validity," *Journal of Marketing Research*, 27 (1), 61-69.

- Sujan, Harish, Barton A. Weitz and Mita Sujan (1988), "Increasing Sales Productivity by Getting Salespeople to Work Smarter," *Journal of Personal Selling and Sales Management*, 8 (August), 9-19.
- Swan, John E., I. Fred Trawick, Jr., David R. Rink and Jenny J. Roberts (1988), "Measuring Dimensions of Purchaser Trust of Industrial Salespeople," *Journal of Personal Selling and Sales Management*, 8, 1-9.
- Taylor, Shirley and Peter Todd (1995), "Assessing IT Usage: The Role of Prior Experience," *MIS Quarterly*, 19 (4), 561-70.
- Thompson, Ronald L., Christopher A. Higgins and Jane M. Howell (1994), "Influence of Experience on Personal Computer Utilization: Testing a Conceptual Model," *Journal of Management Information Systems*, 11 (1), 167-188.
- Venkatesh, Viswanath (2000), "Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model," *Information Systems Research*, 11 (4), 342-65.
- _____ and Fred D. Davis (2000), "A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies," *Management Science*, 46 (2), 186-204.
- Veryzer, Robert W. Jr., (1998), "Key Factors Affecting Customer Evaluation of Discontinuous New Products," *Journal of Product Innovation Management*, Vol. 15, 136-50.
- _____ (1993), "Two Conceptions of Happiness: Contrasts of Personal Expressiveness (Eudaimonia) and Hedonic Enjoyment," *Journal of Personality and Social Psychology*, 64 (4), 678-691.
- Weitz, Barton A. (1978), "The Relationship between Salesperson Performance and Understanding of Consumer Decision Making," *Journal of Marketing Research*, 15 (November), 501-516.
- Wilkie, William L. and Peter A. Dickson (1985), "Shopping for Appliances: Consumers' Strategies and Patterns of Information Search," *Marketing Science Institute Report No. 85-108*, Cambridge, MA: Marketing Science Institute.
- Yamauchi, T. and Markman, A.B. (2000), "Inference Using Categories", *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 26, 776-95.
- Ziamou, Paschalina (Lilia) and S. Ratneshwar (2003), "Innovations in Product Functionality: When and Why Are Explicit Comparisons Effective?" *Journal of Marketing*, 67 (2), 49-61.

INTRAORGANIZATIONAL KNOWLEDGE SHARING AMONG KEY ACCOUNT SALESPEOPLE: THE IMPACT ON BUYER SATISFACTION

MICHELLE D. STEWARD, Wake Forest University

By sharing internal and external knowledge, key account salespeople are better equipped to advance a firm's competitive position and to enhance buyer satisfaction. In the fast-paced, complex business-to-business services environment where key account salespeople are close to the customer, yet struggle to replicate an organization's best practices, the antecedents and outcomes of knowledge sharing are of managerial and theoretical value. Extending the current knowledge management literature in marketing, this paper develops a conceptual framework focusing attention on core constructs relating to the individual (identity salience and goal congruence) and to the organization (organizational coupling, internal competitive climate, and informal rewards) that influence and shape active intraorganizational sharing of key account knowledge. A central outcome of this model is the isolation of the positive impact knowledge sharing has on buyers' satisfaction with key account salespeople.

INTRODUCTION

Competitive advantage can be gained by organizations that have a greater ability to both access and integrate internal and external knowledge (Argote and Ingram 2000; Day 2000). Further, most of the knowledge that firms need to compete and to manage accounts effectively is frequently held by employees within the organization (Davenport and Prusak 1998). Salespeople often possess the richest information within the organization and regularly are the first to be aware of changes in the market (Le Meunier-FitzHugh and Piercy 2006), and thus, are a critical information source within the firm (Cross et al. 2001). However, employees within the same organization commonly withhold knowledge from others, selectively share knowledge, and are often unaware of the knowledge they possess that might be useful to others (cf. Desouza 2003; Ramaswami, Srinivasan and Gorton 1997; Ustuner and Godes 2006; Yang 2008).

Consistent with social exchange theory, information asymmetry is related to salesperson performance, and the asymmetry leads to possible intrafirm advantages for the salesperson (Ramaswami, Srinivasan and Gorton 1997). This increases the incentives for salespeople to hoard information. However, organizations better facilitating knowledge sharing, thus reducing the asymmetry, may be more effective at solving customer problems and improving account performance.

Despite evidence highlighting the importance of intraorganizational knowledge sharing (Bendapudi and Leone 2002) and repeated concerns in business practice of the mechanisms of knowledge transfer in general, the topic has received little theoretical development of knowledge sharing among salespeople and related outcomes. Technological change has driven much of the recent research in knowledge management (cf. Moutot and Bascoul 2008), yet at the same time forecasts suggest that up to 70 percent of CRM projects will fail overall (McKendrick 2000), with additional reports that the majority will not produce a significant return on the investment (Thakur, Summey and Balasubramanian 2006). Recent surveys continuing to point to salespeople

as culprits in not embracing knowledge-sharing projects (McGillicuddy 2007). Much of this failure can be attributed to salespeople naturally protecting knowledge that they have, while at the same time unintentionally handicapping the organization from capitalizing on the variety of information these key boundary spanners possess. Chonko, Roberts and Eli (2006:44) suggest that “when aspects of an organization are not aligned with desired behaviors, the desired behaviors are simply not done.” Thus we focus on the desired behavior of knowledge sharing and specifically identify organizational and individual drivers of this behavior. The purpose of this research is to develop a conceptual framework that identifies the main factors of intraorganizational knowledge sharing among key account salespeople, which is a group both highly important to the firm and interfacing with crucial customers. The framework offered illustrates the link between the process of knowledge sharing and a buyer’s satisfaction with the key account salesperson.

This research contributes to the marketing literature in three significant ways. First, the underlying mechanisms of knowledge sharing among key account salespeople are isolated. Capon (2001, p. xi) states, “key accounts typically comprise those customers that currently do, and in the future will, purchase the majority of the firm’s products and services. Key accounts are the firm’s single most important asset.” Salespeople responsible for key account management are in a position of great responsibility and have a high degree of importance to the firm. Key account salespeople are also likely to have diverse information based on the specialization of customers across industries and geographies that could be used for innovation within the firm (Stewart, Mullarkey and Craig 2003). Yet, because of the key account salesperson’s direct relationship managing a few important customer accounts, critical market knowledge may be acquired by the salesperson but not shared internally. The personal selling and sales management literature has determined that salespeople’s knowledge and skill at obtaining information positively influences sales

performance (Solomon et al. 1985; Weitz, Sujan and Sujan 1986). However, while salespeople’s use of knowledge has been addressed in previous research, the primary drivers of knowledge sharing have not been identified. Research has continually suggested that knowledge dissemination within an organization is critical in gaining stronger footholds in the market (cf. McDonald and Madhavaram 2007). Thus, given that effective knowledge transfer is a major asset for firms in building competitive advantage (Lee et al. 2008; Menon and Varadarajan 1992), identifying conditions encouraging knowledge sharing among key account salespeople is valuable to both marketing scholars and practitioners.

Second, this paper enhances the sales management and knowledge management literature to include behavioral and social aspects of knowledge sharing. While knowledge sharing has been identified as critical to firm performance (Kogut and Zander 1996), previous research in this area has focused on the cognitive and economic aspects of the exchange (cf. Postrel 2002). The behavioral and social aspects of knowledge sharing have been relatively unexplored. The salesperson is inherently embedded in a social system, thus a rich understanding of the behavioral and social forces guiding the salesperson’s actions is of value.

Third, we expand the general domain of knowledge sharing to include a link to an account relevant outcome for both the salesperson and the firm. The knowledge management literature has been criticized for a nearly exclusive focus on learning dimensions, while ignoring competitive aspects (Grandori and Kogut 2002), as well as giving limited attention to outcomes of knowledge transfer (Huysman and DeWit 2004). By illustrating the connection between the knowledge sharing behavior of the key account salesperson and buyers’ satisfaction with the salesperson, we provide meaningful outcome metrics in the conceptualization of the knowledge sharing process. This paper extends the knowledge

management and key account management literature to include not only competitive aspects of knowledge sharing, but also social, behavioral, and attitudinal.

KNOWLEDGE SHARING AND KEY ACCOUNT MANAGEMENT

Tapping into the vast knowledge within organizations continues to be a challenge for managers attempting to successfully improve relations with major customers. Marketing, as a philosophy and as a function, is geared towards problem-solving activities (Glazer 1991). Knowledge transfer or sharing is a critical component of such activity. Okhuysen and Eisenhardt (2002) define knowledge-sharing occurring when “individuals identify and communicate their uniquely held information” (p. 383). Effective dissemination of market information is a key component of a firm’s market orientation. The literature illustrating a link between a firm’s market orientation (with one component a firm’s ability to disseminate market intelligence) and performance (cf. Jaworski and Kohli 1993; Maltz and Kohli 1996; Slater and Narver 1995) has opened the gateway for research on a fundamental source of knowledge, the individual. Lacking in our understanding of knowledge sharing are the joint facilitation roles of the individual and the organization.

While the theoretical backbone of organizational knowledge and learning is entrenched in the literature (cf. Argyris and Schon 1978; Levitt and March 1988; Sinkula 1994; Slater and Narver 1995), many of the treatments focus upon knowledge creation (cf. Madhavan and Grover 1998), knowledge facilitation (cf. Argote and Ingram 2000), or knowledge utilization (cf. Menon and Varadarajan 1992), each of these presupposing the actual sharing of knowledge. Sinkula (1994) suggests focus and precedence be given to research on the supply and distribution of information. This research advances the next step in the development of the knowledge and sales management literature in marketing by addressing issues of why some key account

salespeople do not share knowledge, what the organization’s role is in facilitating knowledge sharing, and how knowledge sharing relates to account outcomes.

CONCEPTUAL FRAMEWORK

The focus of this research is on the sharing of knowledge by key account salespeople. Marketing strategies for key accounts require the effective management of knowledge and information. Key account knowledge is based upon what the salesperson knows about the products and services offered, the customer, the customer’s business, competitive and environmental forces and past failures and successes. The knowledge is actionable and based on the experiences of the key account salesperson. Knowledge possessed by the key account salesperson can include changes in the account’s competitive environment, fluctuations in the account’s sales performance, changes in the buyer’s level of satisfaction, trends in the market, approaches to solutions for the account, knowledge of how to respond to the key account under different situations, factors influencing the customer to buy or not to buy, and options for providing more comprehensive service for the account. The sharing of key account knowledge can include informal sharing of information, codification of knowledge, and updating and renewal of information.

In their development of a taxonomy of organizational approaches to key account management, Homburg, Workman and Jensen (2002) state that the activities for key account management require suppliers to improve the intraorganizational design to increase responsiveness to these critical customer accounts. Responsiveness depends upon the ability of the organization to share and integrate knowledge on the key account. Cannon and Narayandas (2000) suggest that buyers expect suppliers to “provide greater coordination and collaboration in the form of specialized support and value-added service” (p. 408). Yet corporations frequently lack an integrated view of the buyer to enhance comprehensive solutions.

Based upon the literature discussed, individual and organizational drivers of knowledge sharing are identified, and the link between knowledge sharing and buyer's satisfaction with the key account salesperson is proposed. The conceptual framework in Figure 1 guides the remaining discussion.

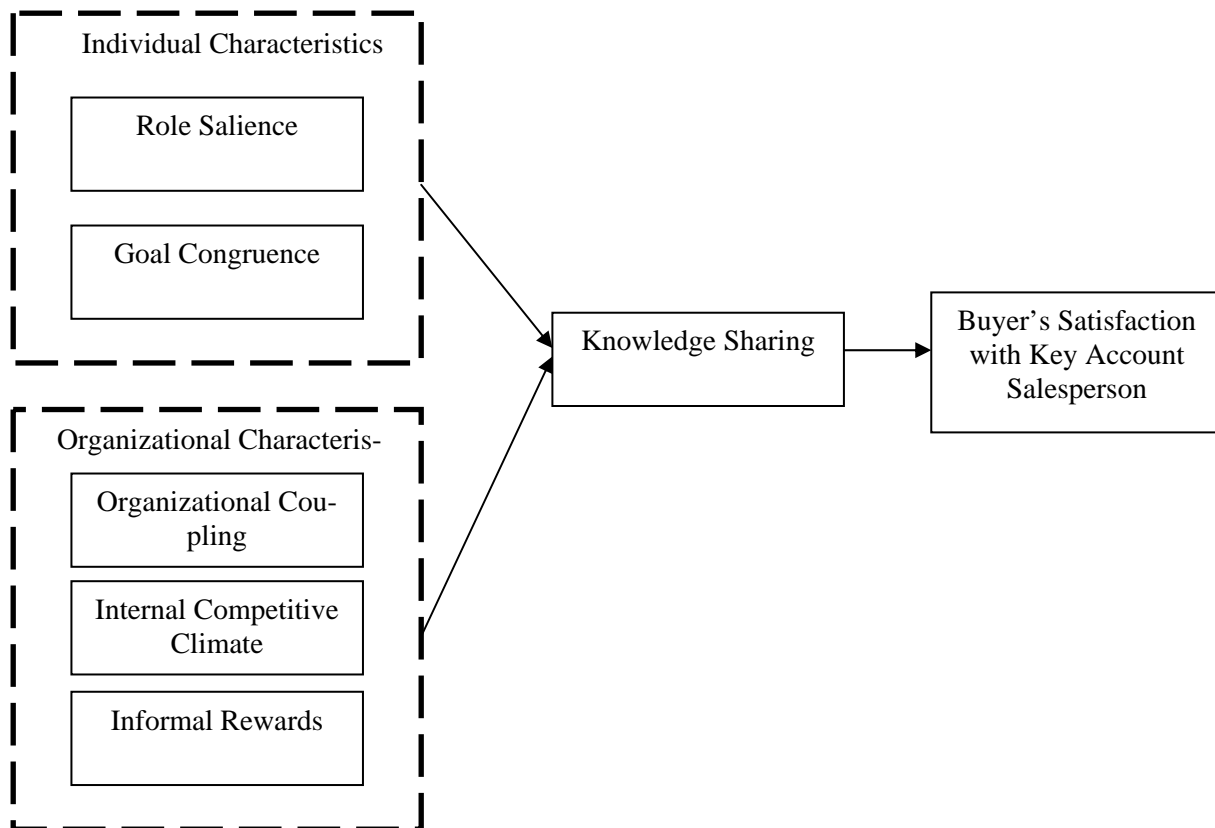
Individual Characteristics

Salience of Expert Identity. Experts are those in a role of a knowledge specialist within a given area, with specialized knowledge setting them apart from others (Ericsson and Smith 1991; Sonnentag 1998). Expert knowledge is a dynamic blend of information, experience, values, and expert insight (Davenport and Prusak 1998). Within each organization there are employees who have greater levels of

different types of expertise than others and that for various reasons stand out among their peers in their endeavors. For example, some key account salespeople may be known for expertise closing a sale, or dealing with internal departments, or structuring creative financing options, or in recognizing early indications of industry changes.

Key account salespeople depend upon their various types of expertise to find ways to leverage capabilities to serve as better solution providers. The salience of this identity as an expert expresses the degree of importance or significance that the salesperson places upon being considered an expert by others. Kleine, Kleine and Kernan (1993) found the frequency that activities are performed in part depends on the salience of one's identity. Thus, as the

FIGURE 1
A Model of Key Account Management Knowledge Transfer and the Impact on the Buyer's Satisfaction



identity as an expert becomes more salient, experts involve themselves in more activities that reinforce their identities as experts. These activities for key account managers might include generating solutions for customers, improving long-term relations, and increasing the share of the customer's business. As the identity as a key account management expert becomes more salient, extra effort on the part of the key account salesperson will be expended (Lobel and St. Clair 1992). Thus, the key account salesperson with a very salient identity may be acquiring a great deal of knowledge from actively being engaged in the management of the account. Yet, Argote and Ingram (2000) contend that the more salient a person's identity, the more difficult it is for the person to share information with others.

Consistent with social identity theory, while perceived expertise is embedded within a social context, and thus a certain amount of knowledge sharing is necessary initially to be perceived as an expert, a salesperson might be more cautious of sharing too much knowledge so as to retain his/her status. The more salient the identity as an expert is to the salesperson, the less likely he/she is to share knowledge. The expert may share knowledge unrelated to account management, such as personal financial advice or travel tips. By sharing general, non-account management knowledge with others, the expert may maintain his status as generally knowledgeable without sharing valuable information. Therefore:

P₁: As the salience of the key account salesperson's identity as an expert increases, knowledge sharing will decrease.

Goal Congruence. Goal congruence is the degree of alignment between the goals of the key account salesperson and the goals of the key account salesperson's colleagues. The degree of goal congruence has been found to have a positive effect on coordination efforts in the buyer-supplier dyad (Jap 1999), to improve employee satisfaction and contributions to a team when personal performance goals are aligned with team performance goals (Kristof-Brown and Stevens 2001), and to positively influence employee attitudes (Vancouver, Millsap and

Peters 1994). Greater goal congruence between two firms has been shown to increase the likelihood that firm members share information and processes across the organizations with one another (Jap 1999). Further, in a longitudinal case study, Pardo et al. (2001) found that knowledge sharing between firms was inhibited by incongruent goals. While these studies examined relationships between buyers and suppliers, we suggest the logic holds for intraorganizational relationships as well. High goal congruence among a key account salesperson and his/her colleagues signals that each member seeks the same ends; thus, the members are more likely to share information aiding in achieving similar goals. Closely aligned goals create the need for similar information and encourage support from organizational members (Kristof-Brown and Stevens 2001). Thus:

P₂: Key account salespeople who perceive greater goal congruence with colleagues will share more knowledge than those perceiving lesser degrees of goal congruence.

Organizational Characteristics

Organizational Coupling. Beekun and Glick (2001:229) describe coupling as "systematic patterns of relationships among organizational elements located within multiple domains and connected by identifiable mechanisms." The dimensions of coupling can be used to examine the relational patterns of an intraorganizational network. The dimensions of coupling are directness, strength, consistency, and dependence (Beekun and Glick 2001). Each of the dimensions are suggested to be positively correlated with one another (Weick 1982), such that looser relational coupling is illustrated by less directness, less strength, less consistency, and less dependence.

The dimensions are described as follows. *Directness* refers to the way communication among the links occurs. The more loosely coupled the network, the less direct the communication patterns. For example, less direct communication patterns exist if a key account salesperson must go through many organizational

members to acquire customer account information. Two key dimensions of interaction describe *strength*: frequency and intensity. An account manager may interact infrequently with a fellow employee (loose coupling), but the conversation may be fairly intense and elaborate (tighter coupling). Linkages are stronger where the key account salesperson and a coworker are equally likely to contact one another and do so frequently. *Consistency* relates to the degree of diversity of responses to external events. The more consistently individuals interact and react to external situations, the tighter the coupling. *Dependence* involves the substitutability of relations. The more loosely coupled individuals, the more autonomy that exists. For example, colleagues who depend on one another to effectively manage customer accounts are more tightly coupled.

Key account salespeople with more direct linkages within the firm go through fewer intermediaries to acquire information, and can more easily and quickly share information internally. In a study of network relations in multiunit firms, Hansen (2002) found that shorter paths from one division to another increased the knowledge obtained by each division. O'Dell and Grayson (1998) note that frequently employees are not simply hoarding information, but are merely unaware of who might benefit from specific knowledge they possess. Direct links created and maintained by the key account manager lower the boundaries of knowledge transfer and aid the key account salesperson in knowing who in the organization might need or provide specific information. The social network literature suggests that stronger, more direct, dependent links are more likely to share information with one another (Lai and Wong 2002). More frequent and direct interactions among dependent partners are likely to lead to the transfer of knowledge, while looser coupling may improve conditions for searching for useful knowledge, tighter coupling enhances the transfer of knowledge (Hansen 1999). Thus, the following is suggested:

P₃: Tighter organizational coupling (more direct, stronger, more consistent, and more

dependent ties) among key account salespeople increases knowledge sharing.

Internal Competitive Climate. A competitive climate within the organization intensifies the hunt for and protection of useful knowledge. The in-fighting resulting from an internal competitive climate is likely to result in a protective stance over knowledge in one's domain (Gaynor 1989). Thus, under conditions of perceived competition within an organization, attempts to increase the acquisition of information are likely to escalate, but the negative influence of the competitive climate will decrease the amount of knowledge actually shared.

Interesting parallels can be drawn from research on firm reactions to competitive intensity in the industry. Day and Wensley (1988) suggest that frequently firms within a competitive industry mimic the behaviors of competitors. Extending this logic to intraorganizational competition, we would expect knowledge hoarding behavior to be mimicked, thus further decreasing the amount of knowledge shared within the firm. Although Han, Kim and Srivastava (1998) found that in conditions of intense industry competition firms seek to learn as much as possible about competitors, the attempts to learn do not translate into a willingness to share on the part of competitors. In a competitive climate, a key account salesperson is less motivated to assist other employees in achieving their goals, thus is less likely to share key account knowledge (Brickson 2000). Hence, a competitive climate within the organization is likely to stimulate the desire to obtain information, but not the proactive sharing of information. Thus:

P₄: The greater the internal competitive climate, the less knowledge sharing will occur within the organization.

Informal Rewards. Reward structures have been identified as a key determinant of integration among employees (Coombs and Gomez-Mejia 1991), and as influential in gaining cooperation of employees (Brickson 2000). However, few firms use formal reward structures to encourage information sharing behaviors among employees (O'Dell and Grayson 1998). Lack of formal

reward structures for knowledge sharing may result from managers' concerns with how best to distribute the rewards and on what criteria the rewards should be based. Thus, firms may rely on informal rewards to encourage behavior and outcomes that are desired, but difficult to link to formal reward systems. A key account salesperson may receive informal rewards from colleagues in various forms including gratitude, reciprocation, inside information before official release, and/or leads for new business. As key account salespeople perceive the likelihood of receiving informal rewards for sharing knowledge, they are more likely to exhibit knowledge sharing behavior. Thus:

P₅: Informal rewards for sharing knowledge increase knowledge sharing.

Buyer's Satisfaction with the Key Account Salesperson. In relational exchanges, solutions to customer problems very often cross traditional organizational boundaries (Crosby, Evans and Cowles 1990). This is especially the case in key account management where multiple functions within the company may be involved with the key account and coordinated by the key account manager (Homburg, Workman and Jensen 2002). Knowledge sharing enhances key account salespeople's awareness of resources located across the firm, and enables key account salespeople to identify and locate needed resources for customers. Invaluable ideas may be shared and generated as key account salespeople exchange critical customer information. Further, key account salespeople who share account information with fellow employees are more likely to gain a deeper, more comprehensive view of the account from the feedback from other members of the organization. This knowledge gained can enhance the customer's perception and confidence in the key account salesperson's expertise, and thus affect overall satisfaction with the salesperson.

As the key account salesperson becomes known for sharing information, other members of the organization may reciprocate with information that can enhance the salesperson's performance. The insights and benefits the key account

salesperson gains from proactively sharing key account knowledge can result in improved service to the buyer. The salesperson's interactions with the customer have been found to be a critical component of customer satisfaction (Homburg and Rudolph 2001). A more well-informed salesperson can create more meaningful interactions with the customer. Sharing knowledge with other employees allows the key account salesperson an opportunity to brainstorm with others and to determine more cost-effective and appropriate fit between the supplier's capabilities and the buyer's needs. Hence:

P₆: Knowledge sharing increases the buyer's satisfaction with the key account salesperson.

CONCLUSION

Organizations continue to struggle to find effective ways to replicate best practices and gain competitive advantage from the integration of knowledge. Central to our contribution is the identification of how knowledge sharing is shaped and encouraged by key social and behavioral forces within the organization. By illuminating buyers' satisfaction with the key account salesperson as a critical account outcome of intraorganizational knowledge sharing, we further substantiate the value of key account knowledge sharing across organizational members.

Theoretical Implications

Given calls by marketing scholars to move beyond understanding knowledge application by an individual to knowledge transfer and integration embedded within an organization, this research attempts to address issues that are both timely and relevant by offering a unique combination of the impact of individual and organizational factors in the facilitation of key account knowledge sharing. Further, given that the phenomenon of knowledge sharing is both complex and rooted in social contexts, this paper focuses on both social and behavioral aspects of knowledge sharing to provide a deeper understanding of the process. Finally, by

linking knowledge sharing to buyer satisfaction with the key account salesperson, this research delineates the impact of knowledge sharing on an account-relevant outcome. A developed understanding of the influences on knowledge sharing is critical to advancing literature on key account management and key account salesperson effectiveness. This paper attempts to address an enduring problem in marketing.

Managerial Implications

This paper suggests several levers organizations can manage to realize the benefits of intraorganizational knowledge sharing. First, in terms of structure, organizing key account management teams based on the congruence of the goals and designing work-flow among organizational members that are more direct and dependent is suggested to stimulate the amount of knowledge shared. Second, in terms of rewards, designing reward structures to increase outcomes, but reducing the perceived competition for resources can increase knowledge sharing. Best practices built and established by key account salespeople in less internally competitive environments are more likely to be shared with other key account salespeople. Third, and somewhat counterintuitive, training and socialization efforts that increase the importance that key account salespeople place on their identities as experts may come at the cost of a decreased amount of knowledge shared within the firm.

REFERENCES

- Argote, Linda and Paul Ingram (2000), "Knowledge Transfer: A Basis for Competitive Advantage in Firms," *Organizational Behavior and Human Decision Processes*, 82 (1), 150-169.
- Argyris, Chris and Donald A. Schon (1978), *Organizational Learning: A Theory of Action Perspective*. Reading, MA: Addison-Wesley.
- Beekun, Rafik I. and William H. Glick (2001), "Organization Structure from a Loose Coupling Perspective: A Multidimensional Approach," *Decision Sciences*, 32 (2), 227-250.
- Bendapudi, Neeli and Robert P. Leone (2002), "Managing Business-to-Business Customer Relationships Following Key Contact Employee Turnover in a Vendor Firm," *Journal of Marketing*, 66 (2), 83-101.
- Brickson, Shelley (2000), "The Impact of Identity Orientation on Individual and Organizational Outcomes in Demographically Diverse Settings," *Academy of Management Review*, 25 (1), 82-101.
- Cannon, Joseph P. and Narakesari Narayandas (2000), "Relationship Marketing and Key Account Management," in *Handbook of Relationship Marketing*, Jagdish N. Sheth and Atul Parvatiyar (eds.) Thousand Oaks, CA: Sage Publications, Inc., 407-429.
- Capon, Noel (2001), *Key Account Management and Planning: The Comprehensive Handbook for Managing Your Company's Most Important Strategic Asset*. NY: The Free Press.
- Chonko, Lawrence, James A. Roberts and Eli Jones (2006), "Diagnosing Sales Force Change Resistance: What We Can Learn from the Addiction Literature," *Marketing Management Journal*, 16 (1), 44-71.
- Coombs, Gary Jr. and Luis R. Gomez-Mejia (1991), "Cross-Functional Pay Strategies in High-Technology Firms," *Compensation and Benefits Review*, 23 (5), 40-48.
- Crosby, Lawrence A., Kenneth A. Evans and Deborah Cowles (1990), "Relationship Quality in Services Selling: An Interpersonal Influence Perspective," *Journal of Marketing*, 54 (3) 68-81.
- Cross, James, Steven W. Hartley, William Rudelius and Michael J. Vassey (2001), "Sales Force Activities and Marketing Strategies in Industrial Firms: Relationships and Implications," *Journal of Personal Selling & Sales Management*, 21 (3), 199-206.
- Davenport, Thomas H. and Laurence Prusak (1998), *Working Knowledge*. Boston, Massachusetts: Harvard Business School Press.
- Day, George S. (2000), "Managing Market Relationships," *Journal of the Academy of Marketing Science*, 28 (1): 24-30.

- _____ and Robin Wensley (1988), "Assessing Advantage: A Framework for Diagnosing Competitive Superiority," *Journal of Marketing*, 52 (2), 1-20.
- Desouza, Kevin C. (2003), "Knowledge Management Barriers: Why the Technology Imperative Seldom Works," *Business Horizons*, (January-February), 25-29
- Ericsson, K. Anders and Jacqui Smith, eds. (1991), *Toward a General Theory of Expertise: Prospects and Limits*. New York: Cambridge University Press.
- Gaynor, Martin (1989), "Competition Within the Firm," *Rand Journal of Economics*, 20 (1), 59-76.
- Glazer, Rashi (1991), "Marketing in an Information-Intensive Environment: Strategic Implications of Knowledge as an Asset," *Journal of Marketing*, 55 (4), 1-19.
- Grandori, Anna and Bruce Kogut (2002), "Dialogue on Organization and Knowledge," *Organization Science*, 13 (3), 224-331.
- Han, Jin K., Namwoon Kim and Rajendra K. Srivastava (1998), "Market Orientation and Organizational Performance: Is Innovation a Missing Link?" *Journal of Marketing*, 62 (4), 30-45.
- Hansen, Morten T. (2002), "Knowledge Networks: Explaining Effective Knowledge Sharing in Multiunit Companies," *Organization Science*, 13 (3), 232-248.
- _____ (1999), "The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge across Organization Subunits," *Administrative Science Quarterly*, 44 (1), 82-111.
- Homburg, Christian and Bettina Rudolph (2001), "Customer Satisfaction in Industrial Markets: Dimensional and Multiple Role Issues," *Journal of Business Research*, 52 (1), 15-33.
- _____, John P. Workman Jr. and Ove Jensen (2002), "A Configurational Perspective on Key Account Management," *Journal of Marketing*, 66 (2), 38-60.
- Huysman, Marleen and Dirk DeWit (2004), "Practices of Managing Knowledge Sharing: Towards A Second Wave of Knowledge Management," *Knowledge and Process Management*, 11 (2), 81-92.
- Jap, Sandy D. (1999), "Pie-Expansion Efforts: Collaborative Processes in Buyer-Supplier Relationships," *Journal of Marketing Research*, 36 (4), 461-475.
- Jaworski, Bernard J. and Ajay K. Kohli (1993), "Market Orientation: Antecedents and Consequences," *Journal of Marketing*, 57 (3), 53-70.
- Kleine, Robert E., Susan Schultz Kleine and Jerome B. Kernan (1993), "Mundane Consumption and the Self: A Social-Identity Perspective," *Journal of Consumer Psychology*, 2(3), 209-235.
- Kogut, Bruce and Udo Zander (1996), "What Firms Do? Coordination, Identity, and Learning," *Organization Science*, 7 (5), 502-518.
- Kristof-Brown, Amy L. and Cynthia Kay Stevens (2001), "Goal Congruence in Project Teams: Does the Fit between Members' Personal Mastery and Performance Goals Matter?" *Journal of Applied Psychology*, 86 (6), 1083-1095.
- Lai, Gina and Odalia Wong (2002), "The Tie Effect on Information Dissemination: The Spread of a Commercial Rumor in Hong Kong," *Social Networks*, 24 (1), 49-75.
- Le Meunier-FitzHugh, Ken and Nigel F. Piercy (2006), "Integrating Marketing Intelligence Sources," *International Journal of Market Research*, 48 (6), 699-716.
- Lee, Ruby P., Qimei Chen, Daekwan Kim and Jean L. Johnson (2008), "Knowledge Transfer Between Multinational Corporations' Headquarters and Their Subsidiaries: Influences on and Implications for New Product Outcomes," *Journal of International Marketing*, 16 (2), 1-31.
- Levitt, Barbara and James G. March (1988), "Organizational Learning," in *Annual Review of Sociology*, W. Richard Scott and Judith Blake (eds). Palo Alto, CA: Annual Reviews, 319-340.
- Lobel, Sharon A. and Lynda St. Clair (1992), "Effects of Family Responsibilities, Gender, and Career Identity Salience on Performance Outcomes," *Academy of Management Journal*, 35 (5), 1057-1069.

- Madhavan, Ravindranath and Rajiv Grover (1998), "From Embedded Knowledge to Embodied Knowledge: New Product Development as Knowledge Management," *Journal of Marketing*, 62 (4), 1-12.
- Maltz, Elliot and Ajay K. Kohli (1996), "Market Intelligence Dissemination Across Functional Boundaries," *Journal of Marketing Research*, 33 (1), 47-61.
- McDonald, Robert E. and Sreedhar Madhavaram (2007), "What Firms Learn Depends on What Firms Know: The Implications of Prior Knowledge for Market Orientation," *Marketing Management Journal*, 17 (1), 171-183.
- McGillicuddy, Shamus (2007), "CRM Projects Fail because Users Say 'No Thanks'," SearchCIO.com, http://searchcio.techtarget.com/news/article/0,289142,sid182_gci1277542,00.html Accessed: May 27, 2008.
- McKendrick, J. (2000), "The Bottom Line on CRM: Know Thy Customer," *ENT*, 5 (20), 40.
- Menon, Anil and P. Rajan Varadarajan (1992), "A Model of Marketing Knowledge Use Within Firms," *Journal of Marketing*, 56 (4), 53-71.
- Moutot, Jean-Michel and Ganael Bascoul (2008), "Effects of Sales Force Automation Use on Sales Force Activities and Customer Relationship Management Processes," *Journal of Personal Selling & Sales Management*, 28 (2), 167-184.
- O'Dell, Carla and C. Jackson Grayson (1998), "If Only We Knew What We Know: Identification and Transfer of Internal Best Practices," *California Management Review*, 40 (3), 154-174.
- Okhuysen, Gerardo A. and Kathleen M. Eisenhardt (2002), "Integrating Knowledge in Groups: How Formal Interventions Enable Flexibility," *Organization Science*, 13 (4), 370-386.
- Pardo, Theresa A., Anthony M. Cresswell, Jing Zhang and Fiona Thompson (2001), "Interorganizational Knowledge Sharing in Public Sector Innovations," *Academy of Management Proceedings*, p. A1-6.
- Postrel, Steven (2002), "Islands of Shared Knowledge: Specialization and Mutual Understanding in Problem-Solving Teams," *Organization Science*, 13 (3), 303-320.
- Ramaswami, Sridhar N., S. Srinivasan and Stephen A. Gorton (1997), "Information Asymmetry Between Salesperson and Supervisor: Postulates from Agency and Social Exchange Theories," *Journal of Personal Selling and Sales Management*, 17 (3), 29-50.
- Sinkula, James M. (1994), "Market Information Processing and Organizational Learning," *Journal of Marketing*, 58 (1), 35-45.
- Slater, Stanley F. and John C. Narver (1995), "Market Orientation and the Learning Organization," *Journal of Marketing*, 59 (3), 63-74.
- Solomon, Michael R., Carol Surprenant, John A. Czepiel and Evelyn G. Gutman (1985), "A Role Theory Perspective on Dyadic Interactions: The Service Encounter," *Journal of Marketing*, 49 (1), 99-111.
- Sonnentag, Sabine (1998), "Expertise in Professional Software Design: A Process Study," *Journal of Applied Psychology*, 83 (5), 703—715.
- Stewart, Anne M., Guy W. Mullarkey and John L. Craig (2003), "Innovation or Multiple Copies of the Same Lottery Ticket: The Effect of Widely Shared Knowledge on Organizational Adaptability," *Journal of Marketing Theory and Practice*, 11 (3), 25-45.
- Thakur, Ramendra, John H. Summey and Siva K. Balasubramanian (2006), "CRM as Strategy: Avoiding the Pitfalls of Tactics," *Marketing Management Journal*, 16 (2), 147-154.
- Ustuner, Tuba and David Godes (2006), "Better Sales Networks," *Harvard Business Review, Special Double Issue: Sales*, (July-August), 102-112.
- Vancouver, Jeffrey B., Roger E. Millsap and Patricia A. Peters (1994), "Multilevel Analysis of Organizational Goal Congruence," *Journal of Applied Psychology*, 79 (5), 666-679.

- Weick, Karl E. (1982), "Management of Organizational Change among Loosely Coupled Systems," in *Change in Organizations: New Perspectives on Theory, Research, and Practice*, P. Goodman and Associates (ed.), San Francisco, CA: Josey-Bass, 375-408.
- Weitz, Barton A., Harish Sujan and Mita Sujan (1986), "Knowledge, Motivation, and Adaptive Behavior: A Framework for Improving Sales Effectiveness," *Journal of Marketing*, 50 (4), 174-191.
- Yang, Jen-te (2008), "Individual Attitudes and Organisational Knowledge Sharing," *Tourism Management*, 29, 345-353.

THE IMPACT OF GOVERNANCE ON THE DEVELOPMENT OF TRUST IN BUYER-SELLER RELATIONSHIPS

EDWARD O'DONNELL, Columbus State University

MICHAEL L. MALLIN, University of Toledo

MICHAEL Y. HU, Kent State University

What influence does governance have on the development of trust in buyer-seller relationships? In this paper, a transaction cost argument is used to advance our understanding of this important yet under-researched area by studying the effect that various modes of governance has on trust building in buyer-seller relationships. We tested our proposed governance-trust model on a sample of purchasing agents and managers from the National Association of Purchasing Managers (NAPM). The results provide initial support for our hypothesized relationships and demonstrate the important role that mutual investments and goal congruence plays in the growth of trust between buying and selling firms.

INTRODUCTION

What impact does governance have on the development of trust in buyer-seller relationships? Although a great deal of research has investigated the effect that trust has on buyer-seller relationships (Anderson and Narus 1990; Anderson and Weitz 1989; Doney and Cannon 1997; Dwyer et al. 1987; Ganesan 1994; Geyskens et al. 1999; Morgan and Hunt 1994), surprising little research has been done concerning how the social (e.g., informal) aspects of relationships such social norms and trust first develop in an interorganizational setting (Rokkan et al. 2003). Researchers have long recognized the important role that formal (e.g., explicit contracts, monitoring, qualification programs) and informal governance (e.g., social norms) play in relationship development (Buvik and John 2000; Cannon et al. 2000; Gundlach and Murphy 1993; Heide and John 1990; 1992; Heide and Wathne 2006; Jap and Ganesan 2000; Lusch and Brown 1996; Rokkan et al. 2003; Stump and Joshi 1998). However, the interplay among the various forms of formal and informal governance relative to the development of trust has remained largely

unexplored. This apparent lack of research prompted Rindfleisch and Heide (1997, p. 50) to conclude that “identifying the specific effects of different governance mechanisms” on trust is an important area for future research consideration.

In this paper, we attempt to answer Rindfleisch and Heide’s (1997) call by developing and testing a framework that theoretically links relationship governance to trust. Based on a transaction cost analysis (TCA)-based argument, we propose that mutual investments made by the parties in the relationship actually play a more important role in trust’s development than currently proposed in the literature (i.e., reducing opportunistic behaviors). They do so by fundamentally changing each party’s motivational orientation from that of optimizing individual outcomes to optimizing joint (or relational) outcomes. The results of this study provide initial support for our proposed governance – trust relationships, which have important managerial and research implications. First, this research provides both buying and selling firm managers with additional insights regarding how to better develop strategies that encourage trust formation. This is important because trust has been linked to many positive outcomes such as the creation of relationship value (Jap 1999; Rokkan et al. 2003; Ulaga 2003) and positions

of competitive advantage (Ghosh and John 1999; 2005). Moreover, this paper makes a major theoretical contribution by extending the role of governance from the more conventional perspective of primarily reducing interorganizational opportunism to that of creating a foundation upon which to establish a joint focus on optimizing relationship outcomes.

BACKGROUND AND HYPOTHESES

Trust

Trust is a construct that has been widely accepted in psychology, sociology, management, and marketing. A basic theme cutting across these disciplines is that trust involves an expectation that two parties, whether they are individuals or organizations, will continue to act in a trustworthy or dependable manner and in the best interest of their exchange partner (Duffy 2008; Wilson 1995). In their extensive study of the channel relationship literature, Geyskens, Steenkamp and Kumar (1999, p. 225) found that most channel studies define trust as "the extent to which a firm believes that its exchange partner is honest and/or benevolent." Thus, in much of the literature, trust has been examined from one party's perspective; however, "mutual" trust, a construct addressing both parties' perspectives, may be more relevant in a relationship context. Realizing this, Sarkar, Echambadi, Cavusgil and Aulakh (2001, p. 362) extended the more "traditional" definition of trust to the relationship setting. They defined "mutual" trust as "the level of confidence shared by the parties regarding each other's integrity." Since our study involves interorganizational buyer-seller relationships, we follow Sarkar's et al. (2001) lead and use their definition of trust in our study. Similar to Sarkar et al. (2001), we evaluate whether the parties: 1) are honest and truthful with each other, 2) treat each other fairly and justly, and 3) find it necessary to be cautious in dealing with each other. Overall, these three dimensions appear to capture the essence of trusting relationships between buying and selling firms. For instance, in

trusting relationships, the parties should be honest with each other while fairly distributing the positive outcomes derived from the relationship (Buvik and John 2000); otherwise, the parties will likely deal with each other in a cautious and protective manner.

Trust plays a critical role in relationships because efficient exchange is largely controlled by social obligations (Cropanzano and Mitchell 2005; Lambe et al. 2001). These social obligations are exemplified when one party voluntarily provides a benefit to its partner, which obligates that party to reciprocate by providing another benefit in return (Atuaheme-Gima and Li 2002; Blau 1964; Whitener et al. 1998). Thus, a shared belief that each party will honor its obligations (Lambe et al. 2001) is an important relationship characteristic. Morgan and Hunt (1994) suggest that trust is the "cornerstone" of successful relationships as demonstrated by its positive effect on cooperation, shared values, commitment, satisfaction, and buying firm adaptation and its negative effect on conflict, uncertainty, and opportunistic behavior (Anderson and Narus 1990; Anderson and Weitz 1989; Doney and Cannon 1997; Dwyer et al. 1987; Ganesan 1994; Geyskens et al. 1999; Hewett et al. 2002; Hultman and Axelsson 2007; Morgan and Hunt 1994; Mukherji and Francis 2008; Seppanen et al. 2007). Clearly, prior research demonstrates the importance of trust in interorganizational relationships (Kingshott 2006) and as such, the development of trust merits continued theoretical and empirical focus. Interestingly, though a great deal of research has examined various aspects of trust (Geyskens et al. 1998), little academic work has been done to identify and evaluate the effect that governance has on its development in buyer-seller relationships.

Governance and Trust

Researchers have traditionally argued that relationships develop over time and in various stages ranging from new to well-established and mature relationships (Dwyer et al. 1987; Wilson 1995). Given the developmental nature of interorganizational relationships, Ring and

Van de Ven (1994) hypothesized that relationship governance will also change over time. In particular, they propose that as relationships develop, reliance on formal governance should be replaced / supplemented by less formal (relational) governance mechanisms.

Prior studies looking at the development of buyer-seller relationships (Dwyer et al. 1987; Narayandas and Rangan 2004; Wilson 1995) indicate that in the early stages of relationships, both firms typically have limited knowledge of and familiarity with each other and as such, may be uncertain about the relationship's longevity. For this reason, the focus of each party involves protecting itself while also attempting to control the behaviors of its exchange partner. Typically, the buying firm plays a larger role in the controls that are initially established in the relationship since they are frequently in the more dominant position (Narayandas and Rangan 2004). Some of the formal controls identified in the literature, which are commonly used by buyers, are contractual incentives (Wathne and Heide 2000), monitoring (Heide et al. 2007; Stump and Heide 1996), qualification of abilities and motives (Stump and Heide 1996; Wathne and Heide 2004), and requiring that suppliers make relationship investments that have limited transferability to other relational partners (Ganesan 1994; Heide 1994; Stump and Heide 1996; Wathne and Heide 2004). We refer to these as unilateral controls since they are designed to protect *one* party (the buyer in this case) from the opportunism of its exchange partner. Thus, by predominantly protecting only one of the parties in an exchange relationship, unilateral control mechanisms should have a major impact on the buyer's "trust" in the seller but have little effect on the seller's "trust" in the buyer.

As the firms continue to socially and economically interact, it may become increasingly evident to both that mutually beneficial outcomes may be realized by expanding the relationship to take advantage of new market opportunities (Narayandas and

Rangan 2004). However, to realize these benefits, the parties may have to make substantial social and physical investments in the relationship (Ghosh and John 1999; 2005). For example, reduced inventory costs may be realized by making upfront investments in developing and implementing a JIT system (Frazier et al. 1988); furthermore, both parties may schedule regular visits to each other's facilities by individuals from various disciplines to develop and maintain the relationship's social infrastructure. A common characteristic of these two types of relationship investments is that they have substantially lower value when used in other uses or in relationships involving alternative exchange partners (Rindfleisch and Heide 1997). For instance, investments made to develop individual (personal) relationships between the firms should have little value in relationships involving alternative exchange partners. For this reason, investments in relationship specific assets (RSAs) such those specified earlier (e.g., development of a JIT system or investments in specialized tooling) may be called Relationship Specific Investments (RSIs). Prior research (Jap and Ganesan 2000; Rokkan et al. 2003; Wathne and Heide 2000) suggests that RSIs have a major effect on the nature of buyer-seller relationships.

Over the last three decades, academic researchers have studied the effect of RSIs on the nature and behaviors of the parties in buyer-seller relationships (Ganesan 1994; Heide 1994; Stump and Heide 1996; Wathne and Heide 2004). This research suggests that when both parties have made substantial RSIs, these investments act as a bilateral governance mechanism (Heide 1994) by creating organizational interdependencies due to their limited transferability (Samiee and Walters 2006). Essentially, mutual investments protect both parties in that each stands to lose their respective relationship investments if either or both behave in an opportunistic manner (Caniels and Gelderman 2007). Thus, mutual investments discourage opportunism (Gundlach et al. 1995) by establishing a shared focus on protecting relationship investments. However,

opportunism and trust are different yet related constructs.

Williamson (1975; 1985; 1996) defines opportunism as a party's willingness to use deceit or guile to further its own self-interest. In contrast, trust is a mutual expectation shared by the parties that one's exchange partner has integrity (Sarkar et al. 2001). Thus, trust is a multi-faceted construct (Seppanen et al. 2007) that is more extensive than opportunism which Jap and Anderson (2003, p.1688) suggest is "more delimited and behavioral in nature". As a result, though a great deal of research has focused on the governance aspects of mutual investments (i.e., to mitigate opportunism), the relationship between mutual investments and trust needs further development.

In this research, we address this issue by proposing that mutual investments in RSAs cause a motivational change to occur in buyer-seller relationships. They do so in two ways. First, mutual investments (in RSAs) cause a motivational transformation in both the buying firm and the selling firm from protecting "oneself" to protecting the mutual investment itself. This has the effect of encouraging cooperation and unity of purpose in the relationship. More formally stated, because of the protection provided by the controls established at the onset of the relationship (e.g., formal contracts, qualification programs, etc.) and by the mutual social and physical investments made by the parties in the course of developing the relationship, the firms' individual focus shifts from protecting "self" to protecting the relationship. As a result, a spirit of cooperation and unity permeates the relationship, which encourages increased closeness between the firms. Thus, mutual investments not only reduce opportunism (Gundlach et al. 1995) but also encourage the development of closer relationships (Heide and John 1992). Since higher levels of trust have been found to be strongly related to closer relationships (Doney and Cannon 1997; Wilson 1995), we propose the following relationship between mutual investments and trust:

H₁: Mutual investments in relationship specific assets are positively related to the level of trust between buying and selling firms.

A second and more profound way that mutual investments change the orientation of buyer-seller relationships is by setting the stage for a more "extensive" relationship vision to be established between the firms. In particular, because both parties are protected through their mutual investments, their focus may now extend past merely protecting the relationship from external threats to a more long-term and unified perspective of maximizing the returns from their relationship investments. As a result, a common or mutual goal of maximizing relational benefits acts to align the activities of the firms and provides direction to the relationship. Consistent with this notion, we consider the parties to have congruent goals when their individual goals for the relationship are to maximize its value.

In a relational context, goal congruence is expected to increase as the firms continue to realize mutual benefits and those benefits are equitably split (Buvik and John 2000). The resulting increase in goal congruence encourages higher levels of information exchange, cooperation, and unity between the firms (Jap 1999). Thus, at any particular point in time, the level of goal congruence between the buying firm and the selling firm is posited to reflect the closeness of the relationship between them. This has important governance and motivational implications. First, increased goal congruence mitigates the potential for opportunism by acting as a "self enforcing" agreement (Telser 1980) since the mutual benefits expected to be realized in the relationship may be lost if either or both parties behaved opportunistically (Heide and Miner 1992; Liu et al. 2008). From a motivational standpoint, the potential for mutual benefits encourages the parties to search for and identify new ways to increase positive relational outcomes resulting in even higher levels of goal congruence and closer, more collaborative relationships (Jap 1999; Moller 2006). Thus,

we propose the following relationship between goal congruence and trust.

- H₂: Goal congruence is positively related to the level of trust between buying and selling firms.

METHODS AND FINDINGS

To empirically test our hypotheses, we contacted local chapter presidents of the National Association of Purchasing Management (NAPM) and asked for their chapter's support for our study. Five chapters located in major metropolitan centers located in the northeastern U.S.A. agreed to endorse our research and allowed us to solicit the participation of their members by distributing questionnaires at their monthly chapter meetings. Moreover, these chapters allowed us to introduce our study and to solicit membership participation in their monthly newsletters. As a result, our sample was composed of knowledgeable and active purchasing professionals from a wide range of industries and products.

Buyer-seller relationships are a complex phenomenon that is multidimensional in nature and as such, requires informants to provide a wide range of information regarding their firm's relationships. Thus, the task of informants is quite complex; for this reason, they should be selected based on the special knowledge they possess or the specific responsibilities they perform (Phillips 1981). Although we initially wanted to use knowledgeable informants from both firms, informant anonymity concerns such as those experienced by Lambe, Spekman and Hunt (2002) prevented us from collecting relationship data from suppliers. Therefore, similar to a number of recent studies (Jap and Ganesan 2000; Lambe et al. 2002; Sarkar et al. 2001), we used the buyer's perceptions of the relationship. Prior studies have found that purchasing agents and managers provide valid and reliable responses (Cannon et al. 2000; Cannon and Perreault 1999; Heide and John 1990; Stump and Heide 1996) because of their

intimate knowledge of and close involvement in their firm's supplier relationships. The members of NAPM are especially ideal respondents because of their strong professional interest and training in the purchasing discipline and the major role that they play in their firms' supplier decisions. To assess each respondent's ability to provide valid information, we asked them to rate on a 7-point Likert scale (1 = not very knowledgeable and 7 = very knowledgeable) their knowledge of the supplier relationship that they had reported on. Similar to Lambe et al. (2002), we eliminated informants who rated themselves at a level of 5 or less. For these reasons, we concluded that the relationship data reported by our respondents was appropriate for this study.

Survey Instrument and Sample

In the questionnaire, we asked informants to provide information regarding a relationship that existed between their firm and the supplier of a key product of their firm's primary business. This was done to reduce the likelihood that the sample would be composed of an excessive number of relationships involving incidental purchases. The survey underwent two rounds of pretesting. In the first round, three buyers of a local automotive specialty firm were used to evaluate the clarity of scale items and the overall organization of the survey instrument. In the second round, four members of two local NAPM chapters were provided copies of the revised survey and asked to complete them. These individuals were later interviewed to identify areas of confusion as well as ways to improve the survey's quality and clarity. We used their comments and recommendations to further refine our survey. The survey instrument was also evaluated throughout the data collection process by asking informants to provide feedback regarding the clarity of scale items and instructions; no major problems were identified.

Survey packets that included a cover letter, a self-addressed postage paid envelope, and a link to an on-line version of the survey were

distributed at the meetings of our focal NAPM local chapters. The on-line survey tool used to administer and track responses was Questionpro (www.questionpro.com). A reminder was provided at subsequent meetings and in the monthly newsletters for each chapter. Overall, 197 surveys were distributed of which 49 paper and 31 on-line survey responses were received (i.e., a total of 80 survey responses) for a response rate of 40.61 percent. No significant differences were found between the paper and on-line responses for any of the items used in this study. Of the surveys that were completed, four were later removed for excessive missing data resulting in a final sample of 76 or a final response rate of 38.56 percent.

The average age of the relationships was 13 years and ranged from 1 to 50 years. The average annual sales of the buying firms in 2004 were \$75 million with a range of less than \$1 million to more than \$1 billion. Relative to firm size, 48 percent of the buying firms were small (less than \$100 million in annual sales), 26 percent medium (annual sales of \$101 million to \$1 billion) and 26 percent large (annual sales exceeding \$1 billion). The firms in our sample represented a wide range of industries and product classifications with 26 percent providing consumer products and services, 63 percent industrial products and services, and 11 percent distributors.

The Questionnaire and Variable Measurement

Dependent Variable. Trust was conceptualized as the degree of confidence that the parties have regarding each other's integrity and was measured by a four item scale modified from Sarkar et al. (2001) that evaluated the perceived level of integrity, fairness, and dependability of the firms participating in the relationship. Each item used a 7-point Likert scale that was anchored by 1 = "strongly disagree" and 7 = "strongly agree." Trust was computed as the sum of the individual item responses. The scale exhibited good internal consistency with a

Cronbach's alpha value of .84 (Nunnally 1978; Peterson 1994).

Since one of the primary goals of this study was to examine the influence of goal congruence on trust we considered the possibility that, in more mature relationships, trust could have a residual effect on the level of goal congruence identified by the respondent (Seppanen et al. 2007). To address this concern, we organized our survey by measuring goal congruence immediately before measuring trust. By staging the questions in this manner, we emphasized goal congruence's impact on trust thereby limiting the residual effects (if any) of trust on goal congruence.

Independent Variables. Two independent variables were used in this study: mutual investments and goal congruence. Mutual investments involve the degree to which the firms had made investments in relationship specific assets (RSAs). In particular, mutual investments were measured by a two item scale modified from Rokkan et al. (2003) that asked informants to rate the degree to which both parties had made substantial investments of time and resources to develop the relationship. Each item used a 7-point Likert scale that was anchored by 1 = "strongly disagree" and 7 = "strongly agree." Mutual investments were computed as the sum of the individual item responses. Overall, the scale exhibited good internal consistency with a split-half reliability value of .85. Consistent with Jap (1999, p. 465), goal congruence was conceptualized as the extent to which the parties "perceive the possibility of common goal attainment." Goal congruence was measured using a four-item scale modified from Jap (1999) that evaluated the degree to which the respondent perceives that the buying firm and the selling firm have congruent goals. Each item used a 7-point Likert scale that was anchored by 1 = "strongly disagree" and 7 = "strongly agree." Goal congruence was computed as the sum of the individual item responses and exhibited excellent internal consistency with a Cronbach's alpha of .89 (Nunnally 1978; Peterson 1994).

Control Variables. In our model, we included four governance mechanisms that had been identified and studied in prior research (Wathne and Heide 2000). These are: supplier incentives, qualification, monitoring, and supplier lock-in. Because these mechanisms are frequently established by the buying firm at the onset of the relationship (Narayandas and Rangan 2004) and as such, are more “matter of fact” (e.g., objective) as opposed to abstract in nature, we used single item measures for each to avoid redundant items in our survey. To measure supplier incentives, respondents were asked to rate the degree to which their firm’s agreements with the supplier included performance incentives. Respondents were also asked to identify if the supplier was initially required to undergo an extensive qualification program to verify the supplier’s ability to meet his/her firm’s needs. We also included an item, monitoring, to evaluate if the buyer regularly monitored the supplier’s performance. Finally, the respondent was asked to identify the level of investment that the supplier had initially made in the relationship. Because such investments often have limited transferability to alternative relationships, they tend to “lock” the investor, in this case, the supplier, into one particular exchange relationship. For this reason, we called this supplier lock-in.

A common characteristic of these governance mechanisms is that they are often selected by the buying firm to protect its own interests (e.g., unilateral governance). Thus, by including these variables in our analysis, it was possible to contrast the effect that unilateral governance has on trust with those of mutual investments and goal congruence (bilateral governance). The measurements used in this study are identified in the appendix of this paper.

Validation of Measures. Several methods were used to evaluate the reliability and validity of our measures. In particular, we assessed our measures by examining the individual-item reliabilities and the convergent and discriminant validity of our measures relative to each construct.

To assess the individual-item reliabilities, we examined the loadings of the measures on their respective constructs. We looked for loadings of .70 or higher (implying a shared variance of at least 50 percent between the item and the construct) and found that all item loadings exceeded the .70 minimum limit suggested by Hulland (1999) demonstrating that our mutual investment and goal congruence measures had good individual-item reliabilities.

To evaluate the validity of our constructs, we computed composite reliabilities for each construct and looked for internal consistency values that exceeded .70 (Fornell and Larcker 1981). All of our constructs exceeded this limit indicating that the reliabilities of our constructs were acceptable (Hulland 1999). To assess the discriminant validity of our measures, we computed the average variance extracted (AVE) as recommended by Fornell and Larcker (1981). The AVE was .75 for mutual investments and .79 for goal congruence. Since both exceeded .50, we concluded that our measures exhibited acceptable levels of convergent validity (Barclay and Smith 1997). As an additional evaluation of convergent validity, we examined the individual item loadings to ensure that no single item loaded more heavily on another construct than it did on the construct it was intended to measure (Fornell and Larcker 1981). Based on the results shown in Table 1, we concluded that our mutual investments and goal congruence measures exhibited acceptable levels of convergent and divergent validity.

Finally, to investigate the fit properties of our measurement model, we performed a confirmatory factor analysis (CFA) using AMOS (6.0) on all variables using maximum likelihood estimation. The model exhibited a good fit ($\chi^2 = 3.76$, degrees of freedom [df] = 8, root mean square error of approximation [RMSEA] = .00, $CI_{90\%} = .00$ to .06, normed fit index [NFI] = .98, relative fit index [RFI] = .97, comparative fit index [CFI] = .99).

To evaluate for distortion due to a non-normal distribution, all variables in the model were

TABLE 1
Measurement Model Results^a

Observed Variable/Items	Mutual Investments	Goal Congruence
Mutual Investment Item 1	.75	.51
Mutual Investment Item 2	.75	.45
Goal Congruence Item 1 (R)	.43	.70
Goal Congruence Item 2	.41	.76
Goal Congruence Item 3	.51	.79
Goal Congruence Item 4	.46	.82

^a Results illustrate correlations of each item with its own scale (bold) relative to the other scale

Note: (R) indicates items that were reverse-coded.

tested for excessive skewness and kurtosis. This was done by calculating the skewness and kurtosis indices from SPSS, converting them to z-scores, and comparing the result to ± 2.58 for a .01 level test (Avlonitis and Panagopoulos 2005). All variables acceptably met this requirement. Based on this as well as the reliability/validity tests previously discussed, we concluded that the measures used in this study appropriately represented the focal constructs of interest.

Analysis

To evaluate the potential for multicollinearity, we initially examined the correlations among our variables (Hair et al. 1998). A review of the correlations shown in Table 2 revealed that no unusually large correlations existed between any of the independent variables. Furthermore, the largest variance inflation factor (VIF) for the independent variables in our model was 1.933 (for the Mutual Investments variable), which was smaller than the maximum limit of 10 identified by Neter, Kutner, Nachtsheim and Wasserman (1996). As a result, multicollinearity did not appear to be a problem.

We used OLS regression models to evaluate the relationship between trust and our independent variables, mutual investments, and goal congruence. We conducted hierarchical regression because it allowed us: 1) to examine the importance of mutual investments and goal congruence relative to trust while controlling for many of the unilateral (formal) governance mechanisms identified in earlier studies and 2) to evaluate the marginal effects of bilateral governance (e.g., mutual investments and goal congruence) on trust.

FINDINGS

The results of the hierarchical regression analysis used to test the effect of our control variables (Supplier Incentives, Supplier Lock-in, Monitoring, and Qualification) and Mutual Investments and Goal Congruence with Trust are shown in Table 3.

Model 1 explained about 18 percent (R-squared = .184; adjusted R-squared = .138) of the variance in trust. Of the four control variables, only Supplier Lock-in was significantly related to Trust ($b = .37, p < .01$). These findings suggest that the effect of unilateral governance on trust is limited to the supplier's investment(s) in the relationship; however,

TABLE 2
Means, Standard Deviations, and Correlation Matrix

Variable	Trust	Supplier Incentives	Supplier Lock-in	Monitoring	Qualification	Mutual Investments	Goal Congruence
Mean	5.26	4.49	4.99	5.34	4.64	5.52	4.90
Standard Deviation	1.06	1.62	1.40	1.34	1.72	1.08	1.16
Avg. Variance Extracted						.75	.79
Trust	1.00						
Supplier Incentives	0.24*	1.00					
Supplier Lock-in	0.41**	0.39**	1.00				
Monitoring	0.21	0.28*	0.42**	1.00			
Qualification	0.17	0.38**	0.34**	0.38**	1.00		
Mutual Investments	0.51**	0.52**	0.54**	0.30**	0.44**	1.00	
Goal Congruence	0.73**	0.33**	0.48**	0.33**	0.28*	0.50**	1.00

*p<0.05; **p<0.01; N=76. All variables have no missing values.

given that supplier lock-in was no longer significant once Mutual Investments was added in Model 1, this relationship may be an artifact of the mutual investments made by the parties.

Our first variable of interest, mutual investments, is included in Model 2. Model 2 explained about 30 percent (R-squared = .304; adjusted R-squared = .255) of the variance in trust. The R-squared change (.120) over Model 1 (the base model) (F-value = 12.125) was significant at a $p < .01$ level. None of the control variables, including supplier lock-in, were found to be significantly related to trust; however, as hypothesized, mutual investments was positively and significantly related to trust ($b = .46, p < .01$). Thus, our results support H₁ that mutual investments in relationship specific assets are positively related to the level of trust between buying and selling firms.

In Model 3, our second variable of interest, goal congruence was added to Model 1. Model 3 explained about 55 percent (R-squared = .546; adjusted R-squared = .513) of the variance in trust. Similar to Model 2, the R-squared change (.362) over Model 1 (F-value = 55.784) was

significant at a $p < .01$ level; moreover, none of the control variables were significantly related to trust. However, as predicted, the relationship between goal congruence and trust was positive and significant ($b = .70, p < .01$). Thus, our results support H₂ that goal congruence is positively related to the level of trust between buying and selling firms.

Finally, in Model 4, both mutual investments and goal congruence were added to Model 1. Model 4 explained about 58 percent (R-squared = .583; adjusted R-squared = .547) of the variance in trust. The R-squared change (.399) over Model 1 (the based model) (F-value = 33.027) was significant at a $p < .01$ level. Consistent with our earlier results, mutual investments ($p < .05$) and goal congruence ($p < .01$) remained positively related to trust; moreover, as predicted by our proposed framework, the effect size of mutual investments dramatically falls from .46 to .26 when goal congruence is added to Model 2 thereby demonstrating the critical role that congruent goals play in the development of trust in buyer-seller relationships.

TABLE 3
Hierarchical Regression Models - The Influence of Governance on Trust

Variables	Trust			
	Model 1	Model 2	Model 3	Model 4
Supplier Incentives	0.09 (0.72)	-0.05 (-0.44)	-0.01 (-0.01)	-0.07 (-0.78)
Supplier Lock-in	0.37*** (2.94)	0.20 (1.60)	0.12 (1.17)	0.04 (0.42)
Monitoring	0.03 (0.27)	0.04 (0.36)	-0.05 (-0.52)	-0.04 (-0.41)
Qualification	0.01 (0.01)	-0.09 (-0.82)	-0.05 (-0.52)	-0.10 (-1.10)
Mutual Investments		0.46*** (3.48)	—	0.26** (2.48)
Goal Congruence			0.70*** (7.47)	0.64*** (6.79)
Change in R-squared		0.120	0.362	0.399
F-value for Change in R-squared		12.125***	55.784***	33.027***
F-value significance		0.001	0.000	0.000
R-squared	0.184***	0.304***	0.546***	0.583***
Adjusted R-squared	0.138	0.255	0.513	0.547

† p<0.10; ** p<0.05; *** p<0.01

N = 76 in all models. For each variable, the reported values are standardized betas with

Overall, the results of this study provide initial empirical support for the governance-trust relationship proposed and developed in this paper. First, with the exception of supplier lock-in, none of the unilateral governance mechanisms examined in this study had a significant effect on trust. Since the effect of supplier lock-in dramatically decreased once mutual investments was added to Model 1, we suspect that the significance of supplier lock-in in Model 1 occurred because it represented the suppliers' component of mutual investments and as such, was merely a residual outcome derived from the mutual investments made by the parties. Thus, our findings suggest that unilateral governance mechanisms have little influence in establishing trust in buyer-seller

relationships; in fact, the negative signs associated with supplier incentives, monitoring, and qualification in Model 4 ($b = -.07$, $b = -0.04$, and $b = -0.10$ respectively) indicates that unilateral governance may actually detract from the development of trust though additional research would be needed to establish this conclusion.

Second, based on the magnitudes of the standardized beta coefficients in Model 4, goal congruence had the largest effect on mutual trust ($b = .64$). In fact, 36 percent of the total variance in trust was explained by goal congruence. Though this intuitively makes sense, little work has been done to empirically examine the impact that goal congruence has on

trust in a buyer-seller context. This finding suggests that trust is very likely to exist when buying and selling firms have congruent goals.

Finally, as our proposed framework would predict, the effect size of mutual investments was found to dramatically fall ($b=.46$ to $b=.26$) when goal congruence was added to Model 2. This result was expected because mutual investments are theorized to set the stage for goal congruence to be established and for this reason, the effect of mutual investments on trust should decrease as goal congruence (the more dominant mechanism) increases in the relationship. To statistically evaluate this effect we regressed the interaction of mutual investments and goal congruence onto trust. The resulting coefficient ($b= -.19$) for the interaction term was negatively and significantly related to trust ($p < .05$, single-tailed test) thereby supporting our proposed model.

Thus, our results support our contention that mutual investments play a more far-reaching role in relationship development than currently proposed in the marketing literature. In particular, mutual investments not only reduce opportunistic potential by "locking in" the parties but also create a more unified relational orientation that enhances the development of goal congruence and trust.

DISCUSSION

We began this study by asking what influence governance has on the development of trust in buyer-seller relationships. Researchers have long recognized the importance of formal and informal governance in terms of relationship development and trust building. However, the interplay among the various forms of formal and informal governance on the development of trust has remained largely unexamined.

In this paper, we developed a TCA-based argument that links governance to trust in buyer-seller relationships. We proposed that the mutual RSIs made by the parties

fundamentally change their orientation toward the relationship from that of optimizing individual outcomes to optimizing joint or relational outcomes. We further proposed that mutual investments set the stage for a more "extensive" vision of maximizing relationship returns to be established by the parties. As a result, a common goal of maximizing relational benefits aligns the firms and provides direction to the relationship.

Consistent with our proposed mutual investments-trust relationship, we hypothesized that the mutual investments made by the firms and the goal alignments (i.e., goal congruence) created from these investments have a positive impact on the level of trust between buying and selling firms. We found initial empirical support for our hypotheses based on a sample of industrial buyer-seller relationships. Our study further suggests, as proposed by Ring and Van de Ven (1999), that many of the formal governance mechanisms used in the early stages of the relationship may be relaxed as the level of mutual investments and goal congruence increase over time. This provides an opportunity for the costs associated with controlling opportunism to be reduced as the relationship matures though formal controls (e.g., monitoring) may be retained to address situations when informal controls fail.

Research and Managerial Implications

The results from this research have far reaching implications for both researchers and managers. First, from a research standpoint, the theoretical argument developed in this paper advances our understanding of the importance of mutual investments in buyer-seller relationships. By doing so, we extend the current thinking about the role that mutual investments play in relationship formation and then develop a TCA-based theoretical argument that supports many of the findings in the marketing literature (Gundlach et al. 1995; Heide 1994; Heide and John 1992; Lusch and Brown 1996). Essentially, we posit that mutual investments enable a fundamental reorientation to occur

because of their ability to create interdependencies between the parties in which both either “sink or swim” together. Thus, the motivation of the parties shifts from protecting oneself to protecting the *relationship* from external threats (i.e., new competitors and technology) while also focusing their collective efforts to that of maximizing mutual benefits thereby encouraging unity of purpose and higher levels of trust. To date, few studies have considered the development of trust in buyer-seller relationships from this perspective. Moreover, this study provides an important theoretical link between the economic and social research streams that to this point has not been considered in the extant literature.

Second, our study is one of a few to empirically evaluate the impact that goal congruence has on trust in buyer-seller relationships. Our results suggest that goal congruence is significantly related to trust; in fact, the degree to which the parties have congruent relationship goals appears to be a major factor in the level of trust that ultimately exists between buying and selling firms. This is because goal congruence mitigates the potential for opportunism by acting as a “self enforcing” agreement (Telser 1980); moreover, from a motivational perspective, goal congruence encourages the parties to search for and identify new ways to increase positive relational outcomes resulting in closer, more collaborative relationships (Jap 1999).

From a managerial perspective, our results provide useful insights for both suppliers and buyers. For suppliers, our findings suggest that they look for and identify ways to integrate their capabilities with those of the buyer in order to expand the value potential of the relationship. For example, if a supplier is very knowledgeable about a particular market that the buyer is not, the supplier may be able to identify ways to combine their resources and capabilities (Moller 2006) with those of the buyer to introduce a new product offering to that market. As part of this process, the supplier should attempt to interact with the

buyer on a regular basis in order to establish an extensive social network between themselves and the buying firm. This requires the buying firm to make social investments in the relationship, which according to our results enhance goal congruence and trust while also improving the supplier’s ability to learn more about the buyer’s capabilities and needs. In early relationships, investments in physical assets should be minimized unless they can be linked to a substantial increase in relationship value and even then, investments that are mutually made by both parties should be preferred over investments made exclusively by the supplier. For example, mutual investments made to develop a conveyor system between the buyer’s and seller’s manufacturing facilities to improve product flow and transportation costs should be given priority over an investment by the supplier in specialized tooling to support the buyer’s inventory storage facility. Moreover, physical investments in projects that have low value potential should be avoided by pursuing other less investment intensive alternatives. For instance, instead of making a major investment in developing a sophisticated JIT system to control inventory levels (Frazier et al. 1988) between themselves and the buyer, the supplier may propose a manually driven and less-investment oriented kanban system that can just as effectively do the job (Womack and Jones 1996).

Buyers that are interested in establishing a relationship with a “high priority” supplier should attempt to identify and encourage the pursuit of “joint” value creation opportunities. If necessary, the buyer should encourage that mutual relationship investments be made by both parties and when situations arise that the supplier needs to make individual investments to the relationship (e.g., specialized tooling, etc.), the buyer should offer to make an offsetting investment whenever possible. Most importantly, similar to the supplier, the buyer should attempt to identify opportunities for both parties to work together on new, high value potential opportunities in order to facilitate goal congruence and trust development.

Finally, in established, high potential relationships, both parties should attempt to develop integrative policies that are designed to establish mutually beneficial outcomes. To do so, both parties might schedule periodic meetings to learn more about each other, to identify any impediments to relationship success, and to discuss their joint expectations regarding the relationship. For instance, gaining a clear understanding of each party's strategic goals and objectives should serve to provide the basis for determining if goal alignments are possible. Discussion or negotiation may ensue to bridge any goal variance gaps that may be uncovered (e.g., lower prices) or to take advantage of shared goals (e.g., developing new markets). Initially, formal governance may be employed to protect the parties and to encourage cooperation; however, as the relationship develops, the firms may be able reduce their dependence on formal controls which will allow them to reduce costs while maintaining high levels of trust.

Limitations and Future Research

This study had a few limitations. First, the sample used in this study was fairly small ($n = 76$). Though this makes it more difficult to obtain significant results, both of our independent variables were strongly related to trust. This is because: 1) the effect sizes (e.g., $b = .26$ and $b = .64$) of both variables were large with mutual investments and goal congruence respectively representing 20.5 percent and 62.0 percent of the variance in trust explained by our full model and 2) the high homogeneity of our sample resulting from our decision to use NAPM purchasing managers and agents rather than informants identified from mailing lists who may have higher levels of variability regarding their knowledge of their firms' supplier relationships. Thus, the small sample size in this study makes it more difficult to obtain significant results; as such, our results are conservative in that they reflect the large effect sizes of our independent variables rather than the smaller standard errors associated with large samples.

Second, purchasing agents and managers were used in this study to provide information regarding their firms' supplier relationships. Though this is not an unusual practice in relationship studies (Jap and Ganesan 2000; Lambe et al. 2002; Sarkar et al. 2001), future studies may consider gaining additional insights by collecting relationship data from both buyers and sellers in a dyadic fashion. Additionally, more insights may be gained by collecting longitudinal data to test the relationship between governance and trust over time.

Finally, though our model explains 55 percent of the total adjusted variance in trust, other factors may also play a role in its development. Since our results suggest that mutual investments and goal congruence are strongly related to the level of trust between buying and selling firms, these two variables should be incorporated in future research studies. We further wish to encourage researchers to more extensively examine the impact of mutual investments and goal congruence on trust in other types of marketing relationships. For example, the sales manager-salesperson relationship represents a research context in which investments made by both parties in training and skills development may have major effects on goal congruence and trust.

To our knowledge, this is one of the first studies to specifically examine the impact that different governance mechanisms have on the development of trust in buyer-seller relationships. Moreover, the governance-trust relationship developed here represents an important initial effort at linking together the economic and social aspects of buyer-seller relationships. Our results suggest that in addition to the role that mutual investments play in the governance of relationships, they play just as important if not more important role in encouraging higher levels of goal congruence and ultimately trust. Thus, consistent with Rindfleisch and Heide's (1997) insights, the results of this study suggests that examining the effects of governance relative to the development of trust is a fruitful area of future research. For this reason, we hope that this

study will inspire other scholars to pursue this important area of research.

REFERENCES

- Anderson, E. and B. Weitz (1989), "Determinants of Continuity in Conventional Industrial Channel Dyads", *Marketing Science*, Vol. 8(4), pp. 310-324.
- Anderson, J.C. and J. A. Narus (1990), "A Model of Distributor Firm and Manufacturer Firm Working Partnerships", *Journal of Marketing*, Vol. 54(1), pp. 42-58.
- Atuaheme-Gima, K. and H. Li (2002), "When Does Trust Matter? Antecedents and Contingent Effects of Supervisee Trust on Performance in Selling New Products in China and the United States", *Journal of Marketing*, Vol. 66(3), pp. 61-81.
- Avlonitis, G.J. and N.G. Panagopoulos (2005), "Antecedents and Consequences of CRM Technology Acceptance in the Sales Force", *Industrial Marketing Management*, Vol. 34(4), pp. 355-368.
- Barclay, D. and B. Smith (1997), "The Effects of Organizational Differences and Trust on the Effectiveness of Selling Partner Relationships", *Journal of Marketing*, Vol. 61(1), pp. 3-21.
- Blau, P.M. (1964), *Exchange and Power in Social Life*, New York, NY, John Wiley and Sons.
- Buvik, A. and G. John (2000), "When Does Vertical Coordination Improve Industrial Purchasing Relationships?", *Journal of Marketing*, Vol. 64(4), pp. 52-64.
- Caniels, M.C.J. and C.J. Gelderman (2007), "Power and Interdependence in Buyer Supplier Relationships: A Purchasing Portfolio Approach", *Industrial Marketing Management*, Vol. 36, pp. 219-229.
- Cannon, J.P., R.S. Archol and G.T. Gundlach (2000), "Contracts, Norms, and Plural Forms of Governance", *Journal of the Academy of Marketing Science*, Vol. 28(2), pp. 180-194.
- Cannon, J.P. and W.D. Perreault, Jr. (1999), "Buyer-Seller Relationships in Business Markets", *Journal of Marketing Research*, Vol. 36(4), pp. 439-460.
- Cropanzano, R. and M.S. Mitchell (2005), "Social Exchange Theory: An Interdisciplinary Review", *Journal of Management*, Vol. 31(6), pp. 874-900.
- Doney, P.M. and J.P. Cannon (1997), "An Examination of the Nature of Trust in Buyer-Seller Relationships", *Journal of Marketing*, Vol. 61(2), pp. 35-51.
- Duffy, R.S. (2008), "Towards a Better Understanding of Partnership Attributes: An Exploratory Analysis of Relationship Type Classification", *Industrial Marketing Management*, Vol. 37(2), pp. 228-244.
- Dwyer, F.R., P.H. Schurr and S. Oh (1987), "Developing Buyer-Seller Relationships", *Journal of Marketing*, Vol. 51(2), pp. 11-27.
- Fornell, C. and D.F. Larcker (1981), "Evaluating Structural Equation Models With Unobservable Variables and Measurement Error", *Journal of Marketing Research*, Vol. 18(2), pp. 39-50.
- Frazier, G.L., R.E. Spekman and C.R. O'Neal (1988), "Just-In-Time Exchange Relationships in Industrial Markets", *Journal of Marketing*, Vol. 52(4), pp. 52-68.
- Ganesan, S. (1994), "Determinants of Long-Term Orientation in Buyer-Seller Relationships", *Journal of Marketing*, Vol. 58(2), pp. 1-19.
- Geyskens, I., J.E.M. Steenkamp and N. Kumar (1998), "Generalization About Trust in Marketing Channel Relationships Using Meta-Analysis", *International Journal of Research in Marketing*, Vol. 15(3), pp. 223-248.
- Geyskens, I., J.E.M. Steenkamp and N. Kumar (1999), "A Meta-Analysis of Satisfaction in Marketing Channel Relationships", *Journal of Marketing Research*, Vol. 36(2), pp. 223-239.
- Ghosh, M. and G. John (1999), "Governance Value Analysis and Marketing Strategy", *Journal of Marketing*, Vol. 63(2), pp. 131-146.
- Ghosh, M. and G. John (2005), "Strategic Fit in Industrial Alliances: An Empirical Test of Governance Value Analysis", *Journal of Marketing Research*, Vol. 42(3), pp. 346-357.

- Gundlach, G.T., R.S. Achrol and J.T. Mentzer (1995), "The Structure of Commitment in Exchange", *Journal of Marketing*, Vol. 59(1), pp. 78-92.
- Gundlach, G.T. and P.E. Murphy (1993), "Ethical and Legal Foundations of Relational Marketing Exchanges", *Journal of Marketing*, Vol. 57(4), pp. 35-46.
- Hair, J.F. Jr., R.E. Anderson, R.L. Tatham and W.C. Black (1998), *Multivariate Data Analysis, 5th Edition*, Upper Saddle, NJ, Prentice Hall.
- Heide, J.B. (1994), "Interorganizational Governance in Marketing Channels", *Journal of Marketing*, Vol. 58(1), pp. 71-86.
- Heide, J.B. and G. John (1990), "Alliances in Industrial Purchasing: The Determinants of Joint Action in Buyer-Supplier Relationships", *Journal of Marketing Research*, Vol. 27(1), pp. 24-36.
- Heide, J.B. and G. John (1992), "Do Norms Matter in Marketing Relationships?", *Journal of Marketing*, Vol. 56(2), pp. 32-44.
- Heide, J.B. and A.S. Miner (1992), "The Shadow of the Future: Effects of Anticipated Interaction and Frequency of Contact on Buyer-Seller Cooperation", *Academy of Management Journal*, Vol. 35(2), pp. 265-291.
- Heide, J.B. and K.H. Wathne (2006), "Friends, Businesspeople, and Relationship Roles: A Conceptual Framework and a Research Agenda", *Journal of Marketing*, Vol. 70(3), pp. 90-103.
- Heide, J.B., K.H. Wathne and A.I. Rokkan (2007), "Interfirm Monitoring, Social Contracts, and Relationship Outcomes", *Journal of Marketing Research*, Vol. 44(3), pp. 425-433.
- Hewett, K., R.B. Money and S. Sharma (2002), "An Exploration of the Moderating Role of Buyer Corporate Culture in Industrial Buyer-Seller Relationships", *Journal of the Academy of Marketing Science*, Vol. 30(3), pp. 229-239.
- Hulland, J. (1999), "Use of Partial Least Squares in Strategic Management Research: A Review of Four Recent Studies", *Strategic Management Journal*, Vol. 20(2), pp. 195-204.
- Hultman, J. and B. Axelsson (2007), "Towards a Typology of Transparency for Marketing Management Research", *Industrial Marketing Management*, Vol. 36(5), pp. 627-635.
- Jap, S.D. (1999), "Pie-Expansion Efforts: Collaboration Processes in Buyer-Seller Relationships", *Journal of Marketing Research*, Vol. 36(4), pp. 461-476.
- Jap, S.D. and E. Anderson (2003), "Safeguarding Interorganizational Performance and Continuity Under Ex Post Opportunism", *Management Science*, Vol. 49(12), pp. 1684-1701.
- Jap, S.D. and S. Ganesan (2000), "Control Mechanisms and the Relationship Life Cycle: Implications for Safeguarding Specific Investments and Developing Commitments", *Journal of Marketing Research*, Vol. 37(2), pp. 227-245.
- Kingshott, R.P.J. (2006), "The Impact of Psychological Contracts Upon Trust and Commitment Within Supplier-Buyer Relationships: A Social Exchange View", *Industrial Marketing Management*, Vol. 35, pp. 724-739.
- Lambe, J.C., M.C. Wittmann and R.E. Spekman (2001), "Social Exchange Theory and Research on Business-to-Business Relational Exchange", *Journal of Business-to-Business Marketing*, Vol. 8(3), pp. 1-36.
- Lambe, J.C., R.E. Spekman and S.D. Hunt (2002), "Alliance Competence, Resources, and Alliance Success: Conceptualization, Measurement, and Initial Test", *Journal of the Academy of Marketing Science*, Vol. 30(2), pp. 141-158.
- Liu, Y., Y. Li, L. Tao and Y. Wang (2008), "Relationship Stability, Trust and Relationship Risk in Marketing Channels: Evidence From China", *Industrial Marketing Management*, Vol. 37(4), pp. 432-446.
- Lusch, R.F. and J.R. Brown (1996), "Interdependency, Contracting, and Relational Behavior in Marketing Channels", *Journal of Marketing*, Vol. 60(4), pp. 19-39.
- Moller, K. (2006), "Role of Competences in Creating Customer Value: A Value-Creation Logic Approach", *Industrial Marketing Management*, Vol. 35, pp. 913-924.

- Morgan, R.M. and S.D. Hunt (1994), "The Commitment-Trust Theory of Relationship Marketing", *Journal of Marketing*, Vol. 58(3), pp. 20-38.
- Mukherji, A. and J.D. Francis (2008), "Mutual Adaptation in Buyer-Supplier Relationships", *Journal of Business Research*, Vol. 61, pp. 154-161.
- Narayandas, D. and K. Rangan (2004), "Building and Sustaining Buyer-Seller Relationships in Mature Industrial Markets", *Journal of Marketing*, Vol. 68(3), pp. 63-77.
- Neter, J., M.H. Kutner, C.J. Nachtsheim and W. Wasserman (1996), *Applied Linear Statistical Models, 4th Edition*, New York, NY, McGraw-Hill.
- Nunnally, J.C. (1978), *Psychometric Theory*, New York, NY, McGraw-Hill.
- Peterson, R.A. (1994), "A Meta-Analysis of Cronbach's Coefficient Alpha", *Journal of Consumer Research*, Vol. 21(2), pp. 381-391.
- Phillips, L.W. (1981), "Assessing Measurement Error in Key Informant Reports: A Methodological Note on Organizational Analysis in Marketing", *Journal of Marketing Research*, Vol. 18(4), pp. 395-415.
- Rindfleisch, A. and J.B. Heide (1997), "Transaction Cost Analysis: Past, Present, and Future Applications", *Journal of Marketing*, Vol. 61(4), pp. 30-55.
- Ring, P.S. and A.H. Van de Ven (1994), "Developmental Processes of Cooperative Interorganizational Relationships", *Academy of Management Review*, Vol. 19(1), pp. 90-118.
- Rokkan, A.I., J.B. Heide and K.H. Wathne (2003), "Specific Investments in Marketing Relationships: Expropriation and Bonding Effects", *Journal of Marketing Research*, Vol. 40(2), pp. 210-224.
- Samiee, S. and P.G.P. Walters (2006), "Supplier and Customer Exchange in International Industrial Markets: An Integrative Perspective", *Industrial Marketing Management*, Vol. 35, pp. 589-599.
- Sarkar, M.B., R. Echambadi, S.T. Cavusgil and P.S. Aulakh (2001), "The Influence of Complementary, Compatibility, and Relationship Capital on Alliance Performance", *Journal of the Academy of Marketing Science*, Vol. 29(4), pp. 358-374.
- Seppanen, R., K. Blomqvist and S. Sundqvist (2007), "Measuring Inter-Organizational Trust – A Critical Review of the Empirical Research in 1990-2003", *Industrial Marketing Management*, Vol. 36, pp. 249-265.
- Stump, R.L. and J.B. Heide (1996), "Controlling Supplier Opportunism in Industrial Relationships", *Journal of Marketing Research*, Vol. 33(4), pp. 431-441.
- Stump, R.L. and A.W. Joshi (1998), "To Be or Not To Be (Locked In): An Investigation of Buyers' Commitments of Dedicated Investments to Support New Transactions", *Journal of Business-to-Business Marketing*, Vol. 5(3), pp. 33-61.
- Telser, L.G. (1980), "A Theory of Self-Enforcing Agreements", *Journal of Business*, Vol. 53(1), pp. 27-44.
- Uлага, W. (2003), "Capturing Value Creation in Business Relationships: A Customer Perspective", *Industrial Marketing Management*, Vol. 32, pp. 677-693.
- Wathne, K.H. and J.B. Heide (2000), "Opportunism in Interfirm Relationships: Forms, Outcomes, and Solutions", *Journal of Marketing*, Vol. 64(4), pp. 36-51.
- Wathne, K.H. and J.B. Heide (2004), "Relationship Governance in a Supply Chain Network", *Journal of Marketing*, Vol. 68(1), pp. 73-89.
- Whitener, E.M., S.E. Brodt, M.A. Korsgaard and J.M. Werner (1998), "Managers as Initiators of Trust: An Exchange Relationship Framework for Understanding Managerial Trustworthy Behavior", *Academy of Management Review*, Vol. 23(3), pp. 513-530.
- Williamson, O.E. (1975), *Markets and Hierarchies: Analysis and Antitrust Implications*, New York, NY, Free Press.

- Williamson, O.E. (1985), *The Economic Institutions of Capitalism*, New York, NY, Simon and Schuster.
- Williamson, O.E. (1996), *The Mechanisms of Governance*, New York, NY, Oxford University Press.
- Wilson, D.T. (1995), "An Integrated Model of Buyer-Seller Relationships", *Journal of the Academy of Marketing Science*, Vol. 23(4), pp. 335-345.
- Womack, J.P. and D.T. Jones (1996), *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, New York, NY, Simon and Schuster.

APPENDIX

Trust (Cronbach's alpha = .84) (7-point Likert scale anchored by 1= "strongly disagree" to 7 = "strongly agree")

1. Both of us (both firms) are honest and truthful with each other
2. We treat each other fairly and justly
3. Both of us are cautious in dealing with each other (Reverse coded)
4. We deal with each other in a trustworthy manner

Mutual Investments (Split-half reliability = .85) (7-point Likert scale anchored by 1 = "strongly disagree" to 7= "strongly agree")

1. We (both firms) have made significant investments dedicated to this relationship
2. Both of us have made substantial investments of time and resources to develop this relationship

Goal Congruence (Cronbach's alpha = .89) (7-point Likert scale anchored by 1 = "strongly disagree" to 7= "strongly agree")

1. We have different goals (Reverse coded)
2. We support each other's objectives
3. We have compatible goals
4. We share the same goals in this relationship

Control Variables (7-point Likert scale anchored by 1 = "strongly disagree" to 7= "strongly agree")

1. **Supplier Incentives**
The agreement between us includes incentives for this supplier to perform well
2. **Supplier Lock-in**
This supplier has made large investments dedicated to this relationship
3. **Monitoring**
My firm regularly monitors this supplier's performance
4. **Qualification**
This supplier had to undergo an extensive qualification process to verify its ability to meet my firm's needs

PREDICTIVE VALIDITY OF A BEHAVIORAL INTERVIEW TECHNIQUE

GARY C. OLIPHANT, Stetson University

KATHARINE HANSEN, Quintessential Careers

BECKY J. OLIPHANT, Stetson University

Several scholars suggest that academic researchers thoroughly review interviewing techniques practitioners use to determine their reliability and validity in predicting job performance. The present study examines an interviewing technique used by the Gallup Organization to predict a sales candidate's eventual performance and retention. Results of the study indicate that the customized, structured-behavioral interviewing technique offers substantiated predictive validity and appears to be an effective selection tool for predicting sales success and improving salesperson retention. Furthermore the interview represented a nontraditional method. It was administered by telephone and offered similar results of traditional methods (i.e., face to face interviews). Thus, these findings of generalizable validity could save firms a substantial amount of interviewing costs by utilizing the telephone interview. The study offers four advantages to those interested in practices involved in hiring sales representatives: (a) Real behavioral interview data were used to classify new hires; (b) post-hire performance data were used to evaluate performance and retention of applicants from each behavioral group; (c) proprietary information regarding development of behavioral interviewing techniques was shared; And (d) several performance measures, multiple indicators, were used.

INTRODUCTION

Finding selection techniques to identify successful salespeople has become increasingly important because of the high cost of hiring and training new employees (Adidam 2006; Marshall et al. 2001). Estimated cost to replace an employee can range from two to four times his or her annual earnings (Adidam 2006; Bowers and Kleiner 2005). Furthermore, when employers consider the opportunity costs associated with an empty or underserved sales territory, recovery from damage ascribed to poor selection may take years (Munasinghe and O'Flaherty 2005; Randall and Randall 1990; Richardson 1999).

The disruption of sales force turnover on the remaining sales people can have further negative implications that may be difficult to measure. Beyond servicing their own territories, the remaining sales representatives

may be required to maintain the service of the unmanned territory, which can lead to burnout, lower quality of service to their customers, and loss of morale (Adidam 2006). It is not uncommon for vacant sales positions to remain open for as many as 60 days (Rhoads et al. 1994). Thus, the cost of sales personnel turnover can have a major impact on the sales organization's success. According to Darmon (2004), the cost to replace employees for a large firm can tally to as much as hundreds of thousands of dollars. Gordon and Lowe (2002) estimate that employee turnover is costing American firms at least \$150 billion annually. Thus, companies that develop or adopt more successful selection techniques will have greater long-term success in the marketplace (Marshall et al. 2001).

Marshall et al. (2001) note there has been less research in the area of sales-force selection when compared to other areas of sales-management tasks. Barclay (2001), Dreher and Maurer (1989), and Posthuma et al. (2002) suggest that academic researchers should begin

a thorough study of the selection techniques that practitioners use to determine their accuracy in predicting job performance. Churchill et al. (1985) postulated that many corporations have progressed beyond recruiting methods examined by academic researchers. Companies have the advantage of assessing directly the success of interviewing techniques. Academic researchers have difficulty obtaining such proprietary information; thus, they try to predict sales performance across different sales jobs, different companies, and different industries (Churchill et al. 1985; Randall and Randall 1990). Evidence suggests that to succeed in a particular sales position, different qualifications/skills are necessary based on the industry, company, job, and product (Campbell 1990; Chonko et al. 2000; Randall and Randall 1990).

Posthuma et al. (2002) performed a comprehensive narrative review of the employment interview research since 1989 and compared it to the last major narrative review done by Harris in 1989. The authors reviewed 278 studies, reported the trends over time, and suggested directions for future research. Following the suggestions that Posthuma et al. (2002) postulated, the current study examines data – in real interviews in a real setting – that include outcome variables such as actual job decisions, actual hiring decisions, and actual job performance measures and focus on a non-traditional interview format (the telephone interview).

To contribute to knowledge regarding utility of actual selection techniques, the present study evaluates a behavioral, telephone-interview technique developed by Gallup on a financial sales sample. This paper describes, discusses, and reviews Gallup's development, application, and implementation of its customized, structured interviewing process for selecting salespeople within a financial institution.

LITERATURE REVIEW

Numerous studies have evaluated the selection techniques used for hiring salespeople (Marshall et al. 2002). These efforts have covered everything from employment interviews, assessment centers, IQ tests, previous job experience, integrity testing, references, education, cognitive ability tests, and personality tests (Dipboye 1992; Randall and Randall 1990). Overall, integrity testing, cognitive ability testing, and use of assessment centers appear to be the most effective at predicting job performance (Campion et al. 1994; Howard 1997; Randall 1990; Salgado and Moscoso 2002; Wright et al. 1989). Still, the employment interview remains one of the most popular selection tools (Judge et al. 2000; Posthuma et al. 2002).

The employment interview is intended to provide insight as to a candidate's future performance by evaluating oral responses to the questions presented by the interviewer (McDaniel et al. 1994; Wiesner and Cronshaw 1989). Some scholars question the use of the employment interview as a technique for employee selection because of its low predictive validity (Arvey and Campion 1982; Hunter and Hunter 1984; Reilly and Chao 1982; Schmidt 1976). Still, practitioners continue to use the employment interview as their primary selection tool (Barclay 1999; Judge et al. 2000). Hence, it seems wise to further evaluate the effectiveness of the employment interview as a selection tool. Improvements to the technique could enhance its utility.

Researchers offer the following reasons for the lack of success of data gained through the employment interview in predicting performance in the academic literature:

- Researchers fail to recognize the distinction between job performance criteria collected for research purposes and that employed for administrative purposes;
- Researchers are using the wrong performance components;

- Researchers fail to make adjustments for range restriction, predictor/criterion reliability, and small sample sizes;
- Researchers use global measures of interview performance rather than job, company, and industry-specific measures;
- Researchers fail to incorporate moderators such as interview content, structure, or format in their studies;
- Researchers fail to account for the impact of visual and nonverbal cues on interviewers' judgments.

(Anderson 1995; Avila et al. 1988; Arvey and Campion 1982; Churchill et al. 1985; Eder and Buckley 1988; Eder and Ferris 1989; Grant and Cravens 1996; Harris 1989; Judge et al. 2000; Mayfield 1964; McDaniel et al. 1994; Motowidlo et al. 1992; Oliver and Posthuma et al. 2002; Randall 1990; Salgado and Moscoso 2002)

- Researchers offer the following explanations for practitioners' continued use of employment interviews when academic research has shown other techniques to be better predictors:
- The interview indirectly adds value to the process beyond that of a selection tool in such areas as recruitment and public relations, with the interviewer/recruiter attempting to sell the candidate on the job and the company during the interview.
- Interviews may have a future impact on prospective or current customers when interviewees obtain favorable perceptions of the firm and the fairness of the interview.
- The interview adds value beyond the selection emphasis through its use as a feedback mechanism. The interview offers the opportunity for the candidate to ask specific questions concerning the job and the company that cannot be addressed through other selection methods, such as ability tests.
- Managers believe in the value of the interview and are unwilling to relinquish the use of personal interviews as a selection method even when shown more valid methods of predicting job performance.

- Managers may believe they must meet the candidate in person to prevent any surprises. For example, only through a face-to-face interview can interviewers evaluate the candidate on appearance, social/business interactions, and the ability to "get along" with colleagues.
- Managers may continue to use the interview because of company policies, habits, experience, trust in their own judgments, ease, or the feeling of power. Company policy may dictate that employment interviews be used or firms continue to use employment interviews because selection has always been done that way. In the same context, some managers may continue the process of personal interviews because they were hired that way, and so the next person should be hired that way. Managers may not want to relinquish decision-making power to an impersonal technique such as a pencil and paper test.
- Small organizations may use the employment interview because it is an easy and familiar method to evaluate candidates rather than using more elaborate methods that require special training.
- The employment interview may be a valid predictor of performance that academic researchers have failed to replicate. Recent reviews and meta-analyses have found that an employment interview is a better predictor of performance than previously thought.
- (Arvey and Campion 1982; Campion et al. 1989; Huffcutt and Arthur 1994; Judge et al. 2000; Latham and Sue-Chan 1999; Marchese and Muchinsky 1993; McDaniel et al. 1994; Motowidlo et al. 1992; Posthuma et al. 2002; Orpen 1985; Rynes 1989; Salgado and Moscoso 2002; Schmidt and Hunter 1998)

In their comprehensive meta-analysis of the construct validity of the employment interview, Salgado and Moscoso (2002) concluded that unstructured conventional interviews assessed personality dimensions and social skills while the structured behavioral interview mainly

assessed job knowledge, job experience, and situational judgment. Recent studies of employment interviews have concluded that structured interviews offer greater predictive validity than unstructured interviews (Judge et al. 2000; Ployhart 2006; Barclay 1999). Barclay, in fact, points to the “poor predictive accuracy” (p. 134) of unstructured interviews. “How could interviewers accurately predict future candidate job performance when each maintained his/her own set of favorite questions and asked different questions?” query Harel et al. (2003, p. 94). Furthermore, it appears that the structured interviews can provide incremental validity over other interviewing techniques (Cortina et al. 2000; Huffcutt and Arthur 1994; Huffcutt et al. 2001; McDaniel et al. 2007). Huffcutt, Conway, Roth, and Stone note that degree of structure is the most important factor affecting the interview process (2001, p. 900). A meta-analysis by Schmidt and Zimmerman (2004) indicated that it takes about four unstructured interviews to equal the reliability of one structured interview. The researchers found higher correlations with job performance for structured interviews than for unstructured interviews.

It appears, motivated by recent results found by several researchers of the validity of the structured interview, that more researchers in the academic field are shifting their studies in this area (Van Iddekinge and Raymark 2001; Weekley and Ployhart 2006).

LIFE THEMES INTERVIEW

To evaluate predictive validity of a company selection instrument, the present study used a customized, structured, behavioral-based interview developed by the Gallup Organization. The interview, conducted over the telephone, comprises several items or themes. The model (themes) is customized to suit each firm.

The thesis of the behavioral interview technique studied is life themes, which are spontaneous, recurring patterns of thought, feeling, and behavior (Henkoff 1994). These patterns of

behavior form the basis for theme theory, which allows for prediction of a response to a given situation or set of stimuli. For example, an observer who gets to know a person well enough can anticipate his or her reaction to a given set of circumstances. As Gallup Chairman Donald Clifton states, “Everyone is born with unique characteristics that are reinforced and developed in the first year of life. By the time you reach age 20, your major life themes are pretty well set” (Henkoff 1994, p. 120).

With the Life Themes model, consistency of behavior forms the basis for predictability. Additionally, a theme within a person will recur under a given set of circumstances or situations. Adding the consistent pattern and using an expectation of recurrence, the interviewer can begin to establish a predictable behavior pattern.

The concepts of life theme theory fit within the rubric of the Patterned Behavior Description Interview (PBDI) (see Janz 1982). PBDI serves as the basis for interview models such as life themes. The idea of life theme theory is to understand how applicants handled past situations and decisions so as to extrapolate to expect future situations within the interviewing firm (Janz 1982; Orpen 1985). “The bottom line in selection is prediction of future job performance,” write Bowers and Kleiner (2005, p. 107). An example of a behavioral interviewing question is: “Describe a time when you worked in a group and one of the members of the group did not carry his or her weight.”

Use of behavior-based interviewing by sales organizations is rising (Barclay 1999). Griffin (1996), director of recruitment at Accenture (formerly Andersen Consulting) indicates that behavior-based interviewing is used by more than 60 percent of Fortune 100 companies and is quite effective in predicting job success.

Several researchers provide evidence that PBDI offers higher levels of predictive validity for selecting employee for specific positions (Campion et al. 1994; Janz 1982; McDaniel et

al. 2007; Orpen 1985; Pulakos and Schmidt 1995; Salgado and Moscoso 2002). Furthermore, interest in the PBDI technique has been seen within academia (Weekley and Ployhart 2006), and some universities have incorporated behavior-based interviewing in their human resources curricula (Starcke 1996). Barclay (2001) notes that “behavioral interviewing has significant benefits in improving selection.”

Scholars conduct much interview research in experimental or laboratory settings (e.g., Chapman and Zweig 2005; Iddekinge et al. 2005) that may not generalize to field settings (Posthuma et al. 2002; Harel and Ardit-Vogel 2003), often using college students as subjects in mock interviews rather than real candidates in actual employment interviews. Researchers who conduct interview research in actual field settings are quick to point out the advantages of their studies (e.g., Barclay 1999; Barclay 2001; Moscoso and Salgado 2001; Tsai et al. 2005) over those performed in experimental or laboratory settings. Barclay (1999) goes so far as to state that the “reliance on an experimental approach” (p. 138) is a limitation of existing research. In developing taxonomy of interview constructs, Huffcutt et al. (2001) reviewed only studies that involved interviews for actual positions. While it appears that PBDI offers a promising avenue to predict job performance (Weekley and Gier 1987), the majority of the studies of PBDI have used an experimental design. Little is known about the methodology that practitioners use in the field (Barclay 2001). Harris (1989) Barclay (2001), and Posthuma et al. (2002) stress the importance of studying the methodology and results of PBDI in the field of operations. The current study was designed to evaluate the utility of behavioral interviewing in a sales-force environment.

STUDY DESIGN

A financial institution contracted with Gallup to design an interview to help the organization hire successful loan salespeople (i.e., to increase productivity of new hires and reduce turnover). The loan sales position required a

person to help a customer apply for a loan, counsel customers on loan options, and sell various loan services. A behavioral interviewing technique was used as part of the hiring process applicants underwent.

Gallup used a four-step process to develop the behavioral interview (see also Schmidt and Rader 1999, for a discussion of a variation on this Gallup interview). The four steps are summarized below.

Step 1: Conduct Focus Groups and Work Place Evaluations – Focus groups were conducted with key executives and top-performing salespeople within the sample organization. Focus-group facilitators elicited insights about the sales position by posing such questions as: “Describe your organization’s culture?” “What do you like about your job?” “What is your greatest satisfaction?” Answers to the questions provided an understanding of the job demands and expectations. In addition, the analyst spent time with several top salespeople to gain a better understanding of day-to-day activities. Computer-based analysis of the focus-group transcript was conducted using Text Based Alpha software, which identifies words or phrases that allow the analyst to speculate as to the existence of specific life themes.

This process of focus-group interviews and workplace evaluation exemplifies the critical-incident technique developed by Flanagan (1954). Critical incidents are descriptions of effective employee behavior. Through the critical-incident technique, job analysts interview supervisors, job incumbents, and other key observers to determine which behaviors are necessary for success in a particular position (Field and Gatewood 1989). Researchers that have used this technique or variations of it and have proven its success in studies include Campion et al. (1994); Campion et al. (1988); Janz (1982); Motowidlo et al. (1992); Orpen (1985); Latham and Saari (1984); and Weekley and Gier (1987).

Step 2: Study Group and Contrast Group Research – The second step of the study

involved conducting in-depth interviews with a sample (n=73) consisting of the top performing salespeople (study group n=42) and salespeople who have average or below-average performance (contrast group n=31). The employer chose these groups through a combination of objective and subjective information. Poor performers were assumed to have quit or been fired. Many businesses (e.g., Accenture, FedEx, Hewitt) have concluded that the best way to hire individuals who will succeed within a given organization is to first gain an understanding why some of their people are top performers, while others are mediocre. Underscoring this approach for sales personnel selection is Salz, writing in a 2007 article on the Web site Electronic Recruiting Exchange:

It has always surprised me how many companies have fully documented profiles of their ideal client. Yet, few have a profile of their ideal salesperson. How can you screen when you don't know for what you are screening? ... The lack of a fully defined profile of the ideal salesperson is the most common cause of bad sales marriages.

Data gained through the interviews were analyzed by correlating group membership (study or contrast) to the response to each item on the interview, as well as comparing them to performance data (see Abrahams and Aif 1978; Aif and Abrahams 1975; and Borich and

Godbout 1974, for a discussion of this design). Each question was evaluated in terms of differences between study and contrast groups using a t test. Significant correlation for an item to the study group meant that the item and the specific response or listen-for was considered to be a valid question for predicting success. Such items were included in the behavioral interview. Figure 1 summarizes three example life theme questions.

The interviews with the 73 salespeople in the study and contrast groups were scored by incorporating each theme score into a composite score. Each candidate was given an A, B, or C rating, with A being the highest rating. Gallup has discovered that A's usually represent 20-30 percent of the applicant pool. When the firm is hiring a large number of applicants, many times it must dip into the pool of applicants that were grouped as having a lower score. Thus, Gallup uses three groups, which offers the firm another group that scored between the high and low performers, to alleviate the guesswork over which applicants to hire when no more A's are available.

Demographic information was also gathered for each person interviewed to determine whether any systematic differences existed among groups. No significant difference was found among candidates of varying race, gender, or

FIGURE 1	
Example of Life Theme, Questions, and Listen-Fors	
<i>Life Theme</i>	
Ego Drive: Reflected in a person's desire to be highly successful. The need to be a significant person according to his or her own goals.	
Question: 'What makes you feel important?'	Listen For: When I get credit for something or When I know I've done something.
Question: 'How do you feel when Someone else gets the credit for what you've done?'	Listen For: Bad. Angry.
Question: Describe a past event that gave you a great sense of personal accomplishment.	Listen For: It was very important for me to be successful. I am very driven. I want to be the best. I was recognized for doing a great job.

TABLE 1
Rating of Salespeople

73 Salespeople Interviewed:	38 A-rated
	9 B-rated
	26 C-rated
Average Scores by Group:	A-rated 28.74
	B-rated 24.56
	C-rated 19.31
Scoring Range:	High 40
	Low 8
Correlation of Total Score to Group = .61	

age. Total score on this interview ranged from 0 to 50 points. The results of the interview are summarized in Table 1.

Step 3: Development of Themes/Questions – Life themes and questions were defined on the basis of group membership (groups A, B, C). The final interview consisted of the most predictive questions measuring the dominant themes identified with successful salespeople. Based on the research results, the interview was then reconfigured, and the critical themes defined. The final interview was composed of 50 questions measuring 10 life themes. Five questions corresponded to each life theme. The following themes were developed to represent a successful profile of a loan salesperson for the sampled financial institution:

- **Command:** Readily takes charge of interactions; persuasive.
- **Problem Solver:** Uses competence, logic and experience to reach a successful outcome.
- **Positivity:** Optimistic, sees opportunities rather than obstacles.
- **Ego Drive:** Ability to claim and achieve big goals.
- **Competition:** The need to win; desire to out-perform others.
- **Persistence:** Intense and tenacious in work style.

- **Focus:** Goal oriented, single-minded and hard to distract.
- **Responsibility:** Needs to do what is right for the company and the customer.
- **Esteem:** Need to be recognized and rewarded as a professional.
- **Goodwill:** The use of strong interpersonal skills to enhance productivity.

Step 4: Measuring Effectiveness – To evaluate the predictive validity of the behavioral interview, job applicants were interviewed. Telephone interviewers read the 50 questions to the job applicants in the same order and provided no interpretation or clarification. Questions were repeated if necessary, and a candidate could choose to skip the question and come back to it at any time. This structured interviewing process ensured equal treatment for each respondent (see Campion et al. 1997, for thorough description of the benefits of structured interviewing). Several studies have used this method of asking questions when examining the predictive validity of the interview (Campion et al. 1994; Campion et al. 1988; Weekley and Gier 1987).

Following the telephone interview, an audiotape of the interview was given to a trained job analyst to determine if the interviewee’s responses matched the desired behavior for the job (the listen-fors in Figure 1). For each response that matched the desired behavior for that question, the candidate received a point. If the response did not match the desired behavior for that question, the response was scored as zero. Results of the interviews were aggregated in the following two ways that enabled the firm to evaluate each candidate:

1. **Total Score by Theme** – This score allowed a manager to see a candidate’s areas of strength, as well as his or her weaker areas.
2. **Total Interview Score** – This was an overall rating of the candidate. The candidate was given an A, B, or C rating, where A was high and C was low.

The financial institution had the ultimate decision in the hiring process. The company

TABLE 2
Productivity Outcome Measures

Groups	N	\$ Amount of Loan Mean	Number of Loans Mean	Dollar Goal Mean	Percent Goal Mean	\$ Monthly Avg. Mean
A	73	*11,731,827	99.5	*13,217,057	92.2	*982,789
B	77	9,804,775	92.5	10,603,930	93.9	853,898
C	29	7,486,831	70.9	9,999,511	80.8	658,579

could choose to hire candidates categorized as A's, B's, or C's. Gallup tracked the sales productivity of the individuals hired using the Gallup customized, structured interview to evaluate predictive validity of the technique. Productivity indices included dollar amount of loans, number of loans, dollar goal, percent of goal, and dollar monthly average loan value for the second year the candidate was hired. Retention was represented as an annualized turnover rate that included retention statistics 29 months from date of hire.

RESULTS

The utility of the behavioral model was evaluated in terms of performance and retention of 179 sales job applicants hired under the structured interview. Table 2 summarizes productivity measures of the salespeople by behavioral theme group. As for loan sales, the difference between A-rated candidates and C-rated candidates was statistically significant (F=3.68, df=2,176; Bonferroni A>C, p<.05). A-hires had sold 56.7 percent more in loan dollars their second year compared to C-hires.

Difference in the number of loans sold was not statistically significant. However, A-hires accounted for an average of 100 loans in their second year, whereas C-hires accounted for 71. The A-hires accounted for 39.4 percent more loans than the C-hires. Candidates in the A group differed significantly from those in group C based on the productivity measure, average dollar goal for their second year (F=3.047, df=2,176; Bonferroni A>C, p<.05).

An analysis of the percentage of goal shows that A-hires had an average of 92 percent, while C's achieved 81 percent of their established goal. The A-hires had a 13.6 percent more loan output when compared to C-hires. The differences were not statistically significant. Place Table 2 about here

When loan dollar value was divided by LOS (length of service), A-hires had an average of \$982,789 in loans per month compared to \$658,579 for C-hires. The A-hires had 49.2 percent more in loans per month compared to C-hires. The difference between A-hires and C-hires was statistically significant (F=5.49, df=2,176, Bonferroni A>C, p<.05).

Overall, the Gallup rating (A, B, C) was significantly predictive of three productivity measures: dollar amount of loans (r=.20), dollar goal (r=.17) and monthly dollar average (r=.24). These results compare quite favorably to the meta-analytic validity findings of the structured employment interview (Huffcutt and Arthur 1994; McDaniel et al. 1994; Salgado and Moscoso 2002; Schmidt and Rader 1999).

Another objective for developing the customized, structured interview was to increase salesperson retention. The financial institution reported that the turnover rate for loan salespeople was 38.7 percent for the year prior to enactment of the technique. As shown in Table 3, annualized turnover for the 29 months following the first hire was 13.6 percent. By classification, A-hires had a 17 percent annualized turnover compared to 10.8 percent for B-hires and 12.9 percent for C-

hires. Overall, after implementing the structured interview, annualized turnover decreased from 38.7 percent to 13.55 percent (assuming all else held constant). The annualized turnover rate included anyone who left the firm whether for promotion, transfer, personal reasons, or poor productivity.

However when turnover was further scrutinized according to poor productivity dismissals, six of the 19 C-hires and 10 of the 66 A-hires were dismissed because of poor productivity. By percentage of terminations, C-hires (31.5 percent) are twice as likely to terminate because of performance as are A-hires (15.2 percent). On average, A-terminations stay about 12.3 months before leaving, compared to 8.8 months for B-terminations and 10.6 months for C-terminations. As Richardson (1999) stated, it is important to classify the types of turnover when assessing the opportunity costs associated with the sales lost.

DISCUSSION

The study offers four advantages to those interested in practices involved in hiring sales representatives: (a) Real behavioral interview data were used to classify new hires; (b) post-hire performance data were used to evaluate performance and retention of applicants from each behavioral group; (c) proprietary information regarding development of behavioral interviewing techniques was shared; and (d) several performance measures, multiple indicators, were used.

Study findings suggest that applicants that scored higher in the behavioral interview performed better and were less likely to leave the company for poor productivity, thus contributing to the literature on the predictive validity of PBDI. However, it should be noted that organizations can exert a significant impact on the success of their employees. The financial institution described in this paper had the final decision in determining whom they hired: As, Bs or Cs. If a manager had a good feeling about a C, the manager had the authority to hire that person. Once the person was hired, the manager could use the results of the interview to better understand the strengths and weaknesses of the individual hired and how he or she needed to be managed. Thus, the results of the interview may have influenced the manager in several ways: (a) Managers may have assigned the best territories to A hires and given the worst territories to C hires; (b) managers may have given more training to the C hires; and (c) managers may have assigned C hires to the sales managers who provided the most support. Thus, the use of outcomes (i.e., sales volume) to evaluate the success of a selection technique to predict performance measures may be flawed (Randall and Randall 1990). Future research should include both behaviors and outcomes in their study or/and adjust performance for sales territory, sales manager, and training differences.

CONCLUSION

Much more research is needed into the many aspects of the employment interview. A thorough literature search shows that behavior-

TABLE 3
Annualized Turnover for Candidates Hired Under Life Themes

Groups	Hired	Active	Terminated	Annualized Turnover Percent
A	161	95	66	16.96
B	169	125	44	10.77
C	64	45	19	12.88
TOTAL	394	265	129	13.55 (Average)

based interviewing techniques have been inadequately researched, as has been the predictive validity of interviews regarding retention of employees. When meta-analyses have been conducted, behavior-based interviewing techniques have not been treated as a separate category since there has been few studies in this area (McDaniel et al. 1994). This lack of research proves worrisome since many practitioners are selecting the method. We hope the results of this study and others on job-related interviewing provide an impetus to study additional practitioner methods that are structured and job related.

As the current study shows, the customized, structured, job-related interviewing process developed by the Gallup Organization can be an effective tool to assist in selecting and managing successful and satisfied salespeople by predicting productivity and retention and identifying strengths and weaknesses of new hires. In the applied realm of actual recruiters interviewing sales candidates, Salz (2007) calls behavioral interviewing a "powerful tool". Similarly, Warech's study (2002) of the application of a competency-based, structured-interview process to hire sales specialists at Buckhead Beef not only provides further evidence of the predictive validity of structured interviews that were partially behavioral, but also presents an interesting comparison with the present study. Furthermore, this study's technique was delivered by telephone, which can offer substantial savings in both time and costs, although a non-traditional format interview such as the telephone interview may have a negative impact on the applicants. Future research should measure the impact of non-traditional interviews (e.g., telephone, video interactive interviews, and Internet interactive interviews) on the interview, on acceptance rates, and on the applicant reactions to fairness and feeling toward the interviewing firm.

REFERENCES

- Abrahams, N. M. and E. F. Aif, Jr. (1978), "Relative Costs and Statistical Power in the Extreme Groups Approach", *Psychometrika*, 43(1), 11-17.
- Aif, E. F., Jr. and N. M. Abrahams (1975), "The Use of Extreme Groups in Assessing Relationships", *Psychometrika*, 40(4), 563-572.
- Adidam, P. T. (2006), "Causes and Consequences of High Turnover by Sales Professionals", *Journal of American Academy of Business*, 10(1), 137-141.
- Avila, R. A., E. F. Fern and O. K. Mann, (1988), "Unraveling Criteria for Assessing the Performance of Salespeople: A Casual Analysis", *Journal of Personal Selling and Sales Management*, 8, 45-54.
- Arvey, R. D. and J. E. Campion (1982), "The Employment Interview: A Summary and Review of Recent Research", *Personnel Psychology*, 35, 281-323.
- Barclay, J. M. (1999), "Employee Selection: A Question of Structure", *Personnel Review*, 28(1/2), 134-151.
- Barclay, J. M. (2001), "Improving Selection Interviews with Structure: Organisations' Use of Behavioral Interviews", *Personnel Review*, 30(1), 81-101.
- Borich, G. D. and R. G. Godbout (1974), "Extreme Groups Designs and the Calculation of Statistical Power", *Educational and Psychological Measurement*, 34, 663-675.
- Bosshardt, M. J. (1992), "Situational Interviews Versus Behavior Description Interviews: A Comparative Validity Study", *Unpublished Doctoral Dissertation*, University of Minnesota.
- Bowers, D. and B. H. Kleiner (2005), "Behavioral Interviewing", *Management Research News*, 28, (11/12), 107-114.
- Campbell, J. P. (1990), "Modeling the Performance Prediction Problem in Industrial and Organizational Psychology", in M. D. Dunnette, and L. Hough (Eds.), *Handbook of Industrial and Organizational Psychology*, Vol. 2, 687-732. Palo Alto, CA: Consulting Psychologists Press.

- Campion, M. A., J. E. Campion and J. P. Hudson, Jr. (1994), "Structured Interviewing: A Note on Incremental Validity and Alternative Question Types", *Journal of Applied Psychology*, 79(6), 998-1002.
- Campion, M. A., D. K. Palmer and J. E. Campion (1997), "A Review of Structure in the Selection Interview", *Personnel Psychology*, 50(3), 655-702.
- Campion, M. A., E. D. Pursell and B. K. Brown (1988), "Structured Interviewing: Raising the Psychometric Properties of the Employment Interview", *Personnel Psychology*, 41, 25-42.
- Chapman, D. S. and D. I. Zweig (2005), "Developing a Nomological Network for Interview Structure: Antecedents and Consequences of the Structured Selection Interview", *Personnel Psychology*, 58(3), 673-702.
- Chonko, L. B., T. N. Loe, J. A. Roberts and J. F. Tanner (2000), "Sales Performance: Timing of Measurement and Type of Measurement Make a Difference", *Journal of Personal Selling and Sales Management*, 20, 23-36.
- Churchill, G.A., Jr., N. M. Ford, S. W. Hartley and O. C. Walker, Jr. (1985), "The Determinants of Salesperson and Performance: A Meta-Analysis", *Journal of Marketing Research*, 23, 103-118.
- Clief, M. S. V. (1991), "In Search of Competence: Structured Behavior Interviews", *Business Horizons*, 51-55.
- Darmon, R. Y. (2004), "Controlling Sales Force Turnover Costs Through Optimal Recruiting and Training Policies", *European Journal of Operational Research*, 154(1), 291.
- Dipboye, R. L. (1992), "Selection Interview: Process Perspectives", Cincinnati, OH: Southwestern.
- Dreher, G. F. and S. D. Maurer (1989), "Assessing the Employment Interview: Deficiencies Associated with the Existing Domain", In R. W. Eder, and G. R. Ferris (Eds.), *The Employment Interview: Theory, Research, and Practice* (pp.249-268). Newbury Park, CA: Sage Publications, Inc.
- Eder, R. W. and M. R. Buckley (1988), "The Employment Interview: An Interactionist Perspective", In G. R. Ferris, and K. M. Rowland (Eds.), *Research in Personnel and Human Resources Management*. Vol. 6, 75-107. Greenwich, CT: JAI Press.
- Eder, R. W. and G. R. Ferris (1989), *The Employment Interview: Theory, Research, and Practice*, Newbury Park, CA: Sage Publications, Inc.
- Field, H. S. and R. D. Gatewood (1989), "Development of a Selection Interview: A Job Content Strategy", In R. W. Eder, and G. R. Ferris (Eds.), *The Employment Interview: Theory, Research, and Practice*, 145-157. Newbury Park, CA: Sage Publications, Inc.
- Flanagan, J. C. (1954), "The Critical Incident Technique", *Psychological Bulletin*, 51, 327-358.
- Grant, K. and D. W. Cravens (1996), "Examining Sales Force Performance in Organizations that Use Behavior-Based Sales Management Processes", *Industrial Marketing Management*, 22, 361-371.
- Gordon, J. and B. Lowe (2002), "Employee Retention: Approaches for Achieving Performance Objectives", *Journal of American Academy of Business*, 1(2), 201.
- Griffin, N. (1996), "Andersen Consulting: Critical Behavior Interviewing Workshop", Online Posting. Newsgroup. Retrieved [date], from <http://careerweb.georgetown.edu/promos/anderson.html>. November 17, 1996.
- Harel, G., A. Arditi-Vogel and T. Janz (2003), "Comparing the Validity and Utility of Behavior Description Interview Versus Assessment Center Ratings", *Journal of Managerial Psychology*, 18(1/2), 94-104.
- Harris, M. M. (1989), "Reconsidering the Employment Interview: A Review of Recent Literature and Suggestions for Future Research", *Personnel Psychology*, 42, 691-726.
- Head, R. G. (1992, February), "Systematizing Salesperson Selection", *Sales and Marketing Management*, 65-68.
- Henkoff, R. (1994, October 3), "Finding, Training and Keeping the Best Service Workers", *Fortune*, 110-122.

- Howard, A. (1997), "A Reassessment of Assessment Centers: Challenges for the 21st Century", *Journal of Social Behavior and Personality*, 12, 13-53.
- Huffcutt, A. I. and W. Arthur, Jr. (1994), "Hunter and Hunter (1984) Revisited: Interview Validity for Entry-Level Jobs", *Journal of Applied Psychology*, 79(2), 184-190.
- Huffcutt, A. I., P. L. Roth, J. M. Conway and N. J. Stone (2001), "Identification and Meta-Analytic Assessment of Psychological Constructs Measured in Employment Interviews", *Journal of Applied Psychology*, 86(5), 897-913.
- Hunter, J. E. and R. F. Hunter (1984), "The Validity and Utility of Alternative Predictors of Job Performance", *Psychological Bulletin*, 96, 72-98.
- Janz, T. (1982), "Initial Comparisons of Patterned Behavior Description Interviews Versus Unstructured Interviews", *Journal of Applied Psychology*, 67(5), 577-580.
- Judge, T. A., C. A. Higgins and D. M. Cable (2000), "The Employment Interview: A Review of Recent Research and Recommendations for Future Research," *Human Resource Management Review*, 10(4), 383-406.
- Latham, G. P. and L. M. Saari (1984), "Do People Do What They Say?, Further Studies on the Situational Interview", *Journal of Applied Psychology*, 69, 569-573.
- Marshall, G. W., T. H. Stone and I. M. Jawahar (2001), "Selection Decision Making by Sales Managers and Human Resource Managers: Decision Impact, Decision Frame and Time of Valuation", *Journal of Personal Selling and Sales Management*, 21(1), 19-28.
- Mayfield, E. C. (1964), "The Selection Interview: A Reevaluation of Published Research", *Personnel Psychology*, 17, 239-260.
- McDaniel, M. A., N. S. Hartman, D. L. Whetzel and W. L. Grubb III (2007), "Situational Judgment Tests, Response Instructions, and Validity: A Meta-Analysis", *Personnel Psychology*, 60, 63-91.
- McDaniel, M. A., D. L. Whetzel, F. L. Schmidt and S. D. Maurer (1994), "The Validity of Employment Interviews: A Comprehensive Review and Meta-Analysis", *Journal of Applied Psychology*, 79(4), 599-616.
- Moscoso, S. and J. F. Salgado (2001), "Psychometric Properties of a Structured Behavioral Interview to Hire Private Security Personnel", *Journal of Business and Psychology*, 16(1), 51-59.
- Motowidlo, S. J., G. W. Carter, M. D. Dunnette, N. Tippins, S. Werner, J. R. Burnett and M. J. Vaughan (1992), "Studies of the Structured Behavioral Interview", *Journal of Applied Psychology*, 77(5), 571-587.
- Munasinghe, L. and B. O'Flaherty (2005), "Specific Training Sometimes Cuts Wages and Always Cuts Turnover", *Journal of Labor Economics*, 23(2), 213.
- Orpen, C. (1985), "Patterned Behavior Description Interviews Versus Unstructured Interviews: A Comparative Validity Study", *Journal of Applied Psychology*, 70, 774-776.
- Ployhart, R. E. (2006), "Staffing in the 21st Century: New Challenges and Strategic Opportunities", *Journal of Management*, 32, 868-987.
- Posthuma, R. A., F. P. Morgeson and M. A. Campion (2002), "Beyond Employment Interview Validity: A Comprehensive Narrative Review of Recent Research and Trends Over Time", *Personnel Psychology*, 55, 1-81.
- Randall, E. J. and C. H. Randall (1990), "Review of Salesperson Selection Techniques and Criteria", *International Journal of Research in Marketing*, 7(2, 3), 81-95.
- Randall, E. J. (1990), "Selecting that Successful Salesperson", *Review of Business*, 12(1), 19-24.
- Reilly, R. R. and G. T. Chao (1982), "Validity and Fairness of Some Alternative Employee Selection Procedures", *Personnel Psychology*, 35, 1-62.

- Rhoads, G. K., J. Singh and P. Goodell (1994), "The Multiple Dimensions of Role Ambiguity and their Impact upon Psychological and Behavioral Outcomes of Industrial Salespeople", *Journal of Personal Selling and Sales Management*, 14(2), 1-24.
- Rynes, S. L. (1989), "The Employment Interview as a Recruitment Device", In R.W. Eder and G. R. Ferris (Eds.), *The Employment Interview: Theory, Research, and Practice* (pp. 127-138). Newbury Park, CA: Sage Publications, Inc.
- Salgado, J. F. and S. Moscoso (2002), "Comprehensive Meta-Analysis of the Construct Validity of the Employment Interview", *European Journal of Work and Organizational Psychology*, 11(3), 299-324.
- Salz, L. (2007, November 27), "Why Can't I Hire the Right Salespeople? Electronic Recruiting Exchange", Retrieved November 28, 2007, from <http://www.ere.net/articles/db/B70D55ACB7264711A4BF613E99BB737F.asp>
- Schmidt, N. (1976), "Social and Situational Determinants of Interview Decisions: Implications for the Employment Interview", *Personnel Psychology*, 29, 79-101.
- Schmidt, F. L. and J. E. Hunter (1998), "The Validity and Utility of Selection Methods in Personnel Psychology: Practical and Theoretical Implications of 85 years of Research Findings", *Psychological Bulletin*, 124, 262-274.
- Schmidt, F. L. and J. E. Hunter (1999), "Theory Testing and Measurement Error", *Intelligence*, 27, 183-198.
- Schmidt, F. L. and M. Rader (1999), "Exploring the Boundary Conditions for Interview Validity: Meta-Analytic Validity Findings for a New Interview Type", *Personnel Psychology*, 52(2), 445-465.
- Schmidt, F. L. and R. D. Zimmerman (2004), "A Counterintuitive Hypothesis about Employment Interview Validity and some Supporting Evidence", *Journal of Applied Psychology*, 89(3), 553-561.
- Starcke, A. M. (1996), "Tailor Interviews to Predict Performance", *HR Magazine*, 49-54.
- Tsai, W., C. Chen and S. Chiu (2005), "Exploring Boundaries and Effects of Applicant Impression Management Tactics in Job Interviews", *Journal of Management*, 31, 108-125.
- Van Iddekinge, C. H. and P. H. Raymark (2001), "What do Structured Employment Interviews Measure? Examining the Construct Validity of a Behavior Description Interview", *Academy of Management Proceedings*, HR F2-HR F6.
- Van Iddekinge, C. H., P. H. Raymark and P. L. Roth (2005), "Assessing Personality with a Structured Employment Interview: Construct-Related Validity and Susceptibility to Response Inflation", *Journal of Applied Psychology*, 90(3), 536-552.
- Warech, M. A. (2002), "Competency-Based Structured Interviewing: At the Buckhead Beef Company", *Cornell Hotel and Restaurant Administration Quarterly*, 43, 70-77.
- Weekley, J. and J. A. Gier (1987), "Reliability and Validity of the Situational Interview for a Sales Person", *Journal of Applied Psychology*, 72, 484-487.
- Weekley, J. A. and R. E. Ployhart (2006), *Situational Judgment Tests: Theory, Management, and Application*. Mahwah, NJ: Erlbaum.
- Wiesner, W. H. and S. F. Cronshaw (1988), "A Meta-Analytic Investigation of the Impact of Interview Format and Degree of Structure on the Validity of the Employment Interview", *Journal of Occupational Psychology*, 61, 275-290.
- Wright, P. M., P. A. Lichtenfels and E. D. Pursell (1989), "The Structured Interview: Additional Studies and a Meta-Analysis", *Journal of Occupational Psychology*, 62, 191-199.

THE IMPACT OF COGNITIVE AGE ON SENIORS' LIFESTYLES

RAJESH IYER, Bradley University

TIMOTHY H. REISENWITZ, Valdosta State University

JACQUELINE K. EASTMAN, Georgia Southern University

This study found that, as seniors' cognitive age increases, their participation in culturally-related activities decreases, their fashion interest decreases, and their degree of innovativeness decreases in terms of Internet shopping. Their brand loyalty/loyalty proneness, however, increases with an older cognitive age. The results suggest that marketers cannot segment all senior citizens into one group as there are significant differences in their lifestyles based on cognitive age. Seniors, who are younger in terms of their cognitive age, may still be an attractive market for cultural, fashion, or innovative products, particularly those sold on the Internet. Additionally, the results suggest that even those seniors who see themselves as older, based on their cognitive age, are still an attractive segment for marketers due to their brand loyalty.

INTRODUCTION

The senior citizen market is becoming increasingly important for marketers to understand and address. Americans are living longer than ever before, causing a senior boom, while a low birth rate continues to minimize the size of younger age segments (Schewe and Noble 2000). In the U.S., the number of people age 65 and older is 36.3 million (U.S. Department of Health and Human Services 2006) and is projected to increase to 50 million by 2010 (Lambert-Pandraud, Laurent and Lapersonne 2005), or one out of seven people, compared to one in ten in 1970 (Oumlil and Williams 2000). In the aggregate, they are the most rapidly expanding group in the United States (Jones 2001) and the 85-plus population is the fastest growing subset of this group (Jones 2001; Schewe 1991).

Senior citizens control a substantial portion of the wealth and disposable income in the United States (Nwogugu 2005). The size and buying power of the segment, combined with the fact that not all seniors behave the same in terms of consumption, justifies the need for research in

this area. A better understanding of the characteristics of the senior consumer will enable marketers to more accurately define the segments of this large and lucrative market.

Many academicians researching the older consumer cite the increasing heterogeneity of the group (Moschis, Curasi and Bellenger 2003; Schiffman and Sherman 1991). Segments clearly exist within the large senior market (Moschis, Curasi and Bellenger 2003); yet segmenting this group based on chronological age may not be a good segmentation strategy for older consumers who age differently and at different rates. One method of differentiating consumers has been by their self-perceived age (Barak and Schiffman 1981) or cognitive age, which may ultimately present a useful approach to segmenting the older market (Szmigin and Carrigan 2001a). There are a variety of activities, interests, and products that are embraced by those who feel younger than their chronological age (Ebenkamp 2002; Reid 2006).

Thus, the purpose of this study is to examine the impact of cognitive age on the consumption lifestyles of seniors. The research will build upon the work already done in the area of seniors and cognitive age (see Barak and

Schiffman 1981; Chua, Cote and Leong 1990; Eastman and Iyer 2005; Mathur and Moschis 2005; Schiffman and Sherman 1991; Sherman, Schiffman and Mathur 2001; Szmigin and Carrigan 2001a; Van Auken, Barry and Bagozzi 2006; Weijters and Geuens 2006; and Wilkes 1992). In this paper, we intend to contribute to the literature by addressing the impact of cognitive age on seniors' lifestyles, such as in the area of culturally-related activities and fashion interest, as well as consider the impact of cognitive age on innovativeness with the domain of Internet shopping and brand loyalty, which are not addressed in the cognitive age literature. This paper will first present a literature review on cognitive age and the lifestyle variables of culturally-related activities, fashion interest, innovativeness in terms of Internet shopping, and brand loyalty. Then, we will discuss our methodology, results, and implications of those results for marketing managers.

LITERATURE REVIEW

Schewe (1989) states that aging is an individual event as no two persons age the same way at the same time. The biology of aging is dependent on genetic inheritance and on the environment. Consumers not only inherit their physical features, but also their susceptibility to disease and the predisposition to other facets of aging, such as wrinkling, weight change, and hair alterations. The environment also affects longevity (Schewe 1989). Moreover, personal intervention of the aging process can be achieved by weight control, diet, smoking cessation, and a reduction of psychological stress (Schewe 1988). Therefore, some individuals really do age more gracefully than others and it is improper to group people by chronological age and assume the same physiological and psychological changes have taken place.

Cognitive Age

Some researchers have noted (see Barak and Schiffman 1981; Van Auken, Barry, and Bagozzi 2006; Wilkes 1992) that self-perceived

age, non-chronological age, or cognitive age may contribute more than chronological age in understanding how older consumers view themselves and how they consume. As consistently shown in the research, older persons frequently see themselves as perceptually younger, perhaps ten or more years younger, than their chronological age (Catterall and Maclaran 2001; Leventhal 1997; Van Auken, Barry and Anderson 1993). Some may act and even look far younger than any age cohorts before them (Barak and Schiffman 1981; Eastman and Iyer 2005; Leventhal 1997; Schewe and Meredith 1994; Wilkes 1992).

Defining Cognitive Age. Barak and Schiffman (1981) noted the problems with the use of chronological age as a predictor of attitudes and behaviors and defined cognitive age in terms of four dimensions (feel-age, look-age, do-age, and interest-age) and found that cognitive age captured different and separate aspects of age than chronological age. The reliability and validity of this cognitive age measure has been well established both in the United States and abroad (Van Auken, Barry and Anderson 1993; Van Auken, Barry and Bagozzi 2003; Wilkes 1992). Van Auken and Barry (2004, p. 229) found that those Japanese seniors who are younger in terms of cognitive age "had a better perception of health, economic comfort, and overall life satisfaction" than those seniors who were of the same chronological age but older in terms of cognitive age. Additionally, those seniors who were of younger cognitive age had less anxiety and concern about aging, more satisfaction with aging, and engaged in more activities (Van Auken and Barry 2004).

Schiffman and Sherman (1991) describe what they call the new-age elderly, who see themselves as younger in age and outlook, who feel more self-confident and are less concerned with the accumulation of possessions and more involved in seeking new experiences, challenges, and adventures. The idea of the new-age elderly augments and enriches the concept of cognitive age and illustrates two distinct differences from traditional elderly: (1) greater self-confidence in making consumer

decisions, and (2) greater ability to change and to accept new products that make them feel more in control of their lives (Sherman et al. 2001). Mathur et al. (1998) also found that new-age elderly, compared to traditional elderly, are more decisive consumers, more individual decision makers, feel more in control of their lives, report greater satisfaction with their health and social life, and have a greater interest in outdoor activities, travel, financial markets, volunteer work/self-enrichment, learning new things, and computers. Additionally, Sherman et al. (2001) found that new-age elderly are more responsive to gathering lots of information.

Segmenting by Cognitive Age. Gwinner and Stephens (2001) state that cognitive age may explain some consumer behaviors as well or better than more commonly used variables, such as income, education, health, attitude toward seniors, and social contacts. Johnson (1996) noted that those marketers who should use cognitive age as a segmentation variable, but do not, may actually alienate older consumers. Her findings revealed that marketers of recreation, travel, entertainment, and other related services should use cognitive age as a key segmentation variable. Otherwise, inappropriate segmentation based on chronological age may contribute to feelings of consumer alienation. Thus, cognitive age may be a better means for understanding and segmenting the senior market.

Others (Moschis, Bellenger and Curasi 2003; Moschis, Curasi and Bellenger 2003) have used the segmentation technique, called "gerontographics," to group senior citizen consumers into four segments based on life circumstances and aging factors they have experienced: healthy hermits, ailing outgoers, frail recluses, and healthy indulgers. Thus, the literature recognizes that seniors need to be segmented by means other than chronological age.

The Impact of Cognitive Age. The literature has consistently shown that cognitive age can impact as well as be impacted by the attitudes

and activities of senior citizens. Chua et al. (1990) found that younger cognitive age was related to greater life satisfaction, activity and social involvement; older cognitive age was correlated with poorer perceived health and signs of aging. Eastman and Iyer (2005) found that seniors with a younger cognitive age used the Internet more than those seniors with an older cognitive age. Wei (2005) also found that cognitive age impacted the adoption behaviors of high-tech products.

In examining the relationship between cognitive age and other variables, researchers such as Chua et al. (1990) found that higher levels of activity (defined in terms of general activity levels, social activities, enthusiasm, and work), life satisfaction, and health resulted in a younger age. They also found with their Singapore sample that those inclined to the Western culture (defined in terms of extent of English speaking) had a younger cognitive age than those inclined to a Chinese culture; they did not find, however, a link between close family relationships and cognitive age (Chua et al. 1990). Catterall and Maclaran (2001) likewise concur that there is a Western preoccupation with youthfulness and thus age and aging are socially constructed. In contrast, Van Auken and Barry (2004) and Van Auken, Barry and Bagozzi (2006) found clear evidence of the universality of cognitive age when comparing seniors in Japan and the United States.

Wilkes (1992) found in a sample of senior females that a younger cognitive age led to higher self-confidence, greater fashion interest, a greater work-orientation, and more participation in entertainment and cultural activities. Building upon the work of Wilkes (1992), Mathur and Moschis (2005) found that differences in cognitive age did not merely reflect differences in chronological age, and that a person's cognitive age was influenced by life events that serve as markers of transitions into social roles. People are expected to enter into these social roles at different stages in life; additionally, health-related events, particularly chronic conditions, make people aware of their

aging, thus affecting their cognitive age (Mathur and Moschis 2005).

HYPOTHESES

In this study, we examine the impact of cognitive age on the lifestyle variables of participating in culturally-related activities and fashion interest for both senior men and women. Additionally, we build on the literature through considering the impact of cognitive age on innovativeness and brand loyalty, which has not been examined in the senior literature. The model in which we are testing our hypotheses is shown in Figure 1.

Culturally-Related Activities

Robinson (1994) notes that education remains the best predictor of a person’s participation in an arts event (defined as a performance of jazz or classical music, operas, musicals, plays, or ballets, plus art museums and galleries). He found that 77 percent of adults with post-graduate degrees attend at least one arts event a year, compared with less than 10 percent of those with no high school education. Robinson (1994) concludes that, generally, senior consumers participate less than do younger adults. Nimrod and Adoni (2006) note that a

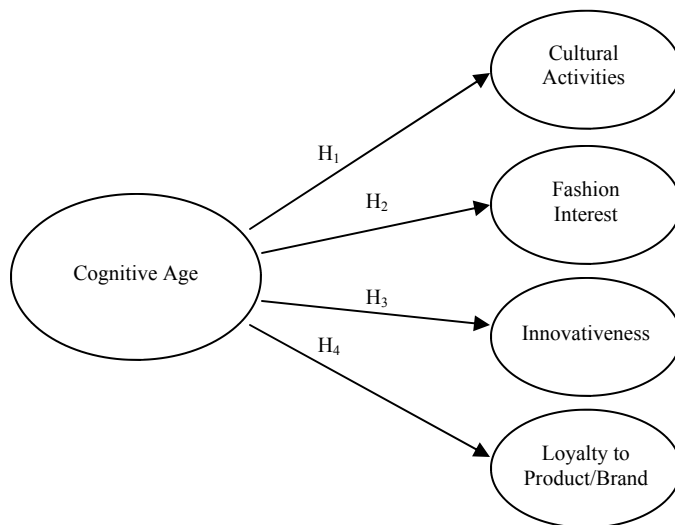
large proportion of retired people are not prepared for participating in some leisure activities, though Agahi and Parker (2005) note that in general, seniors now are participating in more activities, particularly social and cultural activities, than they were ten years ago, which may be due to more resources for leisure. Wilkes (1992) suggests that those senior females with a younger cognitive age are more likely to participate in culturally-related and entertainment-related activities. Thus, the following hypothesis is proposed:

H₁: Senior consumers with higher cognitive age will engage less in culturally-related activities.

Fashion Interest

Although data indicate that older households purchase less clothing (Lee, Hanna, Mok and Wang 1997; Wilkes 1992), opinions vary regarding the fashion interest of older women. Martin (1976) found that two-thirds of the senior women surveyed perceived themselves as being fashion conscious and over half claimed to shop in high-fashion, women’s specialty stores. Tongren (1988) reported that most senior women perceived themselves as fashion conscious. Older females have an active interest in dressing well (Reynolds and Wells

FIGURE 1
Hypothesized Model



1977), though females' stronger preference for spending on apparel may be somewhat inhibited when living with a spouse (Lee et al. 1997). The Center for Mature Consumer Studies (1989) concluded that interest in clothing and fashion tends to decline with age among males and remains fairly high among older females, yet over a third of senior males and females perceived themselves as active fashion opinion leaders for apparel (Lumpkin 1985). Finally, Joung and Miller (2006) found that female seniors' appearance management had a direct positive influence on their social participation and their self esteem; their fashion involvement likewise had a direct positive influence on social participation and a positive indirect influence on self esteem through social participation.

In terms of cognitive age, the research suggests that those elderly females with a younger cognitive age are more likely to have a greater interest in fashion (Wilkes 1992) and be more fashion conscious (Nam, Hamlin, Gam, Kang, Kim, Kumphai, Starr and Richards 2007). Thus, the following hypothesis is proposed:

H₂: Senior consumers with higher cognitive age will report lower fashion interest.

Innovativeness

Wei (2005), with an adult but non-senior sample, found that cognitive age was negatively related to technological anxiety, to information-seeking behaviors of high-tech products, and to adoption behaviors of high-tech products. Eastman and Iyer (2005) found that seniors who reported a younger cognitive age were more likely to use the Internet more. These results suggest that those with a younger cognitive age are more likely to be innovators. Thus, to build on the work done by Wei (2005) and Eastman and Iyer (2005) regarding technology use, the following hypothesis is proposed:

H₃: Senior consumers with higher cognitive age will be less innovative in the domain of Internet shopping.

Brand Loyalty

A traditional assumption is that younger age groups are more likely to switch brands and that older consumers are more brand loyal and thus difficult to persuade to buy a new brand or product (Parpis 2002). Lambert-Pandraud, Laurent and Lapersonne (2005) found that in terms of automobile purchases, older consumers repurchase an automobile brand more frequently as they consider fewer brands, fewer dealers, fewer models and choose long-established brands more often. Much research has shown that younger consumers are more likely to experiment with brands, while older consumers are more likely to remain brand loyal, which simplifies the purchasing process.

Seniors have relatively high levels of brand loyalty due to their early relationship with brands. Seniors grew up with far fewer brands from which to choose. Also, for seniors, an early challenge was simply being able to afford many consumer durables, such as a car or television, so brand differentiation was not that important. This generation's respect for authority and conformity meant that brand loyalty was a virtue (Coeyman 1996).

However, brand loyalty is on the decline among all age groups, and the most significant drops are in the older age cohorts. The view that the mature market is a monolithic, stodgy group that is not interested in new brands or products is rapidly becoming a myth (Lipke 2001). An AARP study found that adults 45 years of age and older are no more brand loyal than those 18-34, and these older adults are always looking for better products (Parpis 2002). In terms of cognitive age, Szmigin and Carrigan (2001a) found that cognitively younger consumers are more willing to try new brands, more likely to be brand switchers, and are more self-confident about their purchasing skills. Thus, the literature on brand loyalty and seniors is somewhat mixed. To build on this literature by looking specifically at the relationship of cognitive age and brand loyalty, the following hypothesis is proposed:

H₄: Senior consumers with higher cognitive age will be more brand loyal.

METHODOLOGY

Data Collection and Sample

The study sample was a regional sample. The respondents consisted of people who had been recently contacted by upper level undergraduate marketing students who were trained in data collection procedures and used as interviewers. This approach has been successfully used in previous research (e.g., Arnold and Reynolds 2003; Bitner, Booms and Tetreault 1990; Jones and Reynolds 2006). Interviewers were instructed to recruit non-student participants only. To ensure accurate responses, the respondents were promised complete confidentiality and were asked to return the questionnaire where the research was conducted. A total of 374 respondents participated in the study. Many researchers and organizations define the elderly or senior citizens as those 65 years of age and older (Eastman and Iyer 2005; Miller, Kim and Schofield-Tomschin 1998). Thus, only respondents who were 65 years or older were included in this study. This convenience sample was deemed appropriate because the purpose of the study was not to provide point estimates of the variables but to test the relationships among them (Calder, Phillips and Tybout 1981). A description of the demographic information about the sample is provided in Table 1.

In comparing our demographic results to that of seniors in the United States in general, our sample was similar to the statistical profile of Older Americans Aged 65+ (U.S. Department of Health and Human Services 2006). Per the U.S. Department of Health and Human Services (2006), 58 percent of those over 65 years old in the U.S. were female (42 percent male); 81.9 percent were Caucasian (8.2 percent African-American and 6 percent Hispanic), 54 percent were married, and the median household income was \$35,825.

TABLE 1
Descriptive Information on Sample

<u>Items</u>	
Gender:	
Male	43%
Female	57%
Income:	
0-\$10k	11%
\$10,001-\$30k	32%
\$30,001-\$50k	24%
\$50,001-\$70k	16%
Above \$70k	17%
Occupation:	
Homemaker/Not Employed	32%
Self-Employed	10%
Educator	4%
Professional	7%
Work for Company/Business	17%
Other	30%
Education Completed:	
GED	7%
High School	54%
Undergraduate	15%
Graduate	14%
Professional Degree	10%
Marital Status:	
Married	61%
Single	6%
Living with another	3%
Widowed	24%
Divorced	5%
Rather not say	1%
Race:	
White Caucasian	87%
African American	11%
Hispanic American	1%
Asian American	1%

All scales used to test the proposed model can be found in Table 2. In addition, sources used in the creation of the scales are also provided. All the scale items were measured on a seven point Likert scale from “1 = strongly disagree” to “7 = strongly agree.” Each scale was first investigated using exploratory factor analysis and the results supported a single dimension for each scale. In addition, item-total correlations were higher (greater than 0.50) for each

construct. Descriptive statistics for each scale as well as correlations between all constructs are presented in Table 3. A measurement model using LISREL with maximum likelihood estimation was then conducted, consistent with Anderson and Gerbing’s (1988) two-step approach. The results indicated an acceptable measurement model fit ($\chi^2_{(94)} = 237.88$, $p < 0.01$; RMSEA = 0.07, CFI = 0.95; IFI = 0.95; NNFI = 0.94) (Hair et al. 1998). The results supported the internal consistency of all scales as the composite reliability was greater than 0.80 for all scales (see Table 2). The variances extracted for all scales were greater than the generally acceptable value of 0.50 (see Table 2), indicating a high level of shared variance between the indicators of cognitive age. The completely itemized standardized loadings for all measurement items are also included in Table 2.

The results also support the convergent and discriminant validity of all of the scales. The items of each scale loaded highly on their respective constructs (t-values ranging from 12.07 to 19.91), providing evidence of convergent validity (Anderson and Gerbing 1988). As evidence of discriminant validity, none of the confidence intervals of the phi matrix included 1.00 (Anderson and Gerbing 1988). Discriminant validity was also tested by comparing variance extracted estimates with the squared phi estimates (Fornell and Larcker 1981). The variance extracted estimates were greater than the squared phi estimates for all sets of constructs, supporting discriminant validity.

TABLE 2
Measurement Items

Scale/Items ^a	Standardized Loading	Source/Adapted From
Cognitive Age (CR=0.91, VE=0.71)		Barak and Schiffman (1981)
Most of the time...		
I feel like I’m in my:	0.83	
I look like I’m in my:	0.74	
My interests are those of a person in his/her:	0.90	
I do the things a person does in his/her:	0.90	
Cultural Activities (CR=0.81, VE=0.59)		Wilkes (1992)
I have attended lecture presentations.	0.70	
I have attended concerts.	0.84	
I have visited a gallery or museum.	0.76	
Fashion Interest (CR=0.82, VE=0.63)		Reynolds and Darden (1971); Summers (1970); Wilkes (1992)
I usually have one or more outfits that are of the very latest style.	0.76	
an important part of my life and activities is dressing smartly.	0.71	
I like to shop for clothes.	0.80	
Innovativeness (Study 1: CR=0.90, VE=0.76)		Goldsmith and Hofacker (1991)
I know more about shopping over the Internet than other people.	0.81	
If I heard that a new product that I was interested in, was available over the Internet, I would be interested enough to buy it.	0.88	
I will consider buying something over the Internet, even if I haven’t heard of it before.	0.87	
Loyalty to the Brand (Study 1: CR=0.94, VE=0.83)		Lichtenstein, Netemeyer and Burton (1990); Raju (1980)
Once I get used to brand I hate to switch.	0.93	
Even though certain products/services are available in a different number of brands, I always tend to buy the same brand.	0.90	
Even though certain products/services are available in a different number of brands, I always tend to buy the same brand.	0.91	

^a Composite Reliability (CR) and variance extracted (VE) are provided for each scale

TABLE 3
Construct Correlations, Means, Standard Deviations and Coefficient Alphas

Construct	Mean	Standard Deviation	Alpha	Coefficient				
				1	2	3	4	5
1. Cultural Activities	4.00	1.78	0.76	1				
2. Cognitive Age	3.64	1.06	0.89	-0.219**	1			
3. Fashion Interest	3.97	1.65	0.76	0.267**	-0.254**	1		
4. Innovativeness	2.06	1.34	0.82	0.177**	-0.264**	0.118*	1	
5. Loyalty to Brand/Product	5.06	1.60	0.91	0.022	0.085	0.051	-0.175**	1

* correlation significant at $p < 0.05$
 ** correlation significant at $p < 0.01$

RESULTS

The structural model using LISREL was then estimated to test the proposed relationships. The fit statistics indicated an acceptable model fit ($\chi^2_{(100)} = 302.15, p < 0.01; RMSEA = 0.08, IFI = 0.94; CFI = 0.94; NNFI = 0.92$) (Hair et al. 1998) and the results can be found in Table 4.

Hypothesis 1 was supported. Senior consumers who reported a higher cognitive age engaged in fewer culture-related activities ($t = -3.49$). Hypothesis 2 was supported. Senior consumers who reported higher cognitive age were less interested in fashion ($t = -3.60$). Hypothesis 3 was supported. Senior consumers who reported a higher cognitive age were less innovative in the domain of Internet shopping ($t = -4.86$). Hypothesis 4 was supported. Senior consumers who reported a higher cognitive age were more brand loyal ($t = 2.06$).

DISCUSSION AND IMPLICATIONS

“Under-appreciation of mature consumers as a numerous and comparatively wealthy segment has resulted in not only lost revenues for business, but also lost consumption and service opportunities for the elderly” (Nam et al. 2007, p. 102). Marketers have a responsibility to communicate effectively with seniors and with empathy to their needs (Szmigin and Carrigan 2001b). In this study, we were able to illustrate that cognitive age impacts seniors’ lifestyles in a variety of ways. Similar to Wilkes (1992), but in looking at both men and women, we found

that seniors who perceive themselves as having a higher cognitive age were less likely to participate in culturally-related activities and have a lower fashion interest. Van Auken and Barry (2004) also found that seniors with a higher cognitive age are less engaged in a variety of activities.

In terms of fashion, as seniors who focus on fashion and maintaining their appearance may have higher levels of social participation and self esteem (Joung and Miller 2006), marketers need to communicate these benefits in targeting seniors for fashion and beauty products. Nam et al. (2007) stress that, while senior females with a younger cognitive age are more fashion conscious, preference for fit and comfort are somewhat more valued than fashion. Baker (2003) discusses the need for clothes to both be stylish as well as easy for seniors to dress. Gardner (2005) stresses that mature women want simple, elegant, well-cut clothing that is not frumpy, but also not inappropriate for mature women to wear. As suggested by Wilkes (1992, p. 298), while older people are interested in fashion and how they look, “how one looks is less important in defining one’s self-perceived age” than other aspects. Thus, being the latest fashion is not enough for this segment. Fashion items for this segment need to both feel and look good. Marketers need to show how these types of products may help seniors feel younger and better about themselves while meeting the needs of fit and comfort.

TABLE 4
LISREL Results For The Hypothesized Model

Hypothesis	Path	Standardized estimate	t-value	Result
H ₁	Higher cognitive age → lower cultural activities	-0.25	-3.49	Supported
H ₂	Higher cognitive age → lower fashion interest	-0.26	-3.60	Supported
H ₃	Higher cognitive age → lower innovativeness	-0.32	-4.86	Supported
H ₄	Higher cognitive age → more loyalty	0.13	2.06	Supported

In terms of cultural activities, we found those seniors with a higher cognitive age are less interested in lectures, concerts, galleries or museums. This suggests that chronological age is not a good means to segment for cultural activities, but cognitive age may be. Marketers of cultural activities need to promote how these activities can help seniors stay active and feel younger.

Next, we were able to build on the work done by Wei (2005) and Eastman and Iyer (2005) to demonstrate that those seniors who perceive themselves as having a higher cognitive age were less likely to be innovators in the domain of Internet shopping. One's level of innovativeness is not impacted by chronological age (Szmigin and Carrigan 2001b), but rather by cognitive age, as our results illustrate. Thus, Internet marketers do not have to limit themselves to just those chronologically younger, but those who are cognitively younger throughout different age groups (Wei 2005). Marketers of innovative, technological products may also find cognitively younger seniors to be a possible segment.

These results suggest seniors' lifestyles can vary significantly based on cognitive age. Cognitive age may be more reflective of seniors' and others attitudes and behaviors than their chronological age (Van Auken, Barry and Anderson 1993) and cognitive age may be a better segmentation variable for marketers to use than all the other demographic variables (Wei 2005). For marketers of culturally-related, fashion, and/or technological products, these results suggest that they can attract some consumers in the senior market to these types of

products, but that they need to segment by cognitive age. Additionally, organizations may be able to reach cognitively younger seniors through marketing on the Internet, but they will not be able to reach all seniors this way and thus should use the Internet as a complementing medium to their traditional communication (Eastman and Iyer 2005).

In terms of promoting to seniors, while seniors react negatively to the stereotypical image of being dowdy, frail grandparents (Parpis 2002; Van Auken, Barry and Anderson 2003), they also do not want models that deny evidence of aging (Wilkes 1992). This can be seen in the increased use of "older" actresses and models such as Catherine Deneuve at age 62 and Kim Basinger at age 52 to promote cosmetics (Tannen 2006). While these people may not be considered elderly, they are far older than the typical models used. Also, seniors want ads that show people living a full and active life. Weijters and Geuens (2006) recommend that marketers in trying to reach the senior market do not use age-related labels such as "third age" or "elderly" as these are perceived negatively, but should instead use the labels "50+" and "senior" (particularly for those over 65 years old). Finally, Wei (2005, p. 633) suggests that marketers can create a younger cognitive age in consumers through enhanced communication as cognitive age can be utilized as a controllable strategic variable.

We have also been able to build on the literature through consideration of the relation of cognitive age and brand loyalty. Our results suggest that seniors who perceive themselves as older are more brand loyal. This suggests that even those seniors who are older, in terms of

cognitive age, still constitute a worthwhile element of the senior market for marketers to pursue, due to their level of brand loyalty; they just might not be the best segment for culturally-related, fashion, and/or innovative products. In trying to build on this brand loyalty, firms need to develop trustful, long-term relationships with senior consumers (Lambert-Pandraud et al. 2005). Thus, seniors are a viable market for businesses to address, but marketers need to recognize that additional segmentation variables, such as cognitive age rather than chronological age, are needed to best understand and reach this market. Future research though is needed in this area.

One key limitation of this study was the use of a convenience sample. Additional research is needed using a national random sample. Future research needs to continue to build on previous results as well as consider other lifestyle and psychographic variables (Nam et al. 2007), such as physical, social, and volunteer activities (Griesse, 1998; Henderson and Ainsworth 2003). Additionally, future research needs to consider possible factors impacting cognitive age (Mathur and Moschis 2005) and participation in activities. For example, Agahi and Parker (2005) suggest that mobility restrictions have a significant impact on participation in a variety of activities. Thus, future research on cognitive age needs to consider the impact of seniors' physical mobility as well as transportation access to determine if this plays a role through either impacting cognitive age or participation in activities.

Finally, as more baby boomers start to reach sixty-five years old and beyond, they may redefine what it means to be a senior citizen and have a tremendous impact on how society and business view aging and the senior market (Catterall and Maclaran 2001). "Cognitive age has been demonstrated to be a useful concept for marketers, but this utility can alter with changing attitudes to aging" as the concepts of age and aging are socially constructed (Catterall and Maclaran 2001, p. 1128). Much of what we think we know now about seniors' consumption

behavior may dramatically change as boomers age (Tannen 2006). Thus, as new cohorts become senior citizens, continuous research is needed to determine their impact on this segment and how marketers should approach reaching this market.

Thus, this paper finds that seniors are an important segment for marketers to better understand and serve. "As people age they do not necessarily become less interested in consumption and it is a mistake to ignore or alienate such a potentially lucrative market" (Szmigin and Carrigan 2001b, p. 113). What would be the best products to market to them and how, though, may vary based on their cognitive age. Given the size and importance of this heterogeneous segment to marketers, this paper hopes to spur additional research and discussion on the senior market and the impact of cognitive age on seniors' lifestyles.

REFERENCES

- Agahi, Neda and Marti G. Parker (2005), "Are Today's Older People More Active Than Their Predecessors? Participation in Leisure-Time Activities in Sweden in 1992 and 2002," *Aging & Society*, 25 (6), 925-941.
- Age Wave, LLC (2000), "50-Plus Facts," <http://www.agewave.com/agewave/50plusfacts.html> (September, 30).
- Anderson, James C. and David W. Gerbing (1988), "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach," *Psychological Bulletin*, 103 (3), 411-421.
- Arnold, Mark J. and Kristy E. Reynolds (2003), "Hedonic Shopping Motivations," *Journal of Retailing*, 79 (2), 77-87.
- Baker, Beth (2003, July 15), "The Easy-To-Wear Collections: Active Seniors Are Hard-Pressed To Find Clothes That Accommodate Age and Disability but Are a Cut Above A Muumuu," *The Washington Post*, F1.
- Barak, Benny and Leon G. Schiffman (1981), "Cognitive Age: A Nonchronological Age Variable," *Advances in Consumer Research*, 8, 602-606.

- Bitner, Mary Jo, Bernard H. Booms and Mary Stanfield Tetreault (1990), "The Service Encounter: Diagnosing Favorable and Unfavorable," *Journal of Marketing*, 54 (1), 71-75.
- Calder, Bobby J., Lynn W. Phillips and Alice M. Tybout (1981), "Designing Research for Application," *Journal of Consumer Research*, 8 (2), 197-208.
- Catterall, Miriam and Pauline Maclaran (2001), "Body Talk: Questioning the Assumptions in Cognitive Age," *Psychology & Marketing*, 18 (10), 1117-1133.
- Center for Mature Consumer Studies (1989), *1989 Research Newsletter*. Atlanta: College of Business Administration, Georgia State University, University Plaza.
- Chua, Caroline, Joseph A. Cote and Siew Meng Leong (1990), "The Antecedents of Cognitive Age," in *Advances in Consumer Research*, 17, ed. Marvin E. Goldberg et al., Ann Arbor, MI: Association for Consumer Research, 880-85.
- Coeyman, Marjorie (1996), "Gray Matters," *Restaurant Business*, 95 (17), 42-47.
- Eastman, Jacqueline K. and Rajesh Iyer (2005), "The Impact of Cognitive Age on Internet Use of the Elderly: An Introduction to the Public Policy Implications," *International Journal of Consumer Studies*, 29 (2), 125-136.
- Ebenkamp, Becky (2002), "Having a Few Senior Moments," *Brandweek*, 43 (15), 27.
- Fornell, Claes and David F. Larcker (1981), "Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics," *Journal of Marketing Research*, 18 (3), 382-389.
- Gardner, Marilyn (2005, November 16), "Wanted Fashion for the Mature Women," *The Christian Science Monitor*, 16.
- Goldsmith, Ronald E. and Charles. Hofacker (1991), "Measuring Consumer Innovativeness," *Journal of the Academy of Marketing Science*, 19 (Summer), 209-221.
- Grisse, Rosalie (1998, December 20), "Following Our Vision of Who We Are," *Boston Globe*, 2.
- Gwinner, Kevin P. and Nancy Stephens (2001), "Testing the Implied Mediational Role of Cognitive Age," *Psychology and Marketing*, 18 (10), 1031-42.
- Hair, Joseph F., Rolph E. Anderson, Ronald L. Tatham and William C. Black (1998), *Multivariate Data Analysis with Readings*. Englewood Cliffs, NJ: Prentice Hall.
- Henderson, Karla A. and Barbara E. Ainsworth (2003), "A Synthesis of Perceptions About Physical Activities Among Older African American and American Indian Women," *Journal of Public Health* 93 (2), 313-317.
- Johnson, Edna (1996), "Cognitive Age: Understanding Consumer Alienation in the Mature Market," *Review of Business*, 17 (3), 35-41.
- Jones, Charmaine (2001), "Designing for Baby Boomers and Beyond," *Appliance Manufacturer*, 49 (November), 52-56.
- Jones, Michael A. and Kristy E. Reynolds (2006), "The Role of Retailer Interest on Shopping Behavior," *Journal of Retailing*, 82 (2), 115-125.
- Joung, Hyun-Mee and Nancy J. Miller (2006), "Factors of Dress Affecting Self-Esteem In Older Females," *Journal of Fashion Marketing and Management* 10 (4), 466-478.
- Lambert-Pandraud, Raphaele, Gilles Laurent, and Eric Lapersonne (2005). "Repeat Purchasing of New Automobiles by Older Consumers: Empirical Evidence and Interpretations," *Journal of Marketing*, 69 (April), 97-113.
- Lee, Jinkook, Sherman D. Hanna, Chiu Fui Joyce Mok and Hui Wang (1997, December), "Apparel Expenditure Patterns of Elderly Consumers: A Life-Cycle Consumption Model," *Family and Consumer Sciences Research Journal*, 26 (2), 109-140.
- Leventhal, Richard C. (1997), "Aging Consumers and Their Effects on the Marketplace," *Journal of Consumer Marketing*, 14 (4), 276-81.
- Lichtenstein, Donald R., Netemeyer, Richard G. and Scot Burton (1990), "Distinguishing Coupon Proneness from Value-Consciousness: An Acquisition-Transaction Utility Theory Perspective," *Journal of Marketing*, 54 (3), 54-67.

- Lipke, David J. (2001), "Pledge of Allegiance," *American Demographics*, 22 (11), D45-D46.
- Lumpkin, James R. (1985), "Shopping Orientation Segmentation of the Elderly Consumer," *Journal of the Academy of Marketing Science*, 13 (Winter/Spring), 271-289.
- Martin, Claude R. (1976), "A Transgeneration Comparison: The Elderly Fashion Consumer," in *Advances in Consumer Research*, 13, ed. Beverlee B. Anderson, Provo, UT: Association for Consumer Research, 453-6.
- Mathur, Anil, Elaine Sherman and Leon G. Schiffman (1998), "Opportunities for Marketing Travel Services to New-Age Elderly," *The Journal of Services Marketing*, 12 (4), 265-76.
- Mathur, Anil and George P. Moschis (2005), "Antecedents of Cognitive Age: A Replication and Extension," *Psychology & Marketing*, 22 (12), 969-994.
- Miller, Nancy J., Soyoung Kim and Sherry Schofield-Tomschin (1998), "The Effects of Activity and Aging on Rural Community Living and Consuming," *The Journal of Consumer Affairs* 32 (Winter), 343-368.
- Moschis, George, Carolyn Folkman Curasi and Danny Bellenger (2003), "Restaurants-Selection Preferences of Mature Consumers," *Cornell Hotel and Restaurant Administration Quarterly*, 44 (4), 51-61.
- Moschis, George P., Danny N. Bellenger and Carolyn Folkman Curasi (2003). "What Influences the Mature Consumer?" *Marketing Health Services*, 23 (4), 16-18.
- Nam, Jinhee, Reagan Hamlin, Hae Jin Gam, Ji Hye Kang, Jiyoung Kim, Pimpawan Kumphai, Cathy Starr and Lynee Richards (2007, January), "The Fashion-Conscious Behaviors of Mature Female Consumers," *International Journal of Consumer Studies* 31 (1), 102-108.
- Nimrod, Galit and Hanna Adoni (2006, July), "Leisure-Styles and Life Satisfaction Among Recent Retirees in Isreal," *Aging & Society*, 607-630.
- Nwogugu, Michael (2005), "Structural Changes in the US Retailing Industry and Legal, Economic and Strategy Implications for the US Real Estate Sector," *Managerial Law*, 47 (1/2), 65-121.
- Oumlil, A. Ben and Alvin J. Williams (2000). "Consumer Education Programs for Mature Consumers," *The Journal of Services Marketing*, 14 (3), 232-243.
- Parpis, Eleftheria (2002), "Shades of Gray," *Adweek*, 43 (43), 18-20.
- Raju, P. S. (1980), "Optimum Stimulation Level: Its Relationship to Personality Demographics, and Exploratory Behavior," *Journal of Consumer Research*, 7 (3), 272-282.
- Reid, Jamie (2006), "A Senior Moment: Older SE Texans Staying Active," *Knight Ridder Tribune Business News*, (August 4), 1.
- Reynolds, Fred D. and William R. Darden (1971), "Mutually Adaptive Effects of Interpersonal Communication," *Journal of Marketing Research*, 8 (November), 449-454.
- Reynolds, Fred D. and William D. Wells (1977), *Consumer Behavior*, New York: McGraw-Hill.
- Robinson, John (1994), "The Arts Hold Steady in Hard Times," *American Demographics*, 16 (2), 9-10.
- Schewe, Charles D. (1988), "Marketing to Our Aging Population: Responding to Physiological Changes," *The Journal of Consumer Marketing*, 5 (3), 61-73.
- Schewe, Charles D. (1989), "Effective Communication with our Aging Population," *Business Horizons*, January-February, 32 (1), 19-25.
- Schewe, Charles D. (1991), "Strategically Positioning Your Way into the Aging Marketplace," *Business Horizons*, May-June, 59-66.
- Schewe, Charles D. and Geoffrey E. Meredith (1994), "Digging Deep to Delight the Mature Adult Consumer," *Marketing Management*, 3 (3), 20-36.
- Schewe, Charles D. and Stephanie M. Noble (2000), "Market Segmentation by Cohorts: The Value and Validity of Cohorts in America and Abroad," *Journal of Marketing Management*, 16, 129-142.

- Schiffman, Leon G. and Elaine Sherman (1991). "Value Orientations of New-Age Elderly: The Coming of an Ageless Marketing," *Journal of Business Research*, 22, 187-194.
- Sherman, Elaine, Leon G. Schiffman, and Anil Mathur (2001), "The Influence of Gender on the New Age Elderly's Consumption Orientation," *Psychology and Marketing*, 18 (10), 1073-84.
- Summers, John O. (1970), "The Identity of Women's Fashion Opinion Leaders," *Journal of Marketing Research*, 7 (May), 175-185.
- Szmigin, Isabelle and Marylyn Carrigan (2001a), "Time, Consumption, and the Older Consumer: An Interpretive Study of the Cognitively Young," *Psychology and Marketing*, 18 (10), 1091-1105.
- Szmigin, Isabelle and Marylyn Carrigan (2001b, July), "Leisure and Tourism Services and the Older Innovator," *The Service Industries Journal* 21 (3), 113-129.
- Tannen, Mary (2006, January 22), "For Mature Audiences," *New York Times Magazine*, 70.
- Tongren, Hale N. (1988), "Determinant Behavior Characteristics of Older Consumers," *Journal of Consumer Affairs*, 22 (1) (Summer), 136-57.
- U.S. Department of Health and Human Services (2006), *A Statistical Profile of Older Americans Aged 65+* http://www.aoa.gov/PRESS/fact/pdf/Attachment_1304.pdf (March 1).
- Van Auken, Stuart and Thomas E. Barry (2004), "A Segmentation of College-Educated Japanese Seniors Using Cognitive Age," *American Marketing Association Winter Educators' Conference Proceedings*, 15 (Winter), 229-230.
- Van Auken, Stuart, Thomas E. Barry and Robert L. Anderson (1993), "Observations: Towards the Internal Validation of Cognitive Age Measures in Advertising Research," *Journal of Advertising Research* 33 (3), 82-85.
- Van Auken, Stuart, Thomas E. Barry and Richard P. Bagozzi (2006), "A Cross-Country Construct Validation of Cognitive Age," *Academy of Marketing Science Journal*, 34 (3), 439-455.
- Weaver, Peter (1997). "How to Reach Older Consumers," *Nation's Business*, 85 (6), 35-37.
- Wei, Shen-Chung (2005), "Consumers' Demographic Characteristics, Cognitive Ages, and Innovativeness," *Advances in Consumer Research*, 32, 633-640.
- Weijters, Bert and Maggie Geuens (2006), "Evaluation of Age-Related Labels by Senior Citizens," *Psychology & Marketing*, 23 (9), 783-798.
- Wilkes, Robert E. (1992), "A Structural Modeling Approach to the Measurement and Meaning of Cognitive Age," *Journal of Consumer Research*, 19 (September), 292-30.

SERVICE QUALITY AND CUSTOMER SATISFACTION: AN EMPIRICAL INVESTIGATION IN INDIAN MOBILE TELECOMMUNICATIONS SERVICES

ABDOLREZA ESHGHI, Bentley University

SANJIT KUMAR ROY, Bentley University

SHIRSHENDU GANGULI, ICFAI University—India

The Indian mobile telecommunications services market has experienced a tremendous growth over the last few years. This has been bolstered by the influx of the foreign direct investment in this sector. Competition among existing players has also intensified as companies are increasingly focusing both on retaining their existing customers as well as attracting new ones. This study attempts to identify service-related factors in the Indian mobile telecommunications market which influence customer satisfaction (CS), repurchase intention (RI), and customers' propensity to recommend the service to others. The results of the study will help the mobile service providers to focus on maintaining and enhancing the service leading to enhanced customer satisfaction, repurchase intention and recommendations of services to others.

INTRODUCTION

The telecommunications sector in India was liberalized in the early 1990s, paving the way for a significant influx of private as well as foreign direct investment in the sector. Over the last six or seven years, the sector has experienced an exponential growth in subscriber base, crossing the 150 million mark in 2007 (Boston Analytics, October 2007). The mobile phone service providers are now operating in a highly competitive environment with tight margins and fleeting customer loyalty. Revenue leakage, customer churn and ineffective customer service have put pressure on the profitability of the service providers.

In the wake of these changing dynamics, the Indian mobile phone operators face a number of significant challenges. First, retaining existing customers in a predominantly pre-paid and high churn market has become more difficult and costly. Similarly, new customer acquisition is becoming more elusive than ever as potential customers have more options to choose from and mobile phone operators offer attractive

deals to lure prospects. Third, as mobile phone operators have had to incur additional expense in keeping existing customers and acquiring new ones, their average revenue per user (ARPU) has declined, leading to deterioration of their financial performance.

In light of these challenges, mobile phone operators may want to make customer satisfaction a strategic priority. Research evidence suggests that customer satisfaction has a direct effect on the financial performance of a company (Smith and Wright 2004; Ittner and Larcker 1998). Moreover, satisfied customers have a higher propensity to stay with their existing service provider than the less satisfied ones (Cronin et al. 2000) and are more likely to recommend the service provider to others, leading to improved bottom line for the company (Reichheld 2003; 2006). Therefore, it is imperative that Indian mobile phone operators gain a better understanding of the relationship between the service related factors, customer satisfaction, repurchase intentions and recommendation of services to others. In this paper we explore these relationships.

The purpose of the paper is twofold: (1) to identify the service related factors in the mobile telecommunications services sector and (2) to

examine the impact of these factors on customer satisfaction, repurchase intention and customers' propensity to recommend the services to others. The rest of the paper is organized as follows:

First, we provide a snapshot of the Indian mobile telecommunications market followed by a review of the literature regarding the constructs of service quality, customer satisfaction, repurchase intentions and recommendations of services to others. Next, we describe the research methodology used in the paper as well as the survey instrument that was used in data collection. We then present the results of our analysis followed by a discussion of the findings. Finally, based on the empirical evidence from the analysis, we develop recommendations for companies in the Indian mobile telecommunications industry.

Indian Mobile Telecommunications Market: A Snapshot

The mobile phone industry all over the world has been witnessing high growth rates in subscriber base in recent years. In developing countries, mobile phone service is capturing an increasing share of the overall telecommunications market. India is one of the fastest growing mobile telecommunications markets among developing countries. In the last five years, Indian mobile phone market has grown from 13 million subscribers in 2003 to about 165 million subscribers in 2007, registering an annual growth rate of about 89 percent (Boston Analytics, October 2007), overtaking the fixed line subscriber base in 2003 for the first time.

One factor that is responsible for such a rapid growth is a significant reduction in call tariffs. Since 1999, the call tariff rate has declined by more than 26 percent, from Rs.6.70 per minute in 1999 to Rs.1.06 in 2005. As a result, the Indian subscriber base has increased by almost four million subscribers per month on average, surpassing the 100 million mark in 2006 (Telecom Regulatory Authority of India) making India the fifth largest country in terms

of mobile subscriber base in the world after the USA, China, Japan and Russia. The contribution of the telecommunications sector to India's GDP has also increased from 1.5 percent in 2000 to 1.9 percent in 2006. This was partly due to the huge inflow of foreign direct investment in the mobile telecommunication sector. The growth in the subscriber base has naturally led to a revenue growth in the sector from \$0.92 billion (Rs.36 billion) in the quarter ended September 2005 to \$ 1.30 billion (Rs.51 billion) in September 2006, registering a growth rate of 10.7 percent. Interestingly, the Average Revenue Per User (ARPU) has declined 2.7 percent, from \$8.58 in September 2005 to \$7.21 in September 2006. The decline in ARPU has been fuelled by a host of factors such as the "life time incoming free plans" provided by the service providers, the market structure of the mobile telecommunications market, dominance of the prepaid segment and low switching costs between service providers.

According to the Cellular Operators Association of India (COAI), the cellular market of India is broadly divided into four circles (zones) as follows:

- *Four metros:* Delhi, Mumbai, Chennai and Kolkata
- *A Circle:* Maharashtra, Gujarat, A.P., Karnataka, Tamil Nadu
- *B Circle:* Kerala, Punjab, Haryana, U.P. (W), U.P. (E), Rajasthan, M.P., West Bengal, Andaman and Nicobar.
- *C Circle:* Himachal Pradesh, Bihar, Orissa, Assam, North Eastern States, Jammu and Kashmir.

At the end of the fiscal year 2006-07, the market shares of the major players were Bharti Airtel (23.7 percent), BSNL (17.8 percent), Reliance (17.7 percent), Hutch (16.8 percent), Idea (8.9 percent), Tata Teleservices (7.3 percent) and the rest 7.8 percent is shared by other players in the market (Voice and Data, July 2007).

LITERATURE REVIEW

In the review provided below, we document most recent research evidence on customer

satisfaction and service quality and their impact on customers' repurchase intention and recommendation of service to others.

Customer Satisfaction

Customer satisfaction has been extensively studied in the field of marketing over the last two decades (Oliver 1980, 1981, 1999; Fornell et al. 1996; Anderson and Fornell 1994; Yi 1989; Johnson et al. 2001; Anderson et al. 2004). It has become an important construct for marketing scholars (McQuitty et al. 2000; Morgan et al. 1996) and an important goal to achieve for marketing practitioners (Erevelles and Leavitt 1992). It is by far the most commonly used customer-oriented metric by managers (Gupta and Zeithaml 2006) because it is generic and can be measured universally for all products and services including nonprofit and public services (Zeithaml et al. 2006; Johnson and Fornell 1991). After an extensive and critical review of the customer satisfaction literature, Yi (1989) conceptualized customer satisfaction as an attitude like judgment following a purchase act or based on a series of consumer-product interactions. The definition highlights that customer satisfaction is essentially the customer's judgment about the extent to which a product or service meets or falls short of expectations. The literature has also emphasized the disconfirmation of expectations paradigm to a great extent (Oliver 1996; Yi 1989). This explains that the consumer compares the product/service with a pre-consumption expectation. Tse and Wilton (1988) defined customer satisfaction as "the consumer's response to the evaluation of the perceived discrepancy between prior expectations (or some form of performance) and the actual performance of the product as perceived after its consumption." This definition conforms with definition of Oliver (1997).

Customer satisfaction research has developed around two broad types of evaluations: (1) transaction-specific satisfaction (2) cumulative satisfaction or an overall satisfaction concept which is similar to the attitude (Johnson et al.

2001). Traditionally, satisfaction was considered to be transaction-specific, which is a result of the immediate post purchase judgment or affective reaction (Oliver 1993). De Ruyter et al. (1997) used the transaction-specific concept and showed the relationship between perceived quality and satisfaction.

A more economic psychology-based approach to satisfaction has been developed in the literature over the last decade or so which is cumulative satisfaction concept. This concept defines customer satisfaction as a customer's overall experience to date with a product or service provider (Johnson et al. 2001). Studies done by Anderson and Fornell (1994); Fornell et al. (1996); Johnson et al. (2001) etc. have used the overall customer satisfaction concept. According to these studies satisfaction is viewed as an "overall evaluation based on the total purchase and consumption experience with a good or service over time (Anderson et al. 1994, p.54)." More and more satisfaction studies are now using the overall evaluation of satisfaction concept which develops over all the experiences a customer has with the firm (Gupta and Zeithaml 2006). The fact that customer satisfaction is an important predictor of customer loyalty has been widely studied in the marketing literature (Yang and Peterson 2004; ACSI model; ECSI model; TCSI model; HKSI model). Appendix A shows a tabular synthesis of the selected literature relevant to customer satisfaction studies in different service sectors. Thus based on the extant body of literature on customer satisfaction we conclude that customer satisfaction is a post-consumption assessment of customers about the product and or service used. Our conceptualization is in consonance with Churchill and Suprenant (1982).

Service Quality

Service quality has received a great deal of attention from both academicians and practitioners. In the services marketing literature service quality is defined as the overall assessment of a service by the customers. Parasuraman et al. (1988; p.16)

defined perceived service quality as “global judgment, or attitude, relating to the superiority of the service.” Parasuraman et al. (1985) conceptualized service quality as perceptions resulting from the comparison of customer expectations and actual service performance. They further pointed out that service quality perceptions are not solely the outcomes of service but it also involves the evaluation of the service delivery process by the customers. Lehtinen and Lehtinen (1982) conceptualized service quality as a three dimensional construct viz. “physical”, “interactive” and “corporate.” Physical quality is the quality dimension which originates from the physical elements of service like physical product and physical support. Interactive quality indicates the interaction between the customer and the service organization. And corporate quality is symbolic in nature and indicates the perception of customers about the image of the organization. Garvin (1988) provided a comprehensive definition of service quality comprising of the attributes viz. performance, features, conformance, reliability, durability, aesthetics, serviceability and customers’ perceived quality. Asubonteng et al. (1996; p.64) defined service quality as “the difference between the customers’ expectations for service performance prior to the service encounter and their perceptions of the service received.” Yoo and Park (2007) state that the firm’s ability to create and sustain competitive advantage depends upon the high level of service quality provided by the service provider. They defined perceived service quality as the extent to which a firm serves the needs of its customers successfully. Again, Dabholkar et al. (2000) considered service quality as a set of different sub-dimensions like reliability and responsiveness which form the antecedents to customer satisfaction. SERVQUAL (Parasuraman et al. 1988) emerged as an instrument to measure service quality consisting of the five dimensions of service quality viz. reliability, tangibility, responsiveness, assurance and empathy. But it had its own share of criticisms because it was based on the difference between the expectations and performance. Its reliability

and validity has been questioned by many researchers (Carman 1990; Cronin and Taylor 1992; Strandvik and Lijander 1994; Babakaus and Boller 1992). Appendix B provides a tabular synthesis of the literature relating to service quality and service quality as an antecedent of customer satisfaction. Thus, service quality is conceptualized both as a one-dimensional and a multidimensional construct in the literature. Furthermore, there is strong evidence in the literature for service quality being an antecedent of customer satisfaction.

CUSTOMER SATISFACTION AND SERVICE QUALITY IN MOBILE TELECOMMUNICATION SERVICES

With the growth of the mobile telecommunication services around the world, a significant body of literature has emerged over the past several years. For example, Turel and Serenko (2006) empirically investigated customer satisfaction with mobile services in Canada. They adapted the American Customer Satisfaction Model to identify the antecedents and consequences of customer satisfaction for young cellular subscribers. They developed and estimated a model using a PLS (partial least square) path modeling developed by Chin (1998, 2001). The results indicated that perceived service quality and perceived value are the key constructs affecting the customer’s satisfaction with mobile services. Satisfaction in turn leads to customer loyalty.

Woo and Fock (1999) investigated determinants of customer satisfaction in the Hong Kong mobile phone services sector. They conducted an exploratory factor analysis on 20 attributes followed by confirmatory factor analysis and obtained four determinants of customer satisfaction viz. transmission quality and network coverage, pricing policy, staff competence and customer service.

In their study in the New Zealand’s telecom services industry Danaher and Gallagher (1997) identified that certain attributes of the personnel delivering the service, such as *friendliness* and *competency*, more strongly influence the

overall service quality than other factors viz. clear voice and time taken to respond. In another study Wang et al. (2004) investigated the impact of quality-related factors on customer value and customer satisfaction using structural equation modeling (SEM) in China. They used the SERVQUAL (Parasuraman et al. 1988) factors (reliable, tangible, responsive, assurance and empathy) to measure service quality, but added “network quality” as another antecedent of customers’ perceived service quality. Results indicated that all the service quality factors had significant and positive impact on customer satisfaction. Also customer perceived value had a moderating effect on the service quality and customer satisfaction link. Similarly, Lai et al. (2007) tested the SERVQUAL model in China’s mobile communication industry using exploratory and confirmatory factor analysis. They found that the SERVQUAL instrument is a valid means for measuring service quality. They also identified “service convenience” as an important additional dimension of service quality in China’s mobile services sector.

Johnson and Sirikit (2002) conducted their study on both landline and mobile users of Thai telecommunication industry using the service quality dimensions (reliability, responsiveness, assurance, empathy and tangibles). Tangibles emerged as the most important factor, but no significant link was found between the service quality ratings and the customers’ behavioral intentions. Athanassopoulos and Iliakopoulos’ (2003) study of the residential customers of a European telecommunication company revealed that customer perceived performance (i.e., satisfaction, recommendation to others, relationship and value for money) were affected by product performance satisfaction, directory enquiries, branch network, billing and corporate image. Gerpott et al. (2000), through a structural equation modeling approach, found that customer retention, customer loyalty and customer satisfaction are important goals for the telecommunications operators in the German mobile telecommunications market. Results also indicated that network quality, assessment of price and personal benefits had

positive and significant effect on customer satisfaction. Mobile service price, personal service benefit perceptions and number portability had the strongest effects on customer retention as well.

Kim et al. (2004) investigated the effect of different service features and switching barriers on customer satisfaction and customer loyalty in the Korean mobile telecommunication services sector. They used SEM to test their proposed structural model. The results indicated that customer satisfaction is significantly and positively affected by call quality, value added services and customer support. They also found that customer satisfaction and switching barrier had a significant and positive impact on customer loyalty.

Aydin and Ozer (2005) used the SEM technique to study the impact of service quality, perceived value, customer expectations and complaint handling on customer satisfaction in the Turkish mobile telephone market. The results showed that service quality, customer expectations and complaint handling had positive and significant effect on customer satisfaction. Service quality had the strongest effect than other constructs in their model. All these studies have looked at different facets of service quality or service features affecting customer satisfaction. In this study we consider the service-related factors in the Indian mobile telecommunications sector.

Service Quality and Repurchase Intentions

Repurchase intention refers to “the individual’s judgment about buying again a designated service from the same company, taking into accounts his or her current situation and likely circumstances” (Hellier et al. 2003; p.1764). In other words, repurchase intentions are the subjective judgments about how a customer will behave in the future. As such, repurchase intention has been used as a dependent variable in many satisfaction and service quality models in the literature.

There is strong empirical evidence that service quality directly influences customers' repurchase intentions. Boulding et al. (1993) in their longitudinal study found that the service quality perceptions of customers positively affect their intended behaviors. Additional support is found in the work of Bitner (1990), Bolton and Drew (1991), Bolton (1998) and Woodside et al. (1989). The authors contend that when the services offered by a service provider meet or exceeds customer's expectations, the customer is more likely to choose the same service provider in the future. Other studies by Cronin and Taylor (1992, 1994), Choi et al. (2004), Zeithaml et al. (1996), and Cronin et al. (2000) also support the direct linkage between service quality and repurchase intentions of customers.

Service Quality and Recommendation of Services to Others

The ultimate measure of customer loyalty is customers' recommendations of the service provider to other people and friends (Reichheld 2003, 2006). That being the case, many researchers have used service recommendation to other customers as a proxy for customer loyalty (Narayandas 1999; Ganesh et al. 2000; Zeithaml et al. 1996 and Bloemer et al. 1999). Rust et al. (1995) and Zeithaml et al. (1996) in their studies found a significant and positive relationship between these two constructs. Authors state that customers will recommend the service to others if their expectations are met or exceeded. The direct relationship between service quality and service recommendation also finds support in the studies of Johnson and Sirikit (2002), Host and Anderson (2004), and McDougall and Levesque (2000).

RESEARCH METHODOLOGY

The empirical phase of this research aimed at identifying the underlying factors that determine customer satisfaction, repurchase intention and recommendation of mobile phone service to others. Below we describe our research methods in more detail.

The Survey Instrument

The survey instrument was developed based on a thorough literature review. As shown in Table 1, the variables included in the study have been extensively used in previous studies. The questionnaire was further refined based on a pretest among the MBA students of a business school in Hyderabad.

Sampling and Data Collection

Data was collected using self-administered questionnaires from the mobile phone users in four cities of India viz. Delhi, Kolkata, Mumbai and Hyderabad. A convenience sampling method was used to select the respondents for the study. In all 350 questionnaires were distributed, yielding 255 completed questionnaires. Of the 255 completed questionnaires, 238 were usable, resulting in a 68 percent response rate, which is quite reasonable for a survey of this type (Malhotra 2007). Respondents were asked to state their level of agreement with a series of statements using a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." The detailed sample characteristics are shown in Table 2:

Data Analysis and Results

Data was analyzed in two stages. In the first stage the 32-variables related to service quality were factor analyzed using principal component analysis with varimax orthogonal rotation. An orthogonal rotation was used for its simplicity (Nunnally and Bernstein 1994). We then used service quality factor scores as independent variables in three multiple regression analyses with customer satisfaction, repurchase intentions and recommendation of service to others as dependent variables, respectively. The descriptive statistics of thirty two service quality variables and customer satisfaction; repurchase intention and recommendation to others are shown in Table 3.

TABLE 1
Measurement of Variables

Constructs	Measurement Items
Customer Satisfaction	<ol style="list-style-type: none"> 1. Overall you are satisfied with the service provider. (Fornell et al. 1996; Turkyilmaz and Ozkan 2007; Anderson and Sullivan 1993; Kim et al. 2004; Sharma et al. 1999) 2. The services of my mobile phone service provider are close to my expectations. (Fornell et al. 1996; Ayden and Ozer 2005; Turkyilmaz and Ozkan 2007; Levesque and McDougall 1996) 3. My present mobile phone service provider is comparable with my ideal mobile phone service provider. (Bruhn and Grund, 2000; Fornell et al. 1996; Turkyilmaz and Ozkan 2007)
Repeat Purchase Intention	<ol style="list-style-type: none"> 1. If I were to choose a mobile phone provider today, I would choose my present service provider again. (Aydin and Ozer 2005; Turkyilmaz and Ozkan 2007; Johnson and Sirikit 2002; McDougall and Levesque 2000; Cronin et al. 2000)
Recommendation of Service to others	<ol style="list-style-type: none"> 1. I would recommend the mobile phone service provider to friends and relatives. (Reichheld 2003, 2006; Johnson and Sirikit, 2002; McDougall and Levesque 2000; Aydin and Ozer 2005)
Service Quality	<ol style="list-style-type: none"> 1. The cellular company provides service reliably, consistently and dependably (Cronin, Brady and Hult 2000; Caruana 2002) 2. The cellular company is trustworthy and its employees are believable and honest (Cronin, Brady and Hult 2000; Caruana 2002) 3. The company fulfils its promises (Caruana 2002; Host and Andersen 2004; Sureshchandar et al. 2002) 4. Employees are efficient and competent [knowledgeable and skillful] (Cronin, Brady and Hult, 2000; Host and Andersen 2004; Sureshchandar et al. 2002) 5. Employees are easily approachable (Cronin, Brady and Hult 2000; Danaher and Gallagher 1997) 6. Employees are courteous, polite and respectful (Cronin, Brady and Hult 2000; Danaher and Gallagher 1997; Caruana 2002; Host and Andersen 2004) 7. Employees listen to customers and are willing to help (Cronin, Brady and Hult 2000; Caruana 2002; Host and Andersen 2004) 8. Employees are pleasant, friendly and caring (Danaher and Gallagher 1997; Caruana 2002) 9. The company makes efforts to understand the specific needs of customers (Caruana 2002; Host and Andersen 2004; Sureshchandar et al. 2002) 10. The company provides individual and personal attention to the customers (Johnson and Sirikit 2002; Caruana 2002; Sureshchandar et al. 2002) 11. The company performs any service right first time (Caruana 2002; Host and Andersen 2004; Sureshchandar et al. 2002) 12. All the records are maintained accurately by the cellular company (Johnson and Sirikit 2002; Wang and Lo 2002; Lai et al. 2007) 13. The company provides accurate and timely information (Ndubisi and Wah 2005) 14. The services provided the company is prompt [low waiting time and quick response] (Danaher and Gallagher 1997; Host and Andersen 2004; Sureshchandar et al. 2002; Olorunniwo and Hsu 2006) 15. When there are problems, the service provider is sympathetic and reassuring (Johnson and Sirikit 2002; Lai et al. 2007; Gilbert et al. 2004) 16. Complaint resolution or fault repair is fast (Athanasopoulos and Iliakopoulos 2003; Sharma et al. 1999) 17. Employees in the offices are neat and clean (Cronin, Brady and Hult, 2000; Caruana 2002; Host and Andersen 2004) 18. Physical facilities of offices are visually appealing (Johnson and Sirikit 2002; Caruana, 2002; Host and Andersen 2004) 19. It is easy and convenient to take up a new cellular connection as well as get recharges and top-ups (Lai et al. 2007; Athanasopoulos and Iliakopoulos 2003; Olorunniwo and Hsu 2006) 20. The network is up-to-date and low congestion problem [even in peak traffic hours] (Johnson and Sirikit 2002; Athanasopoulos and Iliakopoulos 2003; Olorunniwo and Hsu 2006) 21. The call quality (voice clarity) is good and call drops are minimal (Athanasopoulos and Iliakopoulos 2003; Kim et al. 2004) 22. The coverage area of the company is wide (Aydin and Ozer 2005; Kim et al. 2004) 23. The company has sufficient presence in different geographical areas through own offices or dealers, franchises (Aydin and Ozer. 2005; Sureshchandar et al. 2002) 24. The operating hours are convenient for the customers (Johnson and Sirikit. 2002; Athanasopoulos and Iliakopoulos 2003; Wang and Lo 2002) 25. The services provided by the company are competitive (Athanasopoulos and Iliakopoulos 2003) 26. The pricing of the services are reasonable and competitive (Host and Andersen 2004; Gilbert et al. 2004) 27. There is enough variety of pricing plans available (Sharma et al. 1999; Kim et al. 2004) 28. The range and variety of Value Added Services (SMS, Ring tones etc.) provided is comprehensive and competitive (Aydin and Ozer 2005; Kim et al. 2004) 29. The billing is accurate and easy to understand (Levesque and McDougall 1996; Sharma et al. 1999) 30. The cellular company has reputation and good image (Aydin and Ozer 2005) 31. The company is innovative and forward looking (Athanasopoulos and Iliakopoulos 2003; Aydin and Ozer 2005) 32. The advertisements and promotional campaigns of the company are effective (Aydin and Ozer 2005; Ndubisi and Wah 2005)

TABLE 2
Demographic Profiles of Respondents and Their Usage Patterns

Gender	
Male (73 percent)	Female (27 percent)
Age	
Less than 24 years (20.79 percent)	Between 24-30 years (48.60 percent)
Between 31-35 years (10.92 percent)	Greater than 35 years (19.69 percent)
Level of Education	
Non-graduate (4.2 percent)	Graduate (52.9 percent)
Post-graduate and above (42.9 percent)	
Monthly Income	
Less than \$1200 (35.3 percent)	Between \$1201-\$2500 (11.3 percent)
Between \$2501-\$7500 (29.8 percent)	Greater than \$7500 (23.6 percent)
Mobile usage time	
Less than 3 months (11.8 percent)	Between 3-6 months (8.8 percent)
Between 6-12 months (15.1 percent)	Between 1-3 years (35.3 percent)
More than 3 years (29 percent)	
Average Monthly Usage (in US\$)	
Less than 12.5 (36.6 percent)	Between 12.6-25 (32.8 percent)
Between 25.1-75 (27.7 percent)	More than \$75 (2.9 percent)

TABLE 3
Descriptive Statistics

Variables	Mean	Variance
1. Reliability and Consistency	3.668	0.729
2. Trust	3.378	0.768
3. Promises Fulfilled	3.357	0.838
4. Competent Employees	3.432	0.846
5. Employees Approachable	3.369	1.027
6. Employees Courteous	3.630	0.825
7. Employees Helpful	3.609	0.813
8. Employees Friendly	3.512	0.791
9. Specific Needs of Customers	3.344	0.944
10. Personal Attention	2.941	0.975
11. Right First Time	2.882	0.889
12. Accurate Records Maintained	3.365	0.773
13. Accurate Information	3.605	0.957
14. Prompt Services	3.189	1.133
15. Sympathetic Problem Solving	3.205	0.974
16. Fast Fault Repair	3.046	0.947
17. Employees Neat and Clean	3.664	0.680
18. Physical Facilities of Offices	3.702	0.725
19. Convenience in Taking Services	4.130	0.949
20. Network Quality	3.000	1.333
21. Call Quality	3.202	1.233
22. Coverage	3.668	1.083
23. Geographical Presence	3.479	1.103
24. Operating Hours	3.727	0.756
25. Competitive Services	3.874	0.659
26. Competitive Prices	3.782	0.923
27. Variety of Price Plans	3.869	0.780
28. Value Added Services	3.773	0.860
29. Billing	3.349	1.334
30. Reputation and Image	4.004	0.705
31. Innovative	3.760	0.774
32. Promotions	3.837	0.953

Factor Analysis Results

Results of the factor analysis are shown in Table 4.

As can be seen from Table 3, six factors were extracted, accounting for 63 percent of the total variance. We retained factor loadings greater than 0.40 for further analysis. Reliability of the factors was calculated using the Cronbach's alpha. A Cronbach's alpha value of greater than or equal to 0.7 is considered acceptable for the factor to be reliable (Hair et al. 2006). In our case all the factors had satisfactory value of Cronbach's alpha. Hence the factors are reliable.

Regression Analysis

As noted before, three separate regression analyses were carried out as follows:

(i) *Impact of service related factors on customer satisfaction.* In the first regression model, we used customer satisfaction as the dependent variable and the factor scores of the service related factors as the independent variables. We measured customer satisfaction through a multiple item scale with Cronbach's alpha reliability score of 0.885. Below is the regression model:

$$y1 = a + b1*x1 + b2*x2 + b3*x3 + b4*x4 + b5*x5 + b6*x6 \dots\dots\dots (1)$$

where, y1 = customer satisfaction; x1 = relational quality; x2 = competitiveness; x3 = reliability; x4 = reputation; x5 = support features; x6 = transmission quality. Table 5 shows the result of the regression analysis.

Sixty five percent of variance in the dependent variable was explained by the six service related factors. From Table 5 it is evident that "support features" is not significant at five percent significance level and competitiveness and reliability had the greater impact on customer satisfaction than the other factors.

(ii) *Impact of service related factors on recommendation of services to others.* The second regression analysis was performed with

recommendation of services to others as the dependent variable and the six service related factors as independent variables. The regression model is:

$$y2 = a + b1*x1 + b2*x2 + b3*x3 + b4*x4 + b5*x5 + b6*x6 \dots\dots\dots (2)$$

where y2 = recommendation of services to others; x1 = relational quality; x2 = competitiveness; x3 = reliability; x4 = reputation; x5 = support features; x6 = transmission quality. Table 6 shows the result of the regression analysis.

Results show that the six service-related factors explain 46.7 percent of variance in the dependent variable. Table 6 shows that market reputation and support features are not significant at five percent level of significance, whereas the other four factors are highly significant and impacts "recommendation of services to others" positively.

(iii) *Impact of service related factors on the repurchase intention of customers.* The third regression was performed with repurchase intentions as the dependent variable and the service related factors as the independent variables. The regression model is:

$$y3 = a + b1*x1 + b2*x2 + b3*x3 + b4*x4 + b5*x5 + b6*x6 \dots\dots\dots (3)$$

where, y3 = repurchase intention of the customers; x1 = relational quality; x2 = competitiveness; x3 = reliability; x4 = reputation; x5 = support features; x6 = transmission quality. Table 7 shows the result of the regression analysis.

Results show that the independent variables explain about 40 percent variance in the dependent variable. "Support features" is not significant at the five percent level of significance, whereas other five factors impact the repurchase intention positively and significantly. Transmission quality had the least impact on repeat purchase intentions whereas relational quality and reliability had the highest impact on repeat purchase intentions of customers.

Discussion and Implications

The purpose of this study was to identify the underlying service-related factors and to understand their impact on CS, RI and recommendation of service to others in the Indian mobile telecommunications market. We found that six factors: relational quality, competitiveness, reliability, reputation, support features and transmission quality represent the underlying dimensions by which Indian mobile phone customers assess the quality of their service. We then examined the impact of these service-related factors on customer satisfaction, repurchase intention and recommendation of services to others.

In our analysis relational quality, competitiveness, reliability, reputation and transmission quality factors emerged as significant predictors of customer satisfaction. However, the top three factors in order of importance were competitiveness, relational quality, and reliability. Repurchase intention is influenced by relational quality, competitiveness, reliability and transmission quality. Ranked first in term of importance was relational quality followed by competitiveness and reliability. Finally, relational quality, competitiveness, reliability, reputation and transmission quality emerged as significant predictors of recommendation of services to others. In this case, relational quality has the greatest impact on recommendation of service to others, whereas reliability and competitiveness have the second and third most impact, respectively. While our results indicate that relational quality, competitiveness, reliability, transmission quality, and reputation were all significant predictors of customer satisfaction, repurchase intention, and recommendation of service to others, the most important factors somewhat varied depending on the dependent variable under consideration. Thus, the Indian mobile phone service providers can view these service-related factors as levers in improving customer satisfaction, encourage repurchase intention, and promote recommendation of service to others.

Furthermore, the degree of emphasis placed on these factors depends on the objective of mobile phone service provider. For example, if the service provider is interested in enhancing customer satisfaction, competitiveness is the key factor to be emphasized. In contrast, relational quality is the primary driver of repurchase intention and recommendation of service to others.

These findings are consistent with past research results. For example, Woo and Fock (1999) found that the core service of mobile phone service providers is to provide users uninterrupted service reliably. Similarly, corporate reputation has been found to be a key driver of customer satisfaction (Andreassen and Lindestad 1998; Gronroos 1984; Bloemer et al. 1998; and Hart and Rosenberger 2004) in the literature. This finding implies that corporate reputation is used as a proxy for service quality by the customer and has a positive impact on customer satisfaction. Thus, we conclude that in the Indian mobile telecommunications services sector reputation is intertwined with the perceived service quality and ultimately with enhanced customer satisfaction. In other words, building and maintaining a positive corporate reputation through innovative communications strategies and public relations campaigns can go a long way in enhancing customer satisfaction.

Relational quality also emerged as a service quality dimension which had a significant impact on customer satisfaction, repurchase intention and customers' propensity to recommend the services to others. Similar findings were reported by Storbacka et al. 1994 and Thurau and Klee 1997. This implies that service providers should have competent, friendly and approachable employees who pay close attention to the specific needs of customers and provide prompt customer service.

Another interesting finding of this study is the impact of reputation on customers' propensity to recommend the services to others. Again,

TABLE 4
Rotated Factor Matrix

Factors	Items	Factor Loadings	Reliability
Relational Quality	Competent Employees	0.535	0.901
	Employees Approachable	0.723	
	Employees Courteous	0.720	
	Employees Helpful	0.748	
	Employees Friendly	0.804	
	Specific Needs of Customers	0.612	
	Personal Attention	0.570	
	Accurate Information	0.468	
	Prompt Services	0.514	
	Sympathetic Problem Solving	0.646	
	Fast Fault Repair	0.557	
Competitiveness	Competitive Services	0.741	0.811
	Competitive Prices	0.758	
	Variety of Price Plans	0.678	
	Value Added Services	0.680	
Reliability	Reliability and Consistency	0.653	0.710
	Trust	0.672	
	Promises Fulfilled	0.741	
Reputation	Right First Time	0.413	0.710
	Accurate Records	0.645	
	Geographical Presence	0.480	
	Billing System	0.637	
	Reputation and Image	0.508	
Support Features	Employees Neat and Clean	0.790	0.732
	Physical Facilities	0.793	
	Operating Hours	0.410	
	Promotions	0.550	
Transmission Quality	Network Quality	0.817	0.701
	Call Quality	0.767	
	Convenience	0.634	
	Coverage	0.705	

TABLE 5
Regression 1

Independent Variables	Standardized Beta	t-value	p-value
Relational quality	0.367	9.476	0.000
Competitiveness	0.448	10.403	0.000
Reliability	0.402	5.770	0.000
Reputation	0.223	1.706	0.000
Support features	0.066	7.835	0.089
Transmission quality	0.303	2.868	0.000
<i>Note: R-square = 0.656; F-value = 62.59; Sig. F = 0.000</i>			

TABLE 6
Regression 2

Independent Variables	Standardized Beta	t-value	p-value
Relational quality	0.399	8.292	0.000
Competitiveness	0.368	7.643	0.000
Reliability	0.349	7.252	0.000
Reputation	0.093	1.934	0.054
Support features	-0.011	-0.219	0.827
Transmission quality	0.152	3.163	0.002
<i>Note: R-square = 0.467; F-value = 28.76; Sig. F = 0.000</i>			

TABLE 7
Regression 3

Independent Variables	Standardized Beta	t-value	p-value
Relational quality	0.362	7.087	0.000
Competitiveness	0.296	5.790	0.000
Reliability	0.356	6.954	0.000
Reputation	0.161	3.150	0.002
Support features	-0.016	-0.310	0.757
Transmission quality	0.147	2.885	0.004
<i>Note: R-square = 0.399; F-value = 21.8; Sig. F = 0.000</i>			

building and maintaining a positive corporate reputation can encourage service recommendation to others, which is consistent with past research (Reichheld 2003; 2006). Last but not the least, transmission quality consisting of network quality and convenience variables were found to impact customer satisfaction, repurchase intention and recommendation of services to others. Needless to say that mobile phone service provider would be well-advised to improve call transmission quality.

In closing, we caution the readers not to generalize the findings of this research as they are based on a convenience sample. Additional research with a more representative sample of the mobile phone users in the India must be undertaken before the findings can be generalized to the population of mobile phone users. Future research can extend this study by including the construct service loyalty as an outcome of customer satisfaction. Similarly, factors such as trust, perceived switching cost and price fairness can be included as antecedents of customer satisfaction.

REFERENCES

- Andaleeb, S. S. (1998), "Determinants of Customer Satisfaction with Hospitals: A Managerial Model," *International Journal of Health Care Quality Assurance*, 11 (6), pp. 181-187.
- Anderson, E. W. and M. Sullivan (1993), "The Antecedents and Consequences of Customer Satisfaction for Firms," *Marketing Science*, 12, pp. 125-143.
- Anderson, E. W., C. Fornell and D. Lehmann (1994), "Customer Satisfaction, Market Share, and Profitability," *Journal of Marketing*, 58 (3), July, pp. 53-66.
- Anderson, Eugene W. and C. Fornell (1994), "Firm, Industry, and National Indices of Customer Satisfaction: Implications For Services," *Service Quality: New Directions in Theory and Practice*, eds. Roland T. Rust and Richard L. Oliver, Sage Publications: Thousand Oaks, CA, pp. 241- 268.
- Anderson, E. W., C. Fornell and S. Mazvancheryl (2004), "Customer Satisfaction and Shareholder Value," *Journal of Marketing*, 68 (October), pp. 172-185.
- Andreassen, T.W. and B. Lindestad (1998), "Customer Loyalty and Complex Services," *International Journal of Service Industry Management*, 9 (1), pp. 7-23.
- Athanassopoulos, A. D. and A. Anastasiosiliakopoulos (2003), "Modeling Customer Satisfaction in Telecommunications: Assessing the Effects of Multiple Transaction Points on the Perceived Overall Performance of the Provider," *Production and Operations Management*, 12 (2), pp. 224 – 245
- Asubonteng, P., K. McCleary and J. E. Swan (1996), "SERVQUAL Revisited: A Critical Review of Service Quality," *The Journal of Services Marketing*, 10 (6), pp. 62-81.
- Aydin, S. and G. Ozer (2005) "National Customer Satisfaction Indices: An Implementation in the Turkish Mobile Telephone Market," *Marketing Intelligence and Planning*, 23 (5), pp. 486 – 504
- Babakus, E. and G. W. Boller (1992), "An Empirical Assessment of the SERVQUAL Scale," *Journal of Business Research*, 24, pp. 253-268.
- Bitner, M. J. (1990), "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses," *Journal of Marketing*, 54(2), pp. 69-82.
- Bloemer, J.M.M. and K. de Ruyter (1998), "On the Relationship Between Store Image, Store Satisfaction and Store Loyalty," *European Journal of Marketing*, 32 (5/6), pp. 499-513.
- Bloemer, J., K. de Ruyter and M. Wetzels (1999), "Linking Perceived Service Quality and Service Loyalty: A Multidimensional Perspective," *European Journal of Marketing*, 33 (11/12), pp. 1082.
- Bolton, R. N., and J. H. Drew (1991), "A Multistage Model of Customers' Assessments of Service Quality and Value," *Journal of Consumer Research*, 17(4), pp. 375-385.
- Bolton, R. N. (1998), "A Dynamic model of the Duration of the Customer's Relationship with a Continuous Service Provider," *Marketing Science*, 17(1), pp. 45-66.

- Boulding, W., A. Kalra, R. Staelin and V. A. Zeithaml (1993), "A Dynamic Process Model of Service Quality: From Expectations to Behavioral Intentions", *Journal of Marketing Research*, 30 (1), pp. 7-27.
- Brady, M.K., and J. J. Cronin (2001), "Some New Thoughts on Conceptualizing Perceived Service Quality: A Hierarchical Approach," *Journal of Marketing*, 65 (3), pp. 34-49.
- Carman, J. M. (1990), "Consumer Perceptions of Service: An Assessment of SERVQUAL Dimensions," *Journal of Retailing*, 66 (Spring), pp. 33-55.
- Caruana, A. (2002), "Service Loyalty – The Effects of Service Quality and the Mediating Role of Customer Satisfaction," *European Journal of Marketing*, 36 (7/8), pp. 811-828.
- Chin, W.W. (1998), "The Partial Least Squares Approach for Structural Equation Modeling," In: Marcoulides, G.A. (ed.), *Modern Methods for Business Research*. Lawrence Erlbaum Associates, London, pp. 295-336.
- Chin, W.W. (2001), *PLS-Graph User's Guide*, C.T. Bauer College of Business, University of Houston, USA.
- Choi, K. S., W. H. Cho, S. H. Lee, H. J. Lee, and C. K. Kim (2004), "The Relationships among Quality, Value, Satisfaction and Behavioral Intention in Health Care Provider Choice: A South Korean Study," *Journal of Business Research*, 57(8), pp. 913-921.
- Churchill, G. A. and C. Suprenant (1982), "An Investigation into the Determinants of Customer Satisfaction," *Journal of Marketing Research*, 19 (4), pp. 491-504.
- Cronin, J. J. and A. T. Steven (1992), "Measuring Service Quality: A Reexamination and Extension," *Journal of Marketing*, 56 (July), pp. 55-68.
- Cronin, J. J., and S. A. Taylor (1994), "SERVPERF versus SERVQUAL: Reconciling Performance Based and Perceptions-minus-expectations Measurement of Service Quality," *Journal of Marketing*, 58(1), pp. 125-131.
- Cronin, Jr. J. J., M. K. Brady and G. T. M. Hult (2000), "Assessing the Effects of Quality, Value and Customer Satisfaction on Consumer Behavioral Intentions in Service Environments", *Journal of Retailing*, 76 (2), pp. 193-218.
- Dabholkar, P. A., C. D. Shepherd, and I. D. Thorpe (2000), "A Comprehensive Framework for Service Quality: An Investigation of Critical Conceptual and Measurement Issues Through a Longitudinal Study," *Journal of Retailing*, 76 (2), pp. 139-173.
- Danaher, P. J. and R. W. Gallagher (1997), "Modeling Customer Satisfaction in Telecom New Zealand", *European Journal of Marketing*, 31 (2), pp. 122-133.
- de Ruyter, K., J. Bloemer, P. Peeters (1997), "Merging Service Quality and Service Satisfaction: An Empirical Test of An Integrative Model," *Journal of Economic Psychology*, 18, pp. 387-406.
- Eisingerich, A. B. and S. J. Bell (2008), "Perceived Service Quality and Customer Trust: Does Enhancing Customers' Service Knowledge Matter?" *Journal of Service Research*, 10 (3), pp. 256-268.
- Erevelles, S., and C. Leavitt (1992), "A Comparison of Current Models of Consumer Satisfaction/Dissatisfaction," *Journal of Consumer Satisfaction, Dissatisfaction & Complaining Behavior*, 5, pp. 104-114.
- Fondness, D and B. Murray (2007), "Passengers' Expectations of Airport Service Quality," *Journal of Services Marketing*, 21 (7), pp. 492-506.
- Fornell, C., M. D. Johnson, E. W. Anderson, J. Cha and B. E. Bryant (1996), "The American Customer Satisfaction Index: Nature, Purpose and Findings," *Journal of Marketing*, 60, pp. 7-18.
- Ganesh, J. M., J. Arnold and K. E. Reynolds (2000), "Understanding the Customer Base of Service Providers: An Examination of the Differences between Switchers and Stayers," *Journal of Marketing*, 64(3), pp. 65-87.
- Garvin, D. A. (1988), *Managing Quality – The Strategic and Competitive Edge*, The Free Press, New York.

- Gerpott, T. J., W. Rams and A. Schindler (2000), "Customer Retention, Loyalty, and Satisfaction in German Mobile Cellular Telecommunications Market," *Telecommunications Policy*, 25, pp. 249-269.
- Gilbert, G. R., C. Veloutsou, M. M. H. Goode and L. Moutinho (2004), "Measuring Customer Satisfaction in the Fast Food Industry: A Cross-national Approach," *Journal of Services Marketing*, 18 (5), pp. 371-383.
- Gotlieb, J.B., D. Grewal and S. W. Brown (1994), "Consumer Satisfaction and Perceived Quality: Complementary or Divergent Constructs?" *Journal of Applied Psychology*, Vol. 79 No.6, pp. 875-85.
- Gronroos, C. (1984), "A Service Quality Model and its Marketing Implications," *European Journal of Marketing*, 18 (4), pp. 36-44.
- Gupta, S. and V. Zeithaml (2006), "Customer Metrics and Their Impact on Financial Performance," *Marketing Science*, 25 (6), pp. 718-739.
- Hart, A. E. and P. J. Rosenberger (2004), "The Effect of Corporate Image in the Formation of Customer Loyalty: An Australian Replication," *Australasian Journal of Marketing*, 12 (3), pp. 1-16.
- Hellier, P. K., G. M. Geursen, R. A. Carr, and J. A. Rickard (2003), "Customer Repurchase Intention: A General Structural Equation Model," *European Journal of Marketing*, 37(11/12), pp. 1762-1800.
- Host, V. and M. Knie-Andersen (2004), "Modeling Customer Satisfaction in Mortgage Credit Companies," *International Journal of Bank Marketing*, 22 (1), pp. 26-39.
- Ittner, C. and D. Larcker (1998), "Are Nonfinancial Measures Leading Indicators of Financial Performance? An Analysis of Customer Satisfaction," *Journal of Accounting Research*, 36 (1), pp. 1-35.
- Johnson, M. D, and C. Fornell (1991), "A Framework for Comparing Customer Satisfaction across Individuals and Product Categories," *Journal of Economic Psychology*, 12 (2), pp. 267-286.
- Johnson, M. D., A. Gustafsson, T.W. Andreassen, L. Lervik and J. Cha (2001), "The Evolution and Future of National Customer Satisfaction Index Models," *Journal of Economic Psychology*, 22, pp. 217-245.
- Johnson, W. C. and A. Sirikit (2002), "Service Quality in the Thai telecommunication Industry: A Tool for Achieving a Sustainable Competitive Advantage", *Management Decision*, 40 (7), pp. 693-701.
- Kim, M. K., M.C. Park and D. H. Jeong (2004), "The Effects of Customer Satisfaction and Switching Barrier on Customer Loyalty in Korean Mobile Telecommunication Services," *Telecommunications Policy*, 28, pp. 145-159.
- Krepapa, A., P. Berthon, D. Webb and L. Pitt (2003), "Mind the Gap – An Analysis of Service Provider versus Customer Perceptions of Market Orientation and the Impact on Satisfaction," *European Journal of Marketing*, 37 (1/2), pp. 197 – 218.
- Lai, F., J. Hutchinson, D. Li and C. Bai (2007), "An Empirical Assessment and Application of SERVQUAL in Mainland China's Mobile Communications Industry," *International Journal of Quality and Reliability Management*, 24 (3), pp. 244-262.
- Lehtinen, U. and J. R. Lehtinen (1982), "Service Quality: A Study of Quality Dimensions," unpublished working paper, Helsinki, Finland: Service Management Institute.
- Levesque, T. and G. H. G. McDougall (1996), "Determinants of Customer Satisfaction in Retail Banking," *International Journal of Bank Marketing*, 14 (7), pp. 12-20.
- Martin, D., M. O'Neill, S. Hubard and A. Palmer (2008), "The Role of Emotion in Explaining Consumer Satisfaction and Future Behavioral Intention," *Journal of Services Marketing*, 22 (3), pp. 224 – 236.
- McDougall, G. H. G. and T. Levesque (2000), "Customer Satisfaction with Services: Putting Perceived Value into the Equation," *Journal of Services Marketing*, Volume 14 No 5, pp. 392 - 410

- McQuitty, S., A. Finn and J. B. Wiley (2000), "Systematically Varying Consumer Satisfaction and its Implications for Product Choice," 10, pp. 1-16.
- Narayandas, D. (1999), "Measuring and Managing the Benefits of Customer Retention," *Journal of Service Research*, 1 (2), pp. 108-128.
- Ndubisi, N.O. and C. Wah (2005), "Factorial and Discriminant Analyses of the Underpinnings of Relationship Marketing and Customer Satisfaction," *International Journal of Bank Marketing*, 23 (3), pp. 542-557.
- Nunnally, J. C. and I. H. Bernstein (1994), *Psychometric Theory*, 3rd ed. New York: McGraw-Hill.
- Oliver, R. (1980), "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions," *Journal of Marketing Research*, 17(November), pp. 460-469.
- Oliver, R. (1981), "Measurement and Evaluation of Satisfaction Process in Retail Setting," *Journal of Retailing*, 57 (Fall), pp. 25-48.
- Oliver, R. (1993), "Cognitive, Affective and Attribute Bases of the Satisfaction Response," *Journal of Consumer Research*, 20, pp. 418-430.
- Oliver, R. (1999), "Whence Customer Loyalty?" *Journal of Marketing*, 63, pp. 33-44.
- Olorunniwo, F. and M. K. Hsu (2006), "A Typology Analysis of Service Quality, Customer Satisfaction and Behavioral Intentions in Mass Services," *Managing Service Quality*, 16 (2), pp. 106-123.
- Parasuraman, A., V. A. Zeithaml and L. L. Berry (1985), "A Conceptual Model of Service Quality and Its Implications for Future Research," *Journal of Marketing*, 49 (Fall), pp. 41-50.
- Parasuraman, A., V. A. Zeithaml and L. L. Berry (1988), "SERVQUAL: A Multiple-item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing*, 64 (1), pp. 12 - 40.
- Parasuraman, A., L. L. Berry and V. A. Zeithaml (1991), "Refinement and Reassessment of SERVQUAL Scale," 67 (4), pp. 420-450.
- Reichheld, F. F. (2003), "The One Number You Need to Grow," *Harvard Business Review*, December, pp. 1-11.
- Reichheld, F. F. (2006), *The Ultimate Question: Driving Good Profits and True Growth*, Boston, MA, Harvard Business School Press.
- Rust, R.T., A. J. Zahorik and T. L. Keiningham (1995), "Return on Quality (ROQ): Making Service Quality Financially Accountable," *Journal of Marketing*, 59 (2), pp. 58-70.
- Sharma, S., R. W. Niedrich and G. Dobbins (1999), "A Framework for Monitoring Customer Satisfaction: An Empirical Illustration," *Industrial Marketing Management*, 28 (3), pp. 231 - 243.
- Smith, R. E. and W. F. Wright (2004), "Determinants of Customer Loyalty and Financial Performance," *Journal of Management Accounting Research*, 16 (Special Issue), pp. 183-205.
- Soderlund, M., and N. Ohman (2003), "Behavioral Intentions in Satisfaction Research Revisited," *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 16, pp. 53-66.
- Storbacka, K., T. Strandvik and C. Gronroos (1994), "Managing Customer Relationships for Profit: The Dynamics of Relationship Quality," *International Journal of Service Industry Management*, 5 (5), pp. 21-38.
- Strandvik, T. and V. Lijander (1994), "A Comparison of Episode performance and relationship performance for a discrete service," Paper presented at the 3rd Service Marketing Workshop, Berlin, Germany.
- Sureshchandar, G. S., C. Rajendran and R. N. Anantharaman (2002), "The Relationship between Service Quality and Customer Satisfaction - a Factor Specific Approach," *Journal of Services Marketing*, 16 (4), pp. 363-379.
- Szymanski, D. M. and D. H. Henard (2001), "Customer Satisfaction: A Meta-Analysis of the Empirical Evidence," *Journal of the Academy of Marketing Science*, 29 (1), pp. 16-35.

- Thurau, H. Th. and A. Klee (1997), "The Impact of Customer Satisfaction and Relationship Quality on Customer Retention: A Critical Reassessment and Model Development," *Psychology and Marketing*, 14 (8), pp. 737-764.
- Tse, D. K. and P. W. Wilton (1988), "Models of Customer Satisfaction Formation: An Extension," *Journal of Marketing Research*, 25 (May), pp. 204-212.
- Türkyilmaz, A. and C. Özkan (2007), "Development of a Customer Satisfaction Index Model: An Application to the Turkish Mobile Phone Sector," *Industrial Management & Data Systems*, 107 (5), pp. 910-925.
- Turel, O. and A. Serenko (2006), "Satisfaction with Mobile Services in Canada: An Empirical Investigation," *Telecommunications Policy*, 30, pp. 314-331.
- Wang, Y. and H. P. Lo (2002), "Service Quality, Customer Satisfaction and Behavior Intentions: Evidence from China's Telecommunication Industry", *Information Systems Frontiers*, 4 (6), pp. 50 – 60.
- Woo, K. and H. Fock (1999), "Customer Satisfaction in the Hong Kong Mobile Phone Industry," *The Service Industry Journal*, 19 (3), pp. 162-174.
- Woodside, A. G., L. L. Frey and R. Timothy (1989), "Linking Service Quality, Customer Satisfaction and Behavioral Intention," 9 (4), pp. 5-17.
- Yang, Z. and R. T. Peterson (2004), "Customer Perceived Value, Satisfaction, and Loyalty: The Role of Switching Costs," *Psychology and Marketing*, 21 (10), pp. 799-822.
- Yoo, D. K. and J. A. Park (2007), "Perceived Service Quality: Analyzing Relationships Among Employees, Customers, and Financial Performance," *International Journal of Quality & Reliability Management*, 24 (9), pp. 908-926.
- Yi, Youjae (1989), "A Critical Review of Customer Satisfaction," in *Review of Marketing*, Valarie A. Zeithaml, ed. Chicago: American Marketing Association, pp. 68-123.
- Zeithaml, V. A., L. L. Berry and A. Parasuraman (1996), "The Behavioral Consequences of Service Quality," *Journal of Marketing*, 60(2), pp. 31-47.
- Zeithaml, V.A., M.J. Bitner and D.D. Gremler (2006), *Services Marketing: Integrating Customer Focus Across the Firm*, New York: McGraw-Hill Irwin.

APPENDIX A
Customer Satisfaction Studies in Other Services

Author(s), Year	Context and Objectives of the Study	Conceptualization/ Variables/ Constructs/Frameworks	Methodology	Results/Findings
Anderson and Sullivan (1993)	To investigate both analytically and empirically the antecedents and consequences of CS	A model has been developed to understand and predict the relations between the antecedents and consequences of CS. The framework has satisfaction as a function of perceived quality and expectations. Authors expect that satisfaction has a positive impact on repurchase intentions.	Data was provided by the Customer Satisfaction Project at UMI. Computer aided telephonic survey of 22300 customers of 57 companies. Just identified path analysis has been used to estimate the model.	The estimates of the path model support the analytic framework. Satisfaction was linked explicitly to retention in a utility-oriented framework. Authors propose that this model can form the basis for future research concerning the relationship between CS and retention.
Fornell (1992)	To construct the annual Customer Satisfaction Barometer for Sweden	Proposed a model consisting of the antecedents and consequences of customer satisfaction.	Data from 30 industries was collected. Model was estimated using PLS (partial least square) methodology.	Customer satisfaction is a function of pre-purchase expectations and post-purchase perceived performance, while loyalty was a function of customer satisfaction and switching barriers and customer complaints.
Fornell et al. (1996)	To develop the ACSI as a new type of market-based performance measure for firms, industries, economic sectors and national economies.	<i>Put forward the ACSI model with the following variables:</i> <u>Antecedents of customer satisfaction</u> Perceived quality Customer expectations Perceived value <u>Consequences of CS</u> Customer complaints Customer loyalty	The model was estimated across customers within each of the 7 sectors of the US economy included in the survey The ACSI model was estimated using PLS method.	The overall ACSI for the year 1994 was 74.5. All the hypothesized directions in the model held good. Average ACSI for goods was 80, 75 for services and retailers, and 64 for public and government agencies. This implies that customers are generally more satisfied with services and are least satisfied with public administration and government agencies.
Cronin et al. (2000)	To study the effects of service quality on customer satisfaction and the behavioral intentions of customers.	They have proposed an empirical model of service encounter to verify the relationship among the constructs.	Data collected from several services industries viz. sports, entertainment, healthcare, long distance carriers and fast food. Model estimated using SEM	Sacrifice and service quality affect service value while service value and service quality affect satisfaction Behavioral intentions are affected by service quality, service value and satisfaction.

APPENDIX A (continued)

Author(s), Year	Context and Objectives of the Study	Conceptualization/ Variables/ Constructs/Frameworks	Methodology	Results/Findings
Szymanski and Henard (2001)	To advance the understanding of the CS concept.	An overview of the rationale behind the general antecedents, outcomes and potential moderators of CS. The framework guiding authors' theoretical and empirical investigation is based on the relationships from Oliver's (1997) conceptual model of CS.	Meta-analysis of the satisfaction findings has been done.	Antecedents to satisfaction (the meta-analysis results showed that these are): expectations, disconfirmation, performance, affect and equity. Outcomes of satisfaction: complaining behavior, negative word of mouth (WOM) and repeat purchasing. Positive relationships between CS and repeat purchasing. Satisfied (dissatisfied) customers are likely to be less (more) vocal consumers on an average.
Johnson et al. (2001)	The primary goal of this research is to propose and test a number of modifications and improvements to the national index models.	Based on the different CSI models prevalent in the literature proposed a new model for NCSB (Norwegian Customer Satisfaction Barometer) model. They have positioned customer loyalty as the key dependent variable in the model.	Criticized the existing CSI models like SCSB, ACSI, NCSB, etc. Based on the critics proposed a new model. NCSB is estimated using telephone surveys from national probability sample of 6900 customers. Data collected from five industries viz. banking, gas stations, airlines, bus transportation and train transportation. Proposed model estimated using PLS	An important finding is that four out of five industries, the model explains more variation in loyalty than in satisfaction. The model explains more than 50percent of the variation in loyalty evaluations. This is in complete contrast with the ACSI results where average variation in loyalty explained is only 36percent. Note: While the model was successful in isolating a complaint-handling construct, the construct did not have much effect on either satisfaction or loyalty.
Caruana (2002)	To investigate the mediation effect of customer satisfaction on the service quality-service loyalty link.	Proposed a model with service loyalty as the dependent variable and service quality as the independent variable with customer satisfaction as the mediator.	Data collected from the retail banking customers in Malta. The model was estimated using SEM technique.	Service quality affects customer satisfaction which in turn affects service loyalty.
Krepapa et al. (2003)	To investigate the impact of market orientation on customer satisfaction.	Proposed a relationship between market orientation perception of service provider, market orientation of customers and customer satisfaction. Customer satisfaction is the dependent variable in the model.	Data collected from the corporate banking customers. Confirmatory factor analysis and multiple regression analysis used in the study.	Gap between customers' and providers' perceptions of market orientation had a unique effect on customer satisfaction. Entire market orientation gap had an overall impact on customer satisfaction.

APPENDIX A (continued)

Author(s), Year	Context and Objectives of the Study	Conceptualization/ Variables/ Constructs/ Frameworks	Methodology	Results/Findings
Host and Anderson (2004)	To present an analysis of price and service quality effects through customer satisfaction on customer loyalty.	Proposed a model with SERVPERF factors and price as antecedents of customer satisfaction and customer loyalty and willingness to recommend as the consequences.	Data collected from the mortgage credit card companies' customers in Denmark Model estimated using SEM technique.	Reliability, assurance and price emerged as significant antecedents of customer satisfaction and customer loyalty and willingness to recommend as the outcomes.
Ndubisi and Wah (2005)	To understand the impact of relationship marketing underpinnings on customer satisfaction.	Relationship marketing underpinnings: Competence, trust, conflict handling, communication and commitment.	Data collected from the customers of 20 banks in Malaysia. Used factor analysis and discriminant analysis	The underpinnings of relationships marketing found to discriminate between the customers in terms of perceived relationship quality and customer satisfaction. The overall bank-customer relationship quality discriminates between satisfied and non-satisfied customers.
Andaleeb (1998)	To identify the determinants of customer satisfaction in case of hospitals.	Proposed a five-factor model for patient satisfaction.	Data collected from four hospitals in Pennsylvania. Multiple regression analysis used.	Satisfaction emerged as a function of communication, cost, facilities, competence and demeanor.
McDougall and Levesque (2000)	To investigate the relationship between core service quality, relational service quality, perceived value and customer satisfaction.	Proposed a comprehensive model of customer satisfaction in services setting. The model proposes that perceived service quality and perceived value influence satisfaction which, in turn, influences future intentions. Perceived service quality is made of two components: core SQ and relational SQ.	Data collected from four services viz. dentist, auto service, restaurant and hairstylist using questionnaire survey LISREL used to test the hypothesized relationships	Core service quality and perceived value emerged as the most important drivers of customer satisfaction. Direct link between customer satisfaction and future purchase intentions was also significant.
Sureshchandar et al. (2002)	To investigate the relationship between service quality and customer satisfaction.	This study views customer satisfaction as a multidimensional construct. Core service or service product Human element of service Non-human element Servicescapes Social responsibility	Data collected from 41 banks in the Indian banking service sector. Factor analytic approach and t-tests were used.	Service quality and customer satisfaction are two distinct constructs. There is a high relationship (correlation) between SQ and CS.
Gilbert et al. (2004)	To develop and validate a scale for the measurement of customer satisfaction in the international fast food industry.	Developed a scale for service satisfaction.	Data collected from five fast food establishments in four English speaking countries, Jamaica, USA, Scotland, and Wales. Factor analytic methodology	The study revealed two cross-cultural fast-food customer satisfaction dimensions: satisfaction with the personal service and satisfaction with the service setting.

APPENDIX A (continued)

Author(s), Year	Context and Objectives of the Study	Conceptualization/ Variables/ Constructs/ Frameworks	Methodology	Results/Findings
Sharma et al. (1999)	To illustrate the use of a framework for monitoring customer satisfaction over time.	The framework is based on the control theory. Control theory posits that the primary objectives of control model is the identification of changes in the performance criteria, determining its causes and taking necessary actions to bring the system back in control.	Data collected from a Fortune 500 company. Confirmatory factor analysis used.	Factors affecting customer satisfaction: Installation, sales team leader, product, delivery, maintenance, software and technical support, business solution development, education, cost of ownership and invoice.
Martin et al. (2008)	To identify the impact of perceived service quality on satisfaction and the impact of emotional satisfaction on future behavioral intention.	Proposed a research model linking perceived service quality, customer satisfaction, emotional satisfaction and future behavioral intention.	Data collected from the spectators of football teams. Sample size: 407 Exploratory factor analysis and structural equation modeling using AMOS 5.0	Emotionally based satisfaction was found to be a better predictor of future behavioral intention than cognitive measures of satisfaction.

**APPENDIX B
Service Quality**

Author(s), Year	Context and Objectives of the Study	Conceptualization/ Variables/ Constructs/ Frameworks	Methodology	Results/Findings
Gronroos (1984)	To develop a service quality model. To understand (a) how service quality is perceived by consumers and (b) determine in what way service quality is influenced.	Proposed that perceived quality is the result of an evaluation process when the consumer compares the perceived service against the expected service. The result of this is perceived service quality. <i>The model parameters:</i> Technical quality Functional quality Corporate image Perceived service Expected service	In-depth interviews with service business executives.	Service quality consists of two components: Technical quality (what the consumer gets)and Functional quality (how he gets it)

APPENDIX B (continued)

Author(s), Year	Context and Objectives of the Study	Conceptualization/ Variables/ Constructs/ Frameworks	Methodology	Results/Findings
Parasuraman et al. (1985)	To propose a conceptual model of service quality.	Service quality is a comparison between expectations and performance. <i>Proposed the GAP model of service quality.</i>	Exploratory investigation based on interviews and focus group interviews with executives from the services sector.	<i>Determinants of perceived service quality</i> Reliability Responsiveness Competence Access Courtesy Communication Credibility Security Understanding Tangibles
Carman (1990)	Replication of SERVQUAL	Original SERVQUAL framework has been used	Four service settings have been chosen for the study viz. dental clinic, business school placement cell, a tire store and an acute care hospital. Sample size: 600 The items were modified to suit the service settings.	Did not find support for the SERVQUAL across all the services settings chosen.
Bolton and Drew (1991)	To examine the relationships among prior experiences, expectations, overall service quality, and service value.	Authors have proposed a multistage model of service quality and value. <i>Model parameters</i> Perceptions of performance Expectations Disconfirmation Customer satisfaction Service quality Service value Intentions Behavior A customer's assessment of value is dependent on sacrifice (monetary and nonmonetary costs) and the customer's frame of reference (tastes and characteristics). SQ = F(CS/D, EXPECTATIONS, PERFORMANCE)	Survey research Data collected from a system wide national probability sample of 1408 telephone subscribers. Two stage least square estimation procedures were used to estimate the model.	Results indicate that residential customers' assessments of quality and value are primarily a function of disconfirmation arising from discrepancies between anticipated and perceived performance levels. Perceived performance levels were found to have direct effect on quality and value assessments.

APPENDIX B (continued)

Author(s), Year	Context and Objectives of the Study	Conceptualization/ Variables/ Constructs/ Frameworks	Methodology	Results/Findings
Babakus and Boller (1992)	To empirically assess the SERVQUAL scale. It's a critique of SERVQUAL	Proposes that SERVQUAL has some inherent problems. <i>Issues with SERVQUAL</i> 1.Dimensionality 2.Defining a construct using a GAP score 3.Effects of mixed item wordings 4.Convergent and discriminant validity	Data collected from the customers of an electricity and gas utility company. Sample size: 689 Reliability analysis done Exploratory factor analysis performed	Authors' effort to replicate SERVQUAL failed. Separate analyses of the expectations and perceptions of SERVQUAL produced a two factor structures which appears to be determined by the directions of the item wordings. The negatively keyed items loaded on one factor and the positively keyed items loaded on the other factor. This study raises issues regarding the 5-dimensional nature of SERVQUAL.
Cronin and Taylor (1992)	To (i) investigate the conceptualization and measurement of SQ and (ii) the relationships between customer satisfaction, SQ and purchase intentions.	Used the same items of the original SERVQUAL paper. Propose an alternative of SERVQUAL in the form of SERVPERF	Random sampling Sample size: 660 <i>Three step analysis</i> 1. The dimensionality of SERVQUAL tested using CFA (LISREL VII). 2. Comparison of alternative forms of SDERVQUAL; original SERVQUAL, importance weighted, and performance based approach (SERVPERF) 3. Analysis of relationship between SQ, CS and purchase intentions.	A performance based measure of SQ (SERVPERF) may be an improved means of measuring the SQ construct. SQ is an antecedent of customer satisfaction Consumer satisfaction has a significant impact on purchase intentions. SQ has less impact on purchase intentions than does CS.
Boulding et al. (1993)	To propose and estimate a dynamic process model of service quality	Developed a dynamic model of SQ. <i>Parameters in the model</i> <ul style="list-style-type: none"> • Will expectation • Should expectation • Delivered service • Perceived service • Overall perceived service • Behavioral intention 	Two methods were used to estimate the model. Longitudinal experimental study (sample size 96) Field study (sample size 177)	Service quality is directly influenced by perceptions Increasing customers' expectations will lead to higher perceptions of quality during a service encounter. SQ perceptions positively affect intended behaviors.

APPENDIX B (continued)

Author(s), Year	Context and Objectives of the Study	Conceptualization/ Variables/ Constructs/ Frameworks	Methodology	Results/Findings
Gotlieb et al. (1994)	<p>To examine the relationships among disconfirmation of expectations, perceived quality, satisfaction, perceived situational control and behavioral intentions.</p> <p>To combine two different streams of research viz. perceived quality and satisfaction to get a better understanding of behavioral intentions.</p>	<p>Proposed two comparative models:</p> <p><i>Model1:</i> Disconfirmation of expectations → perceived quality → satisfaction → behavioral intentions.</p> <p><i>Model2:</i> Disconfirmation of expectations → satisfaction → perceived quality → behavioral intentions</p>	<p>Data collected from hospital patients</p> <p>Sample size: 232</p> <p>Models estimated using SEM (LISREL VII)</p>	<p>Results showed that model1 explained more variation in behavioral intentions as compared to model2.</p> <p>That means focal and contextual dimensions of disconfirmation of expectations affect perceived quality enroute to their influence on behavioral intentions through satisfaction.</p> <p>Perceived value is the antecedent of satisfaction</p>
Zeithaml et al. (1996)	<p>To summarize the literature on the behavioral consequences of service quality at the individual customer level.</p> <p>To offer a conceptual model of the impact of SQ on particular behaviors that signal whether customers remain or defect from the company.</p>	<p>Proposed a conceptual model linking the behavioral and financial consequences of service quality.</p> <p><i>Service quality</i></p> <ul style="list-style-type: none"> • Superior • Inferior <p><i>Behavioral intentions</i></p> <ul style="list-style-type: none"> • Favorable • Unfavorable <p><i>Behavior</i></p> <ul style="list-style-type: none"> • Remain • Defect <p><i>Financial consequences</i></p> <p><i>+\$</i></p> <ul style="list-style-type: none"> • Ongoing revenue • Increased spending • Price premium • Referred customers <p><i>-\$</i></p> <ul style="list-style-type: none"> • Decreased spending • Lost customers • Costs to attract new customers 	<p>Data collected from a retail chain, computer manufacturer, automobile insurer and life insurer</p> <p>Total sample size: 3069</p> <p>Multiple regression analysis using dummy variables</p> <p>ANOVA</p>	<p>Service quality is associated positively with favorable behavioral intentions and negatively with unfavorable behavioral intentions. Customers experiencing no service problems have the strongest levels of loyalty intentions and the weakest switch and external response intentions. But the pay more intentions are not significantly higher than those of the customers experiencing service problems that were resolved satisfactorily.</p> <p>Authors identified five dimensions of service loyalty:</p> <ul style="list-style-type: none"> • Loyalty to company • Propensity to switch • Willingness to pay more • External response to problem • Internal response to problem

APPENDIX B (continued)

Author(s), Year	Context and Objectives of the Study	Conceptualization/ Variables/ Constructs/ Frameworks	Methodology	Results/Findings
Caruana et al. (2000)	To examine the relationship between service quality, satisfaction and value.	Authors propose the moderating role of value on the link between service quality and satisfaction.	Data collected from an audit firm. Sample size: 80 Regression analysis Moderated regression analysis performed	The link between SQ and satisfaction was significant. Value had a partial moderating effect on the link between SQ and satisfaction. The beta coefficient for the moderating effect was negative.
Bloomer et al. (1999)	To empirically examine the relationship between perceived service quality and service loyalty.	Proposed that there exist a direct relationship between perceived service quality and service loyalty. And the relationship varies across different industries.	Data collected from four services industries in Belgium Sample size 718 Questionnaire survey Confirmatory factor analysis performed to test the factor structure. Multi-sample analysis using LISREL 7.	<i>Dimensions of service loyalty:</i> <ul style="list-style-type: none"> • Word of mouth • Purchase intention • Price sensitivity • Complaining behavior WOM is positively affected by responsiveness and tangibles for entertainment services. Purchase intentions by reliability, responsiveness and tangibles. WOM and purchase intentions positively affected by assurance and empathy in fast food industry.
Dabholkar et al. (2000)	To understand the antecedents and consequences of service quality	Proposed that customer satisfaction mediates the relationship between service quality and behavioral intentions. Also the perceptions and measured disconfirmation offer several advantages over computed disconfirmation (i.e. difference scores) and that a cross-sectional measurement design for service quality is preferred to a longitudinal design.	Sample size 397 Focus group interviews Data collected through telephonic interviews CFA and estimation of the proposed model using SEM (LISREL) A special technique of LISREL "model fit using regression.* it is based on the covariance matrices and all the indicators for each construct summed to provide a single indicator in each case.	<i>Four antecedents of service quality</i> <ul style="list-style-type: none"> • Reliability • Personal attention • Comfort • Features The antecedents' model provides a more complete understanding of SQ and how these evaluations are formed. CS acts as a mediator between SQ and behavioral intentions. Perceptions measures are more important than the disconfirmation measures.

APPENDIX B (continued)

Author(s), Year	Context and Objectives of the Study	Conceptualization/ Variables/ Constructs/ Frameworks	Methodology	Results/Findings
Brady and Cronin Jr. (2001)	To identify a new and integrated conceptualization of service quality in order to move the SQ research forward.	<p><i>Proposed a research model</i></p> <p>Service Quality (primary dimensions)</p> <ul style="list-style-type: none"> • Interaction quality • Physical environment quality • Outcome quality <p>The sub dimensions</p> <p><i>Interaction Quality</i></p> <ul style="list-style-type: none"> • Attitude • Behavior • Expertise <p><i>Physical Environment Quality</i></p> <ul style="list-style-type: none"> • Ambient conditions • Design • Social factors <p><i>Outcome Quality</i></p> <ul style="list-style-type: none"> • Waiting time • Tangibles • Valence 	<p>Data collected from four service industries fast food, photograph developing, amusements parks, and dry cleaning</p> <p>Sample size 1149 CFA performed using LISREL 8.</p>	<p>Results provided the evidence that SQ perceptions are formed as a result of the evaluations of three dimensions outcome, interaction and environment.</p> <p>Further the results confirm that these three primary dimensions composed of the proposed sub dimensions.</p> <p>Also the study reassures that reliability, responsiveness and empathy of service providers are important to the provision of superior service quality.</p>
Fodness and Murray (2007)	To contribute to the development of a conceptual model of service quality in airports.	Proposed a service quality expectations model for airports consisting of servicescape, service personnel and services.	<p>In-depth interviews and focus groups used in the qualitative model development stage.</p> <p>Sample size: 1000 airport users.</p> <p>Model tested through a confirmatory factor analysis using AMOS 4.01</p>	Passengers' expectations of airport service quality is a multidimensional, hierarchical construct that includes three key dimensions: function, interaction and diversion.
Eisingerich and Bell (2008)	To understand the relation between perceived service quality, customer education and trust.	Proposed a conceptual model linking dimensions of perceived service quality, customer education and customer trust.	<p>Data collected from customers of a global financial services firm.</p> <p>Sample size: 1268</p> <p>Multiple regression analysis with interaction effects used to test hypotheses.</p>	Customer education affects the relative importance of technical and functional service quality for building customer trust in a firm.

AN EXAMINATION OF THE VALIDITY OF THE DOWNS AND HAZEN COMMUNICATION SATISFACTION QUESTIONNAIRE

JIM DECONINCK, Western Carolina University
JULIE JOHNSON, Western Carolina University
JAMES BUSBIN, Western Carolina University
FRANK LOCKWOOD, Western Carolina University

This study examines the validity of the Downs and Hazen (1977) measure of communication satisfaction through confirmatory factor analysis of data from a sample of retail store buyers. Results failed to support both the convergent validity and discriminant validity of the original seven-factor structure. The results indicated that some of the 35 items should be deleted and that three of the scales (Communication Climate, Media Quality, and Coworker Communication) could be collapsed into one factor.

INTRODUCTION

Surveys indicate that employees want more communication with their managers (Argenti 1998). This issue is important since employees' satisfaction with the level of organizational communication has been linked positively to job satisfaction (Pettit, Goris and Vaught 1997; Pincus 1986) and organizational commitment (Varona 1996). However, several studies have reported that employees are dissatisfied with the degree of organizational communication they receive from management (Clampitt and Downs 1993; Gray and Laidlaw 2002).

Downs and Hazen (1977) developed the Communication Satisfaction Questionnaire (CSQ) to investigate the relationship between communication satisfaction and job satisfaction. Since the development of the CSQ, multiple studies have used the instrument to evaluate communication satisfaction in organizations (e.g., Clampitt and Downs 1993; Gray and Laidlaw 2002; Varona 1996). While the CSQ has been used in many studies, few efforts have been made to validate the eight factor solution proposed by Downs and Hazen

(1977). The research of Downs and Hazen (1977) and Crino and White (1981) are often cited by researchers as evidence of the validity of the CSQ. However, since both of these studies employed exploratory factor analysis rather than confirmatory factor analysis to assess the validity of the CSQ, the discriminant validity and convergent validity of the constructs are questionable. Only one study has investigated the validity of the CSQ using CFA (Gray and Laidlaw 2004). Given the widespread use of the CSQ, additional work is needed to validate its factor structure. Thus, the purpose of this study is to examine the validity of the CSQ using confirmatory factor analysis.

ORGANIZATIONAL COMMUNICATION

Before development of the CSQ, organizational communication was viewed as a unidimensional construct. However, development of the CSQ changed the perspective of organizational communication from being a unidimensional construct to a multidimensional construct (Clampitt and Downs 1993). Employees are not either satisfied or dissatisfied with communication. Rather they may be satisfied with one aspect of communication and dissatisfied with another aspect. While several measures of communication satisfaction have been

developed (Downs and Hazen 1977; Hecht 1978; Roberts and O'Reilly 1973), the CSQ has gained the most widespread use in scholarly research (Gray and Laidlaw 2004).

The Communication Satisfaction Questionnaire

Downs and Hazen (1977) developed the CSQ in an effort to analyze the association between job satisfaction and communication. They developed a questionnaire containing 88 items and administered it to a sample of 225 employees working for a diverse group of organizations from the military, government agencies, universities, hospitals, and professional organizations. Only items that had a loading of .40 or above on a factor were retained. A principle-components factor analysis yielded eight stable factors. Five items were selected to measure each factor.

The authors administered the new questionnaire to four dissimilar organizations (96 participants of a managerial training program, 151 workers of an equipment plant, 182 workers of a manufacturing plant, and 81 workers of an international company based in the United States). For the most part, the subsequent study found support for the eight – factor solution. However, for two of the firms (equipment plant and cannery) items for the media quality and communication factors merged. A similar occurrence was found for items of the Personal Feedback and Organizational Integration factors. The results from questionnaires completed by employees of the international firm and equipment plant indicated that items from these two factors merged. Downs and Hazen (1977) did not report the correlation among the eight Communication Satisfaction factors. The eight factors are presented in Table 1. A description of the eight factors is presented below (Clampitt and Downs 1993, pp. 7 – 8).

Communication Climate reflects communication on both the organizational and personal level and includes items such as the extent to which communication in

the organization motivates and stimulates workers to meet organizational goals and estimates of whether or not peoples' attitudes toward communicating are healthy in the organization.

Supervisory Communication includes both upward and downward aspects of communicating with superiors (e. g., extent to which my subordinates anticipate my needs for information).

Organizational Integration revolves around the degree to which individuals receive information about the immediate work environment such as personnel news and information about departmental plans.

Media Quality is the extent to which meetings are well organized, written directives are short and clear, and the degree to which the amount of information is about right.

Co-worker Communication is concerned with the extent to which horizontal and informal communication is accurate and free flowing.

Corporate Information deals with the broadest kind of information about the organization as a whole. It includes items on information about the organization's financial standing and notification about changes.

Personal Feedback is concerned with workers' need to know how they are being judged and how their performance is being appraised.

Subordinate Communication focuses on upward and downward communication with subordinates. Only supervisors respond to these items.

Validation of the CSQ

The original study by Downs and Hazen (1977) and the results of a study by Crino and White

(1981) often are cited as evidence supporting the validity of the CSQ. Crino and White (1981) investigated communication satisfaction with 137 supervisors from five textile mills. They reported an eight factor solution using principal components analysis with an eigenvalue cutoff of 1.0. However, examining the factor loadings indicates that not all items loaded on the anticipated scale. For only one of the factors (Relation with Supervisor), did all five items load as predicted. For example, with respect to items that were supposed to load on the Personal Feedback factor, no factor loading was higher than .49 for any of the eight factors. In addition, three of the items appear to load on more than factor. Factor one consisted of three of the Communication Climate items, one item from the Coworker Communication scale, and four items from the Media Quality scale. The results also indicate that factor eight consists of one item (item 5 from the Organizational Integration factor). Factor seven was composed of four items from four of the eight communication satisfaction scales. Thus, the eight factor solution proposed by Downs and Hazen (1977) is not supported by results of the Crino and White (1981) study. The findings do not indicate either discriminant validity or convergent validity for the CSQ. Another disturbing finding from the Crino and White (1981) study was the high correlation between some of the factors. The correlation between factors five and seven was .81. The correlation between factors two and seven and two and five was .78 respectively.

The results of other studies that have used the CSQ raise concerns about the multidimensional nature of the CSQ. For example, Mueller and Lee (2002) examined the relationship between communication and leader-member exchange using 192 employees from four non-profit companies. The authors did not attempt to validate the CSQ, but rather cited the Downs and Hazen (1977) and Crino and White (1981) studies as evidence of the questionnaire's validity. However, an examination of the correlation matrix indicates that most of the factors are highly correlated. The Personal Feedback factor had a very high correlation

with three other factors: Organizational Integration $r = .85$; Communication Climate $r = .84$; and Media Quality $r = .80$. Both Media Quality and Communication Climate had a correlation above .70 with all of the other factors of the CSQ. Furthermore, Mueller and Lee (2002) grouped the seven factors according to three dimensions (interpersonal, group, and organizational contexts).

Some support for the multidimensional nature of the CSQ can be found when examining the relationship between the eight factors and other variables. For example, one study reported that dimensions of the CSQ impacted productivity differently. Clampitt and Downs (1993) analyzed the relationship between the CSQ and productivity using a sample of employees from two companies. The findings indicated that some communication dimensions had a more significant impact on productivity than did other dimensions. For example, the Personal Feedback dimension was a significant predictor of productivity in both organizations while Media Quality, Communication with Coworkers, and Corporate Information had less of an influence.

The results from two other studies, however, generally did not support the multidimensional nature of the CSQ. Pincus (1986) used the CSQ in a study of nurses and their supervisors. The purpose of the study was to investigate the relationship between communication and job satisfaction and job performance. The results indicated that all of the communication satisfaction measures had significant correlations with job satisfaction for the sample of nurses while two of the factors (Supervisor Communication and Communication Climate) were related significantly to job satisfaction for the supervisory group. These same two variables were significantly related to job performance for the nurses. However, no significant correlation was found between communication satisfaction and job performance for the nurses. For the most part, these results do not indicate that all dimensions of the CSQ are distinct constructs.

Varona (1996) collected data from three Guatemalan organizations using the CSQ. A composite measure of the communication satisfaction factors was a significant predictor of organizational commitment. However, when analyzed individually, few communication satisfaction factors were predictors of employees' organizational commitment. These results tend to indicate that the dimensions of the CSQ are not separate constructs.

One study used confirmatory factor analysis to assess the psychometric properties of the CSQ (Gray and Laidlaw 2004). These authors surveyed 127 Australian retail employees. Because the sample consisted of employees in non-supervisory roles, the Subordinate Communication factor, which is completed by supervisors, was omitted.

Gray and Laidlaw (2004) summated the items for each of the seven factors and then tested a series of congeneric measurement models. As was found in previous studies, the correlation between some of the factors was above .70, which may indicate that the dimensions are not separate constructs (Communication Climate and Media Quality, $r = .81$, Communication Climate and Personal Feedback, $r = .77$, Organizational Perspective and Organizational Integration, $r = .74$, and Organizational Integration and Personal Feedback, $r = .73$).

The authors concluded that the seven factors comprised a second order factor model consisting of two factors. The first factor, Informational Communication, describes the degree to which employees are provided information concerning their job assignments or organizational activities. The dimensions of Communication Climate, Organizational Perspectives, and Organizational Integration comprise this second-order factor. The other second-order factor, Relational Communication, is composed of the dimensions of Media Quality, Personal Feedback, Coworker Communication, and Supervisory Communication. Relational Communication was defined as personal satisfaction obtained by communication with or to someone. Gray and

Laidlaw (2004) concluded that the results "substantiates the CSQ as a valid instrument for measuring communication satisfaction and supports the distinct nature of the seven dimensions investigated" (p. 442).

Several issues appear to exist with the assertion that the results indicate seven distinct measures. First, using composite factors does not allow for inspection of individual items. Little information was provided concerning the factor pattern coefficients for each item. One item was deleted from the Organizational Perspective, Organizational Integration, Personal Feedback, and Supervisory Communication scales respectively due to an insignificant t value. In addition, for three of the composite factors, at least one factor loading was lower than .36. Two of these factors were ones in which one item had been deleted (Organizational Perspectives and Organizational Integration). Therefore, not all of the items are good measures of the hypothesized dimensions.

Second, no information was provided concerning if items loaded significantly on a different factor than the one hypothesized or loaded on more than one factor. Both discriminant validity and convergent validity for individual items are more difficult to assess without this information. This situation is particularly important considering the high correlation between the factors. For example, are Communication Climate and Media Quality distinct constructs considering that the correlation was .81? If they are not distinct constructs, can some the items or one of the scales be deleted to shorten the questionnaire?

A review of the literature has indicated concerns with the few attempts to replicate and validate the CSQ. Since the CSQ is the most widely used measure of communication satisfaction, a need exists to further examine the original factor structure as proposed by Downs and Hazen (1977). Should some of the CSQ items be deleted? Is a more parsimonious explanation available than the one proposed by

Downs and Hazen (1977)? This study will attempt to answer these two questions.

METHOD

Participants and Procedure

A probability sample of 800 retail store buyers employed by both small and larger retailers dispersed throughout the United States was chosen from *Sheldon's Retail Directory*. This directory contained the names of approximately 33,000 retail buyers. A letter was sent to the 800 retail buyers selected informing them of the purpose of the study and requesting them to participate. The procedure that was used to obtain respondents was as follows:

1. An introductory letter was sent stating the purpose of the survey and asking the buyers to participate in the study.
2. One week later the survey accompanied with a cover letter was sent to the sample of 800 buyers.
3. Two weeks later a second copy of the survey along with a cover letter was sent to the sample of buyers.
4. Three weeks later a reminder letter was sent to the sample of buyers.

A total of 204 buyers returned the survey (26 percent). The response rate was similar to another study involving retail buyers (Keaveney 1992). In order to determine if nonresponse bias was a problem, a telephone call was made to every tenth buyer who had not completed the questionnaire (60 buyers). The reason for contacting only ten percent of the buyers who had not returned a survey was due to cost considerations. The purpose of the telephone call was two fold. First, an effort was made to determine if the retail buyers listed in the directory were still employed with their respective firms. Based on the telephone calls, seven of the 60 buyers contacted were found to be no longer employed at their respective firms or no longer in a position as a buyer. Assuming that these seven buyers were representative of the total sample, a conclusion was made that 70 buyers of the sample of 800 were no longer

employed as buyers. Excluding these buyers reduced the population from 800 to 720. Each buyer who was contacted was asked to return a survey. Nine of them returned a survey after the telephone call increasing the response rate to 213 (27 percent).

The second reason for talking to the buyers was to determine the extent to which nonresponse bias was a problem. Demographic information gathered from the sample of buyers who did not wish to participate in the study did not reveal any significant differences regarding demographic variables (e.g., age, tenure, marital status) with retail buyers who did participate ($p < .01$). Thus nonresponse bias does not appear to be a significant problem.

The average age of the buyers was about 37; they had worked for their present employer an average of 9.2 years; most of the buyers were Caucasian (200 buyers – 94 percent); slightly more than half were males (111 – 52 percent) and the average household income was almost \$92,000.

Analysis

The data were analyzed using confirmatory factor analysis with the LISREL 8 program (Joreskog and Sorbom 2005). Confirmatory factor analysis can be used to assess both convergent validity (the extent to which particular items load jointly on their hypothesized constructs) and discriminant validity (the extent to which allegedly distinct constructs are capable of being distinguished from each another). Convergent validity of the CSQ can be determined by examining the factor pattern coefficients of the items for each measure while discriminant validity can be determined by examining if the dimensions are distinct (Judge 1993).

Four measures of model fit were used: The goodness-of-fit (GFI), adjusted-goodness-of-fit (AGFI), the Comparative Fit Index (CFI), and the root mean square error of approximation (RMSEA) (Browne and Cudeck 1989). Values of approximately .9 or above are recommended

for the GFI, AGFI, and the CFI while a value of below .08 is considered good for the RMSEA statistic (Hair, Anderson, Tatham and Black 1998).

Measures

The questionnaire items appear in Table 1. The CSQ was included as part of a larger data collection. Each item was introduced with wording consistent with that reported by Downs and Hazen (1977). Because this study involved non-supervisory employees, the eighth dimension was deleted, since it is completed by only supervisors. Global job satisfaction was measured using five of six items ($\alpha = .88$) from the scale developed by Price and Mueller (1986). Affective organizational commitment was measured using the 6-item version of the scale developed by Meyer, Allen and Smith (1997) ($\alpha = .87$). *Withdrawal cognitions* (a buyer's intent to search and/or leave their job or the profession) were measured using three items developed by DeConinck and Bachmann (2005) ($\alpha = .90$).

TABLE 1
Study Measures
Communication Satisfaction Questionnaire¹

Organizational Integration

1. Information about my progress in my job
2. Personnel news
3. Information about departmental policies and goals
4. Information about the requirements of my job
5. Information about benefits and pay

Supervisory Communication

6. Extent to which my supervisor listens and pays attention to me
7. Extent to which my supervisor offers guidance for solving job related problems
8. Extent to which my supervisor trusts me
9. Extent to which my supervisor is open to ideas
10. Extent to which the amount of supervision given to me is about right

Personal Feedback

11. Information about how my job compares with others
12. Information about how I am being judged
13. Recognition of my efforts
14. Reports on how problems in my job are handled
15. Extent to which superiors know and understand the problems faced by subordinates

Corporate Information

16. Information about company policies and goals
17. Information about government action affecting my company
18. Information about changes in our organization
19. Information about our organization's financial standing
20. Information about accomplishments and/or failures of the organization

Communication Climate

21. Extent to which the organization's communication motivates and stimulates an enthusiasm for meeting its goals
22. Extent to which the people in my organization have great ability as communicators
23. Extent to which the organization's communication makes me identify with it or feel a vital part of it
24. Extent to which I receive in time the information needed to do my job
25. Extent to which conflicts are handled appropriately through proper communication channels

Horizontal and Informal Communication (Co-worker Communication)

26. Extent to which the grapevine is active in our organization
27. Extent to which horizontal communication with other employees is accurate and free flowing
28. Extent to which communication practices are adaptable to emergencies
29. Extent to which my work group is compatible
30. Extent to which informal communication is active and accurate

Media Quality

31. Extent to which my company's publications are interesting and helpful
32. Extent to which our meetings are well organized
33. Extent to which written directives and reports are clear and concise
34. Extent to which the attitudes toward communication in the organization are basically healthy
35. Extent to which the amount of communication in the organization is about right

Withdrawal Cognitions

36. Within the next six months, I intend to search for another job.
37. Within the next year, I intend to leave this profession.
38. Within the next six months, I would rate the likelihood of leaving my present job as high.

Job Satisfaction

39. I find real enjoyment in my job.
40. I like my job better than the average worker does.
41. I am seldom bored with my job.
42. Most days I am enthusiastic about my job.
43. I feel fairly well satisfied with my job.

Organizational Commitment

44. I would be very happy to spend the rest of my career in this organization.
45. I really feel as if this organization's problems are my own.
46. I do not feel like "part of the family" at my organization. (R)
47. I do not feel "emotionally attached" to this organization. (R)
48. This organization has a great deal of personal meaning for me.
49. I do not feel strong sense of belonging to my organization. (R)

¹The eighth factor, Subordinate Communication, is not included since only supervisors complete this scale.

RESULTS

A sequence of nested models was used to investigate the dimensionality of the CSQ. Before conducting a confirmatory factor analysis, tests were conducted to assess normality of the data set. With respect to the data set, only one variable (Supervisor Communication 2) displayed a significant departure from normality. Based on these results, a confirmatory factor analysis appeared warranted and was performed on the CSQ.

First, the null model was compared to the hypothesized model, Model 1 (i.e., the CSQ dimensions). A significant difference was found between the null model and the hypothesized model (Dc2 (56, $N = 213$) = 3166.31, $p < .001$). Next, a single-factor model was estimated (Model 2). This model provided a poor fit to the data ($c^2 = 2399.56$, $df = 560$, RMSEA = .12, GFI = .61, AGFI = .56, CFI = .77). Next, the single factor model was compared to the hypothesized model as proposed by Downs and Hazen. The hypothesized model provided a better fit to the data than did the single-factor model Dc2 (21, $N = 213$) = 1521.70, $p < .001$). Overall, however, the model hypothesized by Downs and Hazen provided an average fit to the data ($c^2 = 877.86$, $df = 539$, RMSEA = .054, GFI = .81, AGFI = .78, NFI = .92).

The next step was to examine the standardized residuals and the modification indices to ascertain if the model could be respecified (i.e.,

items deleted) to provide a better fit. Five items (OI1, SP5, PF3, MQ5, and CC3) that either loaded on more than one factor or had significant standardized residuals with other variables were dropped. (See Table 1 for an explanation of these specific items).

The data were analyzed again with the deletion of these five variables. The revised model (Model 3) provided a better fit than did the hypothesized model Dc2 (155, $N = 213$) = 355.88, $p < .001$). Even after deleting these five items, a high correlation between some of the scales was still present. For example, three of the scales appear to highly correlated among themselves (Communication Climate and Media Quality, $\phi = .88$; Media Quality and Coworker Communication, $\phi = .84$, and Communication Climate and Coworker Communication, $\phi = .83$). Because of the high correlation among these three scales, two additional models were tested. First, a six factor model (Model 4) combining the Communication Climate and Media Quality scales was tested against the revised model with the five items deleted (Model 3). The results indicated that Model 4 provided a worse fit to the data than did Model 3 Dc2 (6, $N = 213$) = 46.92, $p < .01$), providing some support for the discriminant validity among these two factors. However, the parsimonious normed fit index (PNFI), a measure of differences between models, was identical for both models. Thus, the model with six factors (Model 4) appears to be a better model than Model (3). Next, a five factor model (Model 5) where Media Climate, Communication Climate, and Coworker Communication were combined was tested against the six factor model (Model 4). The difference in chi-square test indicated that Model 5, the five factor model, did not provide a better fit than did the six factor model (Model 4), (Dc2 (5, $N = 213$) = 84.33, $p < .001$). However, further inspection of the results indicated that the PNFI was identical between the two models. Except for one item, the structure pattern coefficients were high. Examining the standardized residuals and the modification indices indicated that eliminating two variables (Communication Climate items 2

TABLE 2
Goodness of Fit Indices

	c^2	df	GFI	AGFI	RMSEA	CFI
Model 1	877.86	539	.81	.78	.054	.92
Model 2	2399.56	560	.61	.56	.12	.77
Model 3	521.98	384	.86	.83	.041	.96
Model 4	564.60	390	.85	.82	.046	.95
Model 5	644.76	395	.83	.80	.055	.93
Model 6	505.68	340	.85	.83	0.48	.95

and 5) would improve the model fit $Dc2(55, N = 213) = 139.08, p < .001$). The data were analyzed again with these two items eliminated. overall, this model (Model 6) provided a good fit ($c2 = 505.68, df = 340, RMSEA = .048, GFI = .85, AGFI = .83, CFI = .95$). In addition, reducing these two variables had little effect on the scale's reliability ($\alpha = .92$ to $\alpha = .90$). The results appear in Table 2.

The final model included four items in the Organizational Integration scale ($\alpha = .88$), four items in the Supervisory Communication scale ($\alpha = .91$), four items in the Personal Feedback scale ($\alpha = .87$), five items in the Corporate Information scale, and 11 items in the scale combining Communication Climate, Media Quality, and Coworker Communication ($\alpha = .92$). The factor pattern coefficients for the three scales ranged from .72 to .84 for feedback, for planning .80 to .87, for recourse .57 to .89.

The last step was to examine the correlation between the dimensions of the CSQ and a global measure of job satisfaction, organizational commitment and withdrawal cognitions. The purpose of this analysis was to ascertain the degree of difference between each CSQ dimension and employees' job attitudes. Each of the job attitudes dimensions was correlated significantly with the revised CSQ. With respect to job satisfaction, the correlations ranged from .34 for Organizational Integration to .47 for Supervisory Communication. The correlations ranged from .51 (Organizational Integration) to .63 (combined scale) for

organizational commitment and .35 (Corporate Information) to .47 (Feedback) for retail buyers' withdrawal cognitions.

CONCLUSIONS

This study examined the validity of the Communication Satisfaction Questionnaire (CSQ) developed by Downs and Hazen (1977). The results did not support the seven factor structure as proposed by Downs and Hazen (1977). A five factor solution provided the best model fit. Although the results indicated only partial support for the validity of the original CSQ, the results indicated significant correlations between the revised five dimensions of the CSQ and job satisfaction, organizational commitment and withdrawal cognitions. Communication satisfaction does appear to be an important variable influencing retail buyers' job attitudes. However, more research is needed to determine the validity of the CSQ in studies analyzing marketing employees' communication satisfaction and its relationship to various behaviors and job attitudes.

REFERENCES

- Argenti, P. A. (1998), "Strategic Employee Communications," *Human Resource Management*, 37, 199-206.
- Browne, M. and R. Cudeck (1989), "Single Sample Cross-Validation Indices for Covariance Structures," *Multivariate Behavioral Research*, 24, 445-455.

- Clampitt, P. G. and C.W. Downs (1993), "Employee Perceptions of the Relationship between Communication and Productivity: A Field Study," *The Journal of Business Communication*, 30, 5-28.
- Crino, M. D. and M.C. White (1981), "Satisfaction in Communication: An Examination of The Downs-Hazen Measure," *Psychological Reports*, 49, 831-838.
- Cudeck, R. (1989), "The Analysis of Correlation Matrices Using Covariance Structure Models," *Psychological Bulletin*, 105, 317-327.
- Downs, C. W. and M. D. Hazen (1977), "A Factor Analytic Study of Communication Satisfaction," *The Journal of Business Communication*, 14, 63-73.
- Gray, J. and H. Laidlaw (2004), "Improving The Measurement of Communication Satisfaction," *Human Communication Quarterly*, 17, 425-448.
- Hair, J. F., Jr., R. E. Anderson, R. L. Tatham and W. C. Black (1998), *Multivariate Data Analysis*, Prentice-Hall: Upper Saddle River, NJ.
- Hecht, M. L. (1978), "Measures of Communication Satisfaction," *Human Communication Research*, 4, 350-368.
- Jöreskog, K. G. and D. Sörbom (2005), *LISREL 8: Structural Equation Modeling With the SIMPLIS Command Language*, Scientific Software International, Chicago, IL.
- Judge, T. A. (1993), "Validity of the Dimensions of the Pay Satisfaction Questionnaire: Evidence of Differential Prediction," *Personnel Psychology*, 46, 331-365.
- Keaveney, S. M. (1992), "An Empirical Investigation of Dysfunctional Organizational Turnover Among Chain and Non-Chain Retail Buyers," *Journal of Retailing*, 68, 145-173.
- Konovsky, M. A. (2000), "Understanding Procedural Justice and Its Impact on Business Organizations," *Journal of Management*, 26, 489-511.
- Mueller, B. H. and J. Lee (2002), "Leader-Member Exchange and Organizational Communication Satisfaction in Multiple Contexts," *The Journal of Business Communication*, 39, 220-244.
- Pettit, J. D., J. R. Goris, and B. Vaught (1997), "An Examination of Organizational Communication as a Moderator of the Relationship between Job Performance and Job Satisfaction," *The Journal of Business Communication*, 34, 81-98.
- Pincus, J. D. (1986), "Communication Satisfaction, Job Satisfaction, and Job Performance," *Human Communication Research*, 12, 395-419.
- Roberts, K. H. and C. A. O'Reilly (1973), "Measuring Organizational Communication," *Journal of Applied Psychology*, 59, 321-326.
- Varona, F. (1996), "Relationship between Communication Satisfaction and Organizational Commitment in Three Guatemalan Organizations," *The Journal of Business Communication*, 33, 111-140.

ENHANCING STIMULUS INTEGRATION IN A CONSUMER INFORMATION PROCESSING SYSTEM: A THEORETICAL FOUNDATION

BRAD D. CARLSON, *Saint Louis University*
MARGARET A. WHITE, *Oklahoma State University—Tulsa*

Although much research has focused on how consumers process information, researchers and theorists in the field of marketing, more specifically consumer behavior, still have much to gain by expanding the existing assemblage of knowledge about information processing and the theories related to this topic. A deeper understanding of how consumers habitually process information may be extremely valuable to marketers when attempting to develop marketing plans, strategies, and messages that will effectively influence consumer attitudes and behavior. The most seemingly unified theory of information processing is the information integration theory. This theoretical approach concentrates on the ways individuals accumulate and organize information to form attitudes toward various concepts including individuals, objects, situations, or ideas. However, marketers must also consider the limitations of the human information processing system. Considering the research on information integration theory and information overload, a model for understanding consumer-oriented marketing messages is discussed. The model suggests that multiple, focused marketing messages should be more effective than relatively few, complex marketing messages. However, the complexity of messages should increase as the consumer becomes more involved with the product, moving from awareness to action.

INTRODUCTION

The foundations of information integration theory are deeply rooted in the field of psychology. More specifically, research concerned with attitude formation and modification seems to have had a significant influence on the development of integration theory (Anderson 1971). Most of the research efforts utilizing integration theory have been in the field of psychology, specifically dealing with attitudes of individuals (Anderson 1973; Detweiler and Zanna 1976; Grush 1976; Sawyers and Anderson, 1971; Simms 1978). Such findings from information integration theory research significantly impact marketers. However, few studies have examined specific aspects of consumer attitudes using integration theory (Bettman, Capon and Lutz 1975; Herrmann and Wricke 1998; Smith 1993). Much of the research examining attitude

formation and change can be directly applied to the field of marketing and consumer behavior. One of the primary objectives of marketing is to satisfy the perceived needs of the consumer. Thus, a thorough understanding of attitude change and formation should be invaluable to most successful marketers.

The very roots of marketing communication lie in the foundations of changing and forming attitudes in the mind of consumers. Marketers strive to form, influence, or change the attitudes of consumers to increase sales of products (e.g., Kardes, Posavac and Cronley 2004). Understanding how consumers perceive, integrate, and utilize marketing information can be especially useful in this process. There are some needs that inherently exist in the mind of consumers before any marketing communication efforts are implemented, such as the need for food. Other needs may not be inherent and may result from the efforts of marketers to help consumers recognize unmet needs.

Successful marketing involves the process of presenting to consumers the right kind and the right amount of information (Johar, Mahesestm and Peracchio 2006). This process could be more effectively manipulated by marketers who understand how individual consumers process and integrate various chunks of information. Furthermore, in considering the elements of integration theory as it applies to marketing, it may be of equal importance to consider the limitations of integration processes. Research has led to the assumption that an optimal level of available stimuli exists, and exceeding this level may decrease the effectiveness and accuracy of the integration process (Kanaan 1993).

INFORMATION INTEGRATION THEORY

Information integration theory provides a unified conceptual framework that has successfully been applied to numerous areas of significant research ranging from personality impression formation and attitude change to psychophysical judgments and decision making (Anderson 1968; Shanteau 1985; Simms 1978). The significance of integration theory is due, in large part, to both the simplicity and complexity of multiple causation. Pratkanis (1994: 441) reiterates the simplicity of the theory by stating that, "...it is amazing how so seemingly simple a theory can account for so much social cognition." The foundation of the integration research philosophy is based upon a set of inherent processes that are often inadvertently stimulated. As noted by Anderson (1974), the integration of stimulus information is an attribute of information processing that has been time honored in perception and judgment. Most judgments, or decisions, reveal the joint action of multiple stimuli that are combined, or integrated, to produce a single response. According to Anderson (1981), the integration theory has developed around four interlocking concepts: *stimulus integration*, *stimulus valuation*, *cognitive algebra*, and *functional measurement*. The connection between these concepts is represented in Figure 1.

The integration diagram shown in Figure 1 was first introduced by Anderson (1981). The diagram represents the cognitive organization of information through a goal-directed method of processing. The field of stimuli shown in the diagram, $\{S_1, S_2, \dots\}$, progresses through three sequential operations of processing. The three operational sequences are also referred to as functions and schemas (Anderson 1981; Anderson 1991a; Anderson 1991b).

The primary concern of the valuation function, V , is assessing meaning and implications of the information field relative to the fundamental goal (Anderson 1991b). The process transforms the given stimuli, S_i , into their psychological representations, or values, s_i . This function represents what is commonly referred to as the psychophysical law (Anderson 1981). The psychological stimuli, s_i , are then combined to form an implicit response, r , through the integration process. The function of the integration function, I , is to combine the processed information into a unified cognition. This function represents what is ordinarily referred to as the psychological law (Anderson 1981). Finally, the action function, A , translates cognition into behavior. The implicit response, r , is externalized by the action schema and becomes the observable response, R . This function represents what is typically referred to as the psychomotor law (Anderson 1981).

Functional Measurement

The path from the observable stimulus, S_i , to the observable response, R , can be represented by three linked functions (Anderson 1981). These are:

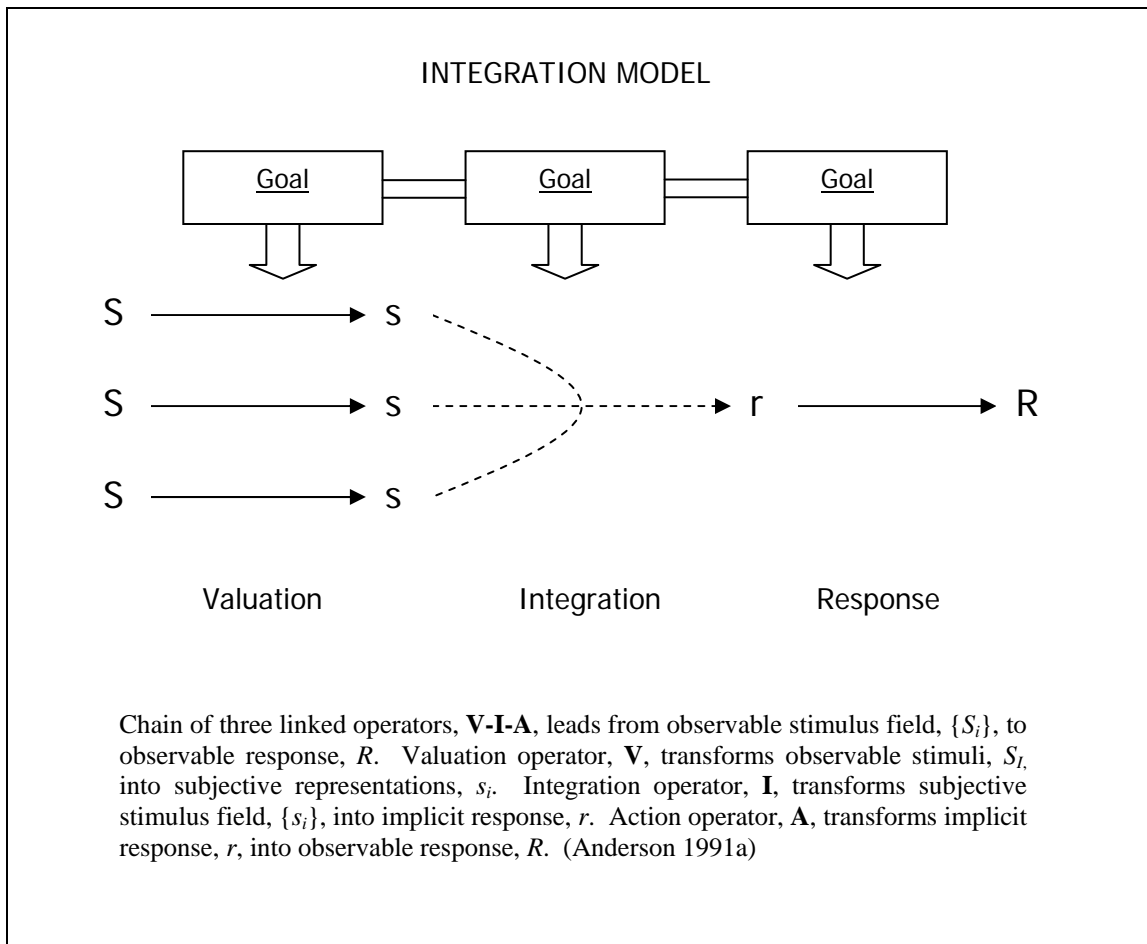
Valuation function: $s_i = V(S_i)$

Integration function: $r = I(s_1, s_2, \dots)$

Response function: $R = A(r)$

In these formulas, and in the integration diagram, upper-case letters are used to represent external, observable stimuli and responses, while lower-case letters represent their internal, unobservable counterparts.

FIGURE 1
Information Integration Diagram



Three interconnected problems must be answered to determine the integration function (Anderson, 1981). These problems are:

1. Measuring the psychological values of the stimuli.
2. Measuring the psychological value of the response.
3. Determining the psychological law or integration function, **I**.

Functional measurement provides a solution to all three problems. The integration function provides the structural frame for the measurement scales that represent stimuli and responses. Although all three problems deal with unobservable entities, whose existence and definition are subjective, an accurate and objective foundation for these unobservable

entities can be developed from the observable stimuli and response (Anderson 1981).

Stimulus Integration

The central concept of integration theory is stimulus integration. The term integration refers to the processes through which multiple stimuli are combined and organized to determine an overall response (Anderson 1974; Anderson 1991a). Many situations that arise in everyday endeavors require a judgment or decision that results from considering several pieces of information simultaneously. Common tasks, such as voting, playing a sport, taking an examination, deciding what to have for lunch, and even simply watching a television show, all involve information integration. Typically, thoughts and behavior result from integrating a

variety of stimuli. Multiple causation, rather than a single cause, is considered to be the rule for sufficiency in understanding and prediction.

The importance of integration parallels that of multiple determination (Anderson 1991a). Multiple determinants influence the development of judgments and actions. Factors such as the constraints of the existing situation, the current motivations and goals of the individual, and the past experiences of the individual are organized to influence present judgments and actions. One of the principal methods of conflict resolution is a form of integration referred to as compromise. As an individual attempts to balance conflicting information or opinions, an averaging process is employed. The ultimate compromise, in many cases, may depend upon which piece of information is held to be more favorable or less negative. The individual uses a process of integration to determine a level of value for each alternative.

Anderson (1981) uses the example of depth perception to help demonstrate the integration process. Depth perception involves the integration of various cues including form interposition, relative size, perspective, hue, and texture. The advancement of knowledge regarding such informational cues to depth is exemplified in the evolution of depth in painting. An example of a consumer considering which brand to purchase can also be used to illustrate the process of information integration. Individual opinions regarding a brand are the result of effectively integrating various pieces of information about the brand. For instance, when developing an opinion about a brand one might consider pieces of information from television commercials, print advertisements, company websites, and the remarks of others.

Virtually all thought and behavior is caused by multiple co-acting factors. Multiple causation may be examined in terms of two interrelated components (Anderson 1981). The first component of multiple causation, synthesis, analyzes the response to a multiple stimulus

domain. In the above examples, these domains are perceptual and social. The concept of synthesis is consistent with the integration function, which combines multiple stimuli to produce an overall response. Comparatively, the purpose of analysis directly opposes the purpose of synthesis. Analysis attempts to dissect an overall response into its individual causal components. The primary concern of integration theory is with the synthesis of, or rules of integrating, information.

Stimulus Valuation

A second fundamental principle of integration theory is that stimulus values depend on the predominant motivational state and objective of the individual (Anderson 1982). When an individual encounters a stimulus for the first time, value is not an intrinsic property of the stimulus. As a result of the stimulus-organism interaction, the psychological value of the stimulus emerges within the individual. The variation of these psychological values depends upon the task and goal at hand. Anderson (1981) uses the term valuation to refer to the processes that extract the information from the physical stimulus to determine the stimulus parameters. In other words, valuation is the processing of each separate stimulus variable for its information content (Schlottmann and Anderson 1993).

Physical stimuli and psychological stimuli may be considered in the valuation process set forth by Anderson (1981). Physical stimuli are those that are observable and can potentially be controlled by the marketer (e.g., product size, shape, color). However, marketing communications cannot always convey a product's physical stimuli accurately. Stimuli at the psychological level tend to be immediate causes of thought and behavior, and therefore, are the primary concern of integration theory. A better understanding of the transformation of a physical stimulus to its psychological counterpart requires an analysis of the valuation operations.

Analyzing subjective perceptions can be exceptionally complicated. The interpretation of a single adjective will vary, often substantially, between individuals. Each individual will go through a chain of processes that begins with sensory perception and involves a system of linguistic knowledge, general background knowledge, and task-specific knowledge (Anderson 1991a). Most of this knowledge is complex and virtually incomprehensible, or at least unobservable, and therefore, it might seem as though the notion of an exact theory at the level of judgment and action is impractical. However, Anderson (1991a) asserts that exact theory is possible by means of cognitive algebra. The psychological *s*-value of the integration diagram (Figure 1), regardless of how complex, interactive, or unknowable it may be, is a complete and exact summary of all the valuation processing.

Information Organization

Information integration theory efficiently utilizes various algebraic models of perception and judgment. Numerous research efforts have found that simple algebraic models can be used to provide a thorough, quantitative explanation of reasonably complex cognitive activity (Anderson 1973; Anderson and Cuneo 1978; Hermann and Wricke 1998; Schlottmann and Anderson 1992; Smith 1993). Individuals frequently make use of averaging, subtracting, or multiplying stimulus information when developing an overall response. These algebraic rules have been termed cognitive algebra (Anderson 1981).

The algebraic models used in integration theory consist of two main classes. The first class includes adding, subtracting and averaging models, while the second class includes multiplying and dividing models (Anderson 1974). Adding and subtracting are similar in mathematical function, but may be psychologically different. Adding and averaging are both psychologically and mathematically different. Although adding and averaging may have a simple analysis and lead to identical predictions under certain

circumstances, the averaging model becomes non-linear and more complicated with the application of differential weighting. There are numerous variations in formulas for the linear, multiplying, and averaging models. However, the adding and averaging models are most consistent with consumer information processing. Therefore, the perspective adopted herein by the authors is based upon the fundamental formulas of these two models.

When numerous stimuli are influencing the thought or behavior development of an individual, for example product evaluations, with each stimulus impacting the observer in a unique way, quantitative analysis is often utilized to predict a combined effect. Furthermore, as a general rule, such analysis must be considered in terms of the psychological values of the individual (Anderson 1981). To help determine statistical values that could accurately reflect their corresponding psychological values, Anderson (1968) proposed that an overall response resulting from the integration of multiple stimuli is a linear function of the values of the item.

The resulting model can be written as a weighted sum:

$$R = \sum_{i=0}^N w_i s_i \quad [1]$$

where:

R = the overt response

w_i = the weight or importance of i

s_i = the value or strength of belief about i

N = the number of items considered

In equation 1, the overt response, R , is measured on a numerical scale, such as attitude toward the brand. However, in some cases, R may be used to represent the attitude that serves as the foundation for an overt yes-no response (Anderson 1971). This formula parallels the theory of attitude presented previously by Martin Fishbein for explaining the interactive nature of attitude development (Bettman, Capon and Lutz 1975). Fishbein's model

includes beliefs and evaluations in place of weights and values. This formula was used to develop the multiattribute attitude model that appears in numerous marketing textbooks to help explain and understand consumer attitudes.

Mathematical simplicity and visceral plausibility have been significant influences on the popularity of adding models (Anderson 1981). Despite their popularity, adding and other linear models have seldom succeeded when simple critical tests have been made. The averaging model has been supported by many of these same tests. While the adding model focuses on the absolute weight of each stimulus, the averaging model makes a distinction between the absolute weight, w_i , and the relative weight, w_i/\hat{w}_i (Anderson 1981). The averaging model can be written as follows:

$$R = \frac{\sum w_i S_i}{\sum w_i} \quad [2]$$

It is assumed that both absolute weights and scale values are constant across different sets of stimuli. Relative weights, on the other hand, vary depending on the other stimuli with which they are combined. The significance of this configural quality can be revealed by considering that attitudes based on a considerable amount of information are harder to change than attitudes based on less information (Anderson 1981). In essence, the application of these models to marketing communications suggest that consumers will pay attention to and interpret those marketing messages that are deemed most important or relevant for satisfying needs.

INFORMATION PROCESSING LIMITATIONS

Multiple causation and the proper integration of multiple stimuli result in the formation of judgments and perceptions that guide individual thought and behavior. Although multiple

stimuli integration is an important component of information processing, it is equally important to consider the limitations of human cognitive capabilities (Weinberg, Berger and Hanna 2004). The limited processing abilities of individuals may cause a reduction in the accuracy and effectiveness of information integration, especially when the amount of available information, or stimuli, increases beyond an optimal level (Kanaan 1993). Marketers, as well as individuals in other areas of human communication, should value the importance of understanding information overload and its implications.

Information Accumulation

The ability of an individual to process and integrate information into decisions is limited (Kanaan 1993). Previous research suggests that all humans are information processing systems (IPS) with certain organizational features in common (Newell and Simon 1972). The research of Allen Newell and Herbert Simon (1972) represents the most detailed and complex empirical research to date on the nature of human problem solving. The outcome of their research was a comprehensive description of the cognitive mechanisms involved in human problem solving. According to Newell and Simon, the human IPS is a sequential system that can execute only one elementary process at a time. It consists of a short-term memory (STM) of very limited capacity (approximately five to nine symbols) which is immediately and completely available for elementary processes. However, the STM decays and must be rehearsed frequently to avoid extinction. The human IPS also includes a long-term memory (LTM) that is used for all practical purposes of unlimited capacity and is organized associatively. The LTM contains symbols and symbol structures. Symbols represent "chunks" of information that may be of any complexity, size, and organization. Symbols are treated identically by LTM and STM, but must be searched for and transferred from LTM to STM before they can be used. Finally, problem solving occurs in a goal-driven manner. Specifically, a class of symbol

structures called goal structures is used to organize problem solving.

For consumers, the product of the human thought process takes the form of impressions, or ideas pertaining to a brand. Impression generation may result from retrieving an information chunk from the LTM, be formulated from other symbols retrieved from the LTM, be caused by an external stimulus, or some combination (Nagasundaram and Dennis 1993). Following exposure to marketing messages, consumers often generate ideas or impressions about the promoted product, the brand, or the company. A common assumption regarding idea generation is that an increased number of stimuli will result in a greater variety of ideas generated. This in turn should result in better ideas. However, this may not be a desirable outcome in a consumer context. For example, presenting consumers with a variety of selling points within a single marketing message may lead to more variation in the number and types of impressions generated about the product. Especially relevant when trying to attract new customers to the brand, the result may be inconsistent or conflicting impressions.

Findings in organizational research also suggest that multiple stimuli may inhibit idea generation. For example, many organizations employ the brainstorming approach to idea generation in hopes of utilizing multiple stimuli to generate new ideas. Although brainstorming is a widely used approach, numerous research efforts have shown that for groups of two or more people, non-interacting groups consistently produced superior results to verbally brainstorming groups (Lamm and Trommsdorff 1973; Mullen, Johnson and Salas 1991). Multiple studies have found production blocking to be the primary cause of brainstorming productivity losses (Diehl and Stroebe 1987; Gallupe and Cooper 1991). Diehl and Stroebe (1987) found that the longer a participant had to wait to verbalize an idea, the greater the loss in productivity. They concluded that production blocking results from at least one of three reasons. Participants who

were unable to verbalize their ideas as they occur might (a) forget or suppress them because they seem less relevant later; (b) be unable to think of other ideas during the wait time due to STM limitation; or (c) be unable to think of ideas because exposure to other ideas is distracting or interfering with their thinking. In essence, working with groups resulted in new stimuli being presented before individuals were able to fully integrate previous chunks of information and therefore, were unable to fully develop new ideas. Consumer impressions of brands tend to be somewhat malleable prior to direct exposure to the brand. Therefore, marketers must be conscientious to provide simple and easily-processed information to consumers. Presenting too much marketing information simultaneously may confuse consumers, thereby inhibiting their abilities to fully develop accurate impressions of the brand.

Typically, most individuals are capable of performing only one type of process at a time (Nagasundaram and Dennis 1993). These processes include accessing existing ideas or developing new ideas, rehearsing ideas, and listening to and storing the ideas of others. When a single idea is too complex for the capacity of the STM to properly process its components, the idea will not be adequately stored. With this in mind, the simultaneous occurrence of multiple product attributes, or benefits, within a single message may create a level of interference that will lead to a partial or complete loss of ideas from an individual. More specifically, presenting consumers with too much information about a brand may be detrimental to the formation of brand impressions, especially when trying to attract new customers to the brand or reinforce a purchase decision. While attempting to communicate multiple product attributes through a relatively few number of advertisements may lead to increased awareness of a brand, doing so is likely to result in confusion and inaccurate perceptions among many consumers as to the true nature of the brand.

Information Overload

One of the central characteristics of any group decision is compromise (Graesser 1991). Nagasundaram and Dennis (1993) discuss the role of compromise in the generation of ideas among group members, and more specifically how it relates to information overload. They assert that the same factors that appear to stimulate the generation of ideas, in some cases actually prove to hinder the process. Although brainstorming is commonly believed to produce a greater number of ideas than does a nominal group, the limitations of the individuals result in nominal groups outperforming brainstorming groups. Thus, in a consumer setting where marketers are attempting to reach new customers and promote a desired image of the brand, presenting too many unique marketing messages may be detrimental.

Considering the relationship between cognitive stimulation and idea or impression generation, to achieve maximum efficiency, in terms of the quality of ideas generated, a compromise is required. The nature and quantity of cognitive stimulation must be compromised with the nature and quantity of ideas generated (Nagasundaram and Dennis 1993) or with objectives and time delays (Wang and Wyer 2002). This means that for any given situation there is an appropriate amount and an appropriate kind of stimulation. This is referred to as the optimal level of stimulation. If an individual receives a level of stimulation that is too far below or above the optimal level, or simply the wrong kind of stimulation, the stimulation will most likely be ineffective (e.g., providing too little information in a marketing message). When the level of stimulation is too far above the optimal level to be effective, the individual experiences information overload (e.g., providing too much information in a marketing message). Information overload is a condition where the amount of cognitive processing required exceeds the limits of the human IPS (Nagasundaram and Dennis 1993; Pennington and Tuttle 2007).

Various research efforts have highlighted the ability of individuals to process and integrate information into decisions, and the limitations that face individuals as the amount of information increases (e.g., Chewning and Harrell 1990; Miyazaki, Grewal and Goodstein 2005; Paquette and Kida 1988; Kida 1988). Kida (1988) found that due to the limited abilities of individuals to effectively process information, the accuracy of prediction decreases as the amount of available information increases. Chewning and Harrell (1990) found that decision quality is significantly lower for individuals who experience information overload than for individuals who do not encounter information overload.

The findings of Paquette and Kida (1988) may provide insight into the decrease in prediction accuracy and decision quality. Their findings suggest that the lower predictive ability of the study's participants resulted from less than optimal choice of information cues. Furthermore, the actual processing of these cues by individuals did not appear to have any significance in contributing to the lower performance. This brings to light an issue that marketers should concern themselves with, in regards to communicating with consumers. A number of things can go wrong in the marketing communication process as a result of information overload. The first of these is the consumer being presented with so much information that it overwhelms him and prevents him from attempting to process the information and determine the meaning of the message. A second possibility is that the consumer will process the information properly. However, he will unknowingly process the wrong information and therefore, not be able to determine the intended meaning of the message.

The second type of communication error resulting from information overload may be more detrimental for marketers than the first, because the consumer is unaware that he has misinterpreted the message. When the consumer encounters more information than is

possible to process, he is aware of his inability to internalize the message. Therefore, he knows that the communication process was not successful. On the other hand, when the consumer is able to process and internalize the information he encounters, he assumes that he has accurately interpreted the message.

INFORMATION INTEGRATION AND FILTRATION

Information integration theory and information overload should be mutually considered to most effectively understand and predict the formation of attitudes. The various factors that influence attitude formation and change can be applied in all fields that involve the behaviors and judgments of individuals, groups, or both. The addition of stimuli will have a positive influence on the effectiveness of the stimulus field to influence the formation and changing of attitudes until the optimal level of available information is achieved. Once the optimal level is exceeded, the effectiveness of the stimulus field to influence the formation and change of attitudes will decrease with the addition of more stimuli.

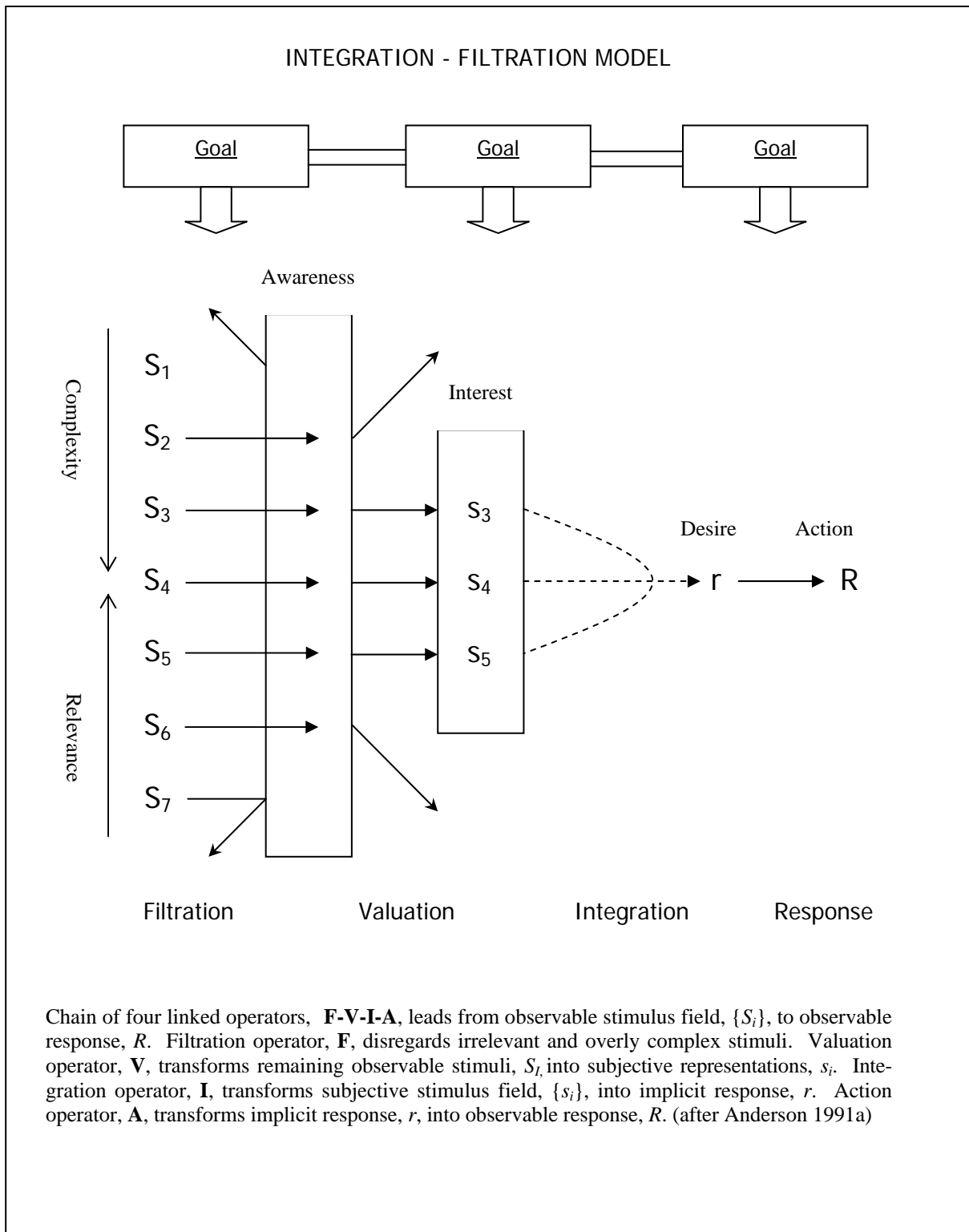
Nagasundaram and Dennis (1993) suggest one possible solution to information overload. Presenting chunks of information that are roughly equal in size may help to avoid information overload. The number of ideas, lines, or characters can determine the chunk size. When processing information, individuals must compromise between searching through a few large chunks and searching across a wide field of smaller chunks. While it may be assumed that smaller chunks are less likely to result in information overload, limiting chunk size may lead to an increase in the number of chunks. If individuals are forced to search through an excessively large number of chunks, this again becomes information overload and the individual is likely to become disoriented, disinterested, or both (Beam 1998; McCune 1998; Tetzeli 1994; Rieck 1998). Therefore, it is likely that an optimal combination of chunk size and number of chunks will produce the most effective results. In addition to the size of

the information chunk, it may be important for marketers to maintain consistency in content between chunks. Thus, communicating a similar message via multiple media should be more effective than communicating multiple messages via either a single medium or multiple media.

Rieck (1998) suggests several cures for information overload in marketing communications. First of all, messages should be clear and simple. This means using an optimal number of appropriately sized chunks of information. Secondly, the information in a message should be linked with ideas and emotions that are familiar to the individuals who will encounter the message. When piecing together the chunks that will constitute the message, ideas, opinions, or information that the individual has previously been exposed to should be included so consumers may use these chunks as a reference to more effectively relate to and understand the new information. A third suggestion for eliminating information overload is to avoid counterproductive associations and interfering messages. Presenting too many information chunks at one time may conceal the intended message of the communication effort and lead to confusion.

To successfully influence the attitudes of consumers, it is necessary for marketers to anticipate the optimal level of stimuli presentation. Following the findings of Nagasundaram and Dennis (1993), two important considerations for the integration of information may be suggested. The first of these considerations is the relevance of the information to the individual. The second consideration is the complexity of the information and ability of the individual to comprehend the information. Incorporating these two characteristics with integration theory and a hierarchy of effects models such as the AIDA model of consumer response processes (attention, interest, desire and action), the model of integration shown in Figure 2 is proposed.

FIGURE 2
Information Integration-filtration Diagram



The model combines the characteristics of the AIDA model with those of the integration model. The filtration process, via selective perception, reduces the available stimulus field to those stimuli the individual pays attention to, thus representing the attention stage. The remaining stimuli either proceed through the valuation function or are dismissed, depending on the interest level of the individual. The integration operator will then transform the subjective representations, resulting from the valuation process, into an implicit response, or desire. Finally, the action operator transforms the implicit response into an observable response, or action.

The role of complexity and relevance can be further understood by reflecting on the decision-making process of purchasing a new automobile. When an individual gathers information before purchasing a new automobile, much of the information acquired will be ignored in the purchase decision-making process. Detailed information about features such as engine specifications or audio specifications may be too complex for the lay person to comprehend, especially when the information is not considered relevant (e.g., the awareness stage). When this situation occurs, the individual may discount or ignore the information in the final stages of decision-making. Similarly, detailed information pertaining to the engine specifications or audio specifications may not be relevant to the needs of the individual, especially in early stages of the decision-making process (e.g., awareness). Therefore, information that is high in relevance and comprehensibility will be attended to. The individual, without making any attempt to process or notice the information, will inadvertently dismiss information that is too irrelevant or complex. Thus, as the relevance of information increases, the more likely it may be that information will be utilized. Furthermore, the complexity of the information should interact with message relevance such that the likelihood of information being utilized will (a) decrease when relevance is low and complexity is high, and (b) increase when both relevance and complexity is high.

Most individuals will not and cannot attend to the entirety of the stimulus field. Rather, only a portion of the available stimulus field will capture the attention of the individual, those stimuli deemed as relevant and comprehensible. All other messages may serve to detract from the intended message thereby inhibiting the consumer's ability to make accurate assessments of the brand. Once the individual recognizes an observable set of stimuli, a process of filtration occurs as the individual sorts through the stimuli to find those of interest and usefulness for goal attainment. These remaining stimuli are transformed into subjective representations and the process of integration continues consistent with information integration theory. The complexity of messages may increase as the relevance of the message to the consumer increases. In other words, focused marketing messages (communicating a single attribute versus many attributes) should be utilized when the goal is to increase awareness. If it is deemed necessary to communicate multiple product attributes, individual marketing messages should be created to communicate each attribute individually rather than a single message created to communicate all attributes. Then, as the consumer moves from awareness to interest or desire in the product (increased relevance), it becomes more feasible to deliver increasingly complex messages (e.g., multiple campaigns focusing on multiple facets of the product or brand).

Many advertising campaigns fail because they attempt to communicate too many things to consumers. While it may seem financially viable to create relatively few advertising messages that incorporate multiple selling points, consideration of the limitations of the human IPS suggests this may not be a preferred strategy. A more effective strategy may be to create numerous, simple, focused messages that communicate a single benefit. Consumers will then selectively perceive those messages that are most relevant to their own needs. Assuming the consumer's perception of the brand is favorable once he/she has processed the first bit of information pertaining to a brand,

he/she will be more likely to pay attention to other messages about the brand because additional information will now be considered relevant. As the consumer moves from awareness to interest in the product, a wider variety of information becomes relevant and the consumer will be more involved, and thus more responsive to complex messages. Therefore, as the product becomes more firmly established in the mind of the consumer building toward a desire to purchase, the complexity of the message can and should be increased.

CONCLUSION

Information integration theory has numerous implications for the field of marketing if researchers and practitioners alike properly utilize it. However, it is important to consider the limitations of humans as information processing systems when applying the concepts of integration theory to marketing. The integration-filtration diagram (Figure 2) may be a useful framework for considering both information integration and overload. Future studies should test the framework in experimental studies to determine appropriate boundary conditions. Increasing ad clutter and media diversification has led to many advertisements that attempt to communicate every aspect of the brand within a single advertising message. However, due to increasing ad clutter, such messages accomplish little more than getting lost in the sea of advertising surrounding consumers. Marketers need to build consumer interest in a product and its marketing efforts and the best way to achieve this is to offer “bite-size” pieces of information to initially draw in consumers (increase relevance) and then share the detailed, supporting information about the brand (increase complexity) once the consumer is engaged enough to process the information.

Marketers may benefit from using the model to develop more effective marketing strategies and programs. Marketing strategies, after all, need to fit customers’ abilities to perceive information, as well as fit their needs (Santala and Parvinen 2007). Furthermore, the model

could be effectively utilized in the fields of psychology and management to more fully comprehend human thought processes and behavior in organizational settings. While this framework was developed for understanding the consumer learning process, it may be beneficial to apply this model to curriculum development in educational settings as well. Some students may perceive a particular class to be of little value to them because they are unable to take away something meaningful from the class. In many cases, such an outcome may be the result of educators attempting to convey too much detailed information and, in doing so, they communicate nothing memorable to students. Thus, the proposed framework may be utilized in multiple learning contexts.

REFERENCES

- Anderson, Norman H. (1968), “A Simple Model for Information Integration”, *Theories of Cognitive Consistency: A Sourcebook*, Ed. Robert P. Abelson, Elliot Aronson, William J. McGuire, Theodore M. Newcomb, Milton J. Rosenberg and Percy H. Tannenbaum, Chicago, Rand McNally and Company, pp. 731-743.
- Anderson, Norman H. (1971), “Integration Theory and Attitude Change”, *Psychological Review*, 78(3), pp. 171-206.
- Anderson, Norman H. (1973), “Information Integration Theory Applied to Attitudes about U.S. Presidents”, *Journal of Educational Psychology*, 64(1)1, pp. 1-8.
- Anderson, Norman H. (1974), “Information Integration Theory: A Brief Survey”, *Measurement, Psychophysics, and Neural Information Processing*, Vol. 2. Ed. David H. Krantz, Richard C. Atkinson, R. Duncan Luce and Patrick Suppes, San Francisco, W. H. Freeman and Company, pp. 236-305.
- Anderson, Norman H. (1981), *Foundations of Information Integration Theory*, New York, Academic Press.

- Anderson, Norman H. (1982), *Methods of Information Integration Theory*, New York, Academic Press.
- Anderson, Norman H. (1991a), *Contributions to Information Integration Theory*, Hillsdale, Lawrence Erlbaum Associates.
- Anderson, Norman H. (1991b), *Functional Memory in Person Cognition*, Vol. 1. Ed. Norman H. Anderson, Hillsdale, Lawrence Erlbaum Associates, pp. 1-55.
- Anderson, Norman H. and Diane O. Cuneo (1978), "The Height + Width Rule in Children's Judgments of Quantity", *Psychological Review*, 107(4), pp. 335-377.
- Beam, Chris (1998), "Reviving Response Rates: In B-to-B Markets", *Folio: The Magazine for Magazine Management*, November, pp. 113-118.
- Bettman, James R., Noel Capon and Richard J. Lutz (1975), "Information Processing in Attitude Formation and Change", *Communication Research*, 2(3), pp. 267-278.
- Graesser, Cheryl C. (1991), *A Social Averaging Theorem for Group Decision Making*, Vol. 2. Ed. Norman H. Anderson, Hillsdale: Lawrence Erlbaum Associates, pp. 1-40.
- Grush, Joseph E. (1976), "Attitude Formation and Mere Exposure Phenomena: A Nonartifactual Explanation of Empirical Findings", *Journal of Personality and Social Psychology*, 33(3), pp. 281-290.
- Hermann, Andreas and Martin Wricke (1998), "Evaluating Multidimensional Prices", *Journal of Product & Brand Management*, 7(2), pp. 161-169.
- Johar, Gita, Durairaj Maheswaran and Laura Peracchio (2006), "MAPping the Frontiers: Theoretical Advances in Consumer Research on Memory, Affect, and Persuasion", *Journal of Consumer Research*, 33(1), pp. 139-149.
- Kanaan, George K (1993), "Psychology and Financial Decisions: A Literature Assessment", *Managerial Finance*, 19(5), pp. 1-10.
- Kardes, Frank R., Steven S. Posavac and Maria L. Cronley (2004), "Consumer Inference: A Review of Processes, Bases, and Judgment Contexts", *Journal of Consumer Psychology*, 14(3), pp. 230-256.
- McCune, Jenny C. (1998), "Data, Data, Everywhere", *Management Review*, Nov., pp. 10-12.
- Miyazaki, Anthony, Dhruv Grewal and Ronnie Goodstein (2005), "The Effect of Multiple Extrinsic Cues on Quality Perceptions: A Matter of Consistency", *Journal of Consumer Research*, 32(1), pp. 146-153.
- Nagasundaram, Murli, and Alan R. Dennis (1993), "When a Group Is Not a Group", *Small Group Research*, November, pp. 463-489.
- Pennington, Robin and Brad Tuttle (2007), "The Effects of Information Overload on Software Project Risk Assessment", *Decision Sciences*, 38(3), pp. 489-526.
- Pratkanis, Anthony R. (1994), "Book Reviews: Contributions to Information Integration Theory: Vol. II. Social", Ed. Dominic W. Massaro, *American Journal of Psychology*, 107(3), pp. 441-446.
- Rieck, Dean. (1998), "Ohhh! My Brain Hurts! How to Avoid the Curse of Information Overload", *Direct Marketing*, November, pp. 64-66.
- Santala, Matti and Petri Parvinen (2007), "From Strategic Fit to Customer Fit", *Management Decision*, 45(2), pp. 582-601.
- Sawyers, Barbara K. and Norman H. Anderson (1971), "Test of Integration Theory in Attitude Change", *Journal of Personality and Social Psychology*, 18(2), pp. 230-233.
- Schlottman, Anne and Norman H. Anderson (1993), "An Information Integration Approach to Phenomenal Causality", *Memory & Cognition*, 21(6), pp. 785-801.
- Shanteau, James (1985), "Application of Information Integration Theory to Methodology of Theory Development", *Symposium of American Psychological Association*, Los Angeles.
- Simms, Elsie (1978), "Averaging Model of Information Integration Theory Applied in the Classroom", *Journal of Educational Psychology*, 70(5), pp. 740-744.
- Smith, Robert E. (1993), "Integrating Information from Advertising and Trial: Processes and Effects on Consumer Response to Product Information", *Journal of Marketing Research*, 30(2), pp. 204-219.

- Tetzeli, Rick (1994), "Surviving Information Overload," *Fortune*, July, 60-65.
- Wang, Jing and Robert S. Wyer, Jr. (2002), "Comparative Judgment Processes: The Effects of Task Objectives and Time Delay on Product Evaluations", *Journal of Consumer Psychology*, 12(4), pp. 327-340.
- Weinberg, Bruce, Paul D. Berger and Richard C. Hanna (2004), "A Diagnostic Tool for Assessing the Relative Importance of Information in Impression Formation: Application in Order Effects", *Marketing Letters*, 15(2-3), pp. 113-128.

DOES SOURCE CREDIBILITY AFFECT HOW CREDIT CARDS ARE MARKETED TO COLLEGE STUDENTS?

KENNETH E. CLOW, University of Louisiana Monroe
KAREN E. JAMES, Louisiana State University in Shreveport
SARAH STANELY, University of Wisconsin Oshkosh

Source credibility is especially important when advertising services, due to their innate intangibility and the increased uncertainty and risk that are associated with choosing a service. This paper examines the traditional dimensions of source credibility (expertise, trustworthiness and attractiveness) along with similarity and likeability to determine how they influence a consumer's attitude toward the advertisement. Moreover, this paper identifies the relationships between a consumer's attitude toward the ad, brand attitude and purchase behavior and proposes a model of these relationships. Results indicate that expertise, attractiveness and liking were all significant factors influencing a consumer's attitude toward the ad, as well as supporting the hypothesized relationships between attitude toward the ad, brand attitude and purchase intent.

INTRODUCTION

Consumers interpret advertising messages through a filter that is comprised of a montage of their own personal experiences (McCracken 1988). In essence, who you are impacts how you perceive everything. This is why two consumers may watch the same advertisement and have two very different opinions about its meaning, its effectiveness, and the perceived credibility of the source. This difference has not been lost on those in sales. In fact, many companies attempt to tailor their sales strategies to meet the needs of different groups of consumers, in terms of race, gender, age and even sexual orientation (O'Heir 2007). In advertising, however, researchers are just delving into the factors that influence consumers' perceptions of advertising. In that vein, this paper explores credibility in advertising by incorporating similarity and likeability with traditional dimensions of source credibility (expertise, trustworthiness and attractiveness), to create a hypothetical model of advertising effectiveness.

This paper contributes to the literature by expanding the concept of source credibility and exploring its relationship with consumers' attitudes toward the ad, brand attitude and purchase intent. Specifically, this paper will cover a brief literature review of services marketing and source credibility, followed by a section dedicated to the development and testing of hypotheses. Lastly, this paper will conclude with a discussion of the results, the contribution, and the possibilities for further research.

MARKETING OF A SERVICE

While it has been well established that services are distinct from other types of goods, researchers are still debating the benefits of altering traditional advertising principles to complement the marketing of services (Chan, Leung and Wong 2006). Despite this debate, however, the one thing that remains certain is that services' marketing is an increasingly popular topic among marketers and academics (Grove et al. 2002).

In advertising services, those that see the benefit in tailoring advertising strategy suggest combating the intangibility of a service with concrete language and strong descriptions of the benefits provided by the service. Moreover,

it is critical to build up confidence in the perceived service quality (Chan, Leung and Wong 2006). The Internet provides one way to instill confidence through online communities, e-bulletins, newsletters, web ratings or reviews and moderated group chats on corporate web sites (Lagrosen 2005). While consumers may benefit from web promotions such as these, investors do not always view Internet promotions positively. In fact, signaling literature suggest that while the online promotions from firms with documented, above-average financials are viewed positively by investors, those without such documentation are not as fortunate (Mathur and Mathur 1996; Mathur, Mathur and Gleason 1998).

In advertising services it is important to remember that experience and credence qualities have a greater impact than in the consumption of traditional goods (Gabbot and Hogg 1994). This translates to higher risk as well as higher levels of uncertainty in the selection and consumption of services (Eisend 2004). For consumers, this uncertainty can be reduced by advertisements that clearly define the benefits of the service and emphasize credibility (Chan, Leung and Wong 2006). In fact, it has been shown that source credibility is more important in services than in the marketing of traditional goods (Eisend 2004).

SOURCE CREDIBILITY

For the purposes of this paper, source credibility is the credibility of the endorser, spokesperson, or individual in an advertisement. This can mean that the spokesperson is a customer, company employee, a celebrity, or as used in this study, a typical person model (Clow et al. 2006). Understanding what makes spokespersons believable and credible to potential customers is a critical step in establishing an effective advertisement. To this end, many researchers have attempted to measure source credibility.

In measuring source credibility, many papers use three dimensions: expertise, trustworthiness and attractiveness (Ohanian 1990; Lafferty et

al. 2002). Other dimensions such as believability and likeability have also been utilized as components of credibility (Arora et al. 2006; Keller 1998; Clow and Baack 2004; Clow et al. 2006). In the original measurement, attractiveness was not considered an obvious component but was included because physically attractive communicators had been known to have a positive impact on product evaluations and persuasion (Joseph 1982). Since that time, however, it has been noted that attractiveness does not always work as a component of credibility. For instance, when measuring corporate credibility, attractiveness does not make sense as a viable measure and thus, was replaced by the 'likeability' dimension (Keller 1998). More recently, the likeability dimension has been used in conjunction with the attractiveness, to measure source credibility for spokespersons as well as corporations (Clow and Baack 2004; Clow et al. 2006).

What makes source credibility such a viable topic for research is the impact that has been detected in studies manipulating source credibility. For instance, credible spokespersons elicit a greater attitude change than less credible spokespersons (Sternthal et al. 1978). In fact, people are likely to discount messages that they receive from sources with low credibility (Eagly and Chaiken 1975). In other studies, source credibility has been shown to affect attitude toward the ad, attitude toward the brand, advertising effectiveness, and purchase intentions (Marks 1984; Sanchez and Bonner 1989; Cobb-Walgren and Dabholkar 1992; Lafferty and Goldsmith 1999; Goldsmith et al. 2000; Lafferty et al. 2002; Clow et al. 2006).

It is easy to understand that with all of the benefits that could be harnessed by establishing high levels of source credibility with your audience, it is no wonder that advertisers are seeking to understand what produces source credibility. In studies geared at this question, initial results point to the fact that consumers are more likely to believe non-profit organizations, government sources, and independent testing groups as being more credible than commercial sponsors (Lirtzman

and Shuv-Ami 1986; Haley and Wilkinson 1994). Similarly, by providing additional information asserting their professional qualifications, a company is able to improve the extent to which consumers' believe them to be credible (Tripp 1997). This study will expand the literature base by also looking at factors influencing source credibility and examining the effect of the spokesperson's race and gender.

HYPOTHESES

Brand attitude and purchase intentions are often used to measure the effectiveness of advertising (Till and Busler 2000; Till and Busler 1998, Lafferty and Goldsmith 2004, Clow, James, Kranenburg and Berry 2006, Ohanian 1991). While many of these studies have looked at both of these constructs as measures of advertising effectiveness, few have tried to explain the relationship between them. We are proposing that the attitude that consumers form about a particular brand directly affects their purchase intentions regarding that brand, thus we hypothesize:

H₁: *Brand attitude has a direct impact on purchase intentions.*

While we posit that brand attitude directly influences purchase intention, we assume that the attitude toward the ad is critical to a consumer's brand attitude formation. Previous research has shown that there is a strong relationship between attitude toward the ad (A_{ad}) and brand attitude (A_b), leading researchers to speculate that $A_{ad} \rightarrow A_b$ (MacKenzie, Lutz and Belch 1986; Gardener 1985; Mitchell and Olson 1981; Park and Young 1984). We look to further bolster the evidence of this relationship with the following hypothesis:

H₂: *Attitude towards the ad has a direct impact on attitude towards the brand.*

If attitude toward the ad plays a role in determining brand attitude, then it becomes crucial to understand what goes into forming attitudes about the ad. Source credibility has been assumed to play a part in determining

brand attitudes and purchase intentions (Clow, James, Kranenburg and Berry 2006; Ohanian 1991). We, however, have proposed that the attitude toward the ad (A_{ad}) directly affects the attitude toward the brand (A_b), which ultimately determines purchase intent. If these relationships are true then the attitude toward the ad is most likely influenced by source credibility, just as previous researchers believed source credibility influenced brand attitudes and purchase intent.

Expertise has been shown to be one of the most significant factors in explaining a consumer's brand attitude (Till and Busler 1998) as well as their intent to purchase (Till and Busler 1998; Ohanian 1991). Thus, we predict that it will also be an important factor in determining the attitude toward the ad:

H₃: *The source's perceived expertise has a direct impact on attitude towards the ad.*

Another component of source credibility, trustworthiness, has been used in previous research testing advertising effectiveness. Contrary to expertise, however, the results of studies linking trustworthiness to purchase intent have been mixed (Pompitakpan 2003; Ohanian 1991). In an attempt to clarify the effect of trustworthiness on advertising effectiveness we propose the following:

H₄: *The source's perceived trustworthiness has a direct impact on attitude towards the ad.*

Attractiveness is another dimension of source credibility that has been investigated as a method of improving advertising effectiveness. Just as with trustworthiness, research on attractiveness has been mixed. In some cases, attractiveness has been shown to positively affect purchase intention (Pompitakpan 2003; Till and Busler 2000) and brand attitude (Till and Busler 2000), while in others, manipulating attractiveness does not seem to create a significant result (Ohanian 1991; Lafferty and Goldsmith 2004). Few studies, however, have looked at attractiveness, and its effects on attitude toward the ad. Thus, we try to clarify this relationship by hypothesizing the following:

H₅: *The source's perceived attractiveness has a direct impact on attitude towards the ad*

Social psychologists have long assumed that effective communication is enhanced by a perceived similarity between the two communicators (Swartz 1984; Brock 1965). In fact, one study showed that consumers were more likely to be persuaded by a source that was similar to them with regard to a particular item, than the source that was dissimilar, but perceived to be more knowledgeable about the subject at hand (Brock 1965). We hypothesize that this similarity, which increases effective two-way communication, will also aid in the formation of a consumer's attitude toward an ad (a one-way form of communication), thus:

H₆: *The source's perceived similarity has a direct impact on attitude towards the ad.*

Likeability, more recently included in research as a fourth dimension of credibility also

influences advertising effectiveness (Clow and Baack 2004; Clow, James, Kranenburg and Berry 2006). In general, likeability has been shown to be a strong factor linked to persuasion and sales, brand attitude and purchase intent (Smit, Muers and Neijens 2006). Just as likeability has been a factor in so many other specific measures of advertising effectiveness, we believe it also plays a role in determining a consumer's attitude toward the ad:

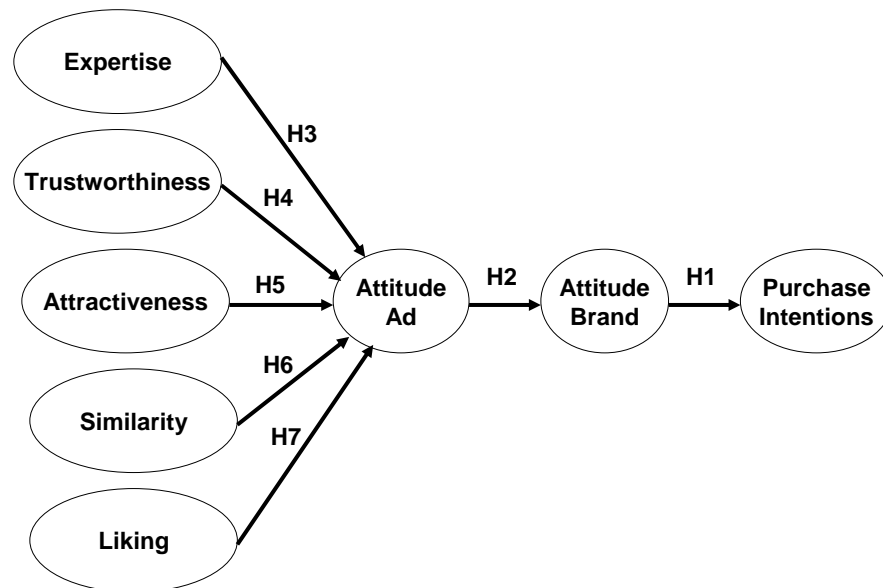
H₇: *The source's perceived liking has a direct impact on attitude towards the ad.*

Figure 1 diagrams the hypotheses and shows the relationships among the variables being studied.

METHODOLOGY

The objective of this research was to investigate the role of source credibility and its impact on attitude towards an ad within a service industry.

FIGURE 1
Hypothesized Model



The credit card industry was selected for the study because of its relevance to college students, who were the subject for this study. New print advertisements were created with a fictitious brand to avoid bias or recall affects from respondents having been exposed to the ad previously. To avoid any bias based on the visual strategy used, the race of the model and the gender of the model were varied. A total of 18 different ads were produced based on three visual strategies, three different races of models, and the two genders.

The surveys were administered in various classrooms at three different universities in the Midwest. Each student received a fictitious ad with one of the 18 visuals. Students were then asked a series of questions about the ad to measure their attitude towards the ad, their

attitude towards the brand, their purchase intentions, and the five source credibility subcomponents of expertise, trustworthiness, attractiveness, similarity, and liking.

A total of 560 surveys were completed. The demographic profile of the sample is provided in Table 1. In terms of school classification, the largest group was seniors, 41.6 percent. Another 30.7 percent were juniors. The sample was 52.9 percent female and 43.8 percent male. In terms of age, 16 percent were 18 to 20, 51 percent were 21 to 23, and the remaining were 24 or older. For ethnicity, 15 percent were African-Americans, 69.6 percent were Caucasians, and 11.2 percent were other races. Almost half, 47.1 percent, had incomes of less than \$20,000.

TABLE 1
Sample Characteristics

Demographic	Scale	Frequency	Percent
Classification	Freshman	41	7.3%
	Sophomore	72	12.9%
	Junior	172	30.7%
	Senior	233	41.6%
	Graduate	23	4.1%
Gender	Female	296	52.9%
	Male	245	43.8%
Age	18-20	89	16.0%
	21-23	286	51.0%
	24-26	91	16.3%
	27 and older	63	11.9%
Ethnicity	African American	84	15.0%
	Caucasian	390	69.6%
	Other	60	11.2%
Income	Less than \$20,000	264	47.1%
	\$20,000-\$50,000	122	21.8%
	\$50,001 and greater	143	25.5%

TABLE 2
Ad Composition

Variable	Category	No. of Items	Percent
Visual Strategy	Fantasy	187	33.4%
	Emotional (Negative)	187	33.4%
	Slice-of-life	186	33.2%
Race of Model	African-American	186	33.2%
	Asian-American	187	33.4%
	Caucasian	187	33.4%
Gender of Model	Male	280	50.0%
	Female	280	50.0%

Three different visual strategies were used: fantasy, emotional, and slice-of-life. The race and gender of the model was varied among the three visual strategies. Table 2 presents the breakdown of the sample in terms of visual strategy, race of model, and gender of model. The 3x3x2 experimental design resulted in 18 different visuals in the ads. The copy remained the same for each of the executions.

Purchase intent construct was measured using a 3-item scale. The Cronbach alpha for the scale was .895 (see Table 3). Brand attitude was measured using 10 different items and had a Cronbach reliability score of .963. Attitude towards the ad was measured using seven items with a Cronbach alpha score of .836. Expertise and trustworthiness were each measured using 5-item scales with reliability scores of .872 and .829, respectively. The attractiveness scale had four items and a Cronbach alpha of .849. Similarity and liking were 5-item scales with reliabilities of .832 and .801, respectively. As shown in Table 3, all scales had high reliability scores.

RESULTS

The theoretical model shown in Figure 1 and the hypothesis listed were tested using LISREL. The results of the analysis are shown in Table 4. The Chi-square for the model with 11 degrees of freedom was 67.72. The Root Mean

Square Residual was 0.070, the Goodness-of-Fit index was 0.97, and the Adjusted Goodness-of-Fit was 0.91. These results show an adequate fit between the hypothesized model and the data obtained.

Attitude towards the brand had a significant direct impact on purchase intentions, supporting Hypothesis 1. Attitude towards the ad had a significant direct impact on attitude towards the brand, supporting Hypothesis 2. Intentions to obtain a credit card are directly affected by how the consumer views the brand and how the consumer views the brand is impacted by his or her attitude towards the advertising of that credit card.

The next part of the analysis examined the credibility components to see how they might impact a person's attitude towards the advertisement. Figure 2 graphically illustrates the results that were presented in Table 4. As can be seen, three of the five relationships were significant. Expertise, attractiveness, and liking all were significantly related to attitude towards the ad. Expertise and liking were in the direction hypothesized. Hypothesis 3 and 7 were supported. Attractiveness was in the opposite direction. Instead of direct impact, it was an inverse relationship. Thus, Hypothesis 5 was not supported because the direction of the impact was opposite of what was expected. Hypotheses 4 and 6 were not supported.

TABLE 3
Reliability of Scales

Scale	No. of Items	Cronbach Alpha
Purchase Intentions	3	.895
Brand Attitude	10	.963
Attitude towards the Ad	7	.836
Expertise	5	.872
Trustworthiness	5	.829
Attractiveness	4	.849
Similarity	5	.832
Liking	5	.801

TABLE 4
LISREL Results

Path		MLE Value	T-Value	P-Value
B ₁₂	Brand Attitude à Purchase Intention	0.53	14.52	.04
B ₂₃	Ad Attitude à Brand Attitude	0.61	18.31	.03
γ_{31}	Expertise à Ad Attitude	0.17	3.26	.05
γ_{32}	Trustworthiness à Ad Attitude	0.07	1.10	.06
γ_{33}	Attractiveness à Ad Attitude	-0.10	-2.03	.05
γ_{34}	Similarity à Ad Attitude	.010	1.76	.06
γ_{35}	Liking à Ad Attitude	0.24	3.86	.04
Goodness of Fit Statistics		Chi-Square with 11 degrees of freedom = 67.72 (p=0.00) Root Mean Square Residual = 0.070 Goodness of Fit Index = 0.97 Adjusted Goodness of Fit Index = 0.91		

Trustworthiness and similarity did not have any impact on attitude towards the ad.

Based on the Maximum Likelihood Estimates (MLE) values, liking had the greatest impact on attitude towards the ad with a value of 0.24. Expertise was the next most influential variable with a MLE of 0.17. Of the three significant variables, attractiveness was the least influential and was also negative, at -0.10.

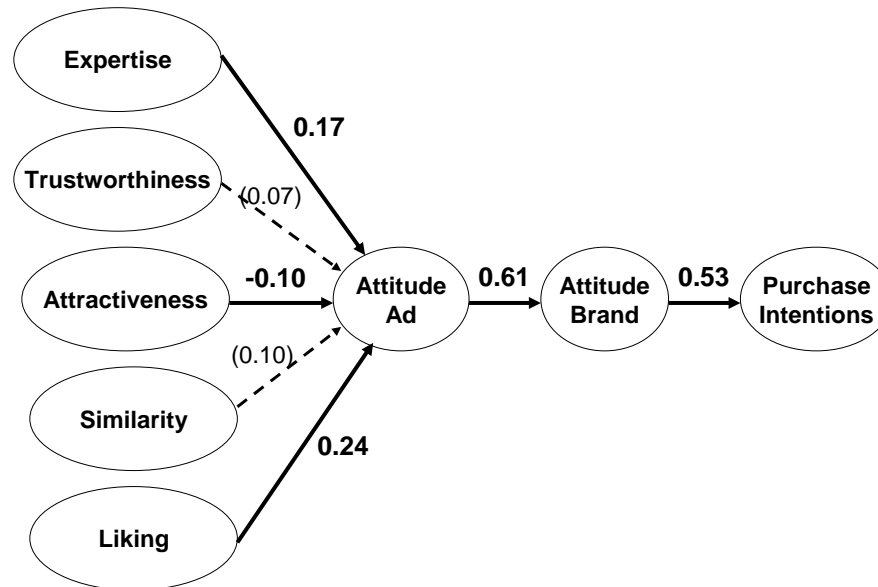
It should be noted that the constructs "trustworthiness" and "similarity" had p-values of .06 and were not significant at the 95 percent confidence level. Had a level of confidence of 90 percent or even 94 percent been used, they would also have been significant. In other words, these two variables were barely out of the acceptable range.

DISCUSSION

As would be expected, attitude towards the brand is a critical factor in credit card adoption among college students. VISA and MasterCard are well known brand names. But, just as important are the bank, financial institution, or other entity that are a part of the credit card. Consumers must have a positive attitude towards that brand as well. In this research, that fictitious institution was National Bank.

As with other products, attitude towards advertising will impact individuals' attitude toward the brand. In this case, the advertisement for the credit card impacted student attitudes toward the brand that was chosen for the card. Since these two linkages are strongly supported, we can examine what type of source credibility factors influence a

FIGURE 2
LISREL Results



student's attitude toward a credit card advertisement.

The most important factor is "liking." If the student likes the model or person depicted in the ad, then a more positive attitude towards the ad will be developed. The adjectives and phrases that measured liking were: likable, pleasing, friendly, approachable, and agreeable. In choosing a spokesperson for a credit card, these types of characteristics are important. It is also important to stage the scene in the ad to convey these attributes.

The other variable that had a positive impact was "expertise." Adjectives used in the study that measure expertise were: experienced, qualified, expert, skilled, and knowledgeable. For credit cards, measuring expertise is a bit trickier. Since the target audience was college students, college-age students were used in the ads. It would appear that the college students

who were part of this study viewed the models in the ads as experts on credit card usage. Most college students today have credit cards. Many have large debts from credit cards. Thus, seeing a fellow college student as an expert in credit card usage is reasonable to expect.

The relationship that was inverse instead of direct was "attractiveness." We had assumed that the more attractive a model was perceived, the higher would be the model's credibility. But, the reverse was found in the study. The less attractive the model appeared to be, the more credible they were seen and the more positive the attitude towards the advertisement. The adjectives used to measure attractiveness included: sexy, beautiful, elegant, and attractive. This result lends support to work done by Koernig and Page (2002) which found that in attractiveness related services (i.e., a haircut) the attractiveness of the service provider increased perceived trust, expertise,

and quality, while in a service industry that was not related to attractiveness (i.e., a dental checkup) the 'moderately attractive' service provider was perceived to be the most effective. Our use of a credit card service is arguably unrelated to attractiveness of the user and therefore the attractiveness of the source may not be paramount. Other explanations include the possibility that the model may not be viewed as a regular college student, but a paid model. Thus, the person in the ad is no longer a fellow student. Although we cannot determine from this research the exact reason for this inverse relationship, we can conclude that in choosing a model for the ad for a credit card, it is important to choose someone who looks like an ordinary person.

In conclusion, the promising results indicating the possibility that similarity to the source influences an ad's effectiveness warrants further research. It may be that, like attractiveness, similarity to the source is more relevant in certain services. We suspect this may be the case where authenticity of the service is important, such as neighborhood stores, ethnic restaurants, etc. In any case, we would argue that further research is warranted in this area.

REFERENCES

- Arora, Raj, Charles Stoner and Alisha Arora. (2006), "Using Framing and Credibility to Incorporate Exercise and Fitness in Individuals' Lifestyle," *Journal of Consumer Marketing*, Vol. 23 No. 4, pp. 199-207.
- Brock, Timothy C. (1965), "Communicator-Recipient Similarity and Decision Change," *Journal of Personality and Social Psychology*, Vol. 1 No. 6 pp. 650-654.
- Chan, Ricky Y.K., T.K.P. Leung and Y.H. Wong. (2006), "The Effectiveness of Environmental Claims for Services Advertising," *The Journal of Services Marketing*, Vol. 20 No. 4, pp. 233-250.
- Clow, K.E., and D. Baack. (2004), *Integrated Advertising, Promotions, and Marketing Communications*, Prentice-Hall, Upper Saddle River, NJ.
- Clow, K.E., K.E. James, K.E. Kranenburg, K.E. and C.T. Berry (2006), "The Relationship of the Visual Element of an Advertisement to Service Quality Expectation and Source Credibility," *Journal of Services Marketing*, Vol. 20 No. 6, pp. 404-11.
- Cobb-Walgreen, C.J. and P.A. Dabholkar. (1992), "The Value of Physician Advertising in the Yellow Pages: Does the Doctor Know Best?" *Journal of Health Care Marketing*, Vol. 12 No. 1, pp. 55-64.
- Eagly, A.H. and S. Chaiken. (1975), "An Attributional Analysis of the Effect of Communicator Characteristics on Opinion Change: The Case of Communicator Attractiveness," *Journal of Personality and Psychology*, Vol. 32, pp. 136-44.
- Eisend, Martin. (2004), "Is It Still Worth It to be Credible? A Meta-Analysis of Temporal Patterns of Source Credibility Effects in Marketing," *Advances in Consumer Research*, Vol. 31 No. 5, pp. 352-357.
- Gabbott, Mark and Gillan Hogg. (1994), "Consumer Behaviour and Services: A Review", *Journal of Marketing Management*, Vol. 10, pp. 311-324.
- Gardener, Meryl Paula. (1985), "Does Attitude Toward the Ad Affect Brand Attitude Under a Brand Evaluation Set?" *Journal of Marketing Research*, Vol. 22 (May), pp. 192-198.
- Goldsmith, Ronald E., Barbara A. Lafferty and Stephen J. Newell. (2000), "The Impact of Corporate Credibility and Celebrity Credibility on Consumer Reaction to Advertisements and Brands," *Journal of Advertising*, Vol. 29 No. 3, pp. 43-54.
- Gotlieb, Jerry B. and Dan Sarel. (1991), "Comparative Advertising Effectiveness: The Role of Involvement and Source Credibility," *Journal of Advertising*, Vol. 20 No. 1, pp. 38-45.
- Grove, Stephen. J., Les Carlson and Michael Dorsch. (2002), "Addressing Services' Intangibility Through Integrated Marketing Communication: An Exploratory Study," *The Journal of Services Marketing*, Vol. 16 No. 5, pp. 393-411.

- Haley, E. and J. Wilkinson. (1994), "And Now a Word From Our Sponsor: An Exploratory Concept Test of PSAs vs Advocacy Ads," *Proceedings from the American Academy of Advertising*, pp. 79-87.
- Joseph, W.B. (1982), "The Credibility of Physically Attractive Communicators: A Review," *Journal of Advertising*, Vol. 11 No. 2, pp.15-24.
- Keller, K.L. (1998), *Strategic Brand Management*, Prentice-Hall, Upper Saddle River, NJ.
- Koernig, Stephen K. and Albert L. Page. (2002), "What if Your Dentist Looked Like Tom Cruise? Applying the Match-up Hypothesis to a Service Encounter," *Psychology & Marketing*, Vol. 19 No. 1, pp. 91-110.
- Lafferty, Barbara A. and Ronald E. Goldsmith. (2004), "How Influential are Corporate Credibility and Endorser Attractiveness when Innovators React to Advertisements for a New High-Technology Product?" *Corporate Reputation Management*, Vol. 7 No. 1, pp. 24-36.
- Lafferty, Barbara A., Ronald E. Goldsmith and Stephen J. Newell. (2002), "The Dual Credibility Model: The Influence of Corporate and Endorser Credibility on Attitudes and Purchase Intentions," *Journal of Marketing*, Vol. 10 No. 3, pp. 1-11.
- Lagrosen, Sefan. (2005), "Effects of the Internet on the Marketing Communication of Service Companies," *The Journal of Services Marketing*, Vol. 19 No. 2, pp. 63.
- Lirtzman, S.L. and A. Shuv-Ami. (1986), "Credibility of Sources of Communication on Products' Safety Hazards," *Psychological Reports*, Vol. 58 No. 3, pp.707-18.
- MacKenzie, Scott B., Richard J. Lutz and George E. Belch. (1986), "The Role of Attitude Toward the Ad as a Mediator of Advertising Effectiveness: A Test of Competing Explanations," *Journal of Marketing Research*, Vol. 23 (May), pp. 130-143.
- Marks, R.B. (1984), "Consumer Responses to Physicians' Advertisements," *Journal of the Academy of Marketing Science*, Vol. 12, pp. 35-52.
- Mathur, Lynnette Knowles and Ike Mathur. (1996), "Is There Value Associated with Initiating New Advertising Agency-Client Relations?" *Journal of Advertising*, Vol. 25 (Fall), pp. 12.
- Mathur, Lynnette Knowles, Ike Mathur and Kimberly C. Gleason. (1998), "Services Advertising and Providing Services on the Internet," *The Journal of Services Marketing*, Vol. 12 No. 5, pp. 334-347.
- McCracken, Grant. (1988), *Culture and Consumption*. Bloomington: Indiana University Press.
- Mitchell, Andrew A. and Jerry C. Olson. (1981), "Are Product Attribute Beliefs the Only Mediator of Advertising Effects on Brand Attitude?" *Journal of Marketing Research*, Vol. 18 (August), pp. 318-332.
- Ohanian, R. (1990), "Construction and Validation of a Scale to Measure Celebrity Endorsers' Perceived Expertise, Trustworthiness, and Attractiveness," *Journal of Advertising*, Vol. 19 No. 3, pp. 39-52.
- O'Heir, Jeff.(2007), "Reaching the New Customer," *Dealerscope*, Vol. 49 No. 4, pp.78.
- Park, C. Whan and S. Mark Young. (1984), "The Effects of Involvement and Executional Factors of a Television Commercial on Brand Attitude Formation," Report No. 84-100. Cambridge, MA: Marketing Science Institute.
- Pompitakpan, Chanthika. (2003), "The Effect of Celebrity Endorsers' Perceived Credibility on Product Purchase Intention: The Case of Singaporeans," *Journal of International Consumer Marketing*, Vol. 16 No. 2, pp. 55.
- Sanchez, P.M. and G. Bonner. (1989), "Dental Services Advertising: Does It Affect Consumers?" *Journal of Health Care Marketing*, Vol. 8 No. 4, pp. 27-33.
- Smit, Edith G., Lex Van Meurs and Peter C. Neijens. (2006), "Effects of Advertising Likeability: A 10-Year Perspective," *Journal of Advertising Research*, (March), pp. 73-83.
- Sternthal, B., R. Dholakia and C. Leavitt. (1978), "The Persuasive Effect of Source Credibility: A Test of Cognitive Response Analysis," *Journal of Consumer Research*, Vol. 4, pp. 252-60.

- Swartz, Teresa A. (1948), "Relationship Between Source Expertise and Source Similarity in an Advertising Context," *Journal of Advertising*, Vol. 13 No. 2, pp. 49-55.
- Till, Brian D. and Michael Busler. (1998), "Matching Products with Endorsers: Attractiveness versus Expertise," *The Journal of Consumer Marketing*, Vol. 15 No. 6, pp. 576.
- Till, Brian D. and Michael Busler. (2000), "The Match-Up Hypothesis: Physical Attractiveness, Expertise and the Role of Fit on Brand Attitude, Purchase Intent and Brand Beliefs," *Journal of Advertising*, Vol. 29 No. 3, pp. 1-13.
- Tripp, C. (1997), "Services Advertising: An Overview and Summary of Research, 1980-1995," *Journal of Advertising*, Vol. 26 No. 4, pp. 21-39.
- Whittler, Tommy E. (1989), "Viewers' Processing of Actor's Race and Message Claims in Advertising Stimuli," *Psychology & Marketing*, Vol. 6 No. 4, pp. 287-309.

THE INFLUENCE OF *KELO V. CITY OF NEW LONDON*, *CONNECTICUT* ON THE USE OF EMINENT DOMAIN IN PLACE MARKETING AND ECONOMIC DEVELOPMENT

GEOFFREY T. STEWART, The University of Louisiana

JERILYN BOWIE-HILL, The University of Louisiana

ANNE K. KEATY, The University of Louisiana

RAJESH SRIVASTAVA, Middle Tennessee State University

*Seeking to enhance the economic growth of a respective business ecosystem, one tool in the governmental place marketer's (place marketer) arsenal that has recently come under scrutiny is its ability to expropriate private property through eminent domain when assimilating parcels of land. While the practice of eminent domain by a sovereign government is rooted deep in United States law, its use in economic development initiatives was challenged in Connecticut when a recent ruling by the United States Supreme Court in *Kelo v. The City of New London* upheld a taking of property by the City of New London for a different kind of public use. The negative public reaction to this ruling spurred state and federal actions that sought to constrict the power of eminent domain in place marketing. This manuscript provides a review of the *Kelo* case and discusses the governmental place marketing implications associated with its ruling.*

INTRODUCTION

The development of business ecosystems and an emphasis on the branding of places has highlighted the importance of marketing in the growth and decline of communities throughout the United States (Hunt 1981; Kerr 2006; Kotler and Gertner 2002; Layton and Grossbart 2006; Ulaga, Sharma and Krishnan 2002). When governments seek to enhance the economic growth of their respective business ecosystems, place marketers under the authority of municipalities, regions, states, etc. often combine parcels of land with items like tax and financing incentives to create market offerings that will hopefully attract and/or grow businesses, jobs, and tax revenue within their communities (Kotler, Haider and Rein 1993; Mastroieni 2007). One tool in the governmental place marketer's arsenal that has recently come under scrutiny is their ability to expropriate private property through eminent domain when assimilating parcels of land.

While the practice of eminent domain by a sovereign government is deeply embedded in United States law, and it is accepted that a government has the right to take private property for a public use such as a public park or road, a recent ruling by the United States Supreme Court in *Kelo v. The City of New London* upheld a taking by the City of New London for a different kind of public use (Greenhut 2006; Main 2007). The City took private property for the public use of "economic development," that, in reality, resulted in the property being sold by the City to another private party who would develop the property in the City's hopes of creating more jobs and tax revenue.

Since *Kelo*, the power of eminent domain exercised for the public purpose of economic development has come under intense scrutiny. Because this ruling was not well received by many private land owners who feared the taking of their own property for economic development purposes, it initiated a society-to-marketing movement that raised the issue of eminent domain within State legislatures throughout the United States. The actions taken

by States will be detailed further in this manuscript, but it is important to note that public policy is currently being used to influence marketing practices and the related social consequences which stem from the actions taken by place marketers (Fisk 1982; Redmond 2005). Following is an examination of the *Kelo* case and its effect on the practice of place marketing.

BACKGROUND OF THE LAW

Ownership, with its attendant right to exercise control over the use and alienation of real property, initially flowed from the owners' physical ability to occupy and hold that property against all challengers. The establishment of the concept of the government and its powers of sovereignty, the absolute right of the government to control everything within its own territory, removed the contest for the rights of ownership from the physical arena to that of laws. The federal form of government adopted by the United States divides sovereign power over the territory of the United States between the national (federal) government and the fifty member states. The concept of eminent domain is embraced at both levels of government.

The Fifth Amendment of the U.S. Constitution requires that private property be taken only when three requirements are met. It must be taken (1) by a procedure that grants due process of law to those whose property is to be taken, (2) payment of just compensation must be made for that which is taken, and (3) it must be taken for a public purpose. On the question of whether the property owner was given "due process," the courts have largely agreed that due process can be satisfied by minimally requiring that notice of the taking of the property and the opportunity to be heard be given to the party whose property is to be taken. On the question of "just compensation," the courts have agreed that the property owner is treated fairly if he receives "...the full and perfect equivalent in money of the property taken, whereby the owner is put in as good a position pecuniarily as he would have occupied

if his property had not been taken." *Kelo v. New London* dealt with the question "What is public use?"

Previous court rulings held that while the judgment of the legislature is to be accorded great weight, whether a specific purpose or use is a "public use" is a question for the courts. Subsequently, a review of the cases shows that not all courts have agreed on the answer to that question. In answering the question, some courts have defined "public use" broadly as a use which concerns the whole community: "It is not necessary that the public have a direct interest, and the fact that the main end is private gain and that the benefit to the people at large results only indirectly from the increase of wealth and development of material resources is immaterial." These holdings conflicted directly with other state court decisions that held that "the power of eminent domain may not be exercised to transform an area from a predominantly low-class residential area to a commercial and industrial area" and "...the condemnation of property to create industrial development districts or for development and sale thereof to private entities for use as industrial sites..." is an invalid use of the power of eminent domain. Conflicts between the rulings of state courts can only be resolved by appeal to the U.S. Supreme Court. The stage was set for *Kelo*.

WHAT HAPPENED IN KELO?

In 1990 a Connecticut state agency declared the City of New London a distressed municipality. In 1996, the Naval Undersea Warfare Center, which was in the Fort Trumbell area of the City of New London and had employed over 1,500 people, was closed. In 1998, the unemployment rate was greater than most of the state and the population was decreasing. Because of these conditions, the state of Connecticut approved the issuance of two bonds by the City: first for \$5.35 million to revive a private nonprofit entity, New London Development Corporation (NLDC), whose purpose was to assist the City in developing plans to promote economic development of the

City; and second for \$10 million to create Fort Trumbull State Park on 18 of the 32 acres formally occupied by the Naval Facility.

Shortly after the bond issue, a pharmaceutical company, Pfizer, announced its intent to build a \$300 million dollar research facility immediately adjacent to Fort Trumbull. In January 2000, the NLDC, after planning and neighborhood meetings, submitted a plan and received approval for the redevelopment of 90 acres in the Fort Trumbull area. The 90 acres included 115 privately owned properties and the 32 acres (including Fort Trumbull State Park) of the former naval facility. The plan consisted of seven parcels and addressed each as follows:

Parcel 1 is designated for a waterfront conference hotel at the center of a 'small urban village' that will include restaurants and shopping. This parcel will also have marinas for both recreational and commercial uses. A pedestrian 'riverwalk' will originate here and continue down the coast, connecting the waterfront areas of the development. *Parcel 2* will be the site of approximately 80 new residences organized into an urban neighborhood and linked by public walkway to the remainder of the development, including the state park. This parcel also includes space reserved for a new U.S. Coast Guard Museum. *Parcel 3*, which is located immediately north of the Pfizer facility, will contain at least 90,000 square feet of research and development office space. *Parcel 4A* is a 2.4 acre site that will be used either to support the adjacent state park, by providing parking or retail services for visitors, or to support the nearby marina. *Parcel 4B* will include a renovated marina, as well as the final stretch of the riverwalk. *Parcels 5, 6 and 7* will provide land for office and retail space, parking, and water-dependent commercial uses (Emphasis ours).

Hoping to capitalize on the new business the Pfizer facility would bring, the NLDC's development plan was "projected to create in excess of 1,000 jobs, to increase tax and other revenues, and to revitalize an economically distressed city, including its downtown and waterfront areas." In addition, the plan was to "make the city more attractive and to create leisure and recreational opportunities on the waterfront and in the park." From a marketing perspective, the NLDC was authorized to assimilate the needed property by purchasing land from willing sellers and leveraging the power of eminent domain to acquire land from unwilling sellers. Nine unwilling sellers, including Suzette Kelo, owned 15 properties within the redevelopment plan area of Fort Trumbull. The properties in question were described as follows:

4 in parcel 3 of the development plan and 11 in parcel 4A. Ten of the parcels are occupied by the owner or a family member of the owner; the other five are held as investment properties. There is no allegation that any of these properties is blighted or otherwise in poor condition; rather, they were condemned only because they happen to be located in the development area.

THE LEGAL QUESTION

Suzette Kelo and the other eight property owners brought suit in the Connecticut state courts claiming that the taking of their property for this development plan violated the 5th amendment of the U.S. Constitution in that the land was not being taken for 'public use.' The Fifth Amendment to the U.S. Constitution, which also applies to the state by the 14th amendment, forbids the taking of private property for public use, without just

compensation. State constitutions have very similar provisions, although some states may use the term “public purpose” instead of the term “public use.” This term “public use” and “public purpose” are not defined in the U.S. or state constitutions; therefore, the courts, over time, have had to decide on a case-by-case basis whether a particular “taking” fit within the meaning of these terms. In addition and similar to other states, Connecticut had a state statute that allowed the taking of land, as part of an economic development project.

The Lower Court Decisions

The Connecticut Supreme Court, using previous U.S. Supreme Court cases as precedent, held that **economic development qualified as a valid public use** under both the Federal and Connecticut Constitutions. The court also affirmed the lower Connecticut court’s ruling that the Connecticut state statute, “expressed a determination that the taking of land, as part of an economic development project is a ‘public use’ and in the ‘public interest.’” The nine property owners appealed to the Supreme Court of the United States.

The U.S. Supreme Court's Reasoning

The U.S. Supreme Court decided to hear the case to determine if the taking of property for economic development satisfied the “public use” requirement of the Fifth Amendment.

The U.S. Supreme Court set out the two opposing propositions as follows:
 “A sovereign may not take the property of A for the sole purpose of transferring it to another private party B, even though A is paid just compensation.”

“[A] state may transfer property from one private party to another if future ‘use by the public’ is the purpose of the taking.”

Arguments Made by Kelo

It is impossible to put any limits on the term “public purpose.”

Kelo argued that “public use” refers to the situation where the land is actually used by the general public, such as happens, for example when land is expropriated for the operation of common carriers, or a public park. In *Kelo*, the private lessees of this land were not going to open all of the expropriated land to the public to use as the public would use a park. The petitioners argued that, if Connecticut were allowed to take this property, there would be no limit as to how far a state could go in transferring property from one private owner to another private owner with such a vague requirement as “for a public purpose.” A state could seemingly transfer land from any one private owner to any other because, with a different use, the second owner might pay more taxes, which taxes could be used for the public benefit, and, therefore, the transfer could be seen as “for a public purpose.”

In rejecting this argument, the court relied on previous cases, finding that, while the early narrow test used by the courts required that the land was to be put to use by the general public, over time the courts found that in many situations the courts could not answer *how much* of the land necessarily had to be actually used by the general public. Even if the land was used for a park, for instance, there might be buildings or portions of the park into which the public would not be allowed. This difficulty, of judging “how much” land had to actually be used by the public, led courts to begin to turn to a broader test to determine if the taking was constitutional: that the land had to be used for a “public purpose,” rather than by the general public. The Court cited a long line of previous cases in which the narrow test of “public use” had been abandoned because it was impractical and too difficult to administer. The Court in *Kelo* rejected the petitioners’ argument that the land had to be put to *public use*, finding that if the land was taken for a *public purpose*, it could be a constitutional taking. The Court also

found that the federal government did not have the authority to judge the amount of land or the choice of land that a state chose to take to carry out its development plan.

This particular taking was not for a “public purpose.”

The next question raised was whether this particular taking was for a “public purpose.” Answering this question, the Court noted that “public purpose” had always been interpreted broadly, giving the states “‘great respect’ in determining local needs.” Here, Connecticut had a statute that authorized the expropriation of land to promote economic development. The City of New London used this authority to implement their plan for economic development. The Court found that precedent called for the Court to respect the City of New London’s determination that benefit to the City would result in implementation of this particular plan, regardless of the fact that this area was not distressed. “[W]e decline to second-guess the City’s considered judgments about the efficacy of its development plan.”

Economic development should not qualify as a “public purpose.”

The petitioners asked that the Court establish a rule that economic development does not qualify as a “public use.” The Court responded that neither precedent nor logic supported this determination and that economic development could be a “public purpose.” When the petitioners contended that the line between public and private takings could be lost if economic development was considered a public use, the Court responded that it could not say that a public purpose could not be served by private ownership. Going even farther, the Court said that an expropriation for private use *outside of a redevelopment plan*, like the redevelopment plan in the *Kelo* case, may or may not be an unconstitutional taking, and such a case would have to be judged if it arose.

“Public purpose” could be used as a pretext by the government.

Concerned about the government’s use of eminent domain as a tool in the marketing and development of a municipality, *Kelo* argued that the government would use “public purpose” as a pretext to disguise the taking of property of one private owner and giving it to another. The Supreme Court found that, while the property could not be taken under the mere *pretext* of a public purpose, in this case there was a “carefully considered development plan” and “no evidence of an illegitimate purpose.”

There should be some reasonable certainty that the public would eventually benefit.

When *Kelo* and the other petitioners argued that there should at least be some “reasonable certainty” that there would eventually be a benefit to the public, the court rejected the argument. The court concluded that if every taking by the state had to be shown to be successful before it could be effectuated, the development plans of a state could be delayed, perhaps indefinitely.

Holding of the U.S. Supreme Court

The United States Supreme Court affirmed the judgment of the Supreme Court of Connecticut that this use of eminent domain was constitutional. There have been numerous responses by commentators to the decision in *Kelo*. Newspaper articles, law review articles and numerous trade journals articles were immediately forthcoming, few in support of the Court’s finding. However, almost all commentators agreed that the decision of the U.S. Supreme Court was, in fact, correct as a matter of law. The judgment in *Kelo* should have been expected if one looked at the long line of cases that came before it. The Court’s finding was based solidly on precedent that “public use” could be defined as an indirect benefit that the public would receive from economic development. *Kelo* was the natural result of previous cases which found the 5th amendment clause stating that “no property shall be taken without just compensation” means that federal and state governments have

the right to decide what property it can take for what it deems the public good. The U.S. Supreme Court did, however, leave the door open for the federal and state legislatures to overrule with holding with statutes or constitutional amendments. Since eminent domain is the federal and state governments' right, it could be controlled only by the federal or state governments drafting new statutes, amending old statutes, or amending their constitutions to limit their own powers.

SOCIETY AND MARKETING INTERFACE

As a result of the Court's holding in *Kelo v. New London* proceedings, the role of eminent domain as part of one's marketing strategy within economic development practices has come under fire. In particular, the lawful taking of property from unwilling landowners by governmental place marketers when assimilating land for a project has been supported by the United States Supreme Court. This holding legitimized the proposition that eminent domain can be leveraged by place marketers when creating incentive packages (value propositions) for prospective clients. Naturally, the ruling resonated with private landowners throughout the United States.

Given the open nature of marketing systems, society influences marketing practice when (1) its wishes change and thus cause marketers to adjust their practices to accommodate changing needs and wants and (2) it reacts to previous impacts of marketing on society and creates an endogenous change on marketing practice (Fisk 1967; Redmond 2005). *Kelo v. New London* spurred a negative reaction amongst private landowners toward the use of eminent domain in the marketing of sites to potential developers. The negative public reaction to the court ruling was similar to the telemarketing exemplified detailed by Redmond (2005) in that the public called for government intervention.

STATES TAKE ACTIONS

In response to the U.S. Supreme Court decision in *Kelo v. New London* on June 23, 2005 and the accompanying negative public reaction, many state legislatures began the process of enacting state laws and amending their constitutions to forbid the use of eminent domain in the context of an economic development plan. According to the National Conference of State Legislatures (NCSL), thirty-four states enacted legislation or passed ballot measures during 2005 and 2006. The remaining states are considering legislation in 2007. Twenty-four states passed statutes (two of the original twenty-six state statues were vetoed by the governor), six passed constitutional amendments, and three passed both statutes and constitutional amendments. An analysis of the categories into which the bills and laws fall is reported by the NCSL as follows:

- Restricting the use of eminent domain for economic development [21 states], enhancing tax revenue or transferring private property to another private entity (or primarily for those purposes).
- Defining what constitutes public use [7 states].
- Establishing additional criteria for designating blighted areas subject to eminent domain. [3 states]
- Strengthening public notice, public hearing and landowner negotiation criteria, and requiring local government approval before condemning property [6 states].
- Placing a moratorium on the use of eminent domain for a specified time period [1 state] and establishing a task force to study the issue and report findings to the legislature [3 states].

Jarosz (2007, 38) states that in the first major eminent domain case after *Kelo*, *Norwood v. Horney*, the Ohio Supreme Court held that "the municipality could not take property for an economic development project. The Court also found that classifying an area as 'deteriorating' does not justify condemnation". Some states,

such as New York are waiting until research is done in order to ascertain the effects of statutes and constitutional amendments prohibiting the use of eminent domain solely for economic development purposes before taking any action.

FEDERAL GOVERNMENT TAKES ACTION

On June 26, 2006, in response to *Kelo*, President Bush signed an executive order in which he limited the federal government's ability to seize private property for other than public use such as a road or a hospital. In December 2006, the Senate failed to bring a vote to the floor on the eminent domain issue that would have limited federal funding for state projects that involve exercising eminent domain powers acknowledge by the U.S. Supreme Court in *Kelo*. In 2007, the "Private Property Protection Act" was introduced, which would limit the power of the federal government or programs or activities receiving federal financial assistance or that would affect commerce with foreign nations, among the states, or with Indian tribes, from exercising eminent domain without the consent of the private property owner. In this act, the property owner may file a property protection statement indicating that the condemning entity is exceeding its authority, at which time federal funds are withheld until the condemning entity receives a judicial determination of the validity of the taking. This bill, introduced by Senator John Ensign of Nevada, has been referred to a Senate Committee on Finance.

MARKETING IMPLICATIONS STEMMING FROM *KELO*

The findings of *Kelo* and subsequent State actions have heightened interest in property expropriation. This public interest has caused the toolsets of post-*Kelo* place marketers to adjust and meet the needs and wants of its respective publics by turning to socially responsible/volunteerism strategies and relationship marketing. Additionally, the interpretation of the court rulings and subsequent marketing actions are beginning to

raise questions regarding the ethical nature of some other marketing practices.

Socially Responsible/Volunteerism Strategies

Given the Court's ruling, should governmental place marketers in the United States voluntarily stop leveraging eminent domain in their marketing strategies? While *Kelo* has not prohibited governmental place marketers from using the power of eminent domain, it has made them cautious when taking on projects that might call for the assimilation of large parcels of land by taking from some private owners and selling it to other private owners in the name of economic development. Traditionally, place marketers sought to provide offerings that best addressed the needs of prospects and that contributed positive economic impact to their communities. While this has not changed, the increased public interest in eminent domain issues is challenging place marketers to develop market offerings that may avoid expropriation all together and to find alternative methods of attracting developers. The inclusion of social responsibility calls on marketers to avoid the taking of property when, in the balance, it will likely create to great a cost to society and/or its members.

Today's place marketers are called upon to possess skills in both the art and science of marketing. When attracting business to an area, marketers are challenged with creating value propositions that leverage not only economic factors (tax incentives) but also noncost factors like quality of education, recreational activities, and quality of life. The "transition from cost to noncost factors" call upon the marketer to sell all aspects of their community when recruiting prospects (Kotler, Haider and Rein 1993). This came about partly because prospective buyers or developers were beginning to realize that tax and financing incentives, while economically pleasing, do not influence the availability of skilled labor or the ability of one's organization to recruit employees into a specific location.

Businesses searching for a location typically ask place marketers to provide information on:

- local labor market
- access to customer and supplier markets
- availability of development site facilities and infrastructure
- transportation
- education and training opportunities
- quality of life
- business climate
- access to R&D facilities
- capital availability
- taxes and regulations (Kotler, Haider and Rein 1993)

Thus, place marketers today must be able to brand their respective jurisdictions and create market positions that leverage both cost and noncost factors.

Other seemingly sound alternative marketing strategies have emerged that a government might use to achieve economic development without taking the land from one private person and leasing or selling it to another. For instance, one commentator, Greenhut (2006, 14A) points out that some times micromanaged economic development plans fail completely, leaving a city with a huge bond debt, whereas the actions such as those used by the City Council of Anaheim, California were successful, without the use of eminent domain. To stimulate growth in the depressed area, the City: waived fees for homeowners undertaking renovations, “on the ground that the city would gain in the long run by the increase in property taxes”; waived fees for business start-ups for three months, increasing the number of new businesses by one-third over the previous year; “passed a tax amnesty and eliminated business taxes altogether for home-based businesses”; removed most hurdles for approval for churches, even though churches are not tax-paying entities because churches often have to build in industrial areas, taking up space that could create more taxes; did not call for builders to allocate a certain percentage of new houses to “affordable” range. The City “protected property rights, deregulated land use, promoted competition, loosened business

restrictions, lowered taxes and the City flourished. In order to build a new downtown, Anaheim allowed almost any imaginable use of property, and because owners could then sell to a wider range of buyers, the area has made great strides in economic development without the use of eminent domain.

Relationship Marketing

The practice of relationship marketing is beginning to enter the repertoire of government related practitioners like economic developers and universities (Thakur, Summey and Balasubramanian 2006; Judson, Aurand and Karlovsky 2007). While it has traditionally been practiced in recruiting/selling initiatives, governmental place marketers are beginning to recognize the value of building relationships with landowners (small and large) throughout their communities. Also spurring the emergence of relationship marketing is the reality that the role of economic incentives like tax-breaks and low-interest financing are becoming less important to potential developers. Potential prospects approach a particular locale with the understanding that they will be future members of and participants in the community. The relationship they develop with the governmental place marketers is very important because it serves as an introductory vehicle into the community and hinges upon the ability of the place marketer to effectively manage relationships with landowners that may be involved in the creation of a development site. Just recently, a steel mill from Germany chose to locate a new manufacturing facility in Alabama rather than in Louisiana. After months of intensive international recruitment, Louisiana was the runner-up in a 20 state competition and its marketers were in a state of shock. While Louisiana provided a superior financial offering, Alabama utilized an ongoing relationship with the German Government as a vehicle to leverage existing relationships it has with other German manufacturers like Mercedes Benz (Scott 2007). This case demonstrates that today’s place marketer is challenged to move beyond the financial

aspects of a business and to begin demonstrating how a location will influence the success of a company, its corresponding supply chain, and the local community.

Strategies Combining Social Responsibility and Relationship Marketing

Thus far, eminent domain has been described in situations where landowners face the possible expropriation of their property. In some situations however, the strategies of place marketers must also account for third parties like lessees of properties under consideration for expropriation. In these situations, place marketers must balance relationships with involved parties (potential developers, land owners, lessees) and their inherent responsibility to manage the future growth of their respective economy and community (social responsibility). For instance, low-income tenants and small businesses are often neglected in the economic development discussion. The owners of the tenement buildings are compensated, but the lessees lose their homes. Place marketers, like those in Philadelphia working on the redevelopment of Jefferson Square, are developing plans that will revitalize communities, support current homeowners, and introduce new economic growth opportunities into the locale (Mastroieni 2007). This type of initiative is cumbersome for marketers because it requires (1) a long-term vision of economic development, (2) understanding of the potential consequences stemming from a development within a particular community, and (3) willingness to introduce non-cost factors like quality of life, etc. into the expectation of what potential development companies/investors will contribute to the community.

Post-*Kelo* Ethical Concerns Involving Third Parties

As mentioned in the previous section, the avoidance of land expropriation calls for the development of strategies that are much more complex, labor intensive, and time consuming. Given the public outcry and the realization of

tension surrounding situations involving eminent domain, practitioners are using still other marketing practices to both circumvent and at times even create potentially harmful consequences. On the one hand, place marketers can use marketing to build relationships with landowners and to create mutually beneficial solutions which avoid the use of eminent domain. On the other hand, however, the use of eminent domain is also avoided by engaging in questionable marketing strategies that create pressure for buyers to sell their property.

Governmental place marketers are continuously faced with the task of identifying large tracts of land for commercial development. When dealing with multiple land owners and the challenge of stimulating economic growth in the region, place marketers often confront the tragedy of the commons (Hardin 1968) where a single land owner can jeopardize the economic future of a respective region through self-centered, greedy actions (Redmond 2005). Rather than negotiating directly with a reluctant landowner, which may take an extended period of time, place marketers are often tempted by the opportunity to engage local media outlets in the promotion of economic development initiatives. While these actions are rarely made public, place marketers can effectively use the media to create anticipation and enthusiasm within their respective communities. This is done by providing information on potential commercial developments that will create jobs, increase taxes, improve schools, etc. In doing so, marketers may intentionally or unintentionally isolate problematic land owners in the eyes of the community and create a social burden that does not naturally exist in the exchange of property between owner and government. In this instance, the citizens of the community become an involved third party without full knowledge of the situation. The land owner becomes someone who is “holding up progress and/or the future of a community.”

Similar to Redmond’s (2005) detail of telemarketing’s impact on individuals who are not consumers or who have self-selected out of

telemarketing, situations involving eminent domain can potentially create negative consequences for third parties (landowners, lessees, community at large) who are not directly involved in the transaction between the governmental place marketer and the potential developer/investor. It is because of these potential negative consequences that state governments have started to use the legislative process as a means for addressing the public's concern. Future research is needed to address the creation of pressure within a marketplace and to determine its impact on landowners. First, do landowners associate public pressure with the creation of news items by place marketers? Second, how do landowners manage the related public pressure? What is its impact on landowners' business strategy?

CONCLUSION - *KELO* CONTINUES TO CAUSE CONCERN

It is argued that the result of *Kelo* will be that, as Justice O'Connor predicted in her dissent:

all private property is now vulnerable to being taken and transferred to another private owner, so long as it might be upgraded--i.e., given to an owner who will use it in a way that the legislature deems more beneficial to the public--in the process.

Continuing, she wrote that...

...for the majority decision to hold that incidental public benefits resulting from the subsequent ordinary use of private property render economic development takings "for public use" is to wash out any distinction between private and public use of property.

Many commentators agree, as Cohen (2006, 497) stated, that this kind of economic development "has failed to produce the two most important goals of a proper eminent domain regime: efficiency and justice".

It has also been argued that the problem may be solved by refocusing on the compensation paid to the private landowner (Tally 2006). Some

say the mistake of the Supreme Court was to neglect to address the issue of "just compensation" because it is this second element that was designed to keep government in check and deter its improper use of eminent domain for economic development. One of the problems cited is that the Courts have opted to use the more easily applied "fair market value" to land to be taken by eminent domain. One commentator, Tally (2006, 766), noted that the Court "has admitted the inability of 'fair market value' to fully compensate a dispossessed owner. This under compensation leads to the overuse of eminent domain". It is suggested that compensation at a premium, adding a fixed amount, such as twenty percent, which method is used by other countries, would stop some of the present abuse. Some argue that small businesses suffer from the federal government cap of \$10,000 for moving expenses, which is often far from the real cost of relocating a business and should be increased to justify the taking.

Quick action on the part of state legislatures can be detrimental in the long run and many believe that scientific research is needed to assess the effects of state legislative restrictions on eminent domain. The government often lacks the expertise to proceed with economic development alone, and an association with private industry may be necessary to gain the expertise, financial resources, and efficiency that the government alone may lack (Greenhut 2006). The fact that the new legislation may not have much effect in many states where eminent domain is infrequently used has not quieted the fears of private homeowner who worry about the government's power to take private property and sell it to another private party.

REFERENCES

Cohen, Charles E. (2006), "Eminent Domain After *Kelo v. City of New London*: An Argument for Banning Economic Development Takings", *Harvard Journal of Law and Public Policy* (29) (2): 497 - 568.

- Fisk, George (1967), *Marketing Systems: An Introductory Analysis*, New York, Harper and Row.
- _____ (1982), "Editor's Working Definition of Macromarketing", *Journal of Macromarketing* (2): 3-4.
- Greenhut, Steven (2006), "Cross Country: The Anti-Kelo", *Wall Street Journal, Eastern ed*, New York, N.Y.
- Hardin, Garrett (1968), "The Tragedy of the Commons", *Science* (163): 1243-48.
- Hunt, S. D (1981), "Macromarketing as a Multidimensional Concept", *Journal of Macromarketing* (1): 7-8.
- Jarosz, Francesca (2007), "Before You Grab that Property: States Take a Close Look at Eminent Domain", *Business Law Today* (1):37-41.
- Judson, Kimberly M.; Timothy W. Aurand and Robert W.Karlovsy (2007), "Applying Relationship Marketing Principles in the University Setter: An Adaptation of the Exchange Relationship Typology", *Marketing Management Journal* (17) (1): 184-197.
- Kerr, Greg (2006), "From Destination Brand to Location Brand", *Journal of Brand Management* (13) (4/5): 276.
- Kotler, Philip, Donald H. Haider, and Irving Rein (1993), *Marketing Places: Attracting Investment, Industry, and Tourism to Cities, States, and Nations*, New York, The Free Press.
- _____ David Gertner (2002), "Country as Brand, Product, and Beyond: A Place Marketing and Brand Management Perspective", *Journal of Brand Management* (9) (4/5): 249.
- Layton, Roger and Sanford Grossbart (2006), "Macromarketing: Past, Present, and Possible Future", *Journal of Macromarketing*, (26) (2): 193.
- Main, Carla T. (2007), "The 'Blight' Excuse", in *Wall Street Journal, Eastern ed*, New York, N.Y.
- Mastroieni, Maureen (2007), "Collaborative and Market-Driven Approaches to Economic Development and Revitalization", *Real Estate Issues* (32) (1): 47.
- Redmond, William H. (2005), "Intrusive Promotion as Market Failure: How Should Society Impact Marketing?", *Journal of Macromarketing* (25) (1): 12-21.
- Scott, Robert T., "Alabama Lands German Steel Mill Project", http://blog.nola.com/times-picayune/2007/05/alabama_lands_german_steel_mil.html (last visited September 3, 2007).
- Tally, Brett (2006), "Restraining Eminent Domain Through Just Compensation: *Kelo v. City of New London*", 125 s.ct. 2655 (2005) 29 (2): 759 - 768.
- Thakur, Ramendra, John H. Summey and Siva K.Balasubramanian (2006), "CRM as Strategy: Avoiding the Pitfall of Tactics", *Marketing Management Journal*, (16) (2): 147-154.
- Ulaga, Wolfgang, Arun Sharma and R. Krishnan (2002), "Plant Location and Place Marketing: Understanding the Process From the Business Customer's Perspective", *Industrial Marketing Management* (31) (5): 393.

ENDNOTES

- 1 29 A C.J.S. Eminent Domain § 2 (undated June 2007).
- 2 The U. S. Supreme court eloquently stated in *State of Georgia v City of Chattanooga, Tenn.* "The sovereign power to take private property for public use cannot be surrendered, alienated, or contracted away; the legislature cannot bind itself or its successors not to exercise it."; 91 C.J.S. United States § 7 (June 2007).
- 3 *Collins v City of Wichita, Kansas, C.A.Kan.*, 225 F.2d 132, 135, cert. denied 76 S.Ct. 140, 350 U.S.886, 100 L.Ed. 781 (1955).
- 4 *Almota Farmers Elevator & Warehouse Co. v. U.S.*, Wash., 93 S. Ct. 791, 409 U.S. 470, 35 L.Ed.2d 1 (1973); *U.S. V. Reynolds, Ky.*, 90 S.Ct. 803, 397 U.S. 14, 25 L.Ed.2d 12 (1970).
- 5 *Humphrey v City of Phoenix*, 102 P.2d 82, 55 Ariz. 374 (1940).

- 6 Rindge Co. v. Los Angeles County, Cal., 43 S.Ct. 689, 262 U.S. 700, 67 L.Ed. 1186 (1923).
- 7 Blackwell Lumber Co. v. Empire Mill Co., 155 P. 680, 28 Idaho 556 (1916).
- 8 Edens v City of Columbia, 91 S.E.2d 280, 228 S.C. 563 (1956).
- 9 Hogue v. Port of Seattle, 341 P.2d 171, 54 Wash.2d 799 (1973).
- 10 125 S. Ct. 2655, 2659 (citing 1 App. 109-113).
- 11 *Id.* at 2658 (citing the Connecticut Supreme Court 268 Conn. 1, 5, 843 A.2d 500, 507) (2004).
- 12 *Id.* at 2659.
- 13 *Id.* at 2660.
- 14 Article 1 § 4 of the Louisiana Constitution of 1974.
- 15 Conn. Gen.Stat. § 8-186 et seq. (2005).
- 16 268 Conn. at 40.
- 17 *Id.* at 18-28.
- 18 125 S.C. at 2661.
- 19 *Id.*.
- 20 *Id.* at 2664.
- 21 *Id.* at 2668.
- 22 *Id.* at 2666.
- 23 *Id.* at 2661.
- 24 *Id.* at 2667.
- 25 Mt. Vernon-Woodberry Cotton Duck Co. v. Alabama Interstate Power Co., 240 U.S. 30, 32, 36 S.Ct. 234, 60 L.Ed. 507 (1916) (“The inadequacy of use by the general public as a universal test is established.”); Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1014-1015, 104 S. Ct. 2862, 81 L.Ed.2d 815 (1984) (“This Court, however, has rejected the notion that a use is a public use only if the property taken is put to use for the general public.”).
- 26 <http://www.ncsl.org/programs/natres/EMINDOMAIN.htm> (last visited on July 5, 2007).
- 27 <http://www.ncsl.org/print/natres/mapslide.pdf> (last visited July 5, 2007).
- 28 <http://www.ncsl.org/programs/natres/EMINDOMAIN.htm> (brackets ours) (last visited on July 5, 2007).
- 29 853 N.E.2d. 1115, 110 Ohio St. 3d. 353 (Ohio 2006).
- 30 Associated Press, Bush Signs an Executive Order Limiting Eminent Domain Powers of Federal Government, ” <http://www.foxnews.com/story/02933.200833.00.html> (last visited July 6, 2007).
- 31 <http://www.therealestatebloggers.com/2006/12/11/senate-failed-to-vote-on-eminent-domain-legislation> (last visited on July 5, 2007).
- 32 125 S.Ct. at 2669.