22nd Annual

Robert Mittelstaedt Doctoral Symposium Proceedings

March 28 – 30, 2013

Doctoral Research in Marketing

Department of Marketing
University of Nebraska–Lincoln
310 College of Business Administration
Lincoln, NE 68588-0492
Office: (402) 472-2316
Fax: (402) 472-9777

Symposium Coordinators
Elise Johansen Harvey
Jenifer Skiba

Faculty Advisor
Professor Jim Gentry

Proceedings Coordinator
Michelle Jacobs
ACKNOWLEDGEMENT

The Marketing Department would like to thank the Dean Donde Plowman and the Dean’s Office in the College of Business Administration for the partial financial support for this symposium. We also thank Michelle Jacobs for all of her assistance in organizing the symposium.

ROBERT MITTELSTAEDT DOCTORAL SYMPOSIUM

“The word “symposium” comes from the Greek word “symposion” which, in turn, derives from the Greek verb “sympeninein” which means to drink together. The Merriam Webster dictionary defines symposium as “a convivial party with music and conversation” or “a social gathering at which there is free interchange of ideas.” While the music may be in short supply, I trust that all of you – and especially those of you for whom this is your first time at a meeting like this – find this symposium both intellectually stimulating and socially rewarding. So, again, welcome to the Robert Mittelstaedt Doctoral Symposium.”

- Robert Mittelstaedt

Dr. Robert Mittelstaedt retired on August 31, 2002, after 29 years of contributions to the University of Nebraska–Lincoln, College of Business Administration, Marketing Department and our graduate program.

Doctoral students share a common link to Bob. He was more than a fine educator, scholar, and academic citizen. He was also their mentor, friend, counselor, and supporter. He motivated them with his insights, kindness, and countless stories. He stimulated their ideas, made them smile, and warmed their spirits. In addition, Bob and Venita opened their home and hearts to many doctoral students and gave them many forms of moral support. Bob dedicated his career to doctoral education and has served as a role model to both doctoral students and junior faculty.

Bob also introduced macromarketing theory and issues to doctoral students and inspired them, for over 40 years. He has been more than a fine educator and scholar. His insights, seminars, and dedication to the Journal of Macromarketing and Macromarketing Conferences motivated their investigations of important issues in the field, presentations at the Conferences, and publications in JMM.

Despite being retired, Bob was lured back to the department for the 2004 and 2005 fall semesters to teach doctoral seminars.

At the time of Bob’s retirement, the faculty in the Department of Marketing decided to rename the Nebraska Doctoral Symposium to the Robert Mittelstaedt Doctoral Symposium in honor of Bob’s accomplishments at the University of Nebraska–Lincoln.
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If you would like to support the Robert Mittelstaedt Doctoral Symposium, send a check made payable to University of Nebraska Foundation (with Mittelstaedt Symposium in the memo area) and forward to the UNL Marketing Department, PO Box 880492, Lincoln, NE 68588-0492
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22ND ANNUAL ROBERT MITTELSTAEDT DOCTORAL SYMPOSIUM
MARCH 28 – 30, 2013

THURSDAY, MARCH 28 – AFTERNOON

Guests check in at the Embassy Suites, 1040 P Street, (402) 474-1111

THURSDAY, MARCH 28 – EVENING (DRESS CASUALLY)

7:00 - 10:00 Welcome Reception and Cocktail Party
Van Brunt Visitors Center, 313 North 13th Street
Finger-foods will be served

FRIDAY, MARCH 29 – MORNING (DRESS PROFESSIONALLY)
LOCATION: REGENTS A

Breakfast available for guests staying at the Embassy Suites

7:45 – 8:00 Welcome
Dr. Jim Gentry, Mittelstaedt Doctoral Symposium Coordinator
Dean Donde Plowman, James Jr. and Susan Stuart Endowed Dean,
College of Business Administration
Dr. Robert Mittelstaedt, Nathan J. Gold Distinguished Professorship in
Marketing, Emeritus

8:00 – 8:30 The Implementation of New Marketing Strategies by Business-to-
Business Salespeople: The Constraining Factor Model
Jeff Johnson, University of Nebraska–Lincoln

8:30 – 8:40 Discussant: B. J. Allen, University of Oklahoma

8:40 – 8:50 General Discussion

8:50 – 9:00 Break

9:00 – 9:30 Vulnerable Mothers: The Consumer Experience of an Immersive,
Value-Laden Service
Elise Riker, Arizona State University

9:30 – 9:40 Discussant: Elise Johansen Harvey, University of Nebraska–Lincoln
9:40 – 9:50  General Discussion

9:50 – 10:00  Break

10:00 – 10:30  **Unintended Effects of Marketing Messages on Boundary Spanners**  
Olalekan Seriki, University of Oklahoma

10:30 – 10:40  Discussant: Russell Lemken, Iowa State University

10:40 – 10:50  General Discussion

10:50 – 11:00  Break

11:00 – 11:30  **Do Not Touch Me…But Please Do: Comfort with Interpersonal Touch (CIT) in Retail Sales Interactions**  
Andrea Webb, University of Wisconsin-Madison

11:30 – 11:40  Discussant: Marc Dotson, The Ohio State University

11:40 – 11:50  General Discussion

11:50 – 1:00  Lunch in the Atrium area, Embassy Suites

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**FRIDAY, MARCH 29 – AFTERNOON**  
**LOCATION: REGENTS A**

1:00 – 1:30  **Beauty in a Bottle: Product Aesthetics Cues Efficacy Beliefs of Product Performance**  
Aparna Sundar, University of Cincinnati

1:30 – 1:40  Discussant: Courtney Baker, University of Wyoming

1:40 – 1:50  General Discussion

1:50 – 2:00  Break

2:00 – 2:30  **Consumers’ Evaluation of Brands From Emerging Countries**  
Shuang Yang, University of Texas at El Paso

2:30 – 2:40  Discussant: Sunaina Velagaleti, University of Wisconsin-Madison

2:40 – 2:50  General Discussion

2:50 – 3:00  Break
3:00 – 3:30  **Synergistic Impact of CRM and the Core Business Processes on Firm Efficiency and Effectiveness**  
Linlin Chai, Iowa State University

3:30 – 3:40  Discussant: Kezhou Wang, University of Illinois at Urbana-Champaign

3:40 – 3:50  General Discussion

3:50 – 4:00  Break

4:00 – 4:30  **Dynamics of Cooperation and Competition Within A Retail Assemblage**  
Sangeetha Venkatataramani, University of Arizona

4:30 – 4:40  Discussant: Brett Josephson, Washington State University

4:40 – 4:50  General Discussion

**Friday, March 29 – Evening (dress casually)**  
**Location: Regents DEF**

6:30 – 9:00  Evening Reception and Banquet  
6:30 - Social  
7:00 - Banquet

9:00 – late  On your own

**Saturday, March 30 – Morning (dress professionally)**  
**Location: Regents A**

Breakfast available for guests staying at the Embassy Suites

8:00 – 8:30  **Unintended Consequences of Relational Strategies: Implications for Innovation Outcomes**  
Sean Yim, Washington State University

8:30 – 8:40  Discussant: Siva Kiran Batteenpati, Iowa State University

8:40 – 8:50  General Discussion

8:50 – 9:00  Break
9:00 – 9:30  **Putting the ‘Us’ in Trust: The Rule of Consumer Collaboration in Online Communication**  
Laurel Aynne Cook, University of Arkansas

9:30 – 9:40  Discussant: Ruth Pogacar, University of Cincinnati

9:40 – 9:50  General Discussion

9:50 – 10:00  Break

10:00 – 10:30  **Models of Sequential Evaluation in Best-Worst Choice Tasks**  
Tatiana Dyachenko, Ohio State University

10:30 – 10:40  Discussant: JaeHwan Kwon, University of Iowa

10:40 – 10:50  General Discussion

10:50 – 11:00  Break

11:00 – 11:30  **Focusing on Desirability Versus Feasibility: The Influence of Fit Between Goal Progress and Construal Level on Subsequent Self-Regulation**  
Jooyoung Park, University of Iowa

11:30 – 11:40  Discussant: Cassandra Davis, University of Arkansas

11:45 – 11:50  General Discussion

11:50 – 12:00  Break

**SATURDAY, MARCH 30 – AFTERNOON**
**LOCATION: REGENTS A**

12:00 – 12:30  **A Multi-System Approach to Sustainability: Exploring Embeddedness in Ecological, Social and Marketing Systems**  
Bret Leary, University of Wyoming

12:30 – 12:40  Discussant: Gerardo Moreira, University of Texas at El Paso

12:40 – 12:50  General Discussion

12:50 – 1:00  Closing
22ND ANNUAL ROBERT MITTELSTAEDT DOCTORAL SYMPOSIUM PARTICIPANTS
MARCH 28 – 30, 2013

Ms. Elise Riker
Arizona State University
W.P. Carey School of Business
PO Box 847106
Tempe, AZ 85287-4106
(480) 965-3621
elise.riker@asu.edu

Ms. Cassandra Davis
University of Arkansas
Marketing Department
302 Walton College of Business
Fayetteville, AR 72701
(479) 575-8748
cdavis@walton.uark.edu

Dr. Linda L. Price
University of Arizona
Eller College of Management
McClelland Hall 320
1130 E. Helen St., PO Box 2101208
Tucson, AZ 85721
(520) 626-3061
llprice@email.arizona.edu

Dr. Ronn J. Smith
University of Arkansas
Marketing Department
302 Walton College of Business
Fayetteville, AR 72701
(479) 575-4055
RSmith3@walton.uark.edu

Ms. Sangeetha Venkataramani
University of Arizona
Eller College of Management
McClelland Hall 320
1130 E. Helen St., PO Box 2101208
Tucson, AZ 85721
(520) 621-7485
svenkat@email.arizona.edu

Dr. Robin Soster
University of Arkansas
Marketing Department
302 Walton College of Business
Fayetteville, AR 72701
(479) 575-2547
rsoster@walton.uark.edu

Dr. Scot Burton
University of Arkansas
Marketing Department
302 Walton College of Business
Fayetteville, AR 72701
(479) 575-5398
sburton@walton.uark.edu

Dr. Robert Stassen
University of Arkansas
Marketing Department
302 Walton College of Business
Fayetteville, AR 72701
(479) 575-0155
bstassen@walton.uark.edu

Ms. Laurel Aynne Cook
University of Arkansas
Marketing Department
302 Walton College of Business
Fayetteville, AR 72701
(479) 575-8748
lcook@walton.uark.edu

Dr. Marko Grünhagen
Eastern Illinois University
School of Business
4002 Lumpkin Hall
Charleston, IL 61920
(217) 581-6906
mgrünhagen@eiu.edu
Dr. Hayden Noel  
University of Illinois at Urbana-Champaign  
Department of Business Administration  
350 Wohlers Hall, 1206 South Sixth Street  
Champaign, IL 61820  
(217) 355-2681  
hnoel@illinois.edu

Mr. Kezhou Wang  
University of Illinois at Urbana-Champaign  
Department of Business Administration  
350 Wohlers Hall, 1206 South Sixth Street  
Champaign, IL 61820  
(217) 778-3865  
kwang6@illinois.edu

Dr. Carl Witte  
Roosevelt University  
Department of Marketing  
Heller College of Business  
1400 N. Roosevelt Blvd.  
Schaumburg, IL 60173-4348  
(847) 619-4863  
cwitte2@roosevelt.edu

Mr. Siva Kiran Battepati  
Iowa State University  
College of Business, Marketing Department  
2200 Gerdin Business Building  
Ames, IA 50011-1350  
(515) 294-2474  
sivab@iastate.edu

Ms. Linlin Chai  
Iowa State University  
College of Business, Marketing Department  
2200 Gerdin Business Building  
Ames, IA 50011-1350  
(515) 294-1714  
lchai@iastate.edu

Mr. Russell Lemken  
Iowa State University  
College of Business, Marketing Department  
3223 Gerdin Business Building  
Ames, IA 50011-1350  
(515) 864-1250  
lemken@iastate.edu

Dr. Doug Walker  
Iowa State University  
College of Business, Marketing Department  
3129 Gerdin Business Building  
Ames, IA 50011-1350  
(515) 294-6941  
dmwalker@iastate.edu

Dr. William Hedgcock  
University of Iowa  
Tippie College of Business  
S252 John Pappajohn Business Bldg.  
Iowa City, IA 52242-1994  
(319) 335-0894  
william-hedgcock@uiowa.edu

Mr. JaeHwan (Jay) Kwon  
University of Iowa  
Tippie College of Business  
S252 John Pappajohn Business Bldg.  
Iowa City, IA 52242-1994  
(319) 335-0981  
jaehwan-kwon@uiowa.edu

Ms. Jooyoung Park  
University of Iowa  
Tippie College of Business  
S252 John Pappajohn Business Bldg.  
Iowa City, IA 52242-1994  
(319) 335-0933  
jooyoung-park@uiowa.edu

Dr. A. Dwayne Ball  
University of Nebraska–Lincoln  
Marketing Department  
CBA 324  
Lincoln, NE 68588-0492  
(402) 472-2381  
dball1@unl.edu

Dr. Les Carlson  
University of Nebraska–Lincoln  
Marketing Department  
CBA 317  
Lincoln, NE 68588-0492  
(402) 472-3156  
lcarlson3@unl.edu
Dr. Scott Friend  
University of Nebraska–Lincoln  
Marketing Department  
CBA 321  
Lincoln, NE  68588-0492  
(402) 472-0660  
sfriend2@unl.edu

Dr. Jim Gentry  
University of Nebraska–Lincoln  
Marketing Department  
CBA 322  
Lincoln, NE  68588-0492  
(402) 472-3278  
jgentry1@unl.edu

Dr. Sandy Grossbart  
University of Nebraska–Lincoln  
Marketing Department  
CBA 332  
Lincoln, NE  68588-0492  
(402) 472-2359  
sgrossbart1@unl.edu

Ms. Shipra Gupta  
University of Nebraska–Lincoln  
Marketing Department  
CBA 319A  
Lincoln, NE  68588-0492  
(402) 472-0612  
shipragupta@huskers.unl.edu

Mr. Brad Horn  
University of Nebraska–Lincoln  
Marketing Department  
CBA 330A  
Lincoln, NE  68588-0492  
(402) 472-3384  
bradley.horn@huskers.unl.edu

Ms. Mengzhu Ji  
University of Nebraska–Lincoln  
Marketing Department  
CBA 319  
Lincoln, NE  68588-0492  
(402) 472-5610  
mengzhu.ji@huskers.unl.edu

Ms. Elise Johansen Henry  
University of Nebraska–Lincoln  
Marketing Department  
CBA 330  
Lincoln, NE  68588-0492  
(402) 472-3279  
elise@huskers.unl.edu

Mr. Jeff Johnson  
University of Nebraska–Lincoln  
Marketing Department  
CBA 330  
Lincoln, NE  68588-0492  
(402) 472-3279  
jjohns60@hotmail.com

Dr. Pat Kennedy  
University of Nebraska–Lincoln  
Marketing Department  
CBA 325  
Lincoln, NE  68588-0492  
(402) 472-3002  
pkennedy1@unl.edu

Mr. Joseph Matthes  
University of Nebraska–Lincoln  
Marketing Department  
CBA 330A  
Lincoln, NE  68588-0492  
(402) 472-3384  
jmatthes@huskers.unl.edu

Ms. Jessica Mikeska  
University of Nebraska–Lincoln  
Marketing Department  
CBA 319  
Lincoln, NE  68588-0492  
(402) 472-5610  
jmikeska@huskers.unl.edu

Dr. Robert Mittelstaedt  
University of Nebraska–Lincoln  
Marketing Department  
CBA 327  
Lincoln, NE  68588-0492  
(402) 472-3378  
rmittelstaedt1@unl.edu
Mr. Tim Reilly  
University of Nebraska–Lincoln  
Marketing Department  
CBA 315  
Lincoln, NE  68588-0492  
(402) 472-0148  
tim.reilly@huskers.unl.edu

Dr. Amit Saini  
University of Nebraska–Lincoln  
Marketing Department  
CBA 320  
Lincoln, NE  68588-0492  
(402) 472-2344  
asaini2@unl.edu

Mr. Rob Simon  
University of Nebraska–Lincoln  
Marketing Department  
CBA 328  
Lincoln, NE  68588-0492  
(402) 472-4562  
rsimon2@unl.edu

Ms. Jenifer Skiba  
University of Nebraska–Lincoln  
Marketing Department  
CBA 319A  
Lincoln, NE  68588-0492  
(402) 472-0612  
jskiba@huskers.unl.edu

Dr. Ravi Sohi  
University of Nebraska–Lincoln  
Marketing Department  
CBA 318  
Lincoln, NE  68588-0492  
(402) 472-3374  
rsohi1@unl.edu

Mr. Steve Welton  
University of Nebraska–Lincoln  
Marketing Department  
CBA 329  
Lincoln, NE  68588-0492  
(402) 472-6230  
swelton3@unl.edu

Dr. Xin Zhao  
University of Nebraska–Lincoln  
Marketing Department  
CBA 323  
Lincoln, NE  68588-0492  
(402) 472-6638  
xinzhao@unl.edu

Mr. Alexey Moisseyev  
University of Nebraska–Lincoln  
Marketing Department  
CBA 310  
Lincoln, NE  68588-0492  
(402) 472-2316  
lexmois@gmail.com

Ms. Lynn Phillips  
University of Nebraska–Lincoln  
Marketing Department  
CBA 310  
Lincoln, NE  68588-0492  
(402) 472-2316  
lphillips@huskers.unl.edu

Dean Donde Plowman  
University of Nebraska–Lincoln  
Dean's Office  
CBA 215C  
Lincoln, NE  68588-0405  
(402) 472-9500  
dplowman2@unl.edu

Dr. Steve Schulz  
University of Nebraska at Kearney  
Department of Marketing & MIS  
1917 W. 24 St., WSTC 408C  
Kearney, NE  68849-4430  
(308) 865-8022  
schulzsa@unk.edu

Dr. Anyuan (Daniel) Shen  
State University of New York at New Paltz  
School of Business  
1 Hawk Drive  
New Paltz, NY  12561  
(845) 257-2669  
shena@newpaltz.edu
Mr. Marc Dotson  
The Ohio State University  
Department of Marketing & Logistics  
Fisher College of Business, 2100 Neil Avenue  
Columbus, OH 43210  
(614) 292-8808  
dotson.126@osu.edu

Ms. Tatiana Dyachenko  
The Ohio State University  
Department of Marketing & Logistics  
Fisher College of Business, 2100 Neil Avenue  
Columbus, OH 43210  
(614) 688-8163  
dyachenko.1@osu.edu

Dr. Nino Hardt  
The Ohio State University  
Department of Marketing & Logistics  
Fisher College of Business, 2100 Neil Avenue  
Columbus, OH 43210  
(614) 688-2996  
hardt.8@osu.edu

Ms. Ruth Pogacar  
University of Cincinnati  
Carl H. Lindner College of Business  
2925 Campus Green Dr. #424  
Cincinnati, OH 45221  
(406) 274-6369  
ruth.pogacar@gmail.com

Dr. Mary Steffel  
University of Cincinnati  
Carl H. Lindner College of Business  
2925 Campus Dr. #431  
Cincinnati, OH 45221  
(513) 556-7116  
mary.steffel@uc.edu

Ms. Aparna Sundar  
University of Cincinnati  
Carl H. Lindner College of Business  
2925 Campus Green Dr. #424  
Cincinnati, OH 45221  
(513) 258-9624  
sundaraa@mail.uc.edu

Mr. Bradley (BJ) Allen  
University of Oklahoma  
Price College of Business  
307 W. Brooks, Room 1F  
Norman, OK 73019-4001  
(954) 254-2438  
allen@ou.edu

Dr. Jeff Schmidt  
University of Oklahoma  
Price College of Business  
307 W. Books, Room 1F  
Norman, OK 73019-4001  
(405) 325-5915  
jbs@ou.edu

Mr. Olalekan Seriki  
University of Oklahoma  
Price College of Business  
307 W. Brooks St., Room 1H  
Norman, OK 73019-4001  
(405) 325-3561  
olalekan.k.seriki-1@ou.edu

Ms. Meike Eilert  
University of South Carolina  
Moore School of Business  
1705 College St.  
Columbia, SC 29208  
(803) 556-5058  
meike.eilert@grad.moore.sc.edu

Dr. Fernando R. Jiménez Arévalo  
University of Texas at El Paso  
Marketing & Management Department  
El Paso, TX 79968  
(915) 747-7724  
frjimenezarevalo@utep.edu

Mr. Gerardo Moreira  
University of Texas at El Paso  
Marketing & Management Department  
El Paso, TX 79968  
(915) 747-5185  
gjmoreira@utep.edu
Mr. Shuang Yang
University of Texas at El Paso
Marketing & Management Department
El Paso, TX 79968
(915) 747-5185
syang3@utep.edu

Mr. Brett Josephson
Washington State University
Department of Marketing, College of Business
PO Box 644730
Pullman, WA 99164-4730
(509) 335-4102
brett.josephson@wsu.edu

Mr. Sean Yim
Washington State University
Department of Marketing, College of Business
PO Box 644730
Pullman, WA 99164-4730
(509) 335-0924
sean.yim@wsu.edu

Dr. Amber Epp
University of Wisconsin-Madison
975 University Avenue
4253 Grainger Hall
Madison, WI 53706
(608) 265-3346
eaep@bus.wisc.edu

Ms. Sunaina Velagaleti
University of Wisconsin-Madison
975 University Avenue
4185 Grainger Hall
Madison, WI 53706
(608) 265-3346
velagaleti@wisc.edu

Ms. Andrea Webb
University of Wisconsin-Madison
975 University Avenue
4186 Grainger Hall
Madison, WI 53706
(608) 265-3346
awebb2@wisc.edu

Ms. Courtney Baker
University of Wyoming
College of Business
Dept. of Management & Marketing
1000 E. University Avenue
Laramie, WY 82071-2000
(307) 766-3728
cbaker24@uwyo.edu

Dr. Stacey Baker
University of Wyoming
College of Business
Dept. of Management & Marketing
1000 E. University Avenue
Laramie, WY 82071-2000
(307) 766-3734
smbaker@uwyo.edu

Mr. R. Bret Leary
University of Wyoming
College of Business
Dept. of Management & Marketing
1000 E. University Avenue
Laramie, WY 82071-2000
(307) 766-3728
rleary3@gmail.com

Dr. John Mittelstaedt
University of Wyoming
College of Business
Dept. of Management & Marketing
1000 E. University Avenue
Laramie, WY 82071-2000
(307) 766-3655
jmittels@uwyo.edu

Dr. Stephanie Oneto
University of Wyoming
College of Business
Dept. of Management & Marketing
1000 E. University Avenue
Laramie, WY 82071-2000
(307) 766-3458
soneto@uwyo.edu
THE IMPLEMENTATION OF NEW MARKETING STRATEGIES BY BUSINESS-TO-BUSINESS SALESPERSONS: THE CONSTRAINING FACTOR MODEL

Jeff S. Johnson & Ravi S. Sohi, University of Nebraska–Lincoln

“In business, everybody always thinks it is about finding the ‘right’ idea, or the ‘right’ plan. The truth is that there are five ‘right’ ideas or plans. The real issue is getting oneself and others to be able to execute it...”  Dr. Henry Cloud

ABSTRACT

The implementation of marketing strategies has long been espoused as a key concern of academics and practitioners due to its importance to firm performance. Despite this fact, strategic implementation remains a perennial challenge for firms. This may be in part due to the focus placed on strategic formation rather than strategic implementation. Additionally, as the preponderance of empirical explorations into the implementation phenomenon have been conducted at the firm level, significant opportunity remains to understand implementation on an individual level. Of the organization roles germane to strategic implementation, that of the salesperson is arguably one of the most important. The salesperson’s role as an organizational boundary-spanner places them at the front line of implementation with the customer. The goal of this paper is to advance understanding on this important topic by examining the factors impacting the implementation of new marketing strategies by the salesperson. In this pursuit, motivation-opportunity-ability (MOA) theory is used to hypothesize and empirically test relationships by conducting a large-scale survey of business-to-business salespeople. The analysis utilizes a constraining factor model, a new-to-marketing approach derived from operations management. Multiple theoretically-supported drivers of the salesperson’s MOAs and the contingent impact of salesperson implementation are tested, results discussed, and implications to theory and practice advanced.

INTRODUCTION

Strategic implementation, though vitally important to the success of the firm, remains an under-researched topic in the domains of management and marketing (Noble and Mokwa 1999; Crittenden and Crittenden 2008; Sarin, Challagalla, and Kohli 2012). Part of this issue stems from the fact the early research in the strategy domain employed a predominant focus on strategy formation rather than implementation. A dire need exists to focus attention on implementation due to the abysmal efficacy of strategy implementation; up to 90% of strategies are not successfully implemented by organizations (Raps 2004). Not surprisingly, many recommendations for firms to improve their strategic implementation have been espoused. While these inquiries have added significant insight to the implementation of marketing strategies on a firm level, strategic implementation has received scant attention on an individual level (Sarin, Challagalla, and Kohli 2012). Specifically, a central part of the marketing strategy implementation equation is the salesperson. The salesperson’s role as an organizational boundary-spanner places them at the front line of implementation with the customer (Singh, Verbeke, and Rhoads 1996; Cravens 1998; Ferguson, Paulin, and Bergeron 2005; Mattsson, Ramaseshan, and Carson 2006) and makes their enactment of strategy critical to the firm. The salesperson may be provided with excellent strategies; however, if they do not enact them effectively, efforts in strategic planning and formulation may not translate into superior performance for the organization. Recently, the vital role of the salesperson has become a focus in examinations of marketing strategy formation (e.g. Malshe and Sohi 2009) and implementation (e.g. Sarin, Challagalla, and Kohli 2012). This work has provided an important base of research on the salesperson’s role in the marketing strategy process; however, further
theoretical, empirical work is needed on an individual-salesperson level to explore their implementation of new marketing strategies.

The salesperson’s implementation of new marketing strategies refers to the behaviors performed by the salesperson to enact new strategies they are provided. Understanding what leads to the implementation of marketing strategies by the salesperson is of significant importance to academics and practitioners. Salespeople do not automatically enact organizational changes simply because they are instructed to and the traditional role of salespeople as “doers” rather than also “planners” does not reflect reality (Malshe, Krush, and Sohi 2013). Salespeople will not blindly implement new marketing strategies as they perceive their roles as central strategy makers and implementers rather than strictly implementers (Malshe 2009). In addition to understanding implementation behaviors by the salesperson and what predicts their enactment, understanding how and under what conditions these behaviors translate to successful implementation by the salesperson is needed. The salesperson’s enactment of implementation behaviors should translate to increased implementation success; however, the criticality of these behaviors is likely contingent on environmental factors. A need exists to explore and empirically test these factors.

The marketing strategy literature notes the importance and need for complex models necessary to understand the multifaceted nature of strategic issues (Varadarajan and Jayachandran 1999). The purpose of this research is to provide an understanding of the complex components of the implementation of new marketing strategies by the salesperson, the factors leading to implementation, and the conditional effects of implementation behaviors by the salesperson on implementation success. I seek to contribute to the literature pertinent to the salesperson and strategic implementation by adding insight to several unexplored areas. First, this research focuses on the topic of the implementation of new marketing strategies. The predominant focus on strategic formation and fit in the literature has left issues in the performance of strategic implementation behaviors underexplored (Noble and Mokwa 1999; Lane 2005). Coupled with the espoused importance of strategic implementation, this presents a prime research area to glean insight and extend knowledge. Second, the individual salesperson has been largely ignored in examinations of strategic implementation. Though the salesperson is a critical component of the process, little is known about their implementation of new marketing strategies. By analyzing the extant literature and examining the critical implementation context of new products and services, I seek to identify how the salesperson implements new marketing strategies and define the key facets of salesperson implementation. Third, this study extends MOA theory to the strategic implementation literature. MOA theory has been used in various marketing strategy contexts, however, has not been used to explain strategic implementation. Fourth, the interaction of different facilitators in strategic implementation is poorly understood. A need exists to utilize a more advanced examination to show the contingent and interrelated impacts of the factors leading to implementation. Specifically, can strategic implementation by the salesperson be predicted by an operations management-based model? This research will employ a method of analysis not yet utilized in marketing research and extremely relevant to MOA theory. Constraining factor modeling illustrates the complex and contingent relationships of motivations, opportunities, and abilities beyond linear or interactive models (Siemsen, Roth, and Balasubramanian 2008). Constraining factor modeling is a useful approach in identifying operational bottlenecks in the management literature; however, has promise as a means of predicting behavior in the contexts of marketing and marketing strategy. Fifth, I seek to show how the motivation, opportunity, and ability of the salesperson are affected by organizational actions and characteristics. Finally, the current understanding of the impact of strategic implementation on an organizational level has expanded insight into the marketing strategy domain. The omission of how strategic implementation behaviors translate to implementation success on a salesperson’s level represents a significant gap in sales and marketing strategy knowledge. Additionally, the environmental, contextual factors affecting these relationships need to be advanced.
CONCEPTUAL MODEL

The salesperson responds, allocates effort, and coordinates internal resources to carry out new marketing strategies in their boundary-spanning role. As such, the focal concern is what causes a salesperson to enact behavior. Accordingly, the conceptual model (Figure 1) is comprised of theoretically-based factors that impact behavior. Specifically, motivation-opportunity-ability (MOA) theory is used to identify three primary determinants of behavior (MacInnis and Jaworski 1989; MacInnis, Moorman, and Jaworski 1991). The model also looks to elucidate the antecedents affecting the salesperson’s implementation motivations, opportunities, and abilities. The variables included all draw conceptual support from the sales and strategic implementation literature streams. As this dissertation seeks to identify actionable ways firms can increase strategic implementation by the salesperson, all these antecedents are firm-level variables within the control of the organization. The multi-company data collection approach this paper utilizes allows for the impact of these higher-level impacting factors to be assessed on the salesperson. The outcome variable is the salesperson’s implementation success (Noble and Mokwa 1999). In addition to assessing the impact of the implementation behaviors on this dependent variable, environmental factors are hypothesized to moderate this relationship.

Figure 1
Conceptual Model for the Implementation of New Marketing Strategies by the Salesperson

STRATEGIC IMPLEMENTATION

Strategy is formulated and implemented by firms and can be conceptualized as “the decisions and activities that enable a business in a firm’s portfolio to achieve and sustain a competitive advantage and to maintain or improve its performance” (Varadarajan and Jayachandran 1999, p. 120). The extant literature is replete with examinations of how strategy is formulated and the various factors impacting the process. The implementation of strategy is an equally important, yet far less researched, counterpart to strategy formation. A contributing factor to this paucity of research can be attributed at least in part to the difficulty in what is actually entailed in implementing strategy. As Noble (1999) notes, there is a host of disparate conceptualizations of strategic implementation with differing implications to comprehension and measurement of the phenomenon. These conceptualizations of implementation range in their brevity.
or specificity and carry unique implications for strategy researchers. On a broad level, strategic implementation can be conceptualized as how a strategy is operationalized and enacted by the organization or how the strategic alternatives are converted into an operating plan (Varadarajan and Jayachandran 1999). Implementation can also be viewed as interventions made by organizational structures, personnel actions, and control systems with the intent of aligning action, controlling performance, executing developed programs, and achieving a desired goal (Noble 1999).

Early research into the implementation of strategy viewed implementation behaviors as rather irrelevant as strategic implementation was thought to be an inevitable result of sound strategic planning. If firms spent sufficient time and energy into formulating perfect strategies, implementation would occur through its own volition. In actuality, implementation is a far more complex phenomenon and firms are extremely heterogeneous in their styles and levels of strategic implementation. Strategic implementation is fraught with challenges as evidenced by the low percentage of strategies that are effectively implemented (Lane 2005). As such, several propositions, as well as some empirical tests, have been advanced to ascertain the drivers of effective implementation in the organization. Overall, the proposed enablers of strategic implementation are fairly consistent across examinations. Clear strategies and strategic focus, cross-functional integration, support from senior management, good communication, and strategic consensus among members are all discussed as positive contributors to implementation efforts (Floyd and Wooldridge 1992; Beer and Eisenstat 2000; Rapert, Velliquette, and Garretson 2002; Dobni 2003; Crittenden and Crittenden 2008).

SALESPERSON STRATEGIC IMPLEMENTATION

The behaviors enacted to implement strategy are contingent on the function performed by an employee in an organization. The implementation of marketing strategies has a very different meaning and associated behaviors for engineers than it does for advertising executives. The literature clearly explicates the role of the salesperson as an organizational boundary-spanner serving as the connection between the organization and the customer (Singh, Verbeke, and Rhoads 1996; Cravens 1998; Ferguson, Paulin, and Bergeron 2005; Mattsson, Ramaseshan, and Carson 2006). Their role in the implementation process is to quickly respond to new strategies, allocate their effort to enact them, and coordinate internal members of the organization in the implementation effort.

Implementation Responsiveness

The speed at which strategies are enacted by organizational members is an important factor in strategic implementation. Organizational-level implementation speed refers to “the pace of activities between the time project members formulate marketing strategy and the time they fully deploy it in the marketplace” (Atuahene-Gima and Murray 2004, p. 36). Implementation speed measures how quickly strategies are enacted from the time they are formulated and has been examined extensively in many organizational contexts. Rather than the gap between formulation and enactment as espoused on an organizational level, however, individual-level implementation responsiveness pertains to the gap between dissemination to the individual salesperson and their enactment of the strategy. As such, implementation responsiveness is the extent to which the salesperson responds quickly to new marketing strategies. Salesperson responsiveness in customer-facing situations has been espoused as an important driver of customer and organizational outcomes (Darian, Tucci, and Wiman 2001; Chonko and Jones 2005). As the salesperson represents the front line of implementation and is the face of the organization to the customer, their responsiveness to marketing strategies is of paramount importance. When salespeople drag their feet and hesitate to perform important organizational strategies and initiatives as expected, the organization may experience adverse outcomes (Speier and Venkatesh 2002; Honeycutt et al. 2005; Kaplan and Henderson 2005).
Implementation Effort

The allocation of selling effort on an organizational level has been examined extensively in the sales literature. How the sales force is deployed has significant ramifications on the performance of organizations and a multitude of models have been advanced in attempts to optimize the selling effort within the organization and achieve marketing objectives (e.g. Zoltners and Lorimer 2000). Effort also applies to the individual salesperson and is relevant in the implementation of marketing strategies. To implement marketing strategies, the salesperson must put forth the necessary energy to see them through. New marketing strategies often require salespeople to focus their efforts in a different manner than previously applied. Consistent with the dimension of new product adoption by the salesperson (e.g. Hultink and Atuahene-Gima 2000) and organizational-level focus and effort on implementation (e.g. Floyd and Wooldridge 1992), implementation effort refers to the salesperson’s “force, energy, persistence, and intensity of his or her activities to achieve desired results” (Hultink and Atuahene-Gima 2000, p. 437); the extent to which the salesperson directs their energy to the implementation of new strategies (Fu et al. 2010). As noted in the literature, the salesperson’s role as an organizational boundary spanner comes with a host of demands requiring them to allocate time and energy across a wide variety of activities (Beehr, Walsh, and Taber 1977). Salespeople may face many competing demands across their breadth of clients and can find it difficult to meet their multitude of professional and personal requirements (Montgomery, Blodgett, and Barnes 1996). Carrying out marketing strategies requires the salesperson to put forth effort in a manner conducive of the realization of new marketing strategies.

Implementation Coordination

The final dimension of implementation by the salesperson concerns the coordination of internal resources to enact strategies. Consistent with the systems view, individuals within the organization are unable to achieve their objectives independently, rather they are interdependent on other individuals and groups within the organization (Thamhain 2003). This is especially relevant in the context of business-to-business sales. The salesperson plays a unique role in the organization to assure strategies are implemented consistent with marketing and customer expectations. The relationship marketing paradigm has amended the conceptualization of the role of the salesperson from a transactional seller to the director of a firm’s resources to meet customer needs; an organizational coordinator (Weitz and Bradford 1999). Researchers have noted the salesperson’s critical role as a coordinator of the organization’s efforts in serving the customer (Ustuner and Godes 2006). Steward et al. (2010) advance the salesperson’s role in acquiring and coordinating the necessary expertise in complex business-to-business selling situations and define the coordination of expertise as “the process that the salesperson follows in diagnosing the customer organization’s requirements and subsequently identifying, assembling, and managing an ad hoc team of organizational members who possess the knowledge and skills to deliver a superior customer solution” p. 551. Strategic implementation requires continuous management of internal parties. When salespeople implement strategies with their customers, they must manage their organization to assure the necessary resources are provided to deliver on the strategies. The salesperson serves as a conductor of organizational members and a spanner of organizational silos. As such, coordination focuses on the internal parties shepherded by the salesperson to implement strategies. Implementation coordination is the extent to which the salesperson organizes the efforts of other members within their organization to enact new marketing strategies.

In the following section, I advance the theoretical rationale to support the conceptual model. In this pursuit, I draw upon the strategic implementation and sales literature to delineate the nature of the relationships at all three levels of the model. Consistent with both recent and seminal work conducted in the implementation of marketing strategies domain, implementation models must be tested in specific context. For example, Noble and Mokwa (1999) examine the contexts of marketing information systems and sales promotions while Sarin, Challagalla, and Kohli (2012) focus on the context of channel changes. For my examination, I use the context of implementation associated with new products and services. Due to the pervasiveness of new product/service introductions, their impact on firm performance, and the
important role the salesperson plays in their introduction (Ogawa and Piller 2006), this is an ideal context in which to assess new strategy implementation by the salesperson.

**THE CONTINGENT NATURE OF MOTIVATIONS, OPPORTUNITY, AND ABILITIES ON THE IMPLEMENTATION OF NEW MARKETING STRATEGIES BY THE SALESPERSON**

At its most basic level, strategic implementation involves behaviors enacted by individuals within the firm. For this reason, I adopt a theory used to explicate the multi-faceted determination of actions by individuals applied to many consumer and strategy contexts; motivation-opportunity-ability (MOA) theory (MacInnis, Moorman, and Jaworski 1991). Motivation refers to the desire and willingness to engage in a behavior (MacInnis, Moorman, and Jaworski 1991; Siemsen, Roth, and Balasubramanian 2008). Motivation is well-espoused as a predictor of behavior and performance in the sales domain (Weitz, Sujan, and Sujan 1986). Opportunity refers to the extent to which the salesperson perceives they are facilitated in their implementing of new marketing strategies (Sääksjärvi and Samiee 2011). The concept of opportunity is particularly relevant in strategic implementation as a myriad of factors about organizations and industries are proposed to impact the implementation of strategy. Ability refers to the knowledge and skill possessed relevant to the behavior (MacInnis, Moorman, and Jaworski 1991; Siemsen, Roth, and Balasubramanian 2008; Sääksjärvi and Samiee 2011). The ability of the salesperson to implement marketing strategies is impacted by both their experience as well as training received.

Empirical findings have demonstrated the predictive validity of MOA theory. While MOA theory has been instructive on what variables lead to action in various contexts and populations, it has been less clear on how these variables interrelate. Early conception of the theory recognized that these three classes of variables are not entirely independent, but rather may interact with each other (Rothschild 1999). The components of MOA theory have been conceptualized and empirically tested in different ways in marketing strategy applications. Some studies have examined the linear effects of motivations, opportunities, and abilities and shown all three types of variables to significantly impact behavior (e.g. Wu, Balasubramanian, and Mahajan 2004). Others, however, noting the inherent interdependencies of these components, have explored interaction-based frameworks (Grewal, Comer, and Mehta 2001; Sääksjärvi and Samiee 2011). These examinations have shown that the impact of the various MOA components is contingent on the levels of the other MOA variables. Path models have also been utilized to examine the causal relationships between MOA variables and resulting impact on behavior (e.g. Clark, Abela, and Ambler 2005). Recently, a newly proposed relationship between MOA variables has been advanced to examine MOAs on a contingency basis. The constraining factor model posits that the incremental impact of increasing any of the MOA variables is contingent which of the three is the factor constraining the behavior (Siemsen, Roth, and Balasubramanian 2008).

The premise for constraining factor analysis can be traced to operations management and specifically, lean management (Siemsen, Roth, and Balasubramanian 2008). A focal point for lean management is the identification and removal of bottlenecks in the production process to improve productivity. Instead of allocating resources evenly amongst the production steps, resources are concentrated on the step constraining the production process (Lawrence and Buss 1994). The logic of constraining factors can be applied to motivation, opportunity, and ability leading to salesperson implementation behavior in a similar fashion. The salesperson's levels of motivation, opportunity, and ability can be conceptualized as parts of the process leading to the production of a certain outcome (e.g. strategic implementation). Consistent with constraining factor analysis, the impact on increasing any one of a salesperson’s MOAs to implement strategy will be contingent on whether that factor is the one with the lowest value (Siemsen, Roth, and Balasubramanian 2008). For example, a salesperson that is highly motivated to implement marketing strategies in an environment that facilitates the implementation of strategy (opportunity) but has very low ability in strategy implementation is unlikely to perform the
implementation behaviors. The production bottleneck for this individual is their ability to implement strategy and as such, ability is the factor constraining the individual from implementing strategy. In this instance, increasing the levels of motivation and opportunity for this salesperson are unlikely to have a substantive impact on implementation. Increasing ability, on the other hand, is likely to have a substantial impact on implementation by the salesperson as this is the factor constraining the behavior. Accordingly, the hypotheses predicting the effects of the MOA variables on salesperson implementation reflect the notion that the change in implementation behavior is contingent on the variable with the lowest level.

\[\text{H1: When motivation is the factor constraining the implementation of new marketing strategies by the salesperson, increasing (a) motivation will result in a significant increase in implementation while increasing (b) opportunity or (c) ability will result in a non-significant effect.}\]

\[\text{H2: When opportunity is the factor constraining the implementation of new marketing strategies by the salesperson, increasing (a) opportunity will result in a significant increase in implementation while increasing (b) motivation or (c) ability will result in a non-significant effect.}\]

\[\text{H3: When ability is the factor constraining the implementation of new marketing strategies by the salesperson, increasing (a) ability will result in a significant increase in implementation while increasing (b) motivation or (c) opportunity will result in a non-significant effect on implementation.}\]

**DRIVERS OF SALESPEOPLE’S MOTIVATION, OPPORTUNITY, AND ABILITY TO IMPLEMENT NEW MARKETING STRATEGIES**

**Motivation**

Three antecedents are subsequently advanced to affect the salesperson’s motivation. These antecedents were selected consistent with research in the motivation domain establishing motivation as a function of internalization and autonomy (Ryan and Deci 2000).

**Involvement in New Strategy Development**

The involvement of sales in new strategy development refers to the extent to which the salesperson is incorporated in the formation of new marketing strategies (Wooldridge and Floyd 1990). Rather than developing strategies in a marketing and R&D vacuum devoid of salesperson input, firms can utilize the sales force at the developmental phase to increase their motivation to implement strategies (Malshe and Sohi 2009). Contrary to empirical findings indicating involvement does not have an indirect effect on the implementation of marketing strategies by marketing managers (Noble and Mokwa 1999), the benefits of involving salespeople in the formation of strategy have been widely espoused in qualitative inquiry (Malshe and Sohi 2009; Malshe and Sohi 2009). (Rouzies et al. 2005; Malshe and Sohi 2009; Malshe and Sohi 2009). The rationale behind this disparity may be due to the fact the empirically-tested involvement measured involvement in strategy implementation decisions rather than involvement in strategy formation decisions. When salespeople are involved in development of marketing strategies, their motivation is likely to increase.

\[\text{H4: Salesperson involvement in new strategy development is positively associated with motivation to implement new strategies.}\]

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For brevity in H1 – H3, “implementation” is used to refer to the three facets of responsiveness, effort, and coordination. The constraining factor model will be assessed on each independently.
**Internal Marketing**

Internal marketing refers to the extent to which supervisors “sell” the strategy to salespeople by highlighting the benefits of implementing the new strategy (Hultink and Atuahene-Gima 2000). Internal marketing can be used to increase the salesperson’s buy-in that “a proposed marketing strategy or initiative is appropriate and has merit” (Malshe and Sohi 2009, p. 207). Internal marketing has been espoused as an important consideration in the context of new product strategies (Atuahene-Gima 1997) and found to moderate the relationship between salesperson adoption and performance (Hultink and Atuahene-Gima 2000). I propose internal marketing to be a key driver of the salesperson’s motivation to implement new product strategies. In addition to making the benefits of implementation more salient, internal marketing also serves as a signal of organizational importance to the salesperson and should increase their desire to implement new strategies. Divergent from the extant literature, however, I recognize that salespeople can be persuaded to action for many different reasons and examine the role of different dimensions of internal marketing on salesperson motivation. Salespeople can be motivated to act by the prospect of providing benefit to their organization (e.g. Podsakoff, LePine, and LePine 2007), their customers (e.g. Harris, Mowen, and Brown 2005), and themselves (e.g. Lewin and Sager 2007).

**H5:** Internal marketing regarding the (a) organization, (b) individual, and (c) customer benefits of new strategies is positively associated with the salesperson’s motivation to implement new strategies.

**Behavioral Controls**

Sales force control systems pertain to a firm’s processes for monitoring, directing, evaluating, and compensating employees (Anderson and Oliver 1987). Outcome control systems minimize the role of the sales manager in controlling the salesperson and instead rely on objective, measureable results to evaluate and compensate salespeople, while behavioral control systems are indicative of high management involvement and monitoring along with more subjective, opaque means of evaluation (Oliver and Anderson 1994). In the context of strategic implementation, I hypothesize that behavioral-based control systems will decrease the motivation of the salesperson. Behavioral control systems have been shown to retard the implementation effort (Ahearne et al. 2010), and a plausible reason for this adverse impact is its manifestation through the decrease in the salesperson’s motivation. Specifically, self-determination theory explicates that conditions undermining the autonomy of employees adversely affect their motivation (Ryan and Deci 2000). Behavioral-based control systems restrict the actions of salesperson and abdicate a portion of their autonomy to their supervisors (Oliver and Anderson 1994).

**H6:** Behavioral controls are negatively associated with the salesperson’s motivation to implement new strategies.

**Opportunity**

I draw upon the strategic implementation literature as well as literature from the sales domain to identify factors likely to impact the salesperson’s perception of facilitation in their pursuit of strategic implementation. To provide knowledge on this important issue, I selected variables consistent with previous research employing a strategy/structure/culture approach to identify variables pertinent to the organizational environment (e.g. Pelham and Wilson 1995).

**Strategy**

For strategy, I assess the effect of the firm’s innovativeness on the salesperson’s opportunity to implement new strategies. Innovativeness refers to “the firm’s capacity to engage in innovation; … the introduction of new processes, products, or ideas in the organization” (Hult, Hurley, and Knight 2004, p. 429) and is an important factor in firm and new product performance. In the context of new product and services, the firm’s innovativeness is likely to have a positive effect on the salesperson’s perception of
opportunity. While there are aspects to being on the cutting-edge that may be perceived as inhibitive to introducing new products and services, firm innovativeness should remove barriers to new product performance like oversaturation of the market and as such, facilitate the salesperson. Additionally, firms pursuing this strategy are likely to invest more in new product strategies and be more supportive of salespeople’s efforts (Atuahene-Gima 1997). Lastly, and arguably most importantly, innovative firms often possess a higher tolerance for risk and are more adept at reducing barriers (King, Covin, and Hegarty 2003).

H7: Firm innovativeness is positively associated with the salesperson’s opportunity to implement new strategies.

Structure
For structure, I examine the impact of centralization on the salesperson’s perceived opportunity to implement new strategies. Centralization refers to the extent to which decision-making is concentrated in the organization (Olson, Slater, and Hult 2005). In a highly centralized company, decision making is channeled up and down the pyramid which can be an onerous process. There exists an abundance of support in the extant literature extolling the benefits of flexibility in the strategic process (Fredericks 2005). Centralization can reduce the flow of ideas in an organization and create a time lag due to the distance of decision-making from those enacting new strategies for the organization (Olson, Slater, and Hult 2005). New strategies may require derivations from a standard approach and some creativity by the salesperson (Atuahene-Gima 1997).

H8: Centralization is negatively associated with the salesperson’s opportunity to implement new strategies.

Culture
For culture, I examine the impact of the openness of internal communication in the organization. The openness of internal communication reflects the extent to which open communication is valued in the organization (Homburg, Grozdanovic, and Klarmann 2007). Open communication is of paramount importance in the implementation of new strategies and has been discussed as a mechanism with which barriers in strategic implementation can be identified and addressed (Beer 1997). In the context of new strategy implementation, open communication can allow the salesperson to obtain information necessary to remove impediments. As previously espoused, communication is an important factor in the enactment of strategy due to the dynamic environment in which strategic implementation occurs. Strategic implementation is an iterative process with many moving parts (Cravens 1998). If the culture of the company is such that open communication is valued and supported, this should facilitate the salesperson in their implementation effort.

H9: Openness of internal communication is positively associated with the salesperson’s opportunity to implement new strategies.

Ability
Training refers to a planned program enacted by the organization with the intent of promoting changes in the knowledge, skills, attitudes, and behaviors of employees (Wexley and Latham 1981). Training can allow for the salesperson to accelerate their learning curve that develops through the enactment of certain behaviors (Leigh 1987). In most contexts, training is found to be beneficial to one’s development and positively affect performance (Babakus et al. 1996; Christiansen et al. 1996; Ahearne, Jelinek, and Rapp 2005). Training in the domain of introductions of new products and services, however, has yielded some very counterintuitive results. Hultink and Atuahene-Gima (2000) found that not only did training not have a significant impact on the salesperson’s new product performance; it actually
decreased the association between new product adoption and new product performance. The authors speculate this could be due to salespeople viewing training as a form of micromanaging and a waste of time or possibly an underspecified view of new product training. It is the latter of these two suppositions I seek to explore. To my knowledge, no studies have been conducted to address the issue of type of training on the implementation of new marketing strategies. This is surprising considering the array of options available such as product, selling process, and customer-focused training (Wotruba and Rochford 1995). To increase the salesperson’s ability implement new product strategies, I propose that salespeople require multiple forms of training. Divergent from the proposed relationship in the extant literature, I hypothesize new product (strategy-specific), selling process (general skills), and customer market training will increase the salesperson’s ability to implement new strategies. Selling process training focuses on developing the broad set of sales skills pertinent to customer interactions such as opening, probing, closing, etc. Customer market training is a type of training provided by organizations to increase the understanding of the salesperson regarding the factors impacting their customers. These training dimensions should positively impact the salesperson’s ability to implement new strategies.

H10: There is a positive association between (a) new product, (b) selling process, and (c) customer market training and the salesperson’s ability to implement new strategies.

OUTCOME OF SALESPERSON STRATEGIC IMPLEMENTATION OF NEW MARKETING STRATEGIES

This section seeks to elucidate the implementation behaviors’ impact on the success of implementation for the salesperson in a contingent manner. Implementation success is defined as the extent to which marketing strategies were effectively implemented amongst the salesperson’s customers. I advance a series of conditional hypotheses explicating the conditions under which the main effects are likely to be attenuated. In this pursuit, I use customer demandingness, competitive intensity, and technological change as moderators as they “represent the three fundamental forces in markets: customer, competitor, and technology” (Li and Calantone 1998, p. 18).

Customer Demandingness

Customer demandingness refers to the level and sophistication of buyers’ requirements (Li and Calantone 1998; Wang and Netemeyer 2002). While the literature clearly states that customer expectations continue to increase overall (Jaramillo, Mulki, and Marshall 2005), different salespeople have customer bases with varying levels of demandingness. Customer demandingness is expected to moderate all three implementation behaviors’ effects on implementation success. More demanding customers are more likely than less demanding ones to have an expectation of introduction to the latest product innovations thus making responsiveness an expectation rather than a value-added activity. Additionally, when customers are highly demanding, the salesperson must expend more effort to yield successful implementation than when customers are less demanding. Salespeople must work hard on implementing plans associated with introducing new products/services with customers possessing higher levels of expectations. Finally, demanding customers by definition have the expectation that their complex and sophisticated requirements are met requiring greater implementation coordination for the same amount of implementation success. In sum, when customer are highly demanding, the positive relationships between implementation responsiveness, effort, and coordination and implementation success are reduced requiring higher input levels to yield the same level of outcome.

H11: Customer demandingness attenuates the positive association between (a) implementation responsiveness, (b) implementation effort, (c) implementation coordination, and implementation success by the salesperson.
Competitive Intensity

Competitive intensity refers to the degree of competition in an industry (Slater and Narver 1994). The competitive landscape the firm operates in has a substantial impact on the translation of their actions to performance. Competitive intensity has been shown to moderate the effects of a vast number of organizational orientations and actions on firm performance outcomes (Ramaswamy 2001; Tsai, Chou, and Kuo 2008; Brown et al. 2011). Perceived competitive intensity also has a significant impact on the salesperson affecting their attitudes, behaviors, and performance (Schwepker and Ingram 1994; Dubinsky 1999; Schwepker 1999; Jaramillo and Mulki 2008). As it pertains to the implementation of new marketing strategies, when markets are not very competitive, the salesperson’s responsiveness, effort, and coordination (much like the firm’s) (Jaworski and Kohli 1993), are more easily converted to implementation success as customers have less alternatives. In highly competitive markets, however, higher levels of salesperson responsiveness, effort, and coordination are necessary to yield the same level of implementation success. Salespeople need not be extra responsive or expend tremendous effort if they have the advantageous position of being in an industry with very little competitive pressure and thus these behaviors will have a stronger impact on implementation success under this condition. Additionally, well-conceived and organizationally-coordinated implementation is a necessity when the customer has many options to choose from. If salespeople operate in an environment in which competition is less fierce, however, these activities translate more easily to success.

H12: Competitive intensity attenuates the positive association between (a) implementation responsiveness, (b) implementation effort, (c) implementation coordination, and implementation success by the salesperson.

Technological Turbulence

Technological turbulence refers to the rate of technological change in an industry (Jaworski and Kohli 1993). Technological turbulence has been empirically shown to affect the relationships of a wide array of organizational actions and orientations and firm performance (Calantone, Garcia, and Dröge 2003; Hanvanich, Sivakumar, and Hult 2006; Grewal et al. 2011). Technological turbulence has also been espoused in the extant literature to impact the salesperson by requiring greater learning and effort in instances of high technological turbulence (Chonko et al. 2003; Jones, Chonko, and Roberts 2004). In examining the implementation of new marketing strategies in the context of new products/services, technological turbulence should impact the conversion of implementation behaviors to implementation success. When technology is highly turbulent, new products can become old technology very quickly and as such, quick response by the salesperson is necessary to prevent obsolescence. Accordingly, when technological turbulence is high, higher levels of implementation responsiveness are needed to result in the same level of implementation successful attained when technological turbulence is low. Additionally, rapidly changing technology requires greater effort from the salesperson to understand changes to customer needs and ways of meeting said needs. As such, more implementation effort is likely to be necessary to achieve the same level of implementation success when technology is highly turbulent. Finally, high levels of technological change may also necessitate more coordination and adaptation with customers to yield implementation success. Higher levels of technological change can require increase quarterbacking of the organization’s members to assure strategies are implemented in a timely and relevant manner.

H13: Technological turbulence attenuates the positive association between (a) implementation responsiveness, (b) implementation effort, (c) implementation coordination, and implementation success by the salesperson.
DATA COLLECTION AND ANALYSIS

To promote generalizability to the population of salespeople implementing strategies in a variety of organizational and industrial contexts, it is necessary to select a sampling frame that provides a heterogeneous sample of salespeople. Data collection was conducted through a panel data collection organization with a nationally-representative panel of business-to-business salespeople and data from this source in examinations involving the salesperson has appeared in multiple academic journal articles (e.g. Darrat, Amyx, and Bennett 2010; Friend et al. 2013). 300 acceptable responses were obtained, 277 usable (18.3% overall). The resulting sample is comprised of a gender-balanced (40.1% female), experienced (mean sales experience 15.1 years), educated (majority possessing a 4-year college degree or higher), well-compensated (mean salary $69,100) sample of business-to-business salespeople from multiple industries calling on many different types of customers.

Several of the scales used to measure the constructs in the model are adopted or modified from existing measures. Other constructs, however, have no existing measures in the extant literature and thus new measures were created. New scales were developed utilizing procedures common to marketing scale development including precise definitions, literature-generated items, and expert review (Churchill 1979; Rossiter 2002). The survey was given to 28 business-to-business salespeople in the financial services, consumer durables, and consumer nondurables sectors for pretesting and feedback was incorporated.

Reliability

The reliabilities of the various scales were assessed by computing the coefficient alpha for each scale. To indicate a reliably measured construct, the alpha coefficients for each scale should be in excess of .7 (Nunnally 1978). The individual items of any scales failing to meet this threshold were assessed and items with low item-to-total correlations were eliminated from their respective scales. Only one item was dropped from all the scales in the examination as a result of this process. In addition to computing the alphas, I ran the composite reliabilities for all included constructs (Fornell and Larcker 1981). Composite reliabilities are inherently superior to coefficient alphas in assessing reliability as they refute the assumption in calculating alphas that the indicators have equal factor loadings and error variances (Styles 1998). The constructs included in this examination show good reliability with the lowest composite reliability for any construct at .81 and the average composite reliability at .92.

Validity

To test for convergent and discriminant validity, a confirmatory factor analysis (CFA) was conducted to assess the measurement model (Anderson and Gerbing 1988). The chi-square of the model is highly significant indicating an inadequate representation of the variance-covariance matrix; however, the other fit statistics indicate the model fits the data reasonably well ($\chi^2$ (5,370) = 8,346.71, p<.0001, CFI .98, IFI .98, RMSEA .05, SRMR .05). To establish convergent validity, I examined the loadings of the items on their proposed factors. All items had highly significant loadings on their respective constructs in excess of .5 and two times the standard error. To further indicate convergent validity, I computed the average variance extracted (AVE) (Fornell and Larcker 1981). The results showed that most of the constructs were well above the recommended value of .50 (Bagozzi and Yi 1988) with a high average AVE of .73. Only competitive intensity was slightly below the .50 value (.46). These high AVE values further support the case for convergent validity. The AVEs were also used to assess discriminant validity by comparing them to the square of the factor inter-correlations (Fornell and Larcker 1981). In all cases the AVEs exceeded the squared inter-correlation providing strong evidence of discriminant validity.

PATH MODEL ESTIMATION

To test the relationships advanced in the conceptual model, I ran a path model to assess the various hypotheses. Prior to running the path model, I extracted factor scores from the measurement model to use in the analysis. The factor scores were extracted using EQS 6.1 structural equations.
modeling software and generalized least squares estimation. Factor scores are superior to additive construct composites as they account for item-level measurement error. Further, the computation of factor scores standardizes the variables, which along with the fact the model has sufficient power and the measures used in the analysis are highly reliable, minimizes concern of model perturbation due to non-essential multicollinearity (Cohen et al. 2003). This is of importance to the analysis due to testing of the constraining factor model interactions and the multiple interactions included in the structural model. In estimating the factor scores, I also included common methods factor to extract methods variance from the individual factors. In this approach, I loaded all items onto their proposed factors as well as to a single (common) factor (Bagozzi 2011). This factor represents the variance ascribed to the method as it captures the variance that would be common to all measures in the study. The inclusion of this variable partials out the common methods variance from the individual factors and results in an analysis with reduced concern of methods perturbation. Concern of CMV impact on the results is thus assuaged.

In addition to testing standard main and contingent effects hypotheses, I tested the effects of the MOA variables on the implementation behaviors as series of constraining factors. The constraining factor approach tests whether increasing the constraining factor (the factor of which the salespeople scores lowest on) results in an increase in behavior. Concurrently, the constraining factor model assesses the impact of increasing non-constraining factors on the behaviors. To test the constraining factor hypotheses, I followed the approach outlined by Siemsen, Roth, and Balasubramanian (2008). I first examined each respondent’s score on the MOA variables. The constraining factor for each individual salesperson was identified and the dummy codes for min-opportunity and min-ability were created with 1 meaning it is the constraining factor, 0 it is not. Interaction terms were then created by multiplying the dummy-coded categories by all of the MOA variables. The formula below specifies the constraining factor model (CFM):

\[
\text{Implementation } (R,E,C) = \beta_1 M + \beta_2 O + \beta_3 A + \theta_O (\beta_4 M + \beta_5 O + \beta_6 A) + \theta_A (\beta_7 M + \beta_8 O + \beta_9 A) + \beta_{10}\text{exper} + \beta_{11}\text{cmsize} + \beta_{12}\text{numact} + \beta_{13}\text{fininc} + \beta_{14}\text{npcmpx} + \beta_{15}\text{npinn} + \beta_{16}\text{auton} + \epsilon
\]

In this model, the variables \( \theta_O \) and \( \theta_A \) are the dummy variables that are coded as 1 if its respective opportunity or ability component is the constraining factor, 0 if it is not. \( \beta_{10} - \beta_{16} \) are the controls used in this examination discussed in the measures section. As can be seen by the formula, if motivation is the constraining factor, the beta for motivation is simply \( \beta_1 \). If however, it is opportunity or ability, it is \( \beta_1 + \beta_4 \) or \( \beta_1 + \beta_7 \) respectively. I tested the path model using EQS 6.1 structural equations modeling software. Overall, the hypothesized path model fits the data relatively well (\( \chi^2 (179) = 664.97, p<.0001, \text{CFI} .96, \text{IFI} .96, \text{RMSEA} .10, \text{SRMR} .06 \)).

RESULTS

Constraining Factor Hypotheses

The results show mixed support of the constraining factor model. When motivation is the factor constraining the salesperson’s implementation responsiveness or implementation effort, increasing motivation results in an increase of these behaviors (\( \beta = .22, p<.05 \) and \( \beta = .26, p<.05 \) respectively) supporting H1a and H1a2. However, increasing motivation does not impact implementation coordination when motivation is the constraining factor (\( \beta = .11, p>.05 \)), failing to support H1a3. Further, increasing opportunity when motivation is the constraining factor results in an increase in implementation responsiveness (\( \beta = .19, p<.05 \)), thus not supporting H1b, however, has no effect on implementation effort

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2 The subscripts in the hypotheses refer the implementation facets. For example, H1a = responsiveness, H1a2 = effort, H1a3 = coordination.
(β = .10, p>.05) or implementation coordination (β = .10, p>.05) in support of H1b2 and H1b3. Finally, none of the hypotheses involving ability under a motivation constraining factor were supported as ability had a significant effect on implementation responsiveness (β = .37, p<.05), implementation effort (β = .37, p<.05), and implementation coordination (β = .29, p<.05) thus refuting hypotheses H1c, H1c2, and H1c3. When opportunity was the constraining factor, increasing opportunity had no significant impact on implementation responsiveness (β = .09, p>.05), implementation effort (β = -.01, p>.05), or implementation coordination (β = .18, p>.05) thus failing to support H2a, H2a2, and H2a3. Increasing motivation when opportunity was the constraining factor had a significant effect on implementation effort (β = .37, p<.05) contrary to H2b2, however, not on implementation responsiveness (β = .22, p>.05) or implementation coordination (β = .13, p>.05) in support of H2b and H2b3. Finally, increasing ability when opportunity is the constraining factor increases implementation responsiveness (β = .45, p<.05) failing to support H2c, however, has no effect on implementation effort (β = .38, p>.05) or implementation coordination (β = .34, p>.05) in support of H2c2, and H2c3. Lastly, when ability is the constraining factor, ability did not have a significant effect on implementation responsiveness (β = .35, p<.05), implementation effort (β = .21, p<.05), or implementation coordination (β = .27, p<.05) thus refuting hypotheses H3a, H3a2, and H3a3. Increasing motivation when ability was the constraining factor had a significant effect on implementation effort (β = .37, p<.05) contrary to H3b2, however, not on implementation responsiveness (β = .16, p>.05) or implementation coordination (β = .23, p>.05) in support of H3b and H3b3. Finally, increasing opportunity under an ability constraining factor does not affect implementation responsiveness (β = .18, p>.05), implementation effort (β = .21, p<.05), or implementation coordination (β = .06, p>.05) supporting hypotheses H3c, H3c2, and H3c3.

MOA Antecedents

In addition to assessing the contingent impact of the MOA variables on the various implementation behaviors, the model also hypothesizes a multitude of variables predicted to enhance, or in some cases inhibit, the salesperson’s MOA to implement new strategies. In predicting motivation, involvement in strategy development (β = .22, p<.05) and internal marketing-individual (β = .24, p<.05) have significant, positive coefficients in support of H4 and H5b. Internal marketing-organizational (β = .02, p>.05), internal marketing-customer benefits (β = -.07, p>.05), and behavioral controls (β = -.04, p>.05), however, have no effect thus refuting hypotheses H5a, H5c, and H6. Openness of communication proved a key driver of opportunity with a large, positive, significant coefficient (β = .57, p<.05) supporting H9, however, firm innovativeness (β = -.01, p>.05) and centralization (β = -.01, p>.05) proved inconsequential refuting hypotheses H7 and H8. Finally, consistent with hypotheses H10b and H10c, training-selling process (β = .20, p<.05) and training-customer market (β = .18, p<.05) significantly increased the salesperson’s ability. Contrary to H10a, however, training-new products had no effect on the salesperson’s perceived ability (β = -.02, p>.05).

Contingent Implementation Outcomes

Finally, the effects of the implementation behaviors on implementation success were hypothesized in a contingent manner. The results show the lack of environmental impact on the implementation behaviors-success relationships. Customer demandingness did not moderate the relationship between implementation responsiveness (β = -.02, p>.05), implementation effort (β = .11, p>.05), or implementation coordination and implementation success failing to support H11a – H11c. Similarly, competitive intensity had no effect on these three relationships (β = -.03, p>.05; β = .04, p>.05; and β = .11, p>.05 respectively) in contrast to H12a – H12c. Lastly, H13a – H13c concerning the impact of technological turbulence on these relationships are not supported as all coefficients are non-significant (β = .04, p>.05; β = -.02, p>.05; and β = -.01, p>.05 respectively).
DISCUSSION

The intent of this paper was to answer a myriad of questions pertaining to the implementation of new marketing strategies by the salesperson. Specifically, (1) What are the pertinent salesperson implementation behaviors?, (2) How do a salesperson’s motivation, opportunity, and ability interrelate to predict the enactment of salespeople’s implementation behaviors?, (3) What motivates a salesperson to engage in new strategy implementation?, (4) What organizational-level variables lead to the salesperson’s perception of facilitation in new strategy implementation?, (5) What actions can be taken to increase the ability of salespeople to implement new strategies?, and (6) How and under what conditions do implementation behaviors lead to implementation success by the salesperson?. Overall, the findings tell a nuanced story with differential prediction of the salesperson’s implementation responsiveness, implementation effort, and implementation coordination.

Theoretical Contribution

This research contributes to theory in five primary ways. First, this examination extends knowledge in the strategic implementation domain by examining the salesperson’s implementation of new marketing strategies. The relative (in comparison to strategic formation) dearth of implementation research is especially concerning given the espoused importance of this topic (Lane 2005). This study provides much needed empirical understanding in this domain by providing a complex model pertaining to the causes and effects of implementation on an individual level. By explicating the actions taken by individuals in strategic implementation, researchers can better understand the implementation process and its important behavioral elements. Second, this research adds empirical insight to a key, boundary-spanning piece of the implementation equation; the salesperson. Through the provision of a three-stage model, a holistic understanding of salesperson implementation is provided examining conditions, attitudes, behaviors, and outcomes relevant to their implementation of new marketing strategies. This study goes beyond research that uses a relatively narrow lens to examine implementation issues and answers the call for complex models to explore and contribute understanding to strategic issues (Varadarajan and Jayachandran 1999). Third, this research extends a theory shown to be predictive of a myriad of behaviors to the strategic implementation body of knowledge. MOA theory (MacInnis, Moorman, and Jaworski 1991) is found to be an appropriate theoretical framework in implementation examinations as motivation, opportunity, and ability can be used to predict implementation enactment on an individual level. This provides researchers with insight into better predicting implementation behaviors. Additionally, the mixed support of the constraining factor model lends insight into the workings of the salesperson in implementation situations. Consistent with literature indicating the premise of focusing on reducing deficiencies to increase behaviors may be a suboptimal strategy (Avey, Luthans, and Jensen 2009), the constraining factor model does not explain the interaction of the salesperson’s MOAs in a very effective manner. Post hoc analysis into this issue shed light as to why this may be. A full, interactive model ran showed a positive interaction between motivation and opportunity and a negative interaction between opportunity and ability. This should change researchers’ conceptualization of MOAs as purely synergistic and recognize that, in fact, some of the relationships are antagonistic, but some are antagonistic. Opportunity is redundant when the salesperson is highly able. Fourth, by examining the factors associated with the salesperson’s MOAs in the implementation context in a more in-depth fashion, a more complete understanding is provided to sales and implementation scholars. For example, using aggregated notions of internal marketing or training (e.g. Hultink and Atuahene-Gima 2000) to predict attitudes and behaviors may lead to an underspecified understanding. In this model’s test, using these existing scales in isolation would cause one to conclude that internal marketing and training do not impact the salesperson’s motivation or ability to implement strategies. By delineating these variables by the disparate content they can convey, however, a richer understanding of their impact is provided for researchers. The traditional measures of these variables proved unimportant in the model whereas the new measures were significant. Finally, by taking a contingency perspective, this research shows the negligible impact of environmental factors on how implementation behaviors impact successful implementation by the salesperson. Environmental factors may prove an important
factor in predicting the incidence of implementation behaviors by the salesperson (i.e., competition leads to greater implementation effort), however, the environmental variables tested do not attenuate the effect of the implementation behaviors on implementation success. Post-hoc analyses, however, show that internally-focused variables like product innovativeness moderate these relationships. As such, when assessing the efficacy, rather than incidence, of implementation behaviors on implementation success, researchers may wish to turn their focus to variables internal to the salesperson and the organization.

Managerial Implications

In addition to the espoused theoretical and methodological contributions, this study is particularly instructive to marketing and sales managers. First, despite the stated importance of strategic implementation, managers have a relatively poor grasp of what leads to effective implementation as evidenced by low success rates (Lane 2005). This may be explained in part by the lack of focus on the individual salesperson. Especially in the business-to-business context in which this examination is conducted, salespeople may represent the only bridge between organizations and can be critical to the firm (Johnson, Barksdale, and Boles 2001). This study both identifies the relevant salesperson implementation behaviors and provides managers several means of affecting and improving their salespeople’s implementation of marketing strategies. Second, this research provides managers with guidance in managing salespeople’s motivation, opportunity, and ability to implement new marketing strategies. All the variables included in the model are firm-controllable factors that can be affected by management. Managers seeking to improve implementation by their sales force can glean specific insight on what can be done to increase the salesperson’s MOA leading to enhanced performance of implementation behaviors and ultimately, implementation success. Specifically, the results show managers should involve salespeople in the development of strategies (as opposed to only the implementation) and internally market the benefits of the strategies to the salesperson’s performance to increase their motivation to implement new strategies. This is in contrast to the extant conceptualization of internal marketing focusing on the benefits of the new strategies to the organization. As salespeople can show a strong performance orientation (Ahearne et al. 2010), sales managers can appeal to this to increase motivation. By controlling for financial incentives, these results illustrate how motivation can be increased in ways other than monetary inducements. As firms already spend billions annually financial rewards for salespeople, additional motivational elements in implementing new strategies are important.

It should be noted, however, that despite the notion of autonomy and motivation, behavioral control systems have no effect on the salesperson’s motivation to implement new strategies. Additionally, to increase the salesperson’s perception of facilitation in the implementation process, sales executives should focus on creating an environment in which open communication is valued. Managers can encourage greater inter-functional dialogue, incorporate more informal social events in the workplace, establish open forums for communication, or cross-pollinate employees throughout the company to assure the culture of communication is fostered in their organization. Finally, consistent with findings questioning the value of new product training (Hultink and Atuahene-Gima 2000), the findings show that managers may be better served training their salespeople on a more general basis focusing on the selling process and understanding their customers rather than focusing their training on new products. This may be in part due to the transitory nature of new products. Training received specific to new products is specific to each new product advance and therefore less amenable to synergistic application by the salesperson. Providing more general skills in the selling process or enhanced understand of customer markets, however, is an efficient mechanism by which managers can not only increase the salesperson’s ability to implement new marketing strategies, but their overall sales ability as well. Third, this research utilized a constraining factor, bottleneck approach to understanding the drivers of strategic implementation by the salesperson and offers managers a means by which to use customized approaches to improve salesperson implementation. As noted recently in the literature, managers can succumb to the “sales force incentive addiction” (Zoltners, Prabhakant, and Lorimer 2012, p. 171) and assume that the key to eliciting action by the salesperson is incentivizing their behavior. Notably, however, other factors also impact the salesperson’s performance of desired behaviors. This paper contributes to work that goes
beyond this presumptive focus on motivating the business-to-business salesperson to implement marketing strategies taking a contingency perspective towards strategic enactment. As the results of the constraining factor hypotheses show, there are many instances in which increases to the salesperson’s motivation has no effect on their implementation behaviors. Additionally, a key finding relevant to managers generated by a post-hoc MOA analysis is to be cognizant of salespeople’s motivation and ability when considering efforts to increase their perceived opportunity as it interacts with these variables in a highly divergent fashion. For sales teams with highly experienced and able salespeople, managers may wish to take a more hands-off approach as increases in perceived opportunity do not positively affect highly able salespeople. Accordingly, managers’ efforts may be better spent on increasing these salespeople’s motivation or ability. Finally, in addition to understanding what leads to implementation by the salesperson, this study also provides managers insight on the contingent impact of implementation behaviors on implementation success. As the salesperson’s implementation success can be a critical factor in the success of new marketing strategies, this provides much needed understanding. This understanding is further augmented by assessing the conditional impact of these factors under the moderating conditions of the environment in which the salesperson operates. These factors proved irrelevant suggesting, along with the results of the post-hoc analyses; managers should focus on internally-relevant factors when seeking to leverage their salespeople’s implementation behaviors on implementation success.

Limitations and Future Research

This paper endeavors to provide substantive insight into this important domain of inquiry; however, I would be remiss to omit limitations to this research. The intent of this dissertation was to investigate salesperson implementation behaviors in a wide variety of organizations and industries. Researchers note the absence of multi-company and multi-industry studies in this domain and call for research seeking to generalize insight across contexts (e.g. Fu et al. 2010). A drawback of this approach, however, is a reliance on self-report data from the salesperson on their implementation behaviors and outcome. Future collections could extend multilevel-multisource (MLMS) research conducted in this domain (e.g. Ahearne et al. 2010) by incorporating different organizational actors. For example, strategic implementation does not occur in a vacuum for the salesperson, rather, often entails significant interaction with their marketing counterparts. Scholars note the importance of the marketing-sales interface on the marketing strategy process and on salesperson performance (Malshe and Sohi 2009). A multilevel collection incorporating higher-order marketing variables and lower-order salesperson variables in predicting the salesperson’s implementation may prove illuminating. The salesperson’s implementation behaviors may be predicted or moderated by attitudes and behaviors of their marketing counterparts. Another potential avenue that would benefit this line of research would be to expand insight from dependent variables captured at the salesperson level to the level of the individual customer. Another MLMS study could examine how the salesperson’s actions are moderated by individual customer characteristics to predict customer-level implementation outcomes. For example, it would be illuminating to discover the conditions under which implementation responsiveness, effort, and coordination have linear or nonlinear impacts on customer-reported variables. Can implementation responsiveness adversely affect the customer’s perception of the company and salesperson? Similarly, can too much implementation effort hurt the customer relationship? Future research could also be conducted using the expanded versions of training and internal marketing. Rather than assessing the impact on salespeople in an aggregated fashion, this perspective recognizes the nuanced nature of these actions. Future studies could explore how the importance of the different types of training and internal marketing is contingent on individual, organizational, and environmental factors.
REFERENCES


INTRODUCTION

This study explores how consumers’ identity and related roles are shaped by the experience of a value-laden, liminal, immersive service during a period of crisis.

Transformative services (Anderson, Ostrom, Mathras and Bitner 2013) and products can affect future consumption patterns and well-being (Bernthal, Crockett, and Rose 2005). Researchers are concerned about the influence consumption and its pursuit have on vulnerable consumers in particular (e.g., Adkins & Ozanne 2005). This paper will identify how services, particularly transformative, value-laden immersive services, affect consumer well-being, allowing for both positive and negative impact.

This research explores how consumers experience a service whose intent is to produce change. We define services that advocate for specific value-based behaviors from their consumers (often involving personal change) as value-laden services. Value-laden services are those services that advocate for behaviors from both employees and consumers that are consistent with a set of values determined by the service. Rokeach defines a value as “a centrally held, enduring belief which guides actions and judgments across specific situations and beyond immediate goals to more ultimate end-states of existence” (1968, p.161). Thus, the values within a value-laden organization go beyond purely utilitarian considerations such as profitability, resource utilization, or legality to the individual consumer’s well-being within and beyond the service.

These transformative services can have a complex impact on consumer identity. Prior research shows that the outcomes of transformative services for vulnerable consumers may be affected by shared meanings and identity-congruent signals (as outlined by Arnould & Thompson 2005). The present research explores how consumers manage conflict to shape their identity as well. Specifically, this research looks at the experience of value conflict: how consumers view and cope with the incongruence between themselves and the service (meanings, identity, etc.), and how consumers choose to repurpose and re integrate (rather than reject) non-congruent market offerings. We know that consumers may resist the meanings that they are provided (Thompson 2004), however, the consumer experience is much more complex than binary acceptance or rejection. Consumers, even vulnerable ones, are not all resigned to using the pre-determined pieces provided to shape their own puzzle of identity, but can also assist in determining the shape of the pieces and deconstruct the experiences from their original bundle or packaging. This research looks at how a transformative service may be a starting point, or a liminal area, for a consumer’s exodus from the current identity, current social world, and current values system.

So the question is raised: how are consumers’ identity and role acquisition, particularly regarding the mother role, affected by an intense but temporary experience in the service social world? Additionally, how does this experience affect consumers’ values and the potential value conflict that plays out within and after the service experience?

This research will draw from the available literature on vulnerable consumers—specifically the experiences of homelessness and crisis, as well as looking at consumer research on motherhood, identity, consumer well-being, power, and consumer agency in liminality. Additionally, this research builds on previous research in transformative consumption, but adds the depth and complexity of service context.
For example, the simultaneous production and consumption that exists in services may emphasize immediate interactions with consumers more so than long-term transformation.

We use a triangulated qualitative approach to explore both the depth and breadth of an experience at a shelter for homeless pregnant women. The data has been gathered over the course of a year’s involvement with the service social world, including immersion as a weekly volunteer, involvement with alumni guest activities, and depth interviews with the guests.

Through depth interviews and interactions with these women, we explore differences in meanings, particularly regarding motherhood and value systems, between the mothers’ current social world within the service and their social worlds outside of the service. These distinctions may amount to a very different social world inside the service than what these vulnerable consumers are accustomed to and are likely to return to after the service.

**Context**

Transformative services offer an important and rich context to study consumer well-being. The context of this research is a shelter for pregnant women and their children. Inspired by the Catholic social work tradition of hospitality to those most in need, the shelter was founded by young women with the aim of living in solidarity with the poor. Now volunteer “corps members” (or staff) run the shelters’ frontline at various locations, and are managed by a nonprofit organization with roots in the Catholic faith. Within the shelter, the homeless pregnant women are referred to as “guests” or “the moms,” and the shelter is called “the house.” We will use these terms throughout the research.

Essentially, both the staff and guests share a home; the shelters are located in urban or suburban neighborhoods, and appear to be a normal house. Among the residents, some responsibilities are shared equally (such as chores and cooking), while other duties, such as rule enforcement, management of donations and volunteers, care of children, case management, and employment search is assigned to a specific role, either staff or guests. This service is thus a mix of hierarchy and equality, managing the balance between maintaining power and consistent structure and empowerment to enable change and independence in the guests.

While this structure is an interesting phenomenon from the service provider perspective, in this paper I focus on the consumer experience. I do not assume that these consumers purposefully enact change or are even interested in making long-term changes, nor do I assess their success as a mother in terms of their children. Instead, I explore their experience in an immersive service whose intent is to provide opportunity and resources to enable change. ‘Change’ amounts to decreasing what the service sees as unhealthy patterns of consuming and coping, and introducing options, teaching skills, and providing social support that may be different than what the consumers have previously experienced.

The structure of this particular service is important because it shapes the nature of the data and how research questions are answered. In this organization, guests are invited to live in the home after two information-exchange visits that assess the individuals’ needs and challenges—essentially establishing fit between the needs of the consumer and the services available. For example, the houses and staff are not adequately equipped to cope with on-going drug addiction, or to serve as a safe house from those fleeing domestic violence. Individuals with needs that cannot be met within the house are referred to other organizations.

Before entering the house, potential guests are informed of social structure that they will be required to live within. For example, guests are apprised of the rules they will have to abide by and consequences for noncompliance. Guests are required to participate in goal-setting, group and individual counseling, and time management in the form of time spent each week in pursuit of education or
vocation. Guests come into the home at any point in pregnancy and they may stay for up to one year after the birth, though few choose to remain for that length of time. Most guests leave for more independent transitional housing, to stay at another shelter after being asked to leave, or return to live with family and friends.

**LITERATURE REVIEW**

First we need to establish what consumer well-being means, especially in the context of material poverty. Kahneman (2006) measures well-being by the proportion of time spent in an unpleasant state versus a pleasant state. While appealingly simple, this definition is incomplete for the current research context. While the individual’s definition of pleasant and unpleasant can influence the well-being she experiences, Kahneman’s definition of well-being ignores any socially-agreed-upon measures of or pressures toward well-being. Well-being is also culturally-defined, which relies on a shared understanding of values. Thus, it is important to consider the literature on consumer values as part of the foundational pieces of this research.

Research on consumer values has been closely tied to consumer well-being (e.g. Burroughs & Rindfleisch 2002). As a broader cultural influence on consumers in the United States these values include equal opportunity, responsibility for one’s own life, independence, freedom, and so forth (Luhrmann 2010). Much debate surrounds what these values actually mean and how to implement them, but it is generally agreed that these things are important, and that consumer well-being is (or ought to be) found in the pursuit of these values (Vinson, Scott, Lamont, 1977). These broader societal values can affect consumers individually through the identity and roles they take on, which we discuss next.

Values affect consumer’s identity—that is, the mental representation (Reed, 2004), or image that a person builds of herself through interpretation of what she thinks others are judging her to be, the reflected value that others place on her, and the value she places on herself in social roles (Aguilera 1990). A consumer’s identity affects individual choices and judgments (Winterich, Mittal & Ross, 2009; Reed 2004), as well as the collective stories and practices they use to structure their lives (Epp & Price, 2008). In this way, consumers’ values affect the social roles a consumer takes on and how those roles are carried out. It is important to note that individuals may avoid acceptance of roles that threaten their identity (Aguilera 1990), thus it is possible that alterations in a consumer’s personal value system may also affect the roles that she is willing to accept.

Taking on the role of a mother is a pivotal point, often affecting other roles and reshaping identity through a maturational crisis (Aguilera 1990). In addition to being individually significant with physical, social, and emotional aspects (Kinsley & Meyer 2011), the mother role is also culturally significant (Fischer, Otnes and Tuncay 2007), all of which have implications for consumption and well-being. Consumer identities are affected by the mother role (Bailey 1999), as well as consumer’s current social world (Arsel & Thompson 2011). For this research, we are interested in how the values advocated in the liminal service social world where consumers first seek to resolve this maturational crises may affect identity and well-being beyond that social world.

The VOICE Group (2010) has conducted interesting and extensive research on the experience of motherhood. Their research proposes that consumption is one way that women cope with the change in role and role uncertainty associated with motherhood, the liminality of pregnancy, and to spur on progression toward the ideal self. We build on their research by exploring the experience of becoming a mother while in a value-laden immersive service. The participants in our research have multiple forces impacting their vulnerability, and thus this context provides rich data on the consumer experience in crafting their own well-being within a value-laden service.
Motherhood and community are connected experiences—mothers, particularly first-timers, rely heavily on others for guidance and social support (Mitchell & Green 2002). The community we study is bound together through multiple points of vulnerability (homelessness, lack of education, underemployment, transitioning into motherhood, etc.), and can provide new insights. Additionally, this research adds to the understanding of the shared experience of vulnerability as described by Baker and colleagues (2007), exploring vulnerability within community (allowing for the possibility of a community to exacerbate vulnerability). Furthermore, this research explores how the experience within the community affects vulnerability through value advocacy outside of the immersive service.

Communities provide an opportunity for consumers to support each other through information sharing, emotional connection/empathy, and a forum for discussion. This current research builds on previous work on communities (i.e., Muniz & O’Guinn 2001), and adds to this the provider-consumer power structure bound together by common geography. For example, the context for this research may at times more closely mimic a family structure (e.g., parents and children) rather than a community of equals with status organically bestowed through common consent. Thus, this research context combines the more traditional service structure with clear delineation between providers and consumers (e.g., Lee, Ozanne & Hill 1999) with the context of communities as a co-creation of social resources (e.g., Dunnet 2009).

However, communities also have the potential to heighten vulnerability. A particularly relevant example comes from Hill’s (1991) research with homeless shelters. He found that shelters can actually create dependency, and the consumers’ physical and emotional dependence on the shelter makes transitioning away difficult (Hill 1991). This leads to the question of how a shelter, or any other transformative service, while providing for immediate needs, could increase consumers’ well-being within and beyond the service experience—how can a dependent consumer learn to become independent while still in a situation of dependence? This research looks at one service context that attempts to do this through value-advocacy, as expressed in the rules and norms of the institution. Essentially, this service provides a liminal community for vulnerable consumers in which a particular social world and associated value system is modeled with the intent that consumers will emulate this in their subsequent social worlds.

The idea of social worlds comes from sociology’s social constructionism theory, which states that social interactions produce reality (Pearce & Littlejohn 1997). Thus, a social world shapes who a person is and who they believe they are capable of becoming. A social world includes social relations, the class system, race, the neighborhood, and organizations (Lamont and Small 2008). In line with previous discussion regarding values, life within a social world is eased by value congruence within the community (Pearce & Littlejohn 1997). We use this concept to understand how the situation that the consumer comes from may impact their experience within the service, and subsequently how the service experience may impact their experience in the social world outside of the service.

One of the fundamental ideas with social worlds is the connection between values and conflict—social worlds built on different values are likely to result in conflict, less effective communication. This can be seen in work by Lee, Ozanne, and Hill (1999) exploring how a service encounter is affected by differing values and social worlds. These researchers focused on the service providers and demonstrated that providers’ sensitization to the differences in foundational values improved the service encounters (Lee et al. 1999). However, they did not explore the well-being impact on the consumer beyond the service interaction. In this research, we focus on the consumer experience within and transitioning between the social worlds.

Transitioning between social worlds may be preceded by a crisis, such that consumers are willing to make drastic changes to resolve their situation. Aguilera (1990) identifies two types of crises:

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situational and developmental. A situational crisis is an unexpected conflict due to external events or circumstances, while a developmental crisis arises from the individual taking on new roles in the course of maturation. In this particular research, participants may experience both types of crises simultaneously: the situational crisis of homelessness, as well as the developmental crisis of pregnancy and their impending motherhood. In their crisis-induced move to the value-laden service social world, consumers may be exposed to value systems they are unfamiliar with, which can impact their vulnerability and well-being.

First, the consumer’s recognition of multiple value systems has the potential to increasing consumer well-being: Lamont (2012) points out that the plurality of value systems avoids a universal metric and can provide individuals with greater social resilience. Resilience is an important tool to overcoming vulnerability (Baker 2009). For example, the role of a mother can be approached from multiple value systems: whether being a good mother is measured by home cleanliness, cooking balanced meals, independently providing for children’s needs, having an open and loving relationship between mother and child, providing resources from two parents, ensuring the child’s best physical and mental health, setting an example for the child in her own romantic, spiritual, or mental pursuits, or allowing someone else to take over in providing for the child’s care when she is unable. When there are multiple value systems, a woman can often maintain a sense of well-being despite challenges because her success as a mother is not dependent on a single measure.

Conversely, multiple value systems can also be problematic for consumer well-being when the value systems conflict. Value conflicts are particularly difficult to mediate (Pearce & Littlejohn 1997), precisely because the values are rooted in different social worlds with little apparent middle-ground. The differences between the fundamental and sometimes unspoken assumptions upon which social worlds are structured make it difficult to engage in fruitful discussion between social worlds. It is as if engaging in discussion would unravel the foundational ‘truths’ and stories that structure the social worlds (Pearce & Littlejohn 1997). These essential stories and structures are put at risk when social worlds collide and boundaries, meanings, and values are threatened (Pearce & Littlejohn 1997). And yet, in an immersive service, with service providers and service recipients from different social worlds living side-by-side, the collision of social worlds is inevitable. This research explores how consumers navigate these social worlds and value differences.

Wisdom from the service research suggests avoiding conflict whenever possible: Chan and colleagues (2010) advise that matching value systems across employees and customers will lead to increased service effectiveness. A higher congruency of ones’ values with the end goals correlates with higher wellbeing (Carver & Baird 1998). Additionally, consumers naturally gravitate toward things that fit within their current value system (Vinson et al. 1977). Here, the lack of value conflicts between individuals and institutions enables a perception of trustworthiness, increases the ease of communication and depth of friendships formed within the organization (Edwards & Cable 2009). Yet there is reason to believe that this kind of service—immersive, value-laden, and liminal—may be unique in the services literature and, in fact, seeks out value conflict in an effort to affect change.

Arnould and Price (1993) find that extraordinary service experiences are fundamentally different, that much of the research in service science does not extend to these contexts. Yet is it the extended service context that provides consumers with transformative potential (Arnould & Price 1993), thus we propose that these services are highly relevant to consumer well-being broadly speaking.

Note that while using Arnould and Price (1993) as a foundational article, this current research differs from their work in two fundamental aspects. First, we focus on a value-laden service for vulnerable consumers, rather than a hedonic experience for escapism. While both kinds of services can increase consumers’ well-being, transformational services strive to address specific vulnerabilities that
may preclude consumers from reaching their highest potential well-being levels. Second, while the consumers in extended service encounters return to their previous social world (e.g., the executive returns to work, the student to school, etc.), transformative services may provide an opportunity for consumers to exit the service to a different social world of their own construction. We explore this further in the conceptualization of this experience.

**CONCEPTUALIZATION**

We present here a conceptualization of consumers’ journey through an immersive, value-laden service. In an iterative process, we used this conceptualization to guide data collection and analysis, which in turn modified the figure to more accurately represent the consumer experience.

![Figure 1. Conceptual Framework of Consumers’ Journey Before, During, and After a Value-Laden, Liminal, Immersive Service](image)

Each of the boxes in Figure 1 above represents a social world, and within each social world we were concerned with how the consumer identified with the values, roles and power structure of that social world, and the resulting well-being levels. Each prior social world has possible impact on well-being in the next social world.

Movement from the initial social world into the service social world is predicated by a crisis. Crisis theory proposes that individuals in crisis experience a state of disequilibrium, from which they strive to regain equilibrium (Aguilera 1990); here, the chosen transition strategy to regain equilibrium is to select a new social world that will provide the resources needed to cope. In this case, it is likely that the combination of the situational crisis of homelessness and the maturational crisis of motherhood with the perceived lack of resources and skills motivated guest participants to enter this value-laden service. Consumers who enter these transformational services at this critical time may be more receptive to what is being offered by the service. Specifically, consumers may more readily adopt the values and behaviors advocated by the service because these options are presented as a solution to their vulnerability.
Within this service social world, there are many different prior social worlds that may collide—both from the moms’ and from the staffs’ prior lives based outside of the service. It is possible that these social worlds and their associated values will conflict. Whichever social world determines the system often forces a particular form of conflict resolution; here, the staff members, as representatives of the service, are perceived to be the dominant social world. Thus, the guest’s outside social world’s values may be suppressed, and this suppression results in recurring conflict (Pearce & Littlejohn 1997). What may be perceived resolution for those with the same social world may be perceived as suppression or worse by those from other social worlds (Pearce & Littlejohn 1997). However, conflict between groups and individuals is not the only kind of value conflict that consumers may experience in a service social world.

Consumers in transformative services are likely to experience internal conflict as well. When values come into conflict, consumers may experience tension in their identity, causing psychological disequilibrium (Aguilera 1990), and a subsequent decrease in wellbeing (Burroughs & Rindfleisch 2002). The discomfort inherent in disequilibrium motivates consumers to resolve the tension to reach equilibrium (Aguilera 1990); thus, one who is experiencing conflicting values is often more ready to make changes in order to cope. Again, consumers in experiencing crisis and conflict may be more easily persuaded to make major changes than they would normally be, and a value-laden service offers an opportunity for consumers to make these changes more easily.

Value-laden, immersive services provide a liminal space for consumers. A liminal place provides consumers with the space (both physically and metaphorically) to learn new ways of coping, to enable them to deal with conflicts and crises, both internal and external. The term ‘liminal’ encompasses both the temporary nature of consumers’ time within the service, as well as consumers’ perception of being between more permanent states. Thus, while in a liminal space, consumers can go through the process of redefinition and reidentification, and are somewhat immune to the social norms that exist outside of the liminal space (Ghannam 2011). The spatial and temporal properties of liminality provide transformative possibilities for both products and people (Lastovicka & Fernandez 2005, Ghannam 2011), which is what makes this concept particularly appealing for application in value-laden services.

In summary, this research explores the consumer experience of taking on the mother role in a liminal, immersive, value-laden service but with a wider lens to incorporate consumers’ prior and future social worlds. We mapped the consumer experience into a conceptual framework and explained the role of crisis and vulnerability in influencing movement among the social worlds. Additionally, this framework provides a structure for data collection. Our data collection methods are described next.

**METHOD**

Consistent with an interpretivist approach, a general phenomena was identified—the development of the mother role while in a value-laden service. This research project took shape over time, evolving with the ever-increasing researcher immersion in the setting, changing the design, sample, and research questions (Murray & Ozanne 1991). Interpretation is a result of textual analysis, with a broad definition of text to include interview transcripts, evidence of service such as handbooks for rules and norms within the service, observations and field notes, and information provided by the service providers to consumers, volunteers, and donors.

A site was selected for collecting data that enabled immersion in the experience and the formation of relationships necessary to obtain multiple perspectives. This site was a shelter with multiple locations within the local area that serves homeless pregnant women. The shelter was established by several Catholic young women with the intent of living in solidarity with those they served, which translated to inviting these mothers to living in the same facilities as the staff.
In line with qualitative research practices, some boundary similarities are established to capture the diversity of experiences. In comparison to other studies, this research used a sample with similarities in context and vulnerable status, resulting in more diversity than is often seen in studies of motherhood that often focus on mothers who are white, middle-class, and in committed relationships. This study offers a view of motherhood from a less stable background, including those who are single mothers, unplanned and unwanted pregnancies, multi-ethnic background, family histories of dependence and abuse, from individuals living at variance with the law and societal norms.

While we might have restricted ourselves to exploring the experience of becoming a mother for the first time, we determined that the dichotomy between first child/not first child was somewhat artificial and not necessarily representative of where the woman stands with regard to her role as a mother. Thus, we invited all to participate, both those with other children and those who are experiencing pregnancy for the first time. Regardless of their ‘years of mothering,’ each woman spoke to how her experience in community and in a value-laden service affected her. We find that common themes from the interviews and interactions surround the consumer experience within the shelter that are valuable to understanding vulnerability as a mother at any level of experience. In the social dichotomy of ‘normal,’ our participants fall into the ‘other’ category; this label doesn’t accurately represent who they are as individuals and mothers or help to understand their needs. As health researchers must study the sick to understand what keeps individuals well, similarly, researchers concerned with well-being must study those who are dependent and vulnerable.

For one of the data collection methods, participants were obtained through personal invitations to schedule in-depth interviews with one of the authors. Participants were reached through multiple shelter locations of the particular charitable organization as well as through alumni outreach events. These interviews were generally 90-120 minutes long, and were loosely structured into three parts as a result of an iterative process of data gathering. Participants were offered a $25 gift card as an incentive to participate. Participants’ real names are not used; participants chose or were assigned code names. Interviews were recorded and transcribed, and these transcriptions were analyzed for patterns and themes both intra- and inter-textually.

The interview began by asking the participant what events led her to this shelter. Participants often spoke of their background, such as past decisions and prior relationships usually leading up to an overview of her current status (e.g., romantic and family relationships, progress within the shelters’ framework of goals and strikes, and future plans for child and self). The participant set the pace and formality of the interview. This method established the role of the interviewer as a listener whose aim is to understand rather than judge or counsel. Knowing that the participants would be most familiar with an interview style characteristic of those trying to determine their worthiness (e.g., for a job or cash assistance), we provided a general open question in line with McCracken (1998).

The second part of the interview was a task-oriented discussion of the participants’ values using a Ball and Jar technique modified from Samantha Cross’ work (see Cross & Gilly 2012). This method presents participants with a large clear jar and a set of balls (16 balls, 4 different sizes and textures). Participants select balls to place into the jar to represent different aspects of their identity. For the purposes of this specific research, the balls represent the things that are most important to the participants, which relate to the individual’s values. Thus, in this research, we operationalize values as those ideas that determine what is right and good and what is believed to lead to good outcomes. This hands-on activity enabled a structured and participant-led conversation surrounding values, with each ball as a tangible representation. Participants placed their selection from the balls into the jar and discuss the ball’s representation and relationship to other aspects. Most commonly, participants would use the size as a representation of importance (thus a larger ball is used for something that is more important), although there was no instruction to do so.
This hands-on activity was useful because it is a tangible representation of intangible perceptions. The balls and jar became the focus as a representation of the individual, thus allowing the individual to analyze herself with less interviewer-led questioning. This activity enabled a discussion of values, directed the participants’ attention to the task rather than to the interviewer, and opened up comparisons of values from other perspectives (for example, what the shelter and their employees would see as most important). Additionally, this activity was repeated in follow-up interviews with those who had exited the service, and provided insight into the different perspectives between those inside the shelter and its social world and those who have left the shelter. In the follow-up interview, participants were already familiar with the activity and its purpose, and thus were immediately more comfortable in leading the conversation.

The final part of the interview was a presentation of the participants’ previously collected images representing the ideas of ideal and actual motherhood, both within and outside of the shelter. These images were drawn, printed from the internet, or selected from magazines. Images were gathered prior to the interview, and a variety of magazines were provided for those who needed them. This focused our discussion around their experience of motherhood, and narrowed the comparisons between their own preferences and experiences and the motherhood experience as structured by the shelter.

Additional data was gathered by one of the authors as a long-term volunteer at one of the shelter locations. Observations and reflections were recorded in field notes, adding to the richness gathered through photographs and collection of artifacts, such as participant-, volunteer- and marketing materials used throughout the service.

**DATA: THEMES**

As interpretive data, the interviews and field notes were analyzed looking for themes. Many of these themes are marked by conflict rooted in the different social worlds. By virtue of involvement with advocating change, value conflicts will emerge in transformative value-laden services. Some of the conflicts emerge from the foreignness of the values and ideas advocated in the service social world—initial exposure may be unpleasant to consumers due to their unfamiliarity. I identify three of the dominant themes here.

**Authenticity & Trust**

Authenticity and trust are connected to the perceived motives of others and how well the emotions, words, and actions of others exhibit unity. Participants expressed this when they described someone as “being real” as opposed to “being fake.” There are several aspects of authenticity varying around the person being authentic or inauthentic and who that is perceived to be directed toward. For example, authenticity includes how the moms are authentic (or not authentic) in their interactions with the staff, and feel that the staff, in return, trust (or distrust) them. Likewise, the moms were concerned about how open the staff members were, how trustworthy they were, and whether the staff was reacting authentically or just acting within their employee role. Another aspect of authenticity and trust was shown in relationships among the moms: for example, gossiping, tattling, being two-faced were all seen as inauthentic to the moms.

According to participants, not all inauthenticity is considered bad, but could be justified by the situation. Authenticity was fully expressing your emotions, while inauthenticity is acting a certain way “even though you don’t feel like it” (Abby, current mom). Some consumers chose to play a part to be able to take full advantage of the service, but don’t intend to integrate or change values, at least not initially. However, it is interesting to note some of the moms end up authentically incorporating the values they had initially only pretended to adopt—the idea of “fake it to make it,” may have actually been effective in accomplishing the goals of the service.
Many of the moms expressed that they had become more open to truthful feedback during their time at the house, and learned to seek out those who they perceive as authentic. For example, in Monique’s prior social world, people would say things to save her feelings, rather than being upfront.

“I feel like [this staff member] is just 100 percent genuine. She really cares, and she listens and she'll give me her opinion, good or bad. [laughter] Even if it's hard, like if it's harsh words, I need it. I don't need somebody to sugarcoat anything because I feel that's why I even became in the situation I'm in because everybody's like, "Oh no, you can stay here, you can do this, and blah, blah, blah.” Then they're like, really, "I don't want her here. This girl does this, this, this, and this." Like you could have told me to leave in the first place.” (Monique, current mom)

While in the service social world, Monique learned to seek out and accept feedback (both positive and negative) about herself from authentic staff members. She learned that the ‘harsh words,’ as long as they are authentic, would be more helpful to her in the long-run.

However, some of the moms felt that they could not confide in staff members—they feared that the staff would not understand and/or would punish them if they were too ‘real’ (e.g., gossiping about another mom, complaining about rules or chores). Abby, one of the moms with the most time at the house, reported on a specific incident about receiving a “strike” that illustrates her perception of the lack of authenticity within the service social world. Part of the house rules is that when three “strikes” are earned through non-compliance, the guest is asked to leave the house. For the guests, getting a strike can be perceived as very threatening.

“Now mind you, if I wasn't here, I probably would've reacted in a whole other way. Grab the paper, tore it up, like that. I probably would have gotten another strike for it. I chose not to. In my head, I was thinking...., calm down. Keep it cool. She could see it in my face. While they're smiling and being polite and stuff, but they still gave you a strike. ...You just have to smile and nod...Anything just so they'll walk away because ...you already explained what was going on. They acted like they cared what was going on and understood what was going on, but it wasn't enough. Basically playing my part, really.” (Abby, current mom)

In the above statement, Abby feels that she is being inauthentic to herself and her prior social world. However, she also clarifies that this was an appropriate response in the specific social world of the service—she mimics the ‘polite’ behavior of the staff, even though she believes it to be inauthentic and unrealistic. As mentioned previously, this is part of what the guests perceive as “faking it,” which may be a barrier to authentic relationships between staff and guests.

**Division vs. Unity**

This theme became apparent in the interviews in a focus on the differences and similarities between moms and staff. Guests and corps members are separately bonded by a similar experience and roles within the house, and are each more likely to rely on her group for social support. Staff is permitted, and even encouraged, to draw boundaries between themselves and the moms. Staff has group outings together, and the moms have group counseling together.

The guests hang out together—choosing to be in the more public areas of the house with others. The moms stated that the corps members would never choose to hang out with the moms, and they are in the common areas when it is part of their duty. More than one of the guests pointed out that the staff does not use their free day to hang out with the moms, but that the staff hides out, or leaves the house when it is their day off to hang out with other staff members. This also relates back to the guests’ perceived authenticity of the staff—if the staff really cared about them as equals, they wouldn’t take their day off elsewhere, under the assumption that one does not hide from ones friends.
Experience & Expertise

Those who have the power don’t always have the knowledge and experience that is normally associated with being with a service provider. None of the service providers are mothers. Transformative services seem to test whether consumers can be effectively served by those who are under-qualified but eager to serve.

LIMITATIONS

This context is rich with opportunities for research. In an attempt to limit the scope of this research, certain aspects of the context were not included. For example, I do not consider fundraising and other marketing activities unique to non-profit organizations. Any comparisons between secular and religious organizations are made only to understand better the specific experience of the consumer—this study is not intended to provide a comparison of service effectiveness across service contexts. Rather, I explore a single service context to get at the diversity of experiences across consumers. Additionally, I do not attempt to measure success for this organization, but rather to understand the structures within the service that has influence on the consumers.

While this research may be foundational to future research in similar value-laden transformative services, much remains to be explored. This specific service experience is uniquely gendered—both the consumers and employees are, by design, female. Additionally, in this immersive service, providers and consumers live together and thus may interact around the clock. Other similar services may have more limited contact between providers and consumers, which may affect the experience. The participants in our study simultaneously experience different kinds of vulnerability (maturational, situational, crisis), the specific effects of each type of vulnerability are not explored. Rather this study demonstrates how multiple vulnerabilities affect consumers, thus spurring on additional research in this area.

CONCLUSION

This research deepens our understanding of how consumers use their experience in transformative services over time and how service providers shape that experience and the challenges they face. From this research, those who design these services and develop public policy can make more informed decisions through gaining a deeper understanding of how transformative services affect consumers’ well-being. In addition, this research suggests a framework for understanding value-laden transformative services, proposing principles for successfully designing and operating these services.

This research explores: 1) the impact of liminal, immersive, value-laden services on consumers’ role development, and attainment of equilibrium during crisis; and 2) the strategies that consumers use in their movement between potentially value-conflicting social worlds. This research contributes a more holistic perspective in transformative consumer research, by looking at the evolution of consumer well-being throughout the role development process rather than at a single point in time.

This research is concerned with how consumers shape the experience of and are shaped by the social world of a service experience. As with much of consumer research, we draw heavily from the social sciences, specifically sociology and anthropology, as these research questions are multi-disciplinary by nature. The perspective of transformative consumer research and services provides a unique perspective, by investigating how consumer well-being is shaped by services design with the understanding because that well-being is pursued in the context of ones’ social worlds, well-being may look different to service consumers than it does to employees. This research looks at the service experience in context rather than ignoring the details that shape consumers’ experiences. For example, this research has implications for action research with potentially transformative services, to implement a change in the field to alter the structure of a service and collect data on the impact of these changes.
With regard to future research, this work is an important link between children’s consumption and well-being and the adult consumers that is the focus of much of the consumer literature. Adult consumption is transmitted to children most strongly through parents (Cotte & Wood 2004). Thus, generational patterns vulnerability and consumption might be effectively studied and addressed through parental interventions based from this research.
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UNINTENDED EFFECTS OF MARKETING MESSAGES ON BOUNDARY SPANNERS

Olalekan K. Seriki, Kenneth R. Evans, & Rajiv P. Dant, University of Oklahoma
Hyo Jin (Jean) Jeon, University of Nevada Reno
Amanda Helm, Xavier University of Louisiana

ABSTRACT
The impact of external marketing messages on employees has received little attention in the literature, and particularly when boundary spanners are involved. Employee perceptions of external marketing messages have the potential to enhance marketing strategy and to foster the creation of market-based assets, or undermine marketing strategy by increasing organizational cynicism and decreasing job attributes such as satisfaction and commitment, thus putting organizational market-based assets in danger. This paper applies the organizational cynicism construct in a marketing context and investigates employee perceptions of external marketing messages as antecedents of organizational cynicism. A theoretical model is proposed and tested using a survey of bank customer-contact employees at a single company, and new ad hoc scales are offered for employee perceptions of marketing messages and for boundary spanner role consistency.

INTRODUCTION
Although strategically designed for external audiences, marketing messages also communicate organizational culture, mission, priorities, etc., to employees, particularly boundary spanners whose own role is often featured in these communications. Advertising textbooks often point to boosting employee morale as a bonus effect of advertising (Cheney 1991), but the effects can also work in reverse. In their study, Gilly and Wolfinbarger (1998) find that negative evaluations of company advertising decreases employees’ pride and organizational commitment, and ultimately their service delivery. When employees identify with marketing campaign images, their organizational commitment and performance may improve, but a campaign which builds unrealistic customer expectations could serve to increase role conflict for boundary spanners, further undermining the organization’s ability to deliver on its promise.

Boundary spanning employees (BSEs), also referred to in marketing as customer-contact or frontline employees (Bettencourt and Brown, 1997, Jasmand et al. 2012, Singh et al. 1996), play a key role in an organization’s ability to deliver products or services and satisfy customers. From a managerial standpoint, these employees play a significant role in the creation and maintenance of market-based assets (e.g., customer satisfaction and brand loyalty), which are critical to the survival and competitiveness of an organization (see Luo et al. 2010, Rust et al. 2004, Srinivasan and Henssens 2009). Consequently, an academic investigation of phenomena which affects BSEs’ performance is crucial to the marketing field as a whole. One phenomenon that has been found to affect employees’ morale in general, but which has not received attention in relation to marketing actions is organizational cynicism. Therefore, this research focuses on the relationship between marketing messages and organizational cynicism, and the overall effect of this relationship on the performance and select attitudes of BSEs.

Our objective is to investigate the impact of BSEs’ perception of external marketing messages on their overall performance, as a function of their organizational commitment, job satisfaction, and extra-role performance. In addition, we show how BSEs’ perception of marketing messages enhance individual, organizational, and societal cynicism (Abraham 2000), and how these forms of cynicism further enhance or diminish employee commitment, job satisfaction, and performance. In sum, we use the cynicism construct to offer a framework for understanding how advertising and other promotional messages may have a negative effect on overall employee performance as mediated by various forms of cynicism.
THEORETICAL BACKGROUND

Drawing from attitude theory (Eagly & Chaiken 1993, Hilgard 1980), Dean et al. (1998) define organizational cynicism as “a negative attitude towards one’s employing organization, comprising three dimensions: a belief that the organization lacks integrity, negative affect toward the organization, and tendencies to disparaging and critical behaviors toward the organization that are consistent with these beliefs and affect.” Organizational cynicism has a consequential effect on BSEs’ performance, thus undermining the creation of market-based assets (e.g., customer satisfaction and organizational commitment), extra-role performance (MacKenzie, Podsakoff, and Ahearne 1998) and ultimately organizational performance (Cohen 1993). Our review of the marketing literature reveals no study directly linking cynicism and marketing decisions. However, given that organizational cynicism affects employees’ morale, performance, and consequently organization’s market-based assets (Bettencourt and Brown, 1997), study of this linkage cannot be over emphasized. In this present study we investigate the relationship between marketing actions (with emphasis on advertising messages) and organizational cynicism, and how this relationship can ultimately affect BSEs’ performance, attitudes, and organizational performance. In addition, we will show how marketing organizations can create an environment that fosters characteristics that mitigates organizational cynicism and promotes employee performance.

The literature often depicts predictors of organizational cynicism as manifestations of management decisions which directly affect the employees (see Abraham 2000, Dean et al. 1998). For example, employees’ organizational characteristics that may contribute to cynical behaviors toward their organization could include perceptions that executive compensation is unfair, or perceptions that poor organizational performance is a result of management inefficiency. Also, workforce reduction and role ambiguity can foster organizational cynicism (see Anderson and Bateman 1997, Dean et al. 1998, Abraham 2000, O’Connell et al. 1986). In sum, the literature portrays employees’ organizational cynicism as a consequence of employee’s incompetence or unfair management decisions which directly affect the employee.

In this study, our focus is on understanding how external marketing messages, as a management decision, can foster organizational cynicism among boundary spanning employees. Gilly and Wolfinbarger (1998) define marketing messages as specialized statements used by the organization to create situations in which consumers and other important publics will be motivated to engage in actions that are favorable to the organization. Studies have shown that in the process of creating marketing messages organizations make many difficult moral choices (Zinkhan 1994). Problems in external message creation may occur when there are unintended effects of the messages on organization’s key stakeholders, e.g., interest groups, consumers, competitors, government agents, and employees (Zinkhan 1994). The impact of these external messages on employees, particularly boundary spanners, are crucial to organizational performance, as employees are informed about the internal dynamics of the organization and have firsthand knowledge of the inconsistencies in external messaging.

By focusing on marketing message perceptions as antecedents of organizational cynicism, we investigate the impact of organizational cynicism on performance of boundary spanning employees. Our study is supported in the literature as organizational cynicism has been found to be a consequence of management decisions perceived by employees to be lacking in integrity (Anderson & Bateman 1997, Crystal 1991, Dean et al., 1998, Wilhelm 1993). This study addresses the following questions: First, what aspects of external marketing messages determine/influence organizational cynicism? Second, could these messages also influence other forms of cynicisms, e.g., individual and societal cynicism, which have been found to be innate and contribute to organizational cynicism? Third, under what conditions could the negative effect of external marketing on organizational cynicism be moderated? Fourth, what can management do to foster an environment that mitigates the effect of cynicism (individual, organizational, and societal) on employee performance and attitudes?
The key contributions of this research are as follows: To our knowledge, no published studies in the marketing discipline have explicitly explored marketing messages as antecedents of organizational cynicism. This is crucial given the magnitude of the effect of organizational cynicism on organizational performance and widespread use of advertising as the form of external communication (Anderson & Bateman 1997).

In addition, our work extends the Dean et al. (1998) study of organizational cynicism by operationalizing their tripartite structure (belief, affect, and behavior) as imported from attitude theory. Moreover, our work has important managerial implications for marketers. We contribute to the literature by operationalizing the organizational cynicism construct in marketing context, highlighting its effect on customer contact employees, and under which circumstances it could be mitigated (Please see Figure 1.).
Figure 1
Conceptual Framework of Antecedents and Effects of Organizational Cynicism on Boundary Spanners

Role-Message Consistency

Messages Affect on Employee

Message-Customer Expectation Consistency

Marketing Messages

H$_2(a)$

H$_2(b)$

Individual Cynicism

Organizational Cynicism

Societal Cynicism

H$_1$

H$_3(a)$

H$_3(c)$

Organizational Commitment

Job Satisfaction

Extra-Role Performance

Organizational Citizenship

H$_4(a)$

H$_4(b)$

H$_4(c)$

H$_5(a)$

H$_5(b)$

H$_5(c)$

H$_6(a)$

H$_6(b)$

H$_6(c)$
HYPOTHESES DEVELOPMENT

Based on the tripartite structure of attitude theory (belief, affect, and behavior) as conceptualized by Dean et al. (1998), we evaluate marketing messages as antecedents of cynicism in the form of BSEs’ perception of the messages.

Marketing Messages as Antecedents of Organizational Cynicism

Here, we evaluate boundary spanners’ perception of consistency of the messages with actual roles performed by employees, effectiveness of messages on employees, and how those messages shape customers’ expectations. BSEs, serving in a customer contact role on behalf of the organization, are at the receiving end of the resulting effect of all inconsistencies caused by marketing messages of the organization. These inconsistencies can result in BSEs perceiving their organization as lacking integrity, and thereby influencing their cynicism towards their organization (Dean et al. 1998). In sum, inconsistencies with respect to marketing messages can serve to question the integrity of the organization, particularly by customer contact employees who are called upon to meet customer expectations. We thus expect that high levels of marketing message inconsistency will cause increased organizational cynicism.

H1: The greater the level of inconsistencies between marketing messages and organizational values, actual role as performed by a BSE (Boundary Spanning Employee) and customer expectations, the greater the level of organizational cynicism.

Marketing Messages and Other Forms of Cynicism

Abraham (2000) identifies other forms of cynicism to include: personality (individual) cynicism, societal cynicism, and organizational cynicism. Individual cynicism which Abraham suggests is innate is likely to contribute to cynical behavior toward an organization and society in general. This relationship is explored in the present study by measuring the effect of inconsistencies in marketing messages on other forms of cynicism; individual and societal. It would be logical to presume that a personally cynical employee would be more likely to show cynical behavior toward his/her employer (Abraham 2000).

H2 (a): The greater the level of inconsistencies between marketing messages and organizational values, actual role as performed by a BSE (Boundary Spanning Employee) and customer expectations, the greater the level of an employee’s individual cynicism.

H2 (b): The greater the level of inconsistencies between marketing messages and organizational values, actual role as performed by a BSE (Boundary Spanning Employee) and customer expectations, the greater the level of employee’s societal individual cynicism.

Cynicism Effects on Boundary Spanners’ Attitude and Extra-Role Performance

Organizational cynicism may affect boundary spanners’ performance in various ways. For example, it could affect their attitudes in form of organizational commitment and satisfaction, hence increasing employee turnover, cost of recruitment and training new hires (Brown and Peterson 1993, MacKenzie et al. 1998, Steers, 1977). In this present study, our evaluation of the effect of organizational cynicism on boundary spanners focuses on organizational commitment, job satisfaction, extra-role performance, and organizational citizenship. These constructs have been found to be positively related to overall employee performance in the literature (e.g., Brown and Peterson 1993, Caruana et al. 1999, Judge et al. 2001, MacKenzie et al. 1998, Steers 1977).

Organizational Commitment

As confirmed in the literature, we expect organizational commitment to contribute to boundary spanners’ performance because of the role it performs in influencing how an employee believes his or her values and goals are/are not similar to the organization’s (Dean et al. 1998). Therefore, when
organizational cynicism affects organizational commitment negatively, BSEs performance, which reduces turnover (MacKenzie et al. 1998) and contributes to market-based asset (Lou et al. 2010, Srinivasan and Hanssens 2009), will also be affected.

**H3 (a):** A BSE’s individual cynicism is negatively related to the employee’s organizational commitment.

**H3 (b):** A BSE’s organizational cynicism is negatively related to the employee’s organizational commitment

**H3 (c):** A BSE’s societal cynicism is negatively related to the employee’s organizational commitment.

**Extra-Role Performance**

For marketers, particularly in the service industries, performance of BSEs is a large part of the product of the service firm, which helps to build market-based assets of the organization (e.g., customer satisfaction, and brand loyalty). Due to competition and constant change in customers’ preferences, extra-role performance is often required to make a difference in the highly competitive service arena (MacKenzie et al. 1998). Many marketing campaigns’ key message is that employees go above and beyond for customers, and fulfillment of these promises has been linked to increase customer satisfaction and brand loyalty (Mohr and Bitner 1995). We expect that BSEs that show cynical behavior toward their organization are less likely to not go above and beyond on behalf of their customers.

**H4 (a):** A BSE’s individual cynicism is negatively related to the employee’s extra-role performance.

**H4 (b):** A BSE’s organizational cynicism is negatively related to the employee’s extra-role performance.

**H4 (c):** A BSE’s societal cynicism is negatively related to the employee’s extra-role performance.

**Job Satisfaction**

The relationship between employees’ job satisfaction and performance, also known by industrial psychologists as the “Holy Grail” (Landy 1989), is one of the most important issues in industrial-organizational research (Judge et al. 2001). Studies abound in the literature supporting a positive and direct relationship between job satisfaction and performance, dating back to the Hawthorne studies (Brown and Peterson 1993, MacKenzie et al. 1998, Roethlisberger & Dickson, 1939). In the present study, we measure the effect of organizational, individual, and societal forms of cynicism on job satisfaction, and we expect all forms of cynicism to contribute negatively to job satisfaction.

**H5 (a)** A BSE’s individual cynicism is negatively related to the employee’s job satisfaction.

**H5 (b)** A BSE’s individual cynicism is negatively related to the employee’s job satisfaction.

**H5 (c)** A BSE’s individual cynicism is negatively related to the employee’s job satisfaction.

**Organizational Citizenship**

Organ (1988) defines organizational citizenship behaviors (OCBs) as discretionary behaviors on the part of an employee that are believed to promote directly the effective functioning of an organization, independent of a person’s objective productivity. The various forms of OCBs include: Sportsmanship which “is a willingness on the part of the employee to tolerate less-than-ideal circumstances without complaining” (Organ 1988, p. 11).
Civic virtue “a behavior that indicates the employee responsibly participates in, and is concerned about, the life of the organization” (MacKenzie et al. 1998). Organizational citizenship behavior has been found to having a positive relationship with employees’ performance (Brown and Peterson 1993), and to be a consequence of organizational commitment (Munene 1995). Hence, we expect that since cynicism will affect organizational commitment negatively it will also affect organizational citizenship negatively.

**H6 (a):** A BSE’s individual cynicism is negatively related to the employee’s organizational citizenship behaviors.

**H6 (b):** A BSE’s individual cynicism is negatively related to the employee’s citizenship behaviors.

**H6 (c):** A BSE’s individual cynicism is negatively related to the employee’s citizenship behaviors.

**METHODOLOGY**

Boundary spanner employees were surveyed at three regional banks, all with multiple branches. Like many banks nationwide, these banks have been gradually increasing expectations that boundary spanner employees will play a marketing role themselves, by cross-selling bank products other than the particular services individual employees handle. An increasing role in marketing was expected to increase employees’ attention to the company’s mass marketing messages, which could be perceived as supporting or undermining their own efforts.

Surveys were distributed to employees at work with a return envelope provided so that the surveys were mailed directly to the researcher (not the firm) to protect employees’ confidentiality. A total of 348 completed surveys were returned, with a response rate of 64 percent. The survey was pretested with employees at the University of Missouri and with a small sample of bank employees. None response bias was tested between early and late responses with no significant statistical differences identified.

**Measurement Model Assessment**

Reflective measures using multiple items from existing research are used in this study. A list of measures and measurement criteria for constructs and their psychometric properties is shown in Table 1. Descriptive statistics and correlations for all constructs are presented in Table 2. To evaluate the measurement model, a confirmatory factor analysis using the maximum likelihood estimation in STATA 12 is used. The measurement model has sufficient fit measures: $\chi^2 (417) = 1958.88$, confirmatory fit index (CFI) = 0.86, Tucker-Lewis index (TLI) = 0.84, and root mean square error of approximation (RMSEA) = 0.06. Table 1 presents standardized factor loadings, and all items loaded significantly on the latent constructs. Three latent constructs (i.e., Role-Message Consistency, Message Affect on Employee, and Message-Customer Expectation Consistency) were emerged as the second-order factor of Marketing Message. Convergent validity of a research instrument can be assessed by three measurement criteria: item reliability (factor loadings), composite reliability and AVE (Fornell and Larcker 1981). When factors were analyzed, all factor loadings were highly significant (Bagozzi, Yi, and Phillips 1991; Homburg, Droll, and Totzek 2008).

The composite reliability (CR) values of all latent constructs were greater than 0.7, the conventional benchmark of CR (Fornell and Larcker 1981; Nunnally and Bernstein 1994). The average variances extracted (AVEs) of all latent constructs in our study were greater than 0.5 (Fornell and Larcker 1981). Thus, we conclude that construct validity is not a concern. We then proceed to assess discriminant validity of the measures. Discriminant validity of the measures was assessed by comparing the shared variance (squared correlation) between each pair of constructs against the minimum of the AVEs for these two constructs (Fornell and Larcker 1981). Our largest shared variance was 0.36 which was considerably lower than our smallest AVE value of 0.51. Since the shared variance observed is lower than the minimum of their AVEs within each possible pairs of constructs, discriminant validity was
well supported. Finally, using prescribed Harman’s single factor tests, we tested the threat of common methods biases, and evidence suggests absence of common methods variance (Podsakoff et al. 2003).
<table>
<thead>
<tr>
<th>Construct</th>
<th>Measurement</th>
<th>Items</th>
<th>Standardized Factor Loading</th>
<th>CR&lt;sup&gt;a&lt;/sup&gt;</th>
<th>AVE</th>
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</thead>
<tbody>
<tr>
<td><strong>Marketing Message (Second Order Factor)</strong></td>
<td></td>
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<tr>
<td>Role-MESSAGE Consistency</td>
<td>• Reflective measure&lt;sup&gt;b&lt;/sup&gt;</td>
<td>• My services I provide are the focus of our marketing materials.</td>
<td>.75</td>
<td>.81</td>
<td>.73</td>
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<td></td>
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<td>• Our marketing campaigns emphasize my department.</td>
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<td></td>
<td></td>
<td>• I feel like I can see my own role in the ads.</td>
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<tr>
<td>Messages Affect on Employee</td>
<td>• Reflective measure&lt;sup&gt;b&lt;/sup&gt;</td>
<td>• Looking at our marketing materials inspires me to work hard for customers.</td>
<td>.69</td>
<td>.70</td>
<td>.52</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Our company’s ads make me feel like a hypocrite (R).</td>
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<td></td>
<td></td>
<td>• Our company’s ads make me feel like I’m part of something important.</td>
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<tr>
<td>Message-Customer Expectation Consistency</td>
<td>• Reflective measure&lt;sup&gt;b&lt;/sup&gt;</td>
<td>• Our company’s ads show what banking service should really be like.</td>
<td>.76</td>
<td>.78</td>
<td>.65</td>
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<td></td>
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<td>• Sometimes, I feel uncomfortable with the images shown in our ads (R).</td>
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<td></td>
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<td>• Our marketing campaign shows us to be a company with integrity.</td>
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<tr>
<td><strong>Mediators</strong></td>
<td></td>
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<td></td>
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<tr>
<td>Individual Cynicism</td>
<td>• Reflective measure&lt;sup&gt;b&lt;/sup&gt;</td>
<td>• Most people would tell a lie if they could gain by it.</td>
<td>.70</td>
<td>.83</td>
<td>.73</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• People take advantage of an unselfish person in today’s world.</td>
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<td></td>
<td></td>
<td>• People claim that they have ethical standards but few people stick to them when the chips are down.</td>
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<td></td>
<td></td>
<td>• People pretend to care more about one another than they really do.</td>
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<tr>
<td></td>
<td></td>
<td>• Most of our top business leaders are devoted to their employees (R).</td>
<td></td>
<td>.78</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Business leaders would do anything to make money.</td>
<td></td>
<td>.62</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Composite Reliability  
<sup>b</sup> Anchored with 5-point scale: 1 = “strongly disagree,” and 5 = “strongly agree”  
<sup>c</sup> Anchored with 7-point scale: 1 = “strongly disagree,” and 7 = “strongly agree”
<table>
<thead>
<tr>
<th>Construct</th>
<th>Measurement</th>
<th>Items</th>
<th>Standardized Factor Loading</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Cynicism</td>
<td>Reflective measure</td>
<td>I believe our company says one thing and does another.</td>
<td>.70</td>
<td>.81</td>
<td>.67</td>
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<tr>
<td></td>
<td></td>
<td>My company rewards the right kind of behavior.</td>
<td>.53</td>
<td></td>
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<td></td>
<td></td>
<td>Our company expects one thing of its employees, but it rewards another.</td>
<td>.55</td>
<td></td>
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<td></td>
<td></td>
<td>Our company backs up promises with action (R).</td>
<td>.82</td>
<td></td>
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<td></td>
<td></td>
<td>Managers at our company try to do the right thing most of the time (R).</td>
<td>.77</td>
<td></td>
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<tr>
<td>Societal Cynicism</td>
<td>Reflective measure</td>
<td>I have great respect for the business leaders of our country (R).</td>
<td>.57</td>
<td>.70</td>
<td>.51</td>
</tr>
<tr>
<td>Outcomes</td>
<td></td>
<td>I talk up our company to my friends as a great organization to work for.</td>
<td>.85</td>
<td>.89</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I find that my values and the values of our company are very similar.</td>
<td>.91</td>
<td></td>
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<td></td>
<td></td>
<td>I really care what happens to our company.</td>
<td>.81</td>
<td></td>
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<tr>
<td>Organizational Commitment</td>
<td>Reflective measure</td>
<td>Generally speaking, I am very satisfied with this job.</td>
<td>.96</td>
<td>.85</td>
<td>.81</td>
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<td></td>
<td></td>
<td>I am generally very satisfied with the kind of work I do in this job.</td>
<td>.75</td>
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<tr>
<td>Job Satisfaction</td>
<td>Reflective measure</td>
<td>I respond promptly to customer requests, despite my busy workload.</td>
<td>.79</td>
<td>.82</td>
<td>.72</td>
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<tr>
<td></td>
<td></td>
<td>I consistently follow up on promises made to customers.</td>
<td>.80</td>
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<td></td>
<td></td>
<td>I go out of my way to help customers.</td>
<td>.77</td>
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<td></td>
<td></td>
<td>Even though it is not my responsibility, I make sure other departments follow through to meet my customers’ requests.</td>
<td>.56</td>
<td></td>
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<tr>
<td>Extra-Role Performance</td>
<td>Reflective measure</td>
<td>I help new employees even though it is not required.</td>
<td>.68</td>
<td>.85</td>
<td>.80</td>
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<tr>
<td></td>
<td></td>
<td>I am willing to lend a helping hand to those around me.</td>
<td>.86</td>
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<td></td>
<td></td>
<td>I give of my time to help others at work.</td>
<td>.89</td>
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</table>

a Composite Reliability
b Anchored with 5-point scale: 1 = “strongly disagree,” and 5 = “strongly agree”
c Anchored with 7-point scale: 1 = “strongly disagree,” and 7 = “strongly agree”
d Anchored with 7-point scale: 1 = “Never,” and 7 = “Always”
Table 2
Descriptive Statistics and Inter-Trait Correlations

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
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<th>4</th>
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<th>6</th>
<th>7</th>
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<tbody>
<tr>
<td><strong>Marketing</strong></td>
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<td>Messages</td>
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<tr>
<td>1 Role-Message Consistency&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.26</td>
<td>.07</td>
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<td></td>
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<tr>
<td>2 Messages Affect on Employee&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.77</td>
<td>.04</td>
<td>.49**</td>
<td></td>
<td></td>
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<tr>
<td>3 Message-Customer Expectation&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.29</td>
<td>.04</td>
<td>.48** .60**</td>
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<td><strong>Mediators</strong></td>
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<tr>
<td>4 Individual Cynicism&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.09</td>
<td>.05</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>5 Organizational Cynicism&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.82</td>
<td>.06</td>
<td>.15** .34** .29**</td>
<td></td>
<td></td>
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<tr>
<td>6 Societal Cynicism&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.16</td>
<td>.05</td>
<td></td>
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<td><strong>Outcomes</strong></td>
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<tr>
<td>7 Organizational Commitment&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.99</td>
<td>.06</td>
<td>.20** .53** .35**</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>8 Job Satisfaction&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.87</td>
<td>.05</td>
<td>.09 .31** .22** .28** .55** .27**</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Extra-Role Performance&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.93</td>
<td>.04</td>
<td>.12* .27** .20**</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Organizational Citizenship&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.19</td>
<td>.04</td>
<td>.22** .29** .20** .29** .28**</td>
<td></td>
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</tbody>
</table>

N=338; *p ≤ .05; ** p ≤ .01
<sup>a</sup> = 5-point scale
<sup>b</sup> = 7-point scale

**Overview of Measures**

Investigating employee attitudes toward advertisements and marketing aimed at customers is one of the main original contributions of this study, and because measures for these constructs (Role-Message Consistency, Messages Affect on Employee, and Message-Customer Expectation Consistency) were not available in the extant literature, completely new scales were designed for this purpose. This was done based on a review of the literature, and interviews with customer contact employees, managers, and researchers in the field. For other study constructs, we relied on existing scales, as mentioned below. These are presented in the Appendix.

**Organizational Cynicism**

We measure organizational cynicism using Brandes’ three-dimensional scale (Brandes, 1998, p. 146-147). All responses are 7-point Likert scales anchored by “never” and “always.” (α=.87) This scale was developed following scale development procedures as part of Brandes’ dissertation. Six senior staff in the organization under study, 3 faculty members and 4 doctoral students evaluated the initial set of items (10-15 items per dimension), and the scale was then tested on a group of 264 employees at one organization, measuring and controlling for personality-based cynicism. Brandes concluded that confirmatory factor analysis supported the three dimensions of the scale: cognition (6 final items, α=.85), affect (4 final items, α=.80), and behavior (5 final items α=.80).
Personality and Societal Cynicism

Personality and societal cynicism were measured using Kanter and Mirvis’ (1989) scale $\alpha=.78$. This scale later formed the base for the longer Wrightsman’s Personality Cynicism scale (Wrightsman, 1992), which was used in two organizational cynicism papers: Brandes (1998), $\alpha=.85$, and Andersson and Bateman (1997), $\alpha=.86$. Cynicism toward business in general will be measured.

Organizational Commitment

Organizational commitment was measured using the Mowday, Steers and Porter Organizational Commitment Questionnaire. The OCQ has demonstrated reliability over decades of consistent use and focuses on the affect component of organizational commitment, which is appropriate for this study. (Beck and Wilson 2000, Cohen 1993, Kacmar, Carlson, and Brymer 1999, Mowday et al., 1979)

Organizational Citizenship

Organizational citizenship was measured using MacKenzie et al.’s (1993) 9-item scale based on Organ’s five aspects: altruism, courtesy, sportsmanship, civic virtue and conscientiousness (LePine et al., 2002; MacKenzie et al., 1998; Organ, 1988, 1990), adapted for self-report data, plus one additional item from Bettencourt and Brown’s (1997) scale for cooperation (the rest of Bettencourt and Brown’s five-item cooperation scale was derived from the MacKenzie et al. organizational citizenship scale).

Analysis and Results

To test five sets of fifteen different hypotheses, we ran a structural equation model with latent constructs that include Role-Message Consistency, Messages Affect on Employee, Message-Customer Expectation, Individual Cynicism, Organizational Cynicism, Societal Cynicism, Organizational Commitment, Job Satisfaction, Extra-Role Performance, and Organizational Citizenship using the maximum likelihood estimation procedure. Results of our hypothesized structural model are summarized in Figure 2 and Table 3. The overall fit measures of our structural model are acceptable: $\chi^2 (309) = 769.76$, CFI = 0.86, TLI = 0.84, and RMSEA = 0.06.

First two hypothesized paths tested the negative relationship between Marketing Messages, the second-order factor, and the three mediating Cynicism constructs. We found a negative effect of Marketing Messages on Organizational Cynicism ($\beta = -.78, p < .001$), in strong support of H1. H2 suggested a negative relationship between Marketing Messages and Individual Cynicism ($H_{2a}$) and Societal Cynicism ($H_{2b}$). Both $H_{2a}$ ($\beta = -.48, p < .001$) and $H_{2b}$ ($\beta = -.51, p < .001$) were highly significant.

H3 argued a negative influence of boundary spanners’ cynicism on their organizational commitment. We found the negative effect of Organizational Cynicism on Organizational Commitment ($H_{3b} : \beta = -.81, p < .001$). Significant effects of Individual Cynicism ($H_{3a} : \beta = .001$, n.s.) and Societal Cynicism ($H_{3c} : \beta = -.001$, n.s.) on Organizational Commitment were not found. Thus, $H_{3b}$ received support, but we reject $H_{3a}$ and $H_{3c}$.

H4 predicted a negative influence of Cynicism on Job Satisfaction. The negative effect of Organizational Cynicism on Job Satisfaction ($\beta = -.79, p < .001$) was found, and $H_{4b}$ was supported. $H_{4a}$ and $H_{4c}$ were rejected as the model did not show any supportive evidence and both effects of Individual Cynicism ($H_{4a} : \beta = .001$, n.s.) and Societal Cynicism ($H_{4c} : \beta = -.001$, n.s.) on Job Satisfaction were not statistically significant.
H5 argued a negative influence of Cynicism on Extra-Role Performance of boundary spanners. The negative effect of Individual Cynicism on Extra-Role Performance ($\beta = -.19, p < .03$) was found, in support of H$_{5a}$. Organizational Cynicism also negatively influenced Extra-Role Performance ($\beta = -.44, p < .001$), in strong support of H$_{5b}$. Surprisingly, we found a statistical evidence to demonstrate the positive effect of Societal Cynicism ($\beta = .17, p < .068$) on Extra-Role Performance of boundary spanner, contrary to our expectation, but the effect did not surpass the significance level of 0.05. Thus, H$_{5a}$ and H$_{5b}$ were supported, and H$_{5c}$ was rejected.

H6 proposed that as boundary spanners’ cynicism increases, they are less likely to be engaged in organizational citizenship behaviors. The negative effect of Organizational Cynicism on Organizational Citizenship ($\beta = -.43, p < .001$) was found, and H$_{6b}$ was supported. But the model does not show any statistical support for both the effects of Individual Cynicism (H$_{6a}$ : $\beta = -.001$, n.s.) and Societal Cynicism (H$_{6c}$ : $\beta = .01$, n.s.) on boundary spanners’ organizational citizenship behaviors; hence, H$_{6a}$ and H$_{6c}$ were not supported.
Figure 2
Results of Hypothesis Tests

Role-Message Consistency

Messages Affect on Employee

Message-Customer Expectation Consistency

Marketing Messages

H$_1$: -0.78***

Individual Cynicism

H$_2(a)$: -0.48***

Organizational Cynicism

H$_3(a)$: -0.81***

Organizational Commitment

H$_4(a)$: -0.19**

Organizational Citizenship

H$_5(a)$: -0.44***

Extra-Role Performance

H$_6(a)$: -0.001

Job Satisfaction

H$_4(b)$: -0.79***

H$_5(b)$: -0.44***

H$_6(b)$: 0.01

H$_5(c)$: 0.17*

H$_6(c)$: 0.01

H$_{6b}$: -0.001

*p ≤ .10; ** p ≤ .05; *** P ≤ .01
<table>
<thead>
<tr>
<th>Hypothesized Path</th>
<th>Hypothesis</th>
<th>Statistical Evidence</th>
<th>Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>β</td>
<td>p-Value</td>
</tr>
<tr>
<td>Marketing Messages → Organizational Cynicism</td>
<td>H₁</td>
<td>-.78</td>
<td>.001</td>
</tr>
<tr>
<td>Marketing Messages → Individual Cynicism</td>
<td>H₂(a)</td>
<td>-.48</td>
<td>.001</td>
</tr>
<tr>
<td>Marketing Messages → Societal Cynicism</td>
<td>H₂(b)</td>
<td>-.51</td>
<td>.001</td>
</tr>
<tr>
<td>Individual Cynicism → Organizational Commitment</td>
<td>H₃(a)</td>
<td>.001</td>
<td>.200</td>
</tr>
<tr>
<td>Organizational Cynicism → Organizational Commitment</td>
<td>H₃(b)</td>
<td>-.81</td>
<td>.001</td>
</tr>
<tr>
<td>Societal Cynicism → Organizational Commitment</td>
<td>H₃(c)</td>
<td>-.001</td>
<td>.381</td>
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<tr>
<td>Individual Cynicism → Job Satisfaction</td>
<td>H₄(a)</td>
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<td>.342</td>
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<tr>
<td>Organizational Cynicism → Job Satisfaction</td>
<td>H₄(b)</td>
<td>-.79</td>
<td>.001</td>
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<tr>
<td>Societal Cynicism → Job Satisfaction</td>
<td>H₄(c)</td>
<td>-.001</td>
<td>.236</td>
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<td>Individual Cynicism → Extra-Role Performance</td>
<td>H₅(a)</td>
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<td>.030</td>
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<tr>
<td>Organizational Cynicism → Extra-Role Performance</td>
<td>H₅(b)</td>
<td>-.44</td>
<td>.001</td>
</tr>
<tr>
<td>Societal Cynicism → Extra-Role Performance</td>
<td>H₅(c)</td>
<td>.17</td>
<td>.068</td>
</tr>
<tr>
<td>Individual Cynicism → Organizational Citizenship</td>
<td>H₅(a)</td>
<td>-.001</td>
<td>.766</td>
</tr>
<tr>
<td>Organizational Cynicism → Organizational Citizenship</td>
<td>H₅(b)</td>
<td>-.43</td>
<td>.001</td>
</tr>
<tr>
<td>Societal Cynicism → Organizational Citizenship</td>
<td>H₅(c)</td>
<td>.01</td>
<td>.276</td>
</tr>
</tbody>
</table>

Notes: Table reports standardized coefficients. Overall fit measures: $\chi^2 (309) = 769.76$, CFI .90, TLI = .88, RMSEA = .06
DISCUSSION

The importance of studying phenomena which negatively affect customer contact employees cannot be over-emphasized, considering its implication on employees’ morale, performance, and consequently organization’s market-based assets (Bettencourt and Brown, 1997). Our study focuses on the effect of marketing messages in influencing cynicism (individual, organizational, and societal) and ultimately affecting employee’s performance. This study is important considering the widespread use of advertising as a marketing tool and as the major form of organizational external communication (Anderson & Bateman, 1997). We use cynicism as a consequence of marketing messages on customer contact employees because extant literature supports cynicism as a negative construct that affects performance and attitudes of employees and particularly customer contact employees (see Abraham 2000, Dean et al. 1998). Our study addresses this theoretically and managerially relevant issue by investigating antecedents and consequences of forms of cynicism in marketing context.

THEORETICAL CONCLUSIONS

Marketing Messages and Customer Contact Employees

Although strategically designed for external audiences, marketing messages also communicate organizational culture, mission, priorities, etc., to employees, particularly boundary spanners whose own role is often featured in these communications. Advertising textbooks often point to boosting employee morale as a bonus effect of advertising (Cheney 1991), but the effects can also work in reverse. Gilly and Wolfinbarger (1998) find that negative evaluations of company advertising decreases employees’ pride and organizational commitment, and ultimately their service delivery. Table 2 shows customer contact employees’ are indeed sensitive to marketing messages. When employees show concerns toward a marketing campaign, their attitudes and performance may be affected, particularly if the campaign builds unrealistic customer expectations. This could serve to increase role conflict for boundary spanners, further undermining the organization’s ability to deliver on its promise.

Marketing Messages as Predictors of Cynicism.

Prior studies have focused on the effect of organizational cynicism on employees’ performance and attitude, but none has done so in the marketing context (see Abraham 2000, Anderson and Bateman 1997, Dean et al. 1998). Our study addresses this gap by connecting employees’ perception of marketing message to forms of cynicism, and showing how this affects customer contact employees’ performance and work attitudes. In the literature, predictors of organizational cynicism are often represented as issues emanating from management decisions which directly affect the employees (see Abraham 2000, Dean et al. 1998). For example, employees’ organizational characteristics that may contribute to cynical behaviors toward their organization could include perceptions that executive compensation is unfair, or when they perceive that poor organizational performance is a result of management inefficiency. Also, workforce reduction and role ambiguity can foster organizational cynicism (see Abraham 2000, Anderson and Bateman 1997, Dean et al. 1998, O’Connell et al. 1986). In sum, the literature portrays employees’ organizational cynicism as a consequent of employee’s incompetence or unfair management decisions which directly affect the employee.

In our theoretical model we hypothesized that marketing messages will influence/enhance all forms of cynicism. In support of our proposition, Table 3 shows that customer contact employees’ negative perception of marketing messages lead to organizational cynicism and also influence/enhance individual and societal cynicism. Also in Table 2 the three forms of cynicism, i.e., individual, organizational, and societal depicted in Figure 1 were found to be correlated, hence, the enhancement of one will very likely enhances the other two.
Marketing Messages and Forms of Cynicism

Cynicism comes in various forms, i.e., individual/personality cynicism, societal cynicism, and organizational cynicism (Abraham 2000, Dean et al. 1998). In our theoretical model, we attempt to understand whether marketing messages influence organizational and other (individual and societal) forms of cynicism (Abraham 2000). Therefore, if an employee is personally cynical, there is every likelihood that he/she will be cynical towards work and to the society in general as evident in hypotheses H1, H2(a), and H2(b). The implication of these findings is that a personally cynical employee will most likely be cynical towards the organization.

Cynicism and Employees’ Attitude and Performance

The overarching contribution of our study is to show how marketing messages perceptions can lead to all forms of cynicism, and ultimately affect customer contact employees’ attitude and performance. We see this as important considering the widespread use of advertising as means of external communication (Anderson & Bateman, 1997, Gilly and Wolfinbarger 1998), and the effect of employees’ cynicism on the organization. The following employees’ attitudes have been found to contribute immensely to performance; they are job satisfaction, commitment, organizational citizenship, and extra-role performance (see Brown and Peterson 1993, Gilly and Wolfinbarger 1998, Dean et al. 1998, MacKenzie et al. 1998). We decided to include these in our study because of their contributions to the reduction of employee turnover and increase in performance, which have been found to be crucial to the success of customer contact employees (Brown and Peterson 1993, MacKenzie, Podsakoff, and Ahearne 1998).

We hypothesized that all forms of cynicism individually will negatively affect CCE’s job satisfaction, organizational citizenship, organizational commitment, and extra-role performance. Our study reveals that only organizational cynicism affects organizational commitment, but the effect of individual and societal cynicism on commitment was not supported. This shows that employees decide on whether or not to be committed to an organization based on the direct action of the firm. These influences are not explained by an individual’s personal orientation or what they feel about society in general. This is also similar for employees’ job satisfaction and organizational citizenship.

Results in Table 3 show that employees’ satisfaction is dependent on organizational cynicism but not on individual or societal cynicism. On the other hand, our study shows that extra-role performance is determined by both individual and organizational cynicism. The implication here is that CCEs’ individual and organizational cynicism can negatively affect their organizational citizenship. Employee’s individual cynicism which is usually innate and not visible to the organization (Abraham 2000) can deter the employee from going above and beyond for the firm. While the extant cynicism literature has largely focused only on organizational cynicism as it affects employee performance (Abraham 2000, Anderson and Bateman 1997, Dean et al. 1998), our investigation builds on these prior studies by demonstrating that individual cynicism also affects performance. This is particular the case in extra-role performance where performance level “is believed to promote directly the effective functioning of an organization, independent of a person’s objectivity productivity.” (Organ 1988)

Overall, our study suggests that customer contact employee’s perception of marketing messages can influence individual cynicism, organizational cynicism, and societal cynicism, and ultimately affect job satisfaction, organizational commitment, organizational citizenship, and extra-role performance.

Limitations

We recognize that our study is not without limitations and further research should study the effect of marketing messages perception on employees of other functional units of the firm, and how these impact the three forms of cynicism and ultimately the overall employee performance. Also, our study is
based on customer contact employees of a financial institution, which may limit the generalizability of our findings. In addition, our study was based in a single company setting, however we feel our findings could be replicated in other firms with employees interfacing with customers. Further, research should explore how these forms of cynicism could impact hard performance metrics of CCEs (e.g., sales performance and efficiency), as our concentration on extra-role performance, commitment, organizational citizenship and job satisfaction (all which have been found to contribute to sales performance and efficiency) was limited by the available data.
REFERENCES


APPENDIX
New Scales Developed

Role-Message Consistency (New Scale)

- My services I provide are the focus of our marketing materials.
- Our marketing campaigns emphasize my department.
- I feel like I can see my own role in the ads.

Messages Affect on Employee (New Scale)

- Looking at our marketing materials inspires me to work hard for customers.
- Our company’s ads make me feel like a hypocrite (R).
- Our company’s ads make me feel like I’m part of something important.

Message-Customer Expectation Consistency (New Scale)

- Our company’s ads show what banking service should really be like.
- Sometimes, I feel uncomfortable with the images shown in our ads (R).
- Our marketing campaign shows us to be a company with integrity.
DO NOT TOUCH ME…BUT PLEASE DO:
COMFORT WITH INTERPERSONAL TOUCH
(CIT) IN RETAIL SALES INTERACTIONS

Andrea Webb, Joann Peck, Anders Gustafsson, University of Wisconsin-Madison

ABSTRACT

Previous research has generally highlighted the positive effects of interpersonal touch on persuasion in a retail setting. But, what about people who are uncomfortable with touch? We develop and test individuals’ comfort with interpersonal touch (CIT), specifically, comfort with initiating and receiving touch, and its effects on consumer shopping. A latent class analysis is deployed to determine underlying groups of individuals based on preferences for touch, and we identify four distinct groups as they relate to the initiating and receiving dimensions of interpersonal touch. Through a lab and a field study, we find that certain groups of people say that they are uncomfortable with interpersonal touch, but the actual effect of touch is not usually negative. In addition to theoretical implications, we discuss managerial insights for salespeople and shoppers.

“If a salesperson touched me on the arm in a retail store, I would be extremely uncomfortable, leave the store, and never come back!” Lisa, age 53

Interpersonal touch has been frequently touted for its ability to evoke positive responses for touched individuals; these include restaurant tipping (Crusco and Wetzel 1984; Hornik 1992; Stephen and Zweigenhaft 1986), trying a sample in store (Hornik 1992), buying a new product (Hornik 1992), participating in an interview (Hornik and Ellis 1988), and returning a dime left in a phone booth (Kleinke 1977). However, as seen in the opening vignette, anecdotal evidence suggests that, for some individuals, touch produces negative effects and causes aversive reactions. Lisa expresses strong displeasure with the mere idea of being touched by a stranger. While a light touch on the upper arm often has positive influences on consumer behaviors, in what contexts does it have negative effects? As for consumers who are uncomfortable with touch, how does interpersonal touch in retail contexts, such as from a salesperson, affect them?

We know from a wealth of literature that in-store shopping experiences impact which types of purchases people make (e.g. Inman, Winer, and Ferraro 2009). Moreover, the interactions that customers have with other individuals, whether fellow customers or salespeople, have the potential to influence shopping behaviors including the amount of time spent in the store or willingness to pay for products. Martin (2012) presents one account of how touch can negatively impact consumer shopping, but the touch in his research is an accidental bump in the back from a fellow shopper. In our research, we examine intentional interpersonal touch, which is operationalized as a light, unobtrusive touch on the upper arm that lasts for less than 1 second.

At the outset of this research project we expected to find a subset of the population for whom intentional interpersonal touch produced negative effects, and we planned to highlight the adverse consequences of touch in retail contexts. However, we have some rather surprising findings: even those who say that they’re uncomfortable with interpersonal touch are not negatively affected by its occurrence.

The remainder of this paper investigates individuals’ comfort with interpersonal touch and determines how discomfort is manifested when a consumer encounters touch. We discuss the relevant literature related to interpersonal touch and elaborate on why some individuals may not be comfortable with touch. We present a new construct, comfort with interpersonal touch (CIT), and create a measure to capture the construct. To validate the measure, we show evidence of known group validity with a
population high (roller derby players) and low (electronic gamers) in CIT. To understand the latent structure of our CIT data, we use latent class analyses that reveal four underlying groups of people as they relate to comfort with initiating and receiving touch. The final studies focus on either the initiating dimension of CIT (study 3) or the receiving dimension of CIT (study 4).

The major contributions of this paper are three-fold. First, we conceptualize and present a new construct of comfort with interpersonal touch (CIT) and explain how individuals differ with respect to preferences for initiating and receiving interpersonal touch. Second, we dissect the existing positive effects found in the literature and highlight certain groups of individuals that drive these effects. Third, we expose the phenomenon that individuals lack self-knowledge with respect to their interpersonal touch preferences with evidence that even though individuals say that they're uncomfortable with touch, the effects of touch are not as negative as they might have predicted.

Theoretical Foundation of Interpersonal Touch

In examining the literature on interpersonal touch, there have been many studies detailing the positive effects of interpersonal touch, especially on compliance (Bohm and Hendricks 1997; Hornik 1992; Hornik and Ellis 1988; Joule and Guéguen 2007; Willis and Hamm 1980). For example when a customer was touched lightly on the upper arm in a retail store, the customer was more likely to both sample and purchase a new product, compared to shoppers who were not touched (Hornik 1992). Individuals who were asked to sign a petition were found to be more compliant if they were briefly touched (Willis and Hamm 1980), and customers waiting in line more frequently allowed a fellow customer to cut in line when the request was accompanied with a touch (Bohm and Hendricks 1997).

Previous studies also show that restaurant servers who briefly touched diners received larger tips than servers who did not touch (Crusco and Wetzel 1984; Hornik 1992; Stephen and Zweigenhaft 1986). Kleinke (1977) revealed that touch had a significant effect on subjects’ willingness to return a dime left in a telephone booth. If a participant was touched, 51% were willing to return a lost time in a phone booth to a confederate who touched them compared to only 29% of participants who were not touched. While this is a seminal study in the interpersonal touch literature, there were still 49% of participants for whom touch did not have a positive effect. Could these individuals be less comfortable with interpersonal touch? A more thorough understanding of individuals' comfort with interpersonal touch may help explain this currently unexplained finding.

To develop an understanding of how CIT develops, we turn to the most frequent mechanism through which interpersonal touch is said to produce effects – affectional responses (Fisher, Rytting, and Heslin 1976; Montagu 1979). In the attachment literature, there is evidence that some people are uncomfortable with touch because they did not properly bond with a caregiver during the first years of life. An infant expresses needs through crying and ideally a caregiver will recognize and satisfy these needs. Through these thousands of interactions, the child learns that the world is a safe place and touch is associated with a deep, nurturing connection. There are many reasons that the normal attachment and bonding connection may not be as well-
developed. These can include premature birth, hospitalizations, separation from the birth mother, postpartum depression of the mother, unresolved pain, painful or invasive medical procedures, insensitive parenting, or being genetically predisposed to this (Bowlby 1988).

When the needs of infant are not responded to, the positive association of touch and comfort do not develop. This has the effect of an individual not being comfortable accepting or seeking out affection through touch. At the extreme, this can result in attachment disorder, which is a serious medical disorder with many negative effects. However, more mildly, some individuals may not be as comfortable with interpersonal touch as others. These individuals may not experience the positive effects as a result of being touched and may also be more reluctant to reach out and touch others.

By examining many of the empirical interpersonal touch studies, especially those related to marketing, it becomes evident that this area of research has both over- and under-emphasized certain issues related to interpersonal touch. Table 1 details some of the empirical studies on interpersonal touch and from our analysis of the interpersonal touch literature we make two broad realizations. First, it has become evident that interpersonal touch in marketing has over-emphasized positive effects of touch. Hertenstein (2011) agrees, “the field of touch would be well served to go beyond the positive functions served by touch” (320). We seek to explore the downsides of interpersonal touch and understand how individuals uncomfortable with touch are impacted when touched. Second, the literature has over-emphasized research on touch from the receiving perspective and under-emphasized the effects of initiating touch. Our research considers both initiating and receiving touch to be foundational to the understanding of comfort with interpersonal touch.

Table 1. Empirical Interpersonal Touch Studies

<table>
<thead>
<tr>
<th>Authors</th>
<th>Year</th>
<th>Journal</th>
<th>Effects of Touch (Positive or Negative)</th>
<th>Study Manipulation</th>
<th>DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alagna et al.</td>
<td>1979</td>
<td>Journal of Counseling Psychology</td>
<td>Positive</td>
<td>Counselor touch client</td>
<td>Evaluation of the counseling experience</td>
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<td>Bohm and Hendricks</td>
<td>1997</td>
<td>Journal of Social Psychology</td>
<td>Positive</td>
<td>Customer touch fellow customer while waiting in line</td>
<td>Compliance - whether or not allowed to cut in line</td>
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<tr>
<td>Chaplin et al.</td>
<td>2000</td>
<td>Journal of Personality and Social Psychology</td>
<td>N/A</td>
<td>Handshake firmness correlation with personality measures</td>
<td>Personality measures: Big Five</td>
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<td>Crusco and Wetzel</td>
<td>1984</td>
<td>Personality and Social Psychology Bulletin</td>
<td>Positive</td>
<td>Waitress touched hand of diner when handing back change</td>
<td>Tipping behavior (% of bill)</td>
</tr>
<tr>
<td>Dolinski</td>
<td>2010</td>
<td>Journal of Nonverbal Behavior</td>
<td>Positive</td>
<td>Experimenter touched pedestrian and asked subject to mail a letter</td>
<td>Compliance - whether or not the letter was mailed</td>
</tr>
<tr>
<td>Authors</td>
<td>Year</td>
<td>Journal</td>
<td>Effects of Touch (Positive or Negative)</td>
<td>Study Manipulation</td>
<td>DV</td>
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<td>-----------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
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<tr>
<td>Fisher, Rytting and Heslin</td>
<td>1976</td>
<td>Sociometry</td>
<td>Positive</td>
<td>Library clerk touch hand of student</td>
<td>evaluation of librarian and library environment</td>
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<tr>
<td>Fuller et al.</td>
<td>2011</td>
<td>Human Relations</td>
<td>Positive and Negative</td>
<td>Asked participants about typical supervisor-to-subordinate use of touch</td>
<td>Subordinate's perceptions of supervisors' influence, sincerity, likeability, and support</td>
</tr>
<tr>
<td>Guéguen and Fischer-Lokou</td>
<td>2003</td>
<td>Journal of Social Psychology</td>
<td>Positive</td>
<td>Experimenter touched participant and then dropped diskettes</td>
<td>Helping behavior, Number of picked up items, Response latency</td>
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<tr>
<td>Guéguen and Jacob</td>
<td>2005</td>
<td>Hospitality Management</td>
<td>Positive</td>
<td>Waitress touched patrons in a restaurant/bar</td>
<td>Tipping behavior (%) of bill</td>
</tr>
<tr>
<td>Guéguen and Jacob</td>
<td>2006</td>
<td>International Journal of Management</td>
<td>Positive</td>
<td>In-store marketer touch coupled with direct request to buy a product</td>
<td>Purchase</td>
</tr>
<tr>
<td>Hornik</td>
<td>1992</td>
<td>Journal of Consumer Research</td>
<td>Positive</td>
<td>In-store marketer touch customer, waiter/waitress touched diner</td>
<td>Shopping time, store evaluation, purchase amount, trial, tipping behavior (%) of bill</td>
</tr>
<tr>
<td>Hornik and Ellis</td>
<td>1988</td>
<td>Public Opinion Quarterly</td>
<td>Positive</td>
<td>Experimenter touch people asking for participation in study</td>
<td>Participation in study</td>
</tr>
<tr>
<td>Joule and Guéguen</td>
<td>2007</td>
<td>Perceptual and Motor skills</td>
<td>Positive</td>
<td>Experimenter touched student and asked for a cigarette</td>
<td>Compliance - give experimenter a cigarette</td>
</tr>
<tr>
<td>Jourard and Friedman</td>
<td>1970</td>
<td>Journal of Personality and Social Psychology</td>
<td>Positive</td>
<td>Experimenter sat close/far from participant and touched them</td>
<td>Duration of self-disclosure on intimate topics</td>
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<td>Kaufman and Mahoney</td>
<td>1999</td>
<td>The Journal of Social Psychology</td>
<td>Positive</td>
<td>Waitress touch a diner</td>
<td>Amount of alcohol consumed</td>
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<td>Kleinke</td>
<td>1977</td>
<td>Journal of Experimental Social Psychology</td>
<td>Positive</td>
<td>Experimenter touch phone booth user</td>
<td>Compliance - return of dime in phone booth</td>
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<tr>
<td>Martin</td>
<td>2012</td>
<td>Journal of Consumer Research</td>
<td>Negative</td>
<td>Experimenter bumped into fellow customers - &quot;Accidental Interpersonal Touch&quot;</td>
<td>Brand evaluations, product beliefs, willingness to pay, time spent in store</td>
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</tbody>
</table>
**COMFORT WITH INTERPERSONAL TOUCH (CIT)**

In order to determine whether a person’s lack of comfort with interpersonal touch influences consumers’ shopping preferences and tendencies, we needed to develop a measure of a person’s level of comfort with interpersonal touch (CIT). The CIT construct is defined as *the degree to which an individual is comfortable with non-sexual touch*. Consistent with previous research on measurement (Bearden, Netemeyer, and Teel 1989; Churchill 1979; Lynch et al. 2010), a pool of items was generated to capture the CIT construct. Based on theoretical relevance and through the iterative process of measurement refinement, purification, dimensionality, and reliability of the items, we concluded that 10 items sufficiently capture the construct.

The CIT measure is designed to be a general measure of comfort, and therefore, is not limited to a specific context. The construct incorporates the distinction between *initiating touch*, which is the act of touching someone else, and *receiving touch*, which is the act of being touched by someone else. Five items representing the initiating dimension and 5 items represent the receiving dimension (see appendix 1 for scale items). As part of the scale development process, we collected data from both an undergraduate student sample (n = 493) and a university staff sample (n = 1,360). For both groups, only people who attended high school in the United States were included since interpersonal touch is known to vary across cultures (e.g. Hall 1966). The staff sample is more heterogeneous and allows for greater variation in demographic characteristics. These two samples were used for the known group validity and the latent class analyses discussed next.

**Study 1a: Known-Group Validity – Roller Derby**

*Sample*

Known-group validity is used to investigate whether or not the measure produces results for a group of individuals who are likely to score high or low on the developed measure (Netemeyer, Bearden, and Sharma 2003). To test known-group validity, we chose to study a population believed to be comfortable with interpersonal touch – roller derby players. Roller derby (RD) is a high-contact sport that involves a lot of touching, pushing, blocking, etc. It is predicted that RD players will be higher in comfort with interpersonal touch than the general population. Forty-five female RD players participated in our study.

*Results*

The results from the RD players are compared to a sample of undergraduate student population as well as the university staff population (see figure 1). Furthermore, since RD players are all women, only the female undergraduate students (N = 249) and the female staff (N = 1,014) were used as the benchmark. As predicted, RD players scored significantly higher on the CIT scale than the female undergraduate population (*t*(292) = 2.22, *p* = .03, see figure 1 for means). RD players scored higher on the initiating dimension (*t*(292) = 3.75, *p* < .001), but did not score statistically higher on the receiving dimension
compared to the undergraduate students ($t(292) = .23, p = .82$). The adult population of university staff showed a similar pattern of results as well. RD players scored higher on the overall CIT scale ($t(1057) = 3.16, p = .002$) and the initiating dimension ($t(1057) = .429, p < .003$), but not the receiving dimension ($t(1057) = .58, p = .56$) when compared to the female university staff population. This study provides the initial step to demonstrate known-group validity by showing that Roller Derby players tend to score higher on the CIT scale than general populations (see figure 1).

Figure 1. Known-Group Validity: Roller Derby, Undergrad Students, and University Staff CIT Scores

![Figure 1](image.jpg)

Note: Means were calculated based on female staff (N = 1014) and female student (N = 249) samples.

**Study 1b – Known-Group Validity – Gamers**

**Sample**

We also tested known-group validity on a population believed to be uncomfortable with interpersonal touch, "electronic gamers". We recruited individuals from an undergraduate student gaming organization as well as a local online gaming start-up company. We consider electronic gaming (EG) to be the engagement in any electronic game (i.e. computer, video, mobile games) and can involve one or multiple players. We believe that an EG enthusiast may engage in significant electronic interaction over human interaction, which could be negatively related to one's level of CIT. Video games typically involve more interactivity than, for example, most television programs, but video games are not as interactive as a face-to-face conversation (Crawford 2012). Forty EG players participated in our study.

**Results**

The results from the EG players are compared to an undergraduate student population as well as a university staff population (see figure 2). Furthermore, since EG players were both men and women, all undergraduate students (N = 493) and staff (N = 1360) were used as the benchmark. As predicted, EG players scored significantly lower on the CIT scale than did the undergraduate population ($t(531) = 3.38, p < .001$, see figure 2 for means). EG players also scored lower on the initiating dimension ($t(531) = 3.25$,
as well as the receiving dimension as compared to undergraduate students (t(531) = 2.29, p = .02). The adult population of university staff showed distinctions with EG players as well. EG players scored lower on the overall CIT scale compared to the university staff population, but not with statistical significance (t(1398) = 1.36, p = .17). EG players also scored lower on the initiating dimension but with marginal significance (t(1398) = 1.81, p = .07), but were not significantly different with respect to the receiving dimension (t(1398) = .43, p = .67). For this sample, the student population is likely to be a better benchmark than the staff population since the EG players that we sampled were students themselves or recent graduates. These studies provides initial evidence that the CIT measure has known-group validity by showing that Roller Derby players tend to score higher and electronic gamers tend to score lower on the CIT measure than general populations.

Figure 2. Known-Group Validity: Electronic Gamers, Undergrad Students, and University Staff

CIT Scores

Note: Means were calculated based on the full staff (N = 1360) and student (N = 493) samples.

**Study 2: Latent Class Analysis (LCA)**

**Sample**

Separate analyses of latent class structure were run on both the undergraduate student sample and the staff sample that were used for study 1. Study 2 was designed to test whether or not there are meaningful underlying classes of individuals' preference for interpersonal touch. An LCA allows us to test whether we can group individuals into mutually exclusive categories based on observed information.

**Study 2 Results**

Prior to running latent class analyses, we examined the CIT data to get a general understanding of the distribution. The CIT measure was able to capture individuals who are both high and low in comfort, and for both samples followed a fairly normal distribution. We plotted aggregate scores of comfort with initiating against comfort with receiving touch. Since both student and staff samples were similar, we show only the staff sample (see figure 3). As depicted, most cases fall above the y = x line, suggesting that participants tend to be more comfortable with receiving touch than initiating touch. Being a passive
recipient of an interpersonal touch may be more comfortable that being the person who initiates that touch. This is also supported with the latent class analyses.

Figure 3. Staff Sample – CIT Initiating vs. CIT Receiving

Latent class analyses were conducted comparatively using the poLCA package in R. Models were compared using the Bayesian Inference Criterion (BIC), which is a common measure due to its simplicity in assessing relative model fit (Lin and Dayton 1997). The lowest BIC score should indicate that the model fits the data and has better predictive capacity than other models.

After participants responded to a questionnaire containing the 10 CIT items, their scores were split at the center of the scale 1-4 representing low comfort and 5-7 representing high comfort. With the student sample, using the 10 items of the CIT scale, a 1-latent class model, representing no underlying class structure to the data, was run (BIC = 6,191.48). Subsequently, 2-, 3-, 4-, and 5-latent class models were run and produced BIC values of 5,189.84, 4,915.45, 4,911.51, and 4,940.78, respectively. The 4-latent class model produced the lowest BIC suggesting superior predictive capacity. Similar results were found using the staff sample. The BIC scores for the staff sample 1-, 2-, 3-, 4-, and 5-latent class models were 17,556.28, 13,918.83, 12,996.30, 12,696.56, and 12,698.22, respectively. As was found with the student sample, the BIC was lowest for the 4-latent class model suggesting that this model has the best model fit.
The class structure for the two samples was consistent and produced meaningful results. The four latent classes can be characterized by being either high or low on either the initiating or the receiving dimension. We detail each latent class as well as the percentage of both the undergraduate and the staff population falling into each class (see figure 4).

Figure 4: Four Latent Classes with Comfort with Initiating and Receiving Touch

<table>
<thead>
<tr>
<th>Comfort with INITIATING Touch</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort with RECEIVING Touch</td>
<td>Low</td>
<td>LC1: Touch Avoiders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Student Sample: 25.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Staff Sample: 35.5%</td>
</tr>
<tr>
<td>High</td>
<td>LC3: Touch Pursuers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Student Sample: 10.6%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Staff Sample: 9.1%</td>
<td></td>
</tr>
<tr>
<td>LC2: Touch Acceptors</td>
<td>Student Sample: 36.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Staff Sample: 28.6%</td>
<td></td>
</tr>
<tr>
<td>LC4: Touch Enthusiasts</td>
<td>Student Sample: 27.6%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Staff Sample: 26.8%</td>
<td></td>
</tr>
</tbody>
</table>

Latent class 1 is characterized by being low initiators and low receivers. That is, they are uncomfortable with initiating touch and uncomfortable with receiving touch. We call these individuals “Touch Avoiders” and they comprise 25% of the student population and over 35% of the staff sample. Touch Avoiders are the most uncomfortable overall with interpersonal touch. Latent class 2 is characterized by being low initiators and high receivers. These “Touch Acceptors” do not mind being touched, but they are not comfortable initiating touch. Touch Acceptors comprise 36.7% of the student population and 28.6% of the staff population. The third latent class is characterized by being high initiators and low receivers. These “Touch Pursuers” comprise only about 10% of the population. This corresponds to figure 3 illustrating that people in general are more comfortable with receiving than initiating touch. The final latent class of “Touch Enthusiasts” are comfortable initiating and receiving touch and comprise about 25% of the population. For a graphical representation of the latent class structure, see figure 5).
Figure 5. Staff LCA Plot

Note: Each group of bars represents the conditional probabilities, by latent class, of being comfortable with interpersonal touch on each of the 10 items (citi1 through citr10). Taller bars correspond to conditional probabilities closer to 1 of being extremely comfortable.

Predictors of Class Membership

We conducted a discriminant analysis on the staff sample to test whether we could accurately classify individuals into our latent classes based on various predictors including demographic characteristics of age and gender as well as psychographic characteristics including extraversion, need to belong, assertiveness, agoraphobia, and claustrophobia.

Gender has been considered to be an important factor in use and preference for interpersonal touch (Henley 1973, 1977; Stier and Hall 1984). Within marketing and social psychological literature, various studies have reported conflicting results, some showing that males and females respond differently to touch (Fisher, Rytting, and Heslin 1976; Hornik 1992; Stephan and Zweigenhaft 1986), while others find that touch results in no difference in behavior across gender (Crusco and Wetzel 1984; Guéguen and Fischer-Lokou 2003; Kaufman and Mahoney 1999). Nonetheless, we will consider how gender plays a role in assignment of individuals to latent classes around comfort with interpersonal touch.
A participant's age may affect the degree to which one is comfortable with touch since several studies have found that older individuals tend to touch younger ones more than vice versa (Stier and Hall 1984). This may suggest that older individuals are more comfortable with initiating touch. However, age is a factor that can be extremely confounded with many other factors, including status or type of relationship (e.g. parent-child), especially when age differences are extreme (Hall 1996).

Psychographically, we suspect that extraversion is positively related to interpersonal touch and may impact how individuals are classified into our latent classes. Extraversion is associated with social interaction; an extravert is typically a person who gains energy from the presence of others, is sociable, active, and seeks external stimulation (Costa and McCrae 1992).

We also anticipate that an individual’s CIT will be related to an individual's need to belong. One’s need to belong is a human motivation to seek belongingness in relationships with others and the desire for interpersonal attachments (Baumeister and Leary 1995). The need to belong construct, like CIT, is deeply rooted in socially defined interactions in a sense of connectedness. A desire to feel a sense of belonging in relationships with others conceivably lends itself to a complementary desire to physically feel those connections. This suggests that interpersonal touch is desirable for gaining acceptance and belonging in social interactions.

Assertiveness, another psychographic characteristic, is considered to be the degree to which you stick up for yourself, take charge of a situation, and act in a way that you feel is right (Rathus 1973). We anticipate that an individual who is comfortable with initiating touch will be more assertive than an individual who is not comfortable with initiating touch. We believe that an individual’s tendency and desire to initiate physical contact with others could be a manifestation of their preference to assert themselves.

Further insight into our latent classes may come from a more clinical psychopathological perspective. Individuals who suffer from agoraphobia have a fear of “open spaces” and uncontrollable social situations and are prone to avoid large, crowded public spaces (Ost 1990). We anticipate that individuals who are uncomfortable with receiving interpersonal touch will have greater tendency to be agoraphobic. In a similar vein, individuals who suffer from claustrophobia, or the fear of small spaces, may also be impacted by interpersonal touch in interesting ways (Ost 2006). We predict that if we know an individual is claustrophobic they will be more uncomfortable with receiving touch. This information may aid in understanding the composition of our latent classes.

The participants' assigned latent classes and predictors were put into a stepwise discriminant analysis in an attempt to find the best set of predictor variables. Mean differences were significant for all of the predictors on latent class membership. Box's M was used to determine if the variance-covariance matrices were equivalent for each latent class. While the log determinants were quite similar, Box’s M indicated that the assumption of equality of covariance matrices was violated. However, given our large sample size, this is not likely to be an issue.

Using Wilk's Lambda there was a significant association between groups and all predictors ($p < .000$), although a canonical correlation of .39 suggests that the model explains only 15.1% of the variance, leaving a very large portion of variance in our grouping variable unexplained. A closer analysis of the structure matrix revealed only two significant predictors, namely extraversion (.88) and assertiveness (.40), while age, gender, need to belong, claustrophobia, and agoraphobia were poor predictors. Furthermore, the cross-validated classification showed that the model classified only 47.3% of the cases correctly. While these predictor variables help to discriminate between one's membership in a latent class, their ability to accurately classify individuals is not highly reliable.
Developing and validating the measure of CIT and examining the four latent classes was an essential step in focusing on consumers’ reactions to interpersonal touch. This was especially critical in order to determine individuals who are comfortable with the initiating dimension as well as the receiving dimension. The next two studies focus, in turn, on the initiating (study 3) and the receiving (study 4) dimensions of interpersonal touch with an emphasis on those who are uncomfortable with interpersonal touch.

**Study 3: Initiating Touch Lab Study**

In this study, we isolate and investigate the effects of initiating touch. In the marketing literature, no one has examined the consequences of having a person uncomfortable with interpersonal touch forced to initiate this touch. Do people who think they're uncomfortable with initiating touch actually experience discomfort when asked to touch a stranger? Furthermore, do the strangers who they touch perceive the interaction to be more or less comfortable? We conducted a lab experiment in which we set up a sales simulation and manipulated whether or not a seller was to initiate touch with another participant, the buyer. This study was a 2 (buyer/seller) x 2 (no touch/touch) full factorial design manipulated between participants.

**Sample**

Two hundred and thirty six undergraduate students participated in our study. The students were recruited via an introductory course and received course credit for participation. The sample was 51% female with a median and modal age of 20.

**Procedure**

As participants entered the study, they were randomly assigned to either a buyer or seller condition. Buyers and sellers were guided to separate rooms and were told to wait for instruction. The touch/no touch condition was randomly assigned to study timeslots. Students were provided with both written and verbal instruction to ensure full comprehension of the scenario. Appendix 2 details the instructions to the participants.

After receiving instructions, the participants were led to individual small rooms that were stocked with the two t-shirts where the buyer/seller interaction would occur. All buyer/seller interactions were observed by an experimenter to ensure the proper condition (touch/no touch) occurred. Upon completion of the sales simulation, the participants were asked to fill out a brief questionnaire regarding their encounter. This survey included the CIT scale among other measures. Our main dependent measure was the participants’ interaction comfort and was measured with four items ($\alpha = .85$) using a 7-point likert scale (1= strongly disagree to 7 = strongly agree). A sample item is "the interaction with the buyer [seller] seemed to flow naturally" (see appendix 1 for other items).

**Results**

Only American participants were included in these analyses, and participants who interacted with partners whom they knew previously were removed from the dataset as well. We first wanted to ensure that those individuals who were told to initiate touch with others would feel more or less comfortable during the interaction depending on their level of CIT. By looking first at descriptive statistics of our latent classes, 26.7% are Touch Avoiders, 44.9% are Touch Acceptors, only 2.5% are Touch Pursuers, and 15.8% are Touch Enthusiasts. With only 6 participants who consider themselves to be high in comfort with initiating touch but low in comfort with receiving touch, they were not equally distributed across our 4 conditions. Therefore, for this analysis we combined the 6 Touch Pursuers with the Touch Enthusiasts since both groups are comfortable with initiating touch. We ran a simple contrast in which we hypothesize that individuals who are Touch Avoiders and Touch Acceptors (both low in comfort with initiating touch) will differ from Touch Pursuers and Touch Enthusiasts (both high in comfort with
initiating touch) in regard to the interaction comfort. Since the initiators of touch were the sellers, this analysis was run on that group of individuals.

Following Abelson and Prentice (1997), when conducting contrast analyses 1) the hypothesized contrast of interest needs to be significant and 2) the residual between-group variance should be so small that it explains only a non-significant part of the variance. The results of our analysis reveal a statistically significant effect of the interaction of touch condition by the contrast of interest variable for the seller's perceptions of interaction comfort class ($F(5,110) = 4.31, p = .046$) and the residual between group-variance is not statistically significant ($R^2 = .025; F(1,110) = 3.29; p = .073$). These results suggest that those who are low in comfort with initiating on the CIT scale are more uncomfortable in an actual interaction when they have to touch than when they don't touch (Touch Avoiders and Acceptors: $M_{\text{No Touch}} = 4.45$ v. $M_{\text{Touch}} = 3.93$, $t(112) = -2.35$, $p = .02$). Individuals who score high on the initiating dimension of CIT believe the interaction to be more comfortable when they touch as compared to when they do not touch (Touch Pursuers and Enthusiasts: $M_{\text{No Touch}} = 4.22$ v. $M_{\text{Touch}} = 4.88$, $t(112) = 4.14$, $p < .001$, see figure 6).

Figure 6. Initiating Touch Lab Study – Interaction Comfort for Sellers (Study 3)

More interesting is that regardless of the buyers’ level of comfort with touch, if the buyer was interacting with a seller who was uncomfortable with initiating touch, it did not have an effect on whether or not the buyer thought the interaction was comfortable ($F(3,100) = .013$, $p = .93$). That is, even if a person who initiates touch is uncomfortable with touch, the person receiving it doesn't necessarily realize it. Buyers' perceptions of interaction comfort when the seller is low in comfort with initiating touch ($M_{\text{No Touch}} = 4.15$, $M_{\text{Touch}} = 4.13$, $t(100) = .08$, $p = .94$) did not statistically differ from buyer's perceptions when interacting with a partner high in comfort with initiating touch ($M_{\text{No Touch}} = 4.16$, $M_{\text{Touch}} = 4.09$, $t(100) = -.22$, $p = .83$, figure 7).
Taken together, these results suggest that an individual initiating touch may believe that the interaction would be uncomfortable and actually feel uncomfortable during the interaction, however, the individuals on the receiving end of the touch, regardless of their level of comfort with touch, did not sense the interaction as being more or less uncomfortable.

Figure 7. Initiating Touch Lab Study – Interaction Comfort for Buyer (Study 3)

Study 4: Receiving Touch Retail Field Study

In our final study, we examine the receiving dimension of the CIT construct. We investigate how an intentional interpersonal touch from a salesperson affects shoppers. To do this, we conducted a field study in Karlstad, a town in central Sweden, where three hundred and fifty-one Swedish shoppers participated in our study. The study was conducted in a large national sporting goods chain. We used two native Swedes – one male and one female – as confederates who acted as store employees. Both confederates received a training program that detailed the appropriate use of the interpersonal touch. The questionnaires in this study were composed in English, translated into Swedish, and back translated into English for verification.

Empirical research conducted on cultural differences has suggested that cultures vary on the frequency and usage of touch. Hall (1966) suggests that people from “contact” cultures tend to interact at closer distances, maintain more direct body orientation, and touch more frequently as compared to “non-contact” cultures. Various researchers suggest that people from the UK, Northern Europe, North America and Asia touch each other far less often than people from Latin or South America, or Southern Europe (Hall 1966; Henley 1973; Jourard 1966). As indicated by this research, Sweden, a northern European country, should be similar in touching patterns and preferences to the United States.

Procedure

As shoppers entered the store, they were approached by one of our research assistants and asked if they would like to participate in our study. Shoppers received lottery tickets for participation. The research assistant gave the participant an identifier piece of paper, which was color-coded and had an
identification number on it. The color of the sheet of paper indicated to the confederates whether or not to touch the participant.

The confederate greeted the participant and said, “Is there anything I can help you with today?” Depending on the condition, the confederate did or did not touch the participant on the upper arm when asking the question. During each of these interactions, additional research assistants acted as “observers.” The observer made sure the touch occurred in the touch condition, recorded information regarding which confederate interacted with the participant and the demeanor of the interaction. Upon completion of the shopping trip, the participant filled out our attitudinal/behavioral questionnaire.

**Measures**

All attitudinal measures were rated on a 7-point semantic differential scale. The attitude toward the salesperson was measured with six items (α = .90) with sample anchors of bad/good and not knowledgeable/knowledgeable (see appendix 1 for all items). Attitude toward the store used five anchors (α = .90) such as low quality/high quality and negative/positive (appendix 1). Evaluation of the store's products used endpoints of low quality/high quality, negative/positive, and unfavorable/favorable (α = .90). Participant's level of affect was also recorded using the following semantic differential scale: "Currently, I am feeling:" sad/happy, negative/positive, uncomfortable/comfortable, and dissatisfied/satisfied (α = .91). A measure of behavioral intent asked participants: "How likely will you be to shop this store in the future?" (1 = extremely unlikely, 7 = extremely likely).

**Results**

Participants’ were placed into latent classes based on their response to the CIT measure. Population proportions were as follows: Touch Avoiders (40.3%), Touch Pursuers (14.1%), Touch Acceptors (17.5%), and Touch Enthusiasts (28.2%). This is interesting as it suggests that Swedes as a population are less comfortable with receiving touch than Americans. Specifically, Touch Avoiders, or those who are uncomfortable with both receiving and initiating touch was over 40% compared to our student sample of 25% and staff sample of 35% in the US. Touch Pursuers (those who are not comfortable receiving but don’t mind initiating) are over 14% in the Swedish sample compared to the student sample compared to about 10% in the US sample. Since this study focuses on receiving touch, it is an especially strong test when it comes to discomfort.

Following Abelson and Prentice (1997), we ran contrast analyses on our five dependent measures: attitude toward the store, attitude toward the store's products, attitude toward the salesperson, likelihood of shopping at the store in the future, and affect. We first examined the interaction between comfort with receiving touch (low comfort: Touch Avoiders and Touch Pursuers and high comfort: Touch Acceptors and Touch Enthusiasts) and the touch by the salesperson condition on our dependent measures. Since initiating touch was not manipulated, we focus on the high and low levels of the receiving dimension. We find a significant interaction for all of our dependent variables (left side of Table 2). For attitude toward the store, the interaction between comfort with receiving touch and the touch condition was significant ($F(7,343) = 7.29, p = .007$) with the residual between group variance small, as required ($R^2 = .001; F(2,343)= .21; p = .81$). All tests on the remaining DVs satisfied the second condition of non-significance of the alternative interactive contrasts and will not be discussed further. Individuals high in their comfort with receiving touch, when touched, evaluated the store more positively ($t(347) = 3.31, p = .001$) compared to when they were not touched. However, those low in their comfort with receiving touch did not have a negative reaction, they were simply unaffected by the touch ($t(347) = -.56, p = .58$, see Table 2 for means).
Table 2. Means from Interactive Effects (Study 4)

| Dependent Variables | Condition |  | p-value | | Condition |  | p-value |
|---------------------|-----------|----------|----------|-----------------|-----------|----------|
|                     | No Touch  | Touch    |          | Latent Classes  | No Touch  | Touch    |
| Attitude Toward the Store<sup>a</sup> | Low Receivers | 6.23 | 6.17 | .58 | Touch Avoiders | 6.24 | 6.25 | .84 |
|                     | High Receivers | 5.99** | 6.39** | .001** | Touch Pursuers | 6.20 | 6.04 | .44 |
|                     | Low Receivers | 6.07 | 6.08 | .90 | Touch Acceptors | 5.85* | 6.29* | .06* |
|                     | High Receivers | 5.93** | 6.32** | .003** | Touch Enthusiasts | 6.10** | 6.43** | .03** |
| Attitude Toward the Store's Products<sup>a</sup> | Low Receivers | 6.31 | 6.30 | .90 | Touch Avoiders | 6.04 | 6.05 | .96 |
|                     | High Receivers | 6.17** | 6.51** | .009** | Touch Pursuers | 6.16 | 6.19 | .91 |
|                     | Low Receivers | 6.74 | 6.76 | .83 | Touch Acceptors | 6.14 | 6.39 | .29 |
|                     | High Receivers | 6.49** | 6.83** | .006** | Touch Enthusiasts | 6.19** | 6.56** | .02** |
|                     | High Receivers | 6.02** | 6.55** | .001** | Touch Pursuers | 6.56** | 6.13** | .05** |
| Affect<sup>a</sup>  | Low Receivers | 6.56** | 6.41 | .14 | Touch Acceptors | 6.04** | 6.58** | .002** |

<sup>a</sup> interaction between touch condition and comfort with receiving touch is significant at p < .05.  
<sup>b</sup> interaction between touch condition and comfort with receiving touch is significant at p < .10.  
**significant at p < .05. *significant at p < .10.
The same pattern was obtained with attitude toward the store’s products, with a significant interaction between comfort with receiving touch, and touch \((F(7,343) = 4.08, p = .04)\). Again, people who were comfortable with receiving touch had a significantly more positive attitude toward the store’s product when touched \((t(347) = 3.02, p = .003)\), while those low in their comfort with receiving touch were unaffected by the touch \((t(347) = .12, p = .90)\), see Figure 8 for a graphical illustration.

Figure 8. Receiving Touch Field Study - Participants’ Attitude Toward the Store’s Products
(Study 4)

There was a marginally statistically significant effect of the interaction on the participant’s attitude toward the salesperson \((F(7,343) = 2.76, p = .098)\), with those high in comfort benefiting from the touch \((t(347) = 2.64, p = .009)\), and making no difference for those low in comfort \((t(347) = -1.12, p = .90)\). There was also a marginally significant effect of the participants’ likelihood of shopping the store in the future \((F(7,343) = 2.69, p = .10)\); again, with highs driving the effect \((t(347) = 2.79, p = .006)\) and lows unaffected \((t(347) = .22, p = .83)\). Interestingly, the individuals low in comfort with receiving touch are not hurt by the touch, they are just not helped in same way as those comfortable with receiving touch.

The exception is the affect a person feels when touched in the store. There is significant interaction between comfort with receiving touch and the touch condition, on affect \((F(7, 343) = 13.03, p < .001)\). Similar to the other dependent measures, individuals comfortable with receiving touch get a significant positive increase in affect when touched compared to not being touched \((t(347) = 3.59, p < .001)\). However, individuals who are not comfortable with receiving touch, exhibited a marginally significant decrease in their affect when touched compared to not touched \((t(347) = -1.61, p = .10)\). See Table 2 for means and Figure 9 for a graphical representation.
What is particularly interesting about this study is that the positive effects of interpersonal touch found in the literature seem to be driven by the Touch Enthusiasts and the Touch Acceptors – people comfortable with receiving touch. If a person is comfortable with receiving touch, a touch by a salesperson significantly increases attitude toward both the store, toward the store’s products, toward the salesperson, and the likelihood of shopping at the store in the future. Touching a comfortable receiver also leads to more positive affect. What is just as thought provoking is that, despite the discomfort some individuals feel with receiving touch, it does not negatively affect their attitude toward the store, their attitude toward the store’s products, their attitude toward the salesperson or the likelihood of shopping at the store in the future.

To get a deeper look at the differential behaviors in response to touch, it is informative to look at the four latent classes (Table 2, right side). For example, not all comfortable receivers react the same way when touched. Touch Enthusiasts, who are comfortable with receiving and initiating touch, are driving most of the positive effects associated with comfort in receiving touch. When touched, Touch Enthusiasts have a more positive attitude toward the store and toward the salesperson, and they are more likely to return to the store in the future. Touch Acceptors (those comfortable with receiving but not initiating touch) generally respond positively to touch, but not with the magnitude of the Touch Enthusiasts. The positive effects of touch are largely driven by the Touch Enthusiasts.

Considering the two groups that are uncomfortable with receiving touch also yields some insights. Touch Avoiders, low on both initiating and receiving touch are, somewhat surprisingly, completely unaffected by a salesperson’s touch. While touch does not help this group, it also doesn’t hurt them. However, Touch Pursuers, those that are comfortable with initiating but not receiving touch, exhibit more negative affect when touched as compared to Touch Avoiders. Although the other dependent variables were not affected, it could be that repeated touches or perhaps a longer duration touch would not only lead to negative affect, but also it could affect other variables such as attitude toward the salesperson or the store.
GENERAL DISCUSSION

The sense of touch, or haptics, has been studied as it relates to product evaluations and purchases (Krishna and Morrin 2008; Morales and Fitzsimons 2007; Peck, Barger, and Webb 2013; Peck and Childers 2003; Peck and Shu 2009); however, there is little work that seeks to understand the downside of interpersonal touch in marketing contexts. While interpersonal touch is generally associated with positive compliance behaviors, there are people who report that they are uncomfortable with interpersonal touch. We investigate the comfort with interpersonal touch (CIT) construct, and examine both the implications of comfort with initiating interpersonal touch, and with receiving that touch. After developing a measure of CIT, we present evidence of known-group validity using a population high in CIT (roller derby players) and low in CIT (electronic gamers).

Next we examined the four latent classes that vary on their comfort with initiating and receiving interpersonal touch. We use a student and a staff sample to estimate the proportions of the population that belong to each of the four classes. We also conducted a discriminant analyses on the staff sample to examine potential predictors of latent class. Age, gender, need to belong, claustrophobia and agoraphobia were poor predictors of latent class. More promising were extraversion and assertiveness – yet, only about 47% of the cases were classified correctly.

Touch Avoiders are people who are uncomfortable with both initiating and receiving interpersonal touch, and they make up more than a quarter of the population. When Touch Avoiders were forced to initiate touch (study 3 – grouped with Touch Acceptors were are also low in comfort with initiating touch), they were more uncomfortable with the interaction compared to when they did not touch, but their partners did not detect this discomfort. When Touch Avoiders were touched in the store (study 4), there were no positive effects, but there were no negative effects on attitude toward the store, the store’s products, or the salesperson. Their likelihood of returning to the store in the future was also not affected and their affect was not more negative when they were touched. So, while Touch Avoiders say they are uncomfortable with touch, touch does not affect them negatively.

Touch Acceptors are also uncomfortable with initiating touch, but they do not mind receiving touch. This group is about one-third of the population. Touch Acceptors were grouped with Touch Avoiders in study 3 as both groups are uncomfortable with initiating touch. Like Touch Avoiders, when forced to initiate touch, Touch Acceptors were uncomfortable in the interaction, but this effect was undetected by their buyer partner. A Touch Acceptor is comfortable receiving touch and when touched in a retail environment (study 4), the effects are positive. In response to touch, a Touch Acceptor rates the store and the store’s products more positively. A Touch Acceptor feels more positive affect when touched but this does not reach significance.

The smallest group is the Touch Pursuers, which consists of people who are quite comfortable initiating touch, but uncomfortable receiving touch. When forced to initiate touch (study 3), this group (together with Touch Enthusiasts) was extremely comfortable as expected. However, when a Touch Pursuer is touched in a retail setting (study 4), they experience the most significant negative effect but the other dependent measures such as attitude toward the store, the store’s products, and the salesperson, as well as the likelihood of returning to the store, were all unaffected. It could be that repeated touches for this group may build up their negative affect to the point where it influences other evaluations.

Finally, Touch Enthusiasts are comfortable with both initiating and receiving touch and comprise more than a quarter of the population. Touch Enthusiasts are comfortable when forced to initiate touch (study 3) and they feel more positive affect when touched. They also rate the store more positively when touched compared to the no touch condition and their evaluation of the salesperson is more positive when they are touched. Touch Enthusiasts are also more likely to shop at the store in the future when they are touched.
Theoretical Implications

Research has shown that a light, unobtrusive interpersonal touch on the arm can have effects on consumers’ willingness to buy, perceptions of brands, compliance, tipping behavior, etc. (Crusco and Wetzel 1984; Hornik 1992; Martin 2012). However, research on interpersonal touch is not limited to the marketing domain, but has been found to have profound effects in other fields of study as well. For example, in the education domain, interpersonal touch causes children to engage in less disruptive classroom behavior and become more involved in a task (Wheldall, Bevan, and Shortall 1986); while positive effects are also found in the health field with psychotherapy patients talking longer and about more intimate issues with their therapist after being touched (Jourard and Friedman 1970).

Even in these cases, an individual’s comfort in receiving touch could influence various dependent variables. A doctor or therapist may not be comfortable with initiating touch, but it may be that, similar to our work, an interaction may feel uncomfortable to the initiator, but still yield positive effects. While the positive effects of touch are widespread, the notion of comfort with receiving and initiating touch transverses various contexts and fields and could have many implications outside of marketing.

It’s evident that touch has been shown to have many powerful effects on individuals’ behavior, and yet, many discrepancies exist within the marketing literature on the underlying factors that influence these effects. For example, many interpersonal touch studies have found that the gender of the recipient has a significant effect on the behavior induced (Fisher et al. 1976), while other studies have found the recipient’s gender to have no effect (Crusco and Wetzel 1984). In a similar vein, studies have shown the gender of the toucher to be a moderating factor on these behaviors (Martin 2012), while other studies have found the toucher’s gender to have no effect (Hornik 1992). Rather than rely on individual’s overt characteristics (i.e. gender, age), which were not strong predictors of latent class membership, the CIT construct in and of itself contributes to explaining the effects of touch. In essence, one's comfort with interpersonal touch cannot be reduced to simply gender or age differences, but instead is nuanced in one's personal experience of initiating and receiving touch.

Comfort with interpersonal touch, and specifically the four latent classes, may also fit into broader theoretical contexts through the use of personal space and preferences for socially dense retail environments. Edward Hall coined the term “proxemics” in its relation to distance and communication (Hall 1966). Hall’s (1966) study of proxemics investigates the ways in which individuals use physical space in their interactions with others and how this use of space influences behavior. Some theorists concerned with proxemics have suggested that culture or geographical factors impact our use of space. That is, individuals who live in colder climates use relatively large physical distances and engage in little physical interaction when they communicate, whereas individuals who live in warmer climates prefer closer distances and more physical interaction in communication (Lustig and Koester 1996; Sussman and Rosenfeld 1982).

Therefore, one’s comfort with interpersonal touch may illuminate concerns related to social crowding, use of retail space, and interpersonal interaction in confined spaces. While it is believed that people are more comfortable with interpersonal touch the closer they live to the equator, the four latent classes allow for a more nuanced analysis of this. For example, our study 4 took place in Sweden at latitude of 59.4 whereas the staff sample was collected at a latitude of 43.1 indicating that the Swedes are further from the equator and thus less comfortable with touch. However, we find that the Swedes are more likely to be Touch Pursuers (comfortable with initiating but not receiving) than our US samples. And while Touch Avoiders (low on both) and Touch Enthusiasts (high on both) are similar to the US, Touch Acceptors (low on initiating comfort but high on receiving comfort) are lower than in the US. Examining other cultures, even within the US would yield more complex insights.
Finally, the attachment literature suggests ways of helping individuals be more comfortable with touch. They use desensitization and recommend gradually making a person more comfortable over time with tactile stimuli (Kinnealey, Oliver, Wilbarger 1995). Perhaps a slight touch with a short duration may help desensitize people who are uncomfortable and make them more comfortable over time.

**Managerial Implications**

Managerially, this research may influence the way employee-training programs are constructed. On the whole, touch produces positive effects. In some people, it elicits positive responses that impact an individual’s attitudes in a positive manner. We found that even people low in their comfort with initiating touch (Touch Avoiders and Touch Acceptors), when forced to touch in a sales situation, even though they felt discomfort, their discomfort was not evident to the buyers. Coupled with the fact that three of the four groups are not harmed at all by interpersonal touch in the store, having a salesperson touching a shopper lightly on the arm and for a short duration most likely will yield positive effects. The exception is the Touch Pursuers who are comfortable with initiating touch but do not like to receive it. For this group, a slight touch leads to more negative affect. However, even for this group, when they were touched, the effects on attitude toward the store, the store’s products, the salesperson and their likelihood of returning to the store were not affected.

This is also interesting in that a salesperson may gauge if it is ok to lightly touch a customer if the customer initiates the touch. However, a Touch Pursuer may initiate the touch but would be uncomfortable if they were touched back. Since these Pursuers are the smallest group in terms of population percentage, having a salesperson initiate a brief touch may have more benefits than costs, even if they are not comfortable. It is interesting to note that in our study 4, the two Swedish confederates, were initially hesitant and moderately uncomfortable with initiating touch. However, they reported that by the end of our training session, they felt much more comfortable with touch and felt that they could be more connected to people they touched. So, encouraging reluctant salespeople to touch customers briefly and lightly on the arm may yield positive effects not only for the customer, but also for the salesperson.

For Touch Acceptors and especially for Touch Enthusiasts, both comfortable with receiving touch, a touch produces positive affect and more positive evaluations. Touch Avoiders say they are uncomfortable with touch, and the effects are not positive, but they are not negative either. If a company has an important client who contributes substantially to the company’s business, interpersonal touch should not be recommended in interactions with this individual until their preferences are understood. The risk associated with offending them is great (perhaps resulting in the loss of a contract). Furthermore, if the client is a Touch Pursuer, our fourth study suggests that the touch could produce negative affective reactions. With the touch inducing more negative emotions, perhaps the client would be less cooperative in negotiations. In situations with less critical clients, for example, a retail clothing store, the relationship with each individual customer is likely to be less important, and it may be acceptable to bother a small percentage of individuals. On average, the store will not likely experience drastic negative effects of touch.

Interpersonal touch is a tool that can be abandoned or leveraged based on the appropriateness of the context. In this way, touch can be manipulated and used at the discretion of the manager. The ability to understand individual preferences for touch will enable communication to be more effective and tailored to the individual consumer. For example, a person comfortable with receiving interpersonal touch may find it offensive if touch is not initiated. Nonverbal communication is especially important in the field of marketing because interpersonal touch influences practically all face-to-face business interactions.
**FUTURE RESEARCH**

Our research shows that an individual’s preference and tendency for interpersonal touch in communication affects attitudes and behaviors surrounding interaction. We demonstrate that receiving touch can affect a shopper’s attitudes and behavioral intentions, and initiating touch may have positive effects, even if someone is uncomfortable doing it. Future research could delve more deeply into possible latent class predictors. While we did not find that overt characteristics predict latent class membership, perhaps there are other behaviors (e.g. initiating a specific type of touch) that might imply that a person belongs to a certain latent class.

A lack of comfort with interpersonal touch may drive individuals to choose different means through which they communicate. By thinking of interpersonal touch as a method of communication, we might expect that individuals who are lower in comfort with interpersonal touch to be less likely to put themselves in situations in which touch may occur, and that they might compensate for that loss of face-to-face communication by using other means of communication. This may be especially true for those groups that are uncomfortable receiving touch such as Touch Avoiders and Touch Acceptors. Future research could consider investigating how and what types of media individuals consume based on their comfort with interpersonal touch.

Further research could also examine how our four latent classes respond to situations in which repeated touches occur. While Touch Enthusiasts (high on both initiating and receiving) and Touch Avoiders (low on initiating and receiving) may be more predictable in their responses, what would happen if a Touch Acceptor (high on initiating but low on receiving) was touched first and then made to initiate touch and vice versa? Would the order of the touch matter depending on the level of comfort? Similarly Touch Pursuers (high on initiating but low on receiving) may not exhibit the same levels of negative affect if they are able to initiate the touch before they receive it.

Currently, this research has been limited to studies within the context of “noncontact” cultures (i.e. United States and Sweden). Although we believe that within each culture, an individual difference in CIT exists, understanding how a contact culture would perceive initiating and receiving touch would expand our knowledge of the CIT construct. In our Swedish and American samples, the Swedes were more uncomfortable with receiving touch. Perhaps individuals in contact cultures would experience offense at the lack of initiating touch from a stranger than the overuse of touch. Investigating how consumers’ preferences for touch across different cultures impacts purchase decisions is a promising area of future research.

Lisa’s quote at the beginning states she would be uncomfortable if touched by a salesperson, leave the store, and never come back. However, our research finds that what people say does not always reflect their behavior. It is likely that the touch Lisa dreads would not be as negative as she thinks!
REFERENCES


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APPENDICES

Appendix 1. Scale Items

Comfort with Interpersonal Touch (CIT) Scale Items
(items 1-5 pertain to the initiating dimension, items 6-10 pertain to the receiving dimension, measured using a 7-point Likert scale with 1 = "strongly disagree" to 7 = "strongly agree," (r) = reverse-coded item)
1. It is natural for me to hug people.
2. I often put my arm around people.
3. I consider myself to be a more ‘touchy’ person than most of my friends.
4. I feel more comfortable initiating touch than most people.
5. When talking to people, I often touch them on the arm.
6. I am comfortable with people touching me.
7. During conversation, I don’t mind if people touch me.
8. I don’t mind if someone touches my arm.
9. I find myself pulling away if someone touches me. (r)
10. I typically don’t mind receiving touch from another person.

Comfort with the Interaction (Study 3)
(measured on a 7-point Likert scale with 1 = "strongly disagree" to 7 = "strongly agree" (r) = reverse-coded item)
1. The interaction with the buyer [seller] seemed to flow naturally.
2. The interaction with the buyer [seller] seemed uncomfortable. (r)
3. The interaction with the buyer seemed awkward. (r)
4. Personally, I felt comfortable during this interaction.

Attitude toward the salesperson (Study 4)
(measured on a 7-point semantic differential scale)
The salesperson was:
1. Good – bad
2. Unpleasant- pleasant
3. Not knowledgeable- knowledgeable
4. Unapproachable-approachable
5. Untrustworthy-trustworthy
6. Unattractive-attractive

Attitude toward the store (Study 4)
(measured on a 7-point semantic differential scale)
1. I think [sporting goods store] is:
2. Low quality-high quality
3. Negative-positive
4. Bad-good
5. Unfavorable-favorable
6. Unpleasant-pleasant
Appendix 2: Instructions for Participants in Study 3

SELLER Instructions:

This study is a hypothetical scenario, and we will ask you to play a role. You have been assigned the role of a SELLER. You work for a t-shirt company and you are a salesperson for your company. In a moment, you will be led to a room where a buyer will be deciding between two t-shirts. This is a sales simulation in which you will interact with this interested buyer.

As in many retail contexts, buyers may or may not make a purchase, but as a salesperson, it is your job to make the buyer feel welcome. Your job is to help the buyer make a decision that is best for them and to answer any questions that they might have about the products. There is evidence that a welcoming, friendly salesperson is more effective with buyers. When you enter the room we would like you to engage in helpful communication, which includes both verbal and nonverbal communication.

So, we want you to enter the room and say to the buyer, “Do you have any questions about these shirts?” [Touch Condition: When you say this we would like you to 1) maintain eye contact with the buyer, and 2) touch the buyer on the upper arm when talking to them. Limit the touch to a brief touch, only on the upper arm.] [No Touch Condition: When you say this we would like you to maintain eye contact with the buyer when talking to them.] If the buyer has questions, answer them politely until the buyer has no further questions. If the buyer has no questions to begin with, say, “Ok, thanks” and leave the room. Here’s some additional information regarding the shirts that might help you in answering the buyer’s questions:

- Different sizes available
- Machine washable
- 100% cotton
- Other colors are not available.
- Each is $10.

If the buyer asks you a question to which you don't know the answer, feel free to make up a reasonable answer and respond as a salesperson would.

BUYER Instructions:

This study is a hypothetical scenario and we will ask you to play a role. You have been assigned the role of a BUYER. You are interested in buying a t-shirt from a local business. In a moment, you will be led to a room with two t-shirts. You will examine both t-shirts and decide whether you like one over the other, both of them, or neither of them. A salesperson will come by to answer any questions you might have and help you choose the t-shirt(s) that is right for you. Feel free to ask the salesperson any questions in order to make a good decision regarding the t-shirts.
While consumers often shop in outlets with large product assortments, having no prior experience or knowledge to predict a product’s efficacy can pose a significant challenge at the point of purchase. Indeed, the functionality of most consumer goods tends to be a bit of a black box, at least until consumed. Imagine a consumer trying to select a new face cream. The majority of the ingredients may as well be illegible, and the promotional campaigns, brand awareness, and product claims tend to sit on par with several competing products in the same category. So which product does the consumer choose? This is where consumers make heuristic judgments. They infer quality from price and visual aesthetics. According to Proctor & Gamble (P&G) shoppers make up their mind about a product in three to seven seconds, just the time it takes to note a product on a store shelf. P&G refers to this time lapse as the “first-moment-of-truth.” Hence, companies like P&G spend considerable resources to enhance the appeal of product packaging.

Indeed, the role of product aesthetics in enhancing product preference is well-documented (Bloch 1995; Townsend, Montoya, and Calantone 2011, Berkowitz 1987, Hertenstein et al. 2004). When consumers are faced with a choice between two products of equal price and equivalent function, they tend to prefer the more attractive option (Kotler and Rath 1984). Hence, it is not surprising that in the absence of prior use or knowledge of the product, consumers will make initial impressions based on aesthetics (Chandon, Hutchinson, Bradlow, and Young 2009). However, one cannot help but question why this happens. Most day-to-day purchases are not just for hedonic gain, but utilitarian value. Given the sheer efficiency of the first-moment-of-truth heuristic, it would be surprising if the judgment had absolutely nothing to do with the product’s functionality, particularly given the strong relationship between form and function (Berkowitz 1987; Hertenstein et al. 2004).

In exploring this question, we make several advances. First, we demonstrate that while consumers show preferences for more appealing products in general, their belief in the product’s efficacy seems to be a function of their level of awareness of the category and the product’s aesthetic appeal. Specifically, consumers who have limited knowledge of a category tend to judge how well a product will function based on how pretty it is. Second, we demonstrate that these inferences translate into predictable and meaningful differences in purchase intent and choice. Finally, we go one-step further by showing that this effect is most pronounced in what we refer to as credence categories (products that promote outcomes that cannot be objectively evaluated). Hence, the story comes together to illustrate that with little knowledge to the contrary, consumers tend to assume that the beauty products work better if their packaging is congruent with their positioning. Hence, the first-moment-of-truth heuristic may have more to do with beliefs in efficacy than with aesthetic preference.

CONCEPTUAL BACKGROUND

Researchers have devoted considerable attention to models of processing that impact purchase intent (Bloch 1995, Park, Lennon, and Stoel 2005, Orth and Malkewitz 2008, Deng and Kahn 2009, Chandon and Orbabayeva 2009). It is well-documented that aesthetics in package design can augment product preference (Hoegg, Alba, and Dahl 2010). Without prior knowledge, consumers use aesthetic cues to inform purchase intent (Rahubir and Greenleaf 2006). It has also been shown that aesthetic information plays a critical role in product trials (Childers and Jiang 2008, Wyer, Hung, and Jiang 2008).

Prior research has addressed several aspects of package design that influence purchase intension including packaging size (Do Vale, Pieters and Zeelenberg 2008), location (Deng and Kahn, 2009), color (Folkes and Matta 2004; Yang and Raghurib 2005), shape (Raghurib and Krishna 1999), graphics (Bone and France 2001), and feel (Eriksson and Larsson 2011, Krishna 2006). In the absence of any other information, or when prior information about a new brand is missing (Postrel 2003, Horsky and Honea 2009), visual information of a product or package (color, design, graphics, etc.) serves to set consumption expectations and make purchase decisions (Bloch 1995, Kotler and Rath 1984, Sujan 1985). Yet, when a consumer knows how a product functions, the symbolic, ergonomic and functional value as communicated by design (Hoegg and Alba 2011) becomes redundant. While research in this area has focused on the influence of package aesthetics on satisfaction, product usage, and consumption perception (Shiv et. al. 2005), the effect of product appeal in determining efficacy of an unknown product has not been studied.

Past research categorizes products on store shelves in terms of how easy or difficult it is to evaluate the utility of the product (Hsieh, Chiu and Chiang 2005). Products that consumers have no object way to evaluate are termed credence goods (Lovelock 2001, Brush and Arzt 1999, Klein 1998). The two other types of products are search and experience products. Search products are those that the consumer can obtain multiple levels of information on, upon which they would base evaluations. The experience products are those that consumers evaluate based on actual consumption experience (Darby and Karni 1973, Zeithaml 1988). Examples of credence products are beauty products whose utility is hard to evaluate. Despite evidence that packaging influences claim receptivity for credence goods, there is little empirical work examining how variations in packaging form affect the desirability of credence goods. The promise of “beauty in a bottle” is a compelling proposition to any consumer. We contend that, in the absence of opportunities for consumers to make quality evaluations, aesthetics in packaging cues the semantic link between the category and functional efficacy of beauty. We show that a key determinant of a product’s success is its efficacy or perceived product effectiveness, particularly when prior knowledge is either absent or low.

Brand awareness usually cues expectations of how the product will function when prior usage or trial is absent (Hoyer & Brown, 1990). Nedungadi and Hutchinson (1985) define awareness as the ability to bring a brand to mind. Awareness serves as a heuristic when consumers lack time or prior usage experience. Horsky and Honea (2009) note that in cases of inferior product quality, packaging biases a positive response to hedonic product experience in which consumers were more likely to accept credence claims (products whose utility impact was difficult for consumers to ascertain). Consumers show a marked preference for a high-awareness brand even when there were known differences in quality and price (Macdonald & Sharp, 2000). Rips (1975). Nedungadi and Hutchinson (1985) note that any new information about a category is usually generalized asymmetrically between more- and less-known brands.

We contend, however, that in the absence of consumer awareness, the aesthetics of the product or the beauty-in-a-bottle promise serves as the first-moment-of-truth heuristic. This hypothesis is tested in study 1. Our hypothesis is that, in the absence of any other cues to a brand’s functionality, consumers look to packaging information to form purchase inferences, and this is mainly due to functional inferences based on appeal. Study 2 demonstrates that awareness or expertise in the category moderates this effect as consumers use the beauty-in-a-bottle heuristic only for low-awareness products. Study 3 is a field experiment that demonstrates the robustness of this effect across a variety of brands in the beauty and household category. The hypothesis tested are summarized as follows:

H1: In the absence of any other cues to a brand’s functionality, consumers look to packaging information to form purchase inferences.
H2: Expertise in the category moderates the above effect as consumers use the beauty-in-a-bottle only in case of low awareness products to make functional inferences.

H3: The beauty-in-a-bottle effect is moderated by product category and only informs products in the beauty category.

STUDY 1

Design and Procedures

Participants (N = 75, 58% females; M_{age} = 36.5) were recruited via Amazon.com’s crowdsourcing website, Mechanical Turk, to complete a brief (10 min) questionnaire on “product preferences” in exchange for a nominal fee ($0.20; see Paolacci, Chandler, and Ipeirotis [2010] for a validation of Mechanical Turk as a data source). Participants were told that we were interested in their shopping preferences, and were asked to imagine shopping in a store for a bottle of shampoo. After simulating the scenario, participants were instructed that they would be asked to indicate their preferences for a fictitious shampoo product (Clean Hair) whose form was varied to be either high or low on appeal.

The operationalization of low and high appeal followed a similar procedure described in Noseworthy and Trudel (2011) to establish variations in product form. First, we compiled various images of the product category. A pretest (n = 66) then determined whether participants perceived the selected containers as more (less) appealing than their general expectations for the category. The packaging with the highest and lowest appeal ratings were then carried forward into the study. After viewing the target product, participants’ purchase intentions were capture by asking them to indicate, “if you were shopping for shampoo, how likely is it that you would purchase this product,” (anchored: 1 = not likely at all; 7 = very likely). Following this, product effectiveness was captured by asking participants to indicate, “how well think the product will works” (anchored: 1 = very poorly; 7 = very well). The task concluded with basic demographic questions.

Results and Discussion

Not surprisingly, participants were more willing to purchase the more appealing product (M = 3.74) than the less appealing product (M = 2.55; t(73) = 2.72, p < .01). Critically, participants were also more likely to believe the more appealing product functioned better (M = 4.53) than the less appealing product (M = 3.66; t(73) = 2.23, p < .02). Participants’ judgments of product efficacy fully mediated the effect that appeal had on purchase intent (Sobel z = 1.68, p < .05). The results of this study not only replicate previous studies on the effect of product appeal on purchase intent (Chandon, Hutchinson, Bradlow, and Young 2009; Raghubir and Valenzuela 2008), but extend these findings to illustrate that product appeal informs efficacy in determining purchase intent. If we are truly tapping an efficacy heuristic, then we should be able to test this by delineating conditions where the heuristic would be rendered irrelevant. Study 2 was designed for this specific purpose.

STUDY 2

Design and Procedures

Participants (N = 129; 64.3% females; M_{age} = 46.3) were recruited via Amazon.com’s crowdsourcing website. Participants were randomly assigned on one of four conditions in a 2 (form appeal: high vs. low) × 2 (product awareness: low vs. high) between-subjects factorial design. Participants were asked to imagine shopping in a store for a bottle of shampoo. After simulating the scenario, participants were then instructed that they would be asked to indicate their preferences for specific products. As before we captured purchase intention and perceptions of product effectiveness. The product form manipulation followed study 1. In addition to rating the appeal of various form manipulations, participants were asked to list and rate the familiarity of brand names (anchored: 1 = not very familiar; 5 = very familiar). The list
Results and Discussion

An analysis of variance with purchase intent as the key dependent measure, yielded a significant awareness × appeal interaction ($F(1, 125) = 4.35, p < .05$). Simple effects confirmed that when awareness was high, participants did not show a significant difference in purchase intent between the more appealing ($M = 3.27$) and less appealing product ($M = 3.51; F < 1$). However, when awareness was low, participants preferred the more appealing product ($M = 3.06$) over the less appealing product ($M = 2.12; F(1, 125) = 5.35, p < .05$). To determine whether perceived efficacy once again accounted for the increased desirability of less aware products, we conducted a moderated mediation analysis (Preacher, Rucker, and Hayes 2007; Model 2). As predicted, perceived efficacy mediated the positive relationship between appeal and purchase intention when the product had a low awareness ($B = .86, SE = .29, z = 2.96, p < .005$) but not when brand awareness was high ($z = -.18, p = .85$). This finding supports the prediction that when awareness is low consumers use heuristics such as package design to determine product preferences, as consumers make efficacy inferences based on the appeal of the product, but when it comes to high awareness products, the heuristic is rendered irrelevant. Hence, consistent with literature on expertise, product awareness washed the heuristic. This raises the distinct possibility that this heuristic, like many others, is domain specific. That is, the link between beauty and efficacy might only exist for a credence good that is promoting beauty, as opposed to functional utility. Study 3 was designed to test this prediction, and also to check the robustness of our findings.

STUDY 3

This study uses a unique data set detailing 146 brand names of beauty and household products. It includes information about the products featured including images of the actual images of products used in store. In this study the objective was to evaluate the role that category plays in the beauty-in-a-bottle heuristic. We predicted that the link between beauty and efficacy exists only for products for which it is hard to ascertain functionality or utility ahead of time.

BrandSpark International, in collaboration with SSI, conducted a nationwide online survey of over 50,000 American consumers (age 18+) who are involved in household shopping and provided the data for our study. The survey was weighted by gender, age and region to conform to US MRI data and reflect the principal shopper. Of the individuals who participated in the nationwide survey 57,492 individuals (10.6% male and 89.4% female) participated in an additional survey that evaluated preferences to products that were either in the beauty (credence) or household (experience) categories. A total of 106 images of beauty products and household products were obtained from individual brand representatives who were Brandsparks clients. Images were all clients’ representations of the actual product package as used in store with the product against a white background. All images used were shown the using the same approximate size and with clear resolution.

Independent Measures

Each respondent saw one image with the product description and then answered a series of questions such as: How appealing is the product to you? Prior to this survey were you aware of this product? Have you or have you not purchased this product before? Approximately how many times have you purchased the product? The first time you purchased this product, please indicate what had the most influence on your decision to buy the product? How much does the packaging of this product encourage you to purchase this product? Respondents would then see a different product and repeat the series of question for the product presented. When repeated observations are collected on a set of individuals and the measurement occasions are not identical, such as measuring appeal, purchase intent and awareness of individual products, Raudenbush (2004) recommend treating multiple observations as nested within
persons. We chose full maximum likelihood as the estimation method to compare the model fits across three nested models (Raudenbush and Bryk 2002). In our model, each individual’s appeal rating is nested within products. We used hierarchical linear modeling (HLM; Raudenbush and Bryk 2002) to deal with multilevel data as it allows for simultaneous estimation of the relationship of variables at two levels, using iterative maximum likelihood estimation. We estimated a main effect model, an interaction model with main effects, and second and third order interaction with a random intercept and finally an interaction model with main effects, second and third order interaction with a random intercept and appeal. This final model allowed for individual variation in the level of product appeal.

Results and Discussions

The parameter estimates for all three models are contained in Table 2. Note that we report unstandardized coefficients. Model 3 had the smallest fit indices (AIC=1081349), suggesting a good fitting, parsimonious model. Given the sample size, we assumed this to be a reliable (Diamantopoulos and Siguaw 2000). We found an effect of appeal (γ̂₀₁ = 1.93, t = 157.82, p < .001), awareness (γ̂₀₂ = .25, t = 16.15, p < .001) and a marginal effect of category (γ̂₀₃ = -.02, t = -1.75, p = .08). These main effects were qualified by a significant three way interaction (γ̂₀₇ = -.0.13, t = -6.56, p < .001). In addition, a spotlight analysis at two standard deviations above and below the mean for appeal, and awareness were computed for beauty vs. household products. Consumers in the household category showed increased preference for high appeal product regardless of whether the awareness was high (M_low appeal = 2.15 vs. M_high appeal = 5.64) or low (M_low appeal = 1.58 vs. M_high appeal = 4.75). In contrast, while consumers in the beauty category showed a similar preference in a low awareness condition (M_low appeal = 1.73 vs. M_high appeal= 5.12) the effect of appeal did not matter in the high awareness condition (M_low appeal = 3.81 vs. M_high appeal = 3.81). This field study highlights the schematic concept of beauty or package aesthetics being important when awareness of a product is low and which is more the case for credence goods. For products associated in the beauty category, we find that appeal plays a critical role in the absence of brand cues to the quality of the product. A summary of findings are in table 1.

GENERAL DISCUSSION

Our research contributes to the literature on product aesthetics by showing how consumers use inferences based on package appeal to determine preferences of other heuristics to base preferences. Research has shown product form to play a critical role in soft persuasion tactics that marketers use by varying shape, visual graphics, materials, and proportions (Bloch 1995). Product form takes on multiple roles in communicating to the consumer (Hoegg and Alba 2011), including attention, schematic mapping of product category, basic arousal, and usage-related and functional meaning. In this research, we demonstrate that inferences regarding performance are generated purely based on product appeal when considering products for which utility and hence functional value are difficult to evaluate. We also show that these inferences are critical in driving trial for products that are hard for consumers to evaluate, even after they have consumed or used them (credence goods). Thus, we contribute to existing knowledge in this area by evaluating the influence of appeal in consumer preferences for products that require expertise and are challenging to evaluate.

This research illuminates the nuances of inferences that consumers make based on appeal. We demonstrate that, while appealing products are preferred in general, it is only when there is a lack of expertise or awareness in a category that appeal cues functional inferences. Further, studies 1 and 2 show the utility of this heuristic with credence goods, such as those in the beauty category, wherein it is difficult to determine an objective means of evaluation. Finally, by combining empirical analyses of multiple brands across different product types, we bolster the generalizability of the results while highlighting the differences in implications for credence versus experience products. By drawing on the product aesthetics literature, including findings from statistical analyses of field survey data and controlled experiments, we further enhance our contribution to theory and marketing practice.

Certain limitations to this research should be considered. In studying credence goods, our research has focused on the beauty category, because the appeal metaphorically maps to the concept of
beauty and hence to the “beauty-in-a-bottle” metaphor. This heuristic is certainly applicable to other areas of product aesthetics in which the limitations of credence goods or functionality of the product are difficult to evaluate. Further, while study 3 is useful in determining the limiting conditions of this phenomenon, future studies could explore the role that perceptions of efficacy play in different categories of credence goods. Future studies could also benefit by examining the moderating role of product awareness caused by lack of expertise, cross-cultural differences, gender differences, and cross-generational differences.

When it comes to new product trials, consumers make decisions on whether they will try a product based on the first-moment-of-truth, that is, the impressions they form in the first seven minutes of what they see on the shelf. When it comes to product extensions, new product introduction, and new categories of products, consumer retention is not as critical, and product aesthetics are used as an effective tool not just to impress but also to communicate the promise of meeting unmet needs of the consumer. Unlike experience products for which the consumer has an objective standard against which to compare the promise that the product is selling, positioning a credence product has a lot to do with the consumer’s expectations of the product. Therefore, while research has shown that product awareness and appeal are useful heuristics consumers use to make purchasing decisions, less is known about when and why aesthetics are used as an evaluative function of appeal versus a functional tool to estimate product effectiveness.
### Table 1 Mean Purchase Intent

<table>
<thead>
<tr>
<th></th>
<th>High Appeal</th>
<th>Low Appeal</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Appeal</td>
<td>2.55</td>
<td>3.74</td>
<td>$F = 2.55, \ p &lt; .008$</td>
</tr>
<tr>
<td><strong>Study 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Awareness</td>
<td>3.06</td>
<td>2.12</td>
<td>$F(1,125) = 5.35, \ p &lt; .02$</td>
</tr>
<tr>
<td>High Awareness</td>
<td>3.27</td>
<td>3.51</td>
<td>$F(1,125) = .37, \ p = \text{NS}$</td>
</tr>
<tr>
<td><strong>Field Study</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beauty Low Awareness</td>
<td>5.12</td>
<td>1.73</td>
<td></td>
</tr>
<tr>
<td>Spotlight Analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Awareness</td>
<td>3.81</td>
<td>3.81</td>
<td></td>
</tr>
<tr>
<td><strong>Household</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Awareness</td>
<td>4.75</td>
<td>1.58</td>
<td></td>
</tr>
<tr>
<td>High Awareness</td>
<td>5.64</td>
<td>2.15</td>
<td></td>
</tr>
</tbody>
</table>

### Table 2 Results of the HLM model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1: $\gamma$ (SE)</th>
<th>Model 2: $\gamma$ (SE) Interaction model with random intercept only</th>
<th>Model 3: $\gamma$ (SE) Interaction model with random intercept and appeal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept ($\gamma_{00}$)</td>
<td>2.07 (.018**)</td>
<td>1.91 (.020**)</td>
<td>1.87 (.019**)</td>
</tr>
<tr>
<td>Appeal ($\gamma_{01}$)</td>
<td>1.75 (.004**)</td>
<td>1.87 (.012**)</td>
<td>1.93 (.012**)</td>
</tr>
<tr>
<td>Category ($\gamma_{02}$)</td>
<td>0.20 (.004**)</td>
<td>.22 (.015**)</td>
<td>0.25 (.015**)</td>
</tr>
<tr>
<td>Appeal X Aware ($\gamma_{04}$)</td>
<td>-0.23 (.005**)</td>
<td>-.047 (.012**)</td>
<td>-.020 (.011)</td>
</tr>
<tr>
<td>Aware X Category ($\gamma_{05}$)</td>
<td>-.007 (.018)</td>
<td>-.020 (.018**)</td>
<td>.069 (0.017**)</td>
</tr>
<tr>
<td>Appeal X Aware X Category ($\gamma_{07}$)</td>
<td>-.159 (.014**)</td>
<td>-.138 (.021**)</td>
<td>-.192 (.013**)</td>
</tr>
<tr>
<td>Covariates Gender ($\gamma_{08}$)</td>
<td>-.005 (.009)</td>
<td>-.009 (.009)</td>
<td>.004 (.009)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fit Statistics</th>
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<tbody>
<tr>
<td>$-2\text{ResLL}=1086552$</td>
<td>$-2\text{ResLL}=1085781$</td>
<td>$-2\text{ResLL}=1079925$</td>
<td></td>
</tr>
<tr>
<td>AIC=1086566</td>
<td>AIC=1085803</td>
<td>AIC=1081349</td>
<td></td>
</tr>
<tr>
<td>BIC=1086629</td>
<td>BIC=1085901</td>
<td>BIC=1081465</td>
<td></td>
</tr>
</tbody>
</table>

*$p<.05$. **$p<.01$.  

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REFERENCES


CONSUMERS’ EVALUATION OF BRANDS FROM EMERGING COUNTRIES

Shuang Yang, University of Texas at El Paso

ABSTRACT

In the past four decades, researchers have explained the effects of country of origin (COO) on purchase intention by using theories such as signaling theory, the elaboration likelihood model, and categorization theory. However, none of these theories explain the role of social norms in COO effects. Drawing upon the theory of reasoned action, this study investigates the role of attitudes and social norms in consumers’ evaluations of brands from emerging markets. The moderation effect of culture is also discussed.

INTRODUCTION

The Center for Knowledge Societies defines Emerging Economies as those “regions of the world that are experiencing rapid informationalization under conditions of limited or partial industrialization” (Emerging Economy Report, 2008). During the last decade, emerging countries have undergone a transition from being merely manufacturing hubs for brands from developed nations to developing and internationalizing their own brands. Among the most advanced emerging markets are the so-called BRIC countries which include Brazil, Russia, India, and China. A small number of firms from these BRIC economies are expanding their own brands internationally. For example, Brazilian brands such as Havaianas (www.havaianas.com) and Osklen (www.osklen.com), in shoes and media companies respectively, have been introduced in the United States and Europe. Russian brands in the internationalization process include MTS (www.mts.ru) which is a telecommunication provider, and Beeline (www.beeline.com), a business consulting firm. Indian brands include Tata (www.tatamotors.com) in the automobile industry and Cadila (www.cadilapharma.com) in the medical industry. Global Chinese brands include Haier (www.haier.com) in the consumer electronics industry and Lenovo (www.lenovo.com) in the computer industry. However, several barriers hamper market development of these emerging market brands in global markets such as limited access and distribution, lack of marketing skills, and most importantly, negative country of origin effects (Wall, 2010).

COO Effect and Emerging Market Firms

Country of origin effects (COO) refer to the influences of country of origin on consumers’ product or brand evaluations due to the consumers’ evaluation of the country to which the product or brand is associated. COO has been traditionally operationalized through the phrase “made in” and can influence product evaluations (Schooler 1965, Johansson et al. 1985), product attitudes (White 1979, Lawrene et al. 1992, Chinen and Sun, 2011), and purchase intentions (Wall et al. 1991, Nicole et al. 2012). COO effects have more powerful consequences for brands from emerging market firms because these countries are normally associated with unfavorable predisposition and purchase intentions in the marketplace (Rosenbloom and Haefner 2009). Given the strategic importance of global brands to the development of emerging economies, understanding the factors that predict consumer evaluations’ of brands from these nations is of vital managerial relevance.

Gaps in the COO Literature

Despite the vast literature examining COO effects, the study of COO effects pertaining to brands from emerging markets is valuable to theory and practice for at least three reasons. First, unlike unknown brands or brands from developed nations, brands from emerging markets have to overcome an initial negative bias. Research shows that brands from developed nations benefit from spillover effects due to the positive associations related to the country even across product categories (Johansson et al., 1985). For example, Germany is primarily associated with high-quality machinery and automobiles. However,
German brands in unrelated product categories enjoy positive country of origin associations due to a spillover effect (Hsieh, 2011). In contrast, brands from emerging markets have a net negative effect to overcome which places them in a disadvantage. Negative consumer evaluations are difficult to turn around (Liu and Johnson 2005). Hence, it is important to understand the main determinants of the negative COO effects that could be changed through marketing strategy.

Second, a number of constructs such as consumer ethnocentricity, consumer animosity, consumer involvement, perceived brand quality, familiarity with the product category, and brand image have been proposed to influence COO effects on purchase intentions (e.g., (Klein, Ettensoona 2008; Han and Terpstra, 1988; Hong and Wyer, 1989; Knight and Calantone, 2000). Most previous studies, however, have examined each of these constructs separately. An integrated framework for the COO effect on purchase intention and purchase behavior of brands from emerging countries is needed.

Third, little attention has been given to the cross-national variation of negative COO towards emerging brands. While consumers’ value orientations such as materialism are found to moderate COO effect on their product evaluation and purchase intention (Phillippe et al 1982, Sharma 2011), the influences of culture difference, such as collectivism vs. individualism, on COO effects for brands from emerging countries has been ignored.

Research Questions

Based on the gaps in the literature, I propose a general research question: what factors influence COO effects of brands from emerging markets? Based on the general research question, there are two specific research questions I want to address: 1. What is the mechanism through which both individual factors and social factors influence COO effects? 2. How does culture influence the COO effect on purchase intentions of brands from emerging countries?

Overview of the Study

In this study, I propose that the Theory of Reasoned Action (Ajzen 1985) serves as an overarching framework that integrates past research and explains COO effects on purchase intentions. This theoretical framework proposes that beliefs, attitudes towards the behavior, and subjective norms influence individuals’ intentions to behave as well as actual behaviors. I argue that past research can be organized accordingly. For example, constructs such as perceived product quality and price are related to the attitudes towards the brand. Constructs such as consumer animosity, consumer ethnocentricity, and brand image are related to the perceived social norms in a given social group. Therefore, these constructs as a whole, influence purchase intentions and actual purchase of a global brand. The framework will help determine how much weight each construct contributes to influencing COO effects.

Consequently, in this study I test the robustness of the proposed nomological network by comparing the net of relationships to predict COO effects for Chinese brands across consumers in different countries including the United States, Japan, Mexico, China, and Kenya. I chose these countries to capture variation in cultural dimensions such as power distance and collectivism (Hofstede, 1983). These cultural dimensions play an important role in conforming to social norms and hence, purchase intentions of foreign brands. Overall, this dissertation adds to our understanding of COO in general and the negative COO effects towards emerging brands in particular.

LITERTURE REVIEW

The purpose of this section is to conduct a comprehensive review for the literature regarding country of origin effects, country of brand effects, and COO effects pertaining to brands from emerging markets.
Country of Origin Effects

After the end of War World II, a process of global economic and financial integration began to develop. Since then, advances in transportation and telecommunications, including the Internet, have ushered in the era of modern globalization, which is characterized by an increase in global trade, cross-national capital investment, migration of people across borders, and worldwide knowledge sharing. In turn, globalization has created a more interdependent world (International Monetary Fund 2013). Economic and financial globalization favors the expansion of global firms around the world. Therefore, an important topic of investigation in the last five decades has been how consumers react to foreign products and brands.

A vast amount of literature has investigated the impact of country of origin labels on consumer product evaluations and purchase intentions. Hundreds of articles have been published on the topic. To present a comprehensive, yet exhaustive chronological account of the research evolution on this topic, I organize the studies on COO into 5 phases: the definition stage, the “made in” phase, the multi-national production phase, the evaluation phase, and the branding phase. A summary of select works for each phase along with their main findings is presented in Table 1. Next, I provide a brief summary of each phase.

The “definition” phase comprises studies on COO from 1965 to 1968. In 1965, Schooler first introduced the term COO to refer to the influence of the “made in” label on consumers’ evaluation of foreign products. The first empirical studies following the introduction of the term focused on showing that the effect existed (e.g., Schooler and Reiserson 1966). These first studies established the concept of COO as a relevant issue for international marketing.

The “made in” phase includes research studies on COO conducted between 1968 and 1982. During this period, COO researchers demonstrated that COO effects occurred across countries, and across various product categories. Some studies during this phase also compared COOs from different countries (e.g., Japan vs. U.S. “made in” labels).

Along with the studies of globalization of marketing (Levitt, 1983) emerged in early 1980s, the literature of COO from 1983 to 1993 can be characterized as the “multi-national production” phrase. A number of studies addressed this shift in production strategy attempting to explain COO effects in this multinational production. Importantly, during this period of time, researchers began to introduce more theoretically-driven nomological networks including antecedents and consequences of COO effects. For instance, researchers proposed the summary construct model and the halo effect model as the psychological processes explaining COO effects (e.g. Han and Terpstra, 1988; Hong and Wyer, 1989). In addition, researchers began to introduce new constructs such as country image (Erickson et al, 1984) or consumer patriotism (Han, 1988). Moreover, research showed that COO effects influence consumers’ product evaluations in two key dimensions: perceptions of quality (Khachaturian and Morganosky, 1990) and purchase intention (Ahmed and d’Astou, 1993; Ahmed and Astous, 1995).

The “evaluation” phase, from 1994-1999, includes a series of meta-analysis and summary studies regarding the accumulated research on COO at the time. Two factors influenced researchers’ interest in evaluating the concept of COO. First, as mentioned in the previous stage, companies began to outsource production in a piecemeal fashion from multiple offshore locations. Hence, scholars grew skeptical about the relevance of the “made in” label. Second, there were a large number of studies drawing from different theoretical approaches and it was important to summarize the existing research findings. Therefore, during this period, researchers debated about the relevance of COO and meta-analyzed the antecedents and consequences of COO effects. Interestingly, the results showed that COO effects were still relevant and influential on product evaluations and purchase intentions. During this period there were the first attempts to propose a general framework for COO effects. For instance, Samiee (1994) proposed a
conceptual framework to rationalize the buying decision processes within the context of source-
country influence

The “branding” phase started in 2001 and continues to date. After the “evaluation” phase showed that
despite the fragmented nature of COO due to multinational production operations COO was still relevant
for the consumer, scholars began to investigate the source of such effects. Several studies compared the
effects between country of manufacturing, country of assembly, and country of brand (Chao 1993) and
found that consumers rely on the country associated with the brand to assess country of origin (Balabanis
et al 2008). In fact, several researchers have begun to specify country of brand (COB) as the main focus
of their investigation in an attempt to differentiate this main factor from other sources of country of origin
perceptions such as country of manufacturing or country of assembly.

Table 1
Summary of Studies on Country of Origin Effects

<table>
<thead>
<tr>
<th>PHASE</th>
<th>AUTHOR</th>
<th>MAJOR FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Definition” Phase 1965 – 1968</td>
<td>Schooler (1965)</td>
<td>The preconception of the product of a country is related to the attitude toward that country.</td>
</tr>
<tr>
<td></td>
<td>Reierson (1966)</td>
<td>Stereotyping of foreign product was present among US students.</td>
</tr>
<tr>
<td></td>
<td>Schooler and Wildt (1968)</td>
<td>American consumers were biased against Japanese products because of their national origin.</td>
</tr>
<tr>
<td></td>
<td>Nagashima (1977)</td>
<td>“Made in USA” image has lost ground rather dramatically compared with the “made in Japan” image.</td>
</tr>
<tr>
<td></td>
<td>Cattin et al (1982)</td>
<td>The “made in” concepts has been perceived differently between the American and French perceptions.</td>
</tr>
<tr>
<td></td>
<td>Johansson and Thorelli (1985),</td>
<td>COO is used as a surrogate variable to evaluate a product when subjects have limited knowledge about the product.</td>
</tr>
<tr>
<td>“Multi-national production” Phase 1983 - 1993</td>
<td>Thorelli et al (1989)</td>
<td>COO cue can provide only a limited explanation of evaluation and purchase intention when multiple cues are presented.</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>Hong and Wyer (1989)</td>
<td>The COO not only had a direct influence on product evaluations, but also stimulates subjects to think more extensively about other product attribute information.</td>
<td></td>
</tr>
<tr>
<td>Han (1990)</td>
<td>Consumer willingness to purchase a product was related to the economic, political, and cultural characteristics of the product’s COO.</td>
<td></td>
</tr>
<tr>
<td>Hong and Wyer (1990)</td>
<td>Time interval between knowledge of a product’s COO and information about its attributes in affect the usage of COO info in product evaluation.</td>
<td></td>
</tr>
<tr>
<td>Chao (1993)</td>
<td>Consumers’ evaluation of design and product quality are influenced by country of design, country of assemble and price.</td>
<td></td>
</tr>
<tr>
<td>Tse and Lee (1993)</td>
<td>The effect of country image was weakened when it was decomposed. A strong positive brand can override negative assembly COO effect.</td>
<td></td>
</tr>
<tr>
<td>Tse and Gorn (1993)</td>
<td>Country-of-origin is an equally salient and more enduring factor in consumer product evaluation for a well-known global brand.</td>
<td></td>
</tr>
<tr>
<td>“Evaluation” Phase 1994 – 2000</td>
<td>Maheswaran (1994)</td>
<td>This research identifies consumer expertise and the type of attribute information as moderating the effects of COO on product evaluations.</td>
</tr>
<tr>
<td>Samiee (1994),</td>
<td>Proposed a conceptual framework to rationalize the buying decision processes within the context of source-country influence.</td>
<td></td>
</tr>
<tr>
<td>Elliott and Cameron (1994)</td>
<td>Consumers rate country of origin after product quality and price regarding the importance in product evaluation and purchase intention.</td>
<td></td>
</tr>
<tr>
<td>Peterson and Jolibert (1995)</td>
<td>Meta-analysis of COO effect, study selectively confirmed and refuted common beliefs regarding the impact of a country-of-origin cue on product perceptions and purchase intentions.</td>
<td></td>
</tr>
<tr>
<td>Canli and Maheswaran (2000)</td>
<td>Motivational intensity and direction can moderate the effect of information type on country-of-origin evaluations.</td>
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**TABLE 1 (Continued)**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>Author(s)</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Canli and Maheswaran (2000)</td>
<td>Motivational intensity and direction can moderate the effect of information type on country-of-origin evaluations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Olsen and Olsson (2002)</td>
<td>Attribute-based format estimates a higher attitude response consistency and predictive validity by giving better country image and buying frequency.</td>
</tr>
<tr>
<td>“Branding” Phase 2001 - present</td>
<td></td>
<td>Olsen and Olsson (2002)</td>
<td>Attribute-based format estimates a higher attitude response consistency and predictive validity by giving better country image and buying frequency.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Samiee et al (2005)</td>
<td>American consumers' proficiency at recognizing foreign brand origins is predicted by variables such as past international travel, foreign language skills, and gender.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amine et al (2005)</td>
<td>Two case studies to gain a further understanding of two related constructs, country of origin (and animosity).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maheswaran and Chen (2006)</td>
<td>Incidental emotions and cognitive appraisals associated with these emotions can impact COO effect.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pappu et al (2007)</td>
<td>Consumers' country-level and product-level images of a country, have a positive effect on the equity they associate with a brand from that country.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Astous et al (2008)</td>
<td>Product-country images in the arts are affected by country and product familiarity as well as consumers' openness to foreign cultures and home country bias.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Balabanis and Diamantopoulos (2008)</td>
<td>There are differences in brand evaluations depending on whether the correct COO was identified.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Martín Martín and Cerviño (2011)</td>
<td>Country of brand is the main factor consumers use to assess COO.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Balabanis and Diamantopoulos (2011)</td>
<td>Both misclassification and non-classification have mostly adverse consequences on both brand evaluations and purchase intentions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fischer et al (2012)</td>
<td>COO has a positive impact on willingness to pay, which is moderated by involvement.</td>
</tr>
</tbody>
</table>
Given the emerging focus on country of brand effects, in the next section I describe extant research on this topic.

**Country of Brand**

In response to the globalized product environments in which products can be designed in one country and manufactured in another country, researchers have divided the effects of COO into several subcategories such as country of design, country of manufacture, and country of brand (Chao 1993). From these, country of brand has been found to play a major role in country of origin recognition (Papadopoulos and Heslop 1993). Consumers strongly rely on the brand to infer the country of origin (Martín Martín and Cerviño 2011). Consistent with COO research, country of brand is related to consumers' product evaluations and purchase intentions (Thakor, 2011). This effect, in fact, has been shown to occur even outside consumers’ conscious awareness (Liu and Johnson 2005). Liu and Johnson (2005) conducted an experiment to test whether country stereotypes can be spontaneously activated by the mere presence of country-of-origin (COO) information in the environment. They found that COO effects occurred automatically and contributed to product evaluations without participants' intention or control.

Several additional studies have demonstrated the influence of country of brand on purchase intention. Drawing from equity theory and cue utilization theory, Nicole et al (2012) investigated the price-related consequence of the COO cue and found significant evidence showing that COO has a positive impact on willingness to pay. Rosenbloom and Haefner (2009) conducted a survey that explored the relationship between country of origin and brand trust in 22 product categories, which ranged from high involvement, durable goods to low involvement, fast moving consumer goods. The results showed that the brands associated with USA were most trusted in 15 categories while those associated with Japan were most trusted in 6 categories. This indicates that country association of brand can influence brand trust.

Hsieh (2004) conducted a survey crossing 20 nations to evaluate 11 automobile origins with 53 brands. Using correspondence analysis, Hsieh found that there are brand and national variations in the magnitude of COO effects. At the brand level, COO effects appear to be more influential on the purchase behavior of consumers who have a positive attitude towards the brand. At the national level, COO effects are more significant among nations where the availability of international automobile brands is lower.

Overall, the research findings show that country of origin has a strong impact on product evaluations and purchase intentions. Furthermore, the studies demonstrate that the brand is the focal factor influencing country of origin effects.

**Consumers’ evaluations of brands from emerging markets**

The study of country of brand effects is of special significance to countries from emerging markets such as Brazil, Russia, India, and China due to the rising internationalization of their own brands. In spite of their fast growing economies in recent years, emerging countries still have the image and reputation of low cost producers in the global marketplace. The firms from emerging markets carry an initial burden regarding their brand image that puts them in a disadvantageous position to compete against brands from developed countries. Thus, firms from emerging markets struggle to favorably position their brands in the mind of the consumer, especially in developed markets (Aulakh et al 2000).

For instance, Chinen et al (2000) found that compared to products from emerging countries, products from developed nations tend to receive better product evaluations. Also, a study conducted by Nebenzahl and Jaffe (1996) found that Korean brands had a poor national image in the international marketplace and “Made in South Korea” VCRs had to be discounted by approximately 40 percent in order to compete with VCRs with a “Made in Japan” label. Furthermore, Chinen and Sun (2011)
investigated the attitudes of American consumers towards automobile brands from developed, emerging, and developing nations. The study found that U.S. consumers focused on the perceived product quality and they were more receptive to brands from the most advanced countries, such as Japan, Germany, and the U.S. Additionally, they were less receptive to brands from emerging countries such as South Korea and China. Americans were least receptive to automobiles associated with developing nations.

Overall, the studies show that brands from emerging countries are in a disadvantage compared to brands from developed countries. In the next section, I detail the existing theoretical approaches that have been proposed to explain such country of origin effects and I propose the Theory of Reasoned Action as the unifying framework.

**HYPOTHESIS**

In this chapter I present different theoretical approaches used to explain the COO effect. Then, I compare the theory of reasoned (TRA) and the theory of planned behavior (TPB) in regards to their applications in consumer research, and provide reasons for why TRA is a more plausible explanation for COO effects. In the second part, I develop a theoretical framework that integrates past research on COO, define the constructs in the framework, and provide the theoretical rationale for their relationships. Importantly, I emphasize how culture influences the relationships in the framework.

**Theoretical Background**

Several theories have been proposed to explain COO effects. After reviewing the literature, I identified four main theoretical approaches: signaling theory, elaboration likelihood model, categorization theory, and product lifecycle theory. The first three theories represent three different theoretical routes in explaining the mechanism of COO’s effect on product evaluation and purchase intention. Product life cycle theory is used to explain the evolution of the COO image. Table 2 lists these theoretical approaches, their major constructs, and their contentions.
Table 2
Summary of Theories Explaining Country of Original Effects

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<td>involvement, attribute</td>
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<tr>
<td>Categorization theory (Gutman 1982)</td>
<td>Han (1989) Balabanis and Diamantopoulos (2011)</td>
<td>IV: COO image</td>
<td>COO constitutes an important category for consumers. By using the categorization of COO as stereotypes to refer to product quality, consumers reduce the cognitive effort in product evaluation.</td>
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<td>DV: product evaluation and</td>
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<td>attribute information</td>
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<tr>
<td>Product life cycle theory (Polli and Cook 1969)</td>
<td>Lampert and Jaffe (1998)</td>
<td>IV: Stage of market development</td>
<td>COO image evolves to country-brand image and finally to country-product image, along with different stages of export, from market entry to market maturity.</td>
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<td>DV: COO image</td>
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**Signaling Theory**

Spence’s (1973) signaling theory argues that two parties could solve the problem of asymmetric information by having one party send a signal that would reveal some piece of relevant information to the other party. Signaling theory has been applied to consumer research to explain the influence of signals such as price, product warranty, and COO on product evaluations (Nelson 1970, Boulding and Kirmani 1993). Johansson (1989) found that when consumers are unable to detect true quality, they may turn to country image to infer the quality of products. More specifically, consumers make inferences about product quality using country image when other product information is unavailable or uninformative and when consumers are not familiar with a product (Han 1988).

**Elaboration Likelihood Model**

The elaboration likelihood model developed by Petty and Cacioppo (1983) proposes that there are two routes for persuasion: a central route and a peripheral route. The central route process occurs under
high cognitive elaboration while the peripheral route occurs under low cognitive elaboration. From this perspective, COO serves as a peripheral cue in product evaluation and its effect is determined by the extent to which consumers rely on the peripheral route in information processing (Zhang 1997; Bloemer et al., 2009). When attribute information is available and consumers are highly motivated to process attribute information, they follow the central route and COO only acts as a product attribute, which is less influential in product evaluation (Curhan and Maheswaran 2000). When attribute information is limited and/or consumers are not motivated to process attribute information, they follow the peripheral route and COO is more important to form product evaluations. Under the latter situation, Bloemer et al. (2009) have further identified three COO cognitive mechanisms: 1. the halo effect, which occurs when consumers rely on COO cues to infer beliefs about the attributes of a product. In this case, product attribute information is disregarded in product evaluations. 2. The summary construct effect, which occurs when attribute information is not explicitly taken into consideration because it is already summarized by COO information. 3. The default heuristic effect, which occurs when the processing of the COO cue is done together with the processing of product attribute information and there is an interaction between the two. 4. The product attribute effect, which occurs when both the COO-cue and product attribute information are being processed.

In sum, the elaboration approach emphasizes COO as a cue that is most influential in product evaluations under low cognitive elaboration.

**Categorization Theory**

Categorization is “the mental act of coming to think of some object as an instance of the category” (Smith 1995; p.85). According to categorization theory, consumers tend to structure their knowledge of specific product alternatives in categories (Gutman 1982); specifically, they use category structures to organize and differentiate brands (Johnson and Lehmann 1997). As a cognitive process, categorization serves two functions: coding of experience, whereby categorization reduces the demands for perceptual processes, storage space, and reasoning processes; and licensing of inferences, whereby categorization is the means of inferring properties of an object from the category to which it belongs (Smith 1995). Han (1989) applied categorization theory to COO research and argued that COO has a coding function when serving as a stereotype; and COO has an inference function when COO acts as a proxy for other product attributes. Further, Balabanis and Diamantopoulos (2011) propose that there are three specific mechanisms through which the category-based information processing of COO can influence brand evaluations and purchase intentions (1) cognitive, (2) affective, and (3) normative processes.

**Product Life Cycle**

Lampert and Jaffe (1998) argue that there is a dynamic process in which a COO image evolves to country-brand image and finally to country-product image, along with different stages of export, from initial market entry to market maturity. They propose a model of product image life cycle (PILC) based on the theory of product life cycle (Polli and Cook 1969). Initial exports to a given market can be viewed as being similar to a new product introduction in that market. The PILC starts with the pre-introduction stage, and ends with the maturity stage. Figure 1 presents the swift of COO image for consumers at different stages. For consumers who had experience with one brand, the country image for that product category shifted from a halo effect to brand image, and for those experiencing more than one brand, to multi-brand familiarity, which constitute the country-product image.

**Affective Aspects of COO Effect**

A number of studies in COO found that COO effect is not attributed only to the signaling of product quality, but also to signaling of self-status (Hirschman 1985, Batra et al. 1998, Botschen and Hemetsberger 1998). COO also acts as an image or expressive attribute (Hirschman 1985). Consumers
link COO to autobiographical memories, to national or ethnic identities and to feelings of “status” associated with the possession of products from certain countries (Bartra et al. 1998). Lefkloof-Hagius and Mason (1993) found that the image attributes of COO indicates how product use and/or ownership associates the consumer certain self-images. Batra et al. (1999) found that in India, a COO from western countries has a substantial positive effect on brand attitudes, even after controlling for perceived quality. On the other hand, a COO from developing countries negatively influence brand attitudes by signaling low self-status.

Consumer Animosity toward the country

The concept of consumer animosity was proposed by Nijssen and Douglas (2004) to explain consumer’s attitudes toward purchasing products from countries which have recent histories of military and/or economic hostility with foreign countries. Animosity has two main dimensions: war animosity and economic animosity. War animosity is caused by the acts of aggression or warlike behavior of a country normally arising from general historical events or military conflicts between two countries (Ang et al. 2004, Leong et al. 2008). On the other hand, economic animosity refers to the feelings towards the economically dominant or emerging country as it has the economic aggression and an excessive influence on many local industries (Nijssen and Douglas 2004). Prior studies have found that country animosity, including war and economic, can lead to unwillingness to buy products from the focal countries (Nijssen and Douglas 2004, Shoham et al. 2006, Huang et al. 2010).

Both war and economic animosity existed toward emerging countries. Along with the fast growth of economic, the large scale of export and production outsourcing from emerging countries has excessive influence on the local economies in many counties. And economic animosity may be raised among consumers in those countries. War animosity was also found to be widely exists among Japanese consumers toward Chinese brand due to the recent conflict between China and Japan.

The explanation of COO effect from signaling theory, ELM theory and categorization theory are all related to the cognitive information process of COO cue. Product life cycle theory outlined a dynamic process of the involvement of COO image, while the underlined psychological mechanism has not been explained. However, none of the above theories can provide a comprehensive explanation of country’s influence on purchase behavior that account for both cognitive and affective aspects of COO effect. Moreover, the role of social pressure and culture in COO effect has not explained.

Theory of Reasoned Action (TRA) as alternative explanation for COO effects

Because of the deficiency of existing theories applied in COO studies, I propose TRA as a comprehensive and parsimonious explanation for COO effect, which accounts for both cognitive and affective aspects of COO effects and stress the influence of social pressure.

Theory of Reasoned Action

The theory of reasoned action (TRA) (Ajzen and Fishbein 1980; Fishbein and Ajzen 1975) proposes that beliefs, attitudes and subjective norms jointly influence behavioral intentions, and ultimately behavior. Based on the theory of reasoned action (Ajzen and Fishbein 1980), attitudes are determined by a combination of people's beliefs about behavioral outcomes and their evaluations of those outcomes. Subjective norms are determined by a combination of people's perceptions that important others think they should or should not perform the behavior and their motivation to comply with others' wishes. The combination of attitudes and subjective norms leads to behavior intention, which in turn determines the behavior. TRA has been applied to different areas in consumer research, such as consumer evaluation and adoption of green products (Band et al 2000).
Theory of Planned Behavior

Theory of planned behavior (TPB) (Ajzen 1985; 1991), an extension of TRA, adds “perceived behavior control” as a determinant of behavior intention. Perceived behavior control has been defined as the consumer’s subjective belief about how difficult it will be for that consumer to generate the behavior in question (Posthuma and Dworkin 2000). Compared the TRA, TPB explains the intention-behavior relationship in circumstances under which the target behavior is not completely under the consumer’s control. In consumer research, TPB has been widely employed in research regarding online shopping behavior (Hansen 2008, 2005, Wang 2007, Shim et al 2001) and consumer ethical behavior (Blue 1995).

TRA vs. TPB

Although both TRA and TPB have been applied in a large number of studies in consumer research (Sheppard et al 1988, Ajzen 1991, Chang 1998), TRA is more appropriate when the behavior being studied is under volitional control of the individual (Ajzen, 1988, Ajzen and Fisbein, 1980), while by adding the construct of perceived behavior control, TPB is more appropriate when the behavior is not under volitional control (Ajzen 1991). In this study, I am interested in explaining consumers’ purchase behavior on brands from different countries, which is complete under consumers’ volitional control. For example, when a consumer in the USA is evaluating a series of brands for the same product, and sees a Chinese brand and American brand on the shelf, he or she choose to buy the American brand even though the quality, design and function for both products are the same. This indicates that consumers have complete control over which brand to purchase, the purchase behavior is determined only by the purchase intention. Thus, there is no need to include perceived behavior control in the framework, and I adopt TRA in order to make the model parsimonious.

There are two benefits of applying TRA to the study of COO. First, by applying TRA, both cognitive and affective aspects of COO effect can be integrated into a single framework by explaining their influence on the attitude toward the purchase for brands from a country. Second, culture’s influence on COO effect can be explained through the construct of social norms in TRA.

Next, using TRA I propose a framework to integrate previous literature on different antecedents of the choice of country of brand, and account for the role of culture in explaining COO effects.

Hypotheses Development

I propose a framework (Figure 1) that explains the influence of COO on purchase intentions of brands from emerging markets. According to TRA, behavior intention (BI) is the best single predictor of a person’s behavior (B) when the behavior is under volition control (Ajzen and Fishbein, 1980). Thus, the behavior of purchasing brands associated with a given country is determined by the intention to make such purchase. Specifically, I propose that purchase intention is determined by the attitudes toward brands from a country and the perceived views on brands from a country held by relevant others.

H1: Attitudes toward the brand from an emerging market are positively related to purchase intention.

Further, quality belief, status belief, consumer animosity and perception of social beliefs influence the purchase intentions, while perception of social beliefs influence perceived social pressures. The explanation of theoretical framework will be organized into two parts: attitudes and social influences.
Antecedents of Attitudes

In this section, I will explain constructs that researchers have identified as influencers of purchase intentions of brands associated with specific countries.

In the literature of international business, COO cue can influence purchase intention in three ways: 1. product evaluation (Schoolar 1965, Han 1990, Chao 1993); 2. self-status reflection (Hirschman 1985, Batra et al. 1998); 3. consumer animosity (Nijssen and Douglas 2004). In my study, I integrate these three ways of influence into a single framework by proposing them as antecedents of attitudes toward brands from a country.

Prior studies found that COO is used as a “signal” for overall product quality and quality attributes, such as reliability and durability (Li 1994, Steenkamp 1989). Quality perceptions influence purchase intention (Han 1990). Thus, by applying TRA (Ajzen and Fishbein, 1980), I propose that the effect of product evaluation on attitudes toward brands from a country is a function of a cognitive belief structure including two subcomponents: salient beliefs (b) that owning/using the brand from a country will lead to a quality related outcome such as the product can improve my life quality or the product can satisfy my demand, and the evaluation (e) of the outcome which refers to how positive or negative the consumer perceived the focal outcome.

H2. Beliefs about product quality and evaluation of quality are positively related to attitudes towards the brand from an emerging country.

Studies showed that COO also acts as an “expressive” or “image” attribute (Hirschman 1985). Owning/using brand from a country reflects certain self-status associated with the characteristics of the country (Batra et al.1998). Consumers like/dislike brands from certain countries because it can improve/decrease their self-status. Also by applying TRA, I define the effect of self-status reflection on
attitudes toward brands from a country as a function of a belief structure including two subcomponents: salient belief that owning/using the brand from a country will lead to a self-status related outcome such I feel myself to be more/less attractive or I feel more/less confident, and the evaluation of the outcome which refers to how positive or negative the consumer perceived the focal outcome.

H3: Beliefs about self-status and evaluation of self-status are positively related to attitude toward the brand from an emerging country.

Based on prior studies on consumer animosity, one’s animosity toward a country, including war animosity and economic animosity, can lead to unwillingness to buy products from the focal countries (Nijssen and Douglas 2004, Huang et al. 2010). Because animosity itself is an attitude towards a country, consumer animosity directly influence attitude toward brands from a country more directly then product evaluation and self-status reflection does. Instead of considering the consequences, consumers with animosity toward a country trend to avoid owning/using brands from the country spontaneously. Thus, I propose that consumer animosity directly and negative influence attitudes toward brands from a country.

H4: Consumer animosity is negatively related to attitudes towards the brand from an emerging country.

Social Influence

Based on the studies in social influence (Deutsch and Gerard 1955, Kelman 1958), individuals tend to matching attitudes, beliefs and behaviors to group norms. There are two kinds of social influence: informational social influence and normative social influence. Informational social influence occurs when one turns to the members of one's group to obtain and accept accurate information about reality (Deutsch and Gerard 1955). Informational social influence often results in internalization, which is defined in sociology as process of acceptance of a set of norms and values established by people or groups which are influential to the individual (Scott 1971). According to the studies in internalization, the process of internalization starts with learning what the norms are, and then the individual goes through a process of understanding why they make sense, until finally they accept the norm as their own viewpoints (Scott 1971). In the context of COO effect, social pressure refers to the views held by relevant others on owning/using brands from a given country. Consumers try to rationalize social pressure until they finally accept these views as their own. Through the process of internalization, consumers’ attitudes toward brands from a country are influenced by the perceived views held by relevant others.

H5: Social pressure is positively related to attitudes towards the brand from an emerging market.

Normative social influence occurs when one conforms to be liked or accepted by the members of the group (Deutsch and Gerard 1955). Normative influence usually results in public compliance (Kelman 1958), doing or saying something without believing in it. In the context of this study, consumer may comply with the social pressure on own/using brands from a country in order to be liked or accepted by the his/her significant others, even when he/she hold a positive attitude toward the brands from that country.

H6: Perceived social pressure is positively related to purchase intention.

Subjective norms reflect a person's belief about whether his or her significant others think that he or she should perform a particular act (Ajzen & Fishbein, 1980). The influence of subjective norms origin from the social pressure a person feels to make a behavior or not. In the context of COO effect, the social pressure influences the intention of purchasing brand from a country (H2). Three are three sources of social pressures: 1. the quality perception of brands from a country among relevant others, 2. View of
status characteristics associated with a country among relevant others, 3. Economic and war animosity toward a country among relevant others.

Applying TRA to the context of COO, I argue that if one perceived his/her relevant others view brands from country A has better quality than country B, he/she will feel an expectation from them to choose brands from country A over country B. This expectation forms perceived social norms toward brands from a country, which in turns influence one’s intention of purchasing brands from a country. Thus, I propose that the social perceptions, which refers to one’s perceived views from significant others on the quality of brands from an emerging markets, positively influence perceived social pressure toward owning/using brands from the country.

H7. Social perceptions of quality are positively related to perceived social pressure.

Similarly, if one perceived his/her relevant others hold the view that country A is associated with certain positive/negative status related characteristics, he/she will feel an positive/negative social expectation toward owning/using brands from country A. Moreover, he/she will realize that his/her social status among relevant others will be positively/negatively affected by owning/using the brand from a country, which reinforce the perceived social expectation. Thus, I propose that social status, which refers to the perceived views from significant others on the status characteristics of brands from an emerging country, will positively influence perceived social pressures toward owning/using brands from the country.

H8. Social status is positively related to social pressure.

Similarly, one’s perception of animosity among relevant others toward a country, including war animosity and economic animosity can make he/she will feel an expectation from them to not using brands from country, which constitutes a perceived social pressure toward using brands from a country. Thus, I propose that social animosity, which refers to the one’s perceived consumer animosity of significant others, negatively influence social pressures toward owning/using brands from the country.

H9. Social animosity is negatively related to social pressure.

Social pressure and Culture (Collectivism VS. Individualism)

The subjective norms and their influence on behavior intention might be influenced by the culture dimension of collectivism and individualism (Markus and Kityama 1991). For people in collectivistic cultures, the determinants of behavior are primarily norms, duties, and obligations, whereas for people in individualistic cultures, they are primarily attitudes, personal needs, perceived rights, and contracts (Triandis & Bhawuk, 1997). The role of collectivism and individualism in social behavior has been widely recognized (Miller, 1994). Triandis (1994) also argues that individualism and collectivism affect the relative importance of attitudes versus norms as determinants of social behavior. Trafimow, Triandis, and Goto’s (1991) study found that there is an incremental effect of culture on the subjective norms to intentions relation, within the same social context of eating with friends.

The role of individualism and collectivism in consumer behavior has also been investigated. Lee and Green (1991) found that the subjective norms have no effect on the purchase intention of sneakers for Americans, and a strong effect on Koreans. Also from the meta-analysis of cross-culture variations of attitudes-behavior consistency, Bontempo and Rivero’s (1990) found the behavior of consumers in individualistic cultures is more linked to attitudes and behavior of consumers in collectivistic cultures is more linked to norms.
In the context of this study, consumers in collectivistic culture may regard others’ views on brands from a country as more important and rational than consumers in individualistic culture do. Thus, in collectivistic culture, others’ views on brands from a country are more likely to be accepted as one’s own view.

H10: The relationship between social pressure and attitudes towards the brand from an emerging market is stronger in collectivistic cultures than in individualistic cultures.

Similarly, consumers in collectivistic culture may have stronger motivation to comply with the social pressure toward owning/using brands from a country than consumers in individualistic culture.

H11. The relationship between social pressure and purchase intention is stronger in collectivistic cultures than in individualistic cultures.

**SUMMARY**

Prior theoretical explanations of COO effects are mainly from a cognitive process perspective. Under this perspective, COO serves as an information cue to assess product quality. However, the social aspects in COO effects have not been explained. By applying the theory of reasoned action, I propose a model to explain the mechanism through which individual factors and social factors of COO jointly influence purchase intention of brands from emerging markets. Furthermore, I explore the role of culture in moderating the influence of social factors on COO effects. This study provides managerial implications to firms from emerging markets on how to mitigate negative COO effects.
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SYNERGISTIC IMPACT OF CRM AND OTHER CORE BUSINESS PROCESSES ON FIRM EFFICIENCY AND EFFECTIVENESS

Linlin Chai, S. Arunachalam, Sridhar N. Ramaswami, Iowa State University

ABSTRACT

Linking market-based assets literature with the rich stream of literature on MO, this study examines the direct impact of CRM performance on firm performance, as well as how the CRM process leverages the performance of the firm’s NPD and SCM processes. Specifically, our results show that CRM process has a direct impact on market performance of the firm, controlling for the other two processes. In addition, we investigate the performance synergy effects between CRM and NPD/SCM on two types of firm performance, namely, effectiveness (e.g., market share and sales) and efficiency (e.g., profitability and ROA). Our results show that high CRM performance has a significant positive impact on the firm’s financial position (i.e., efficiency) in combination with the NPD process of the firm and a significant negative impact on the firm’s financial position in combination with the SCM process of the firm. Besides the contributions to CRM and marketing-finance literature, we also contribute to market orientation literature by providing a broad understanding of process-based mechanisms through which market orientation of a firm enables superior firm performance. Our results provide evidence that the performance of CRM may have full mediating effects on both MO-firm effectiveness and MO-firm efficiency relationships. Both theoretical and managerial implications of our study are discussed.

INTRODUCTION

There is a growing recognition that marketing needs to be embedded in a firm’s core business processes that create and sustain value for customers (Srivastava, Shervani and Fahey 1999). Consistent with this perspective, marketing literature has shown increasing interest in understanding the integration of marketing within business processes. Srivastava et al (1999) offered an exhaustive but untested theory relating marketing to activities and performance of three core business processes - customer relationship management (CRM), new product development (NPD) and supply chain management (SCM) - and further to their cash flow consequences. Although the Srivastava et al. (1999) framework was proposed more than a decade back, several important gaps still remain in our understanding of the relationships involving marketing, business processes and performance consequences.

First, there is a lack of clear understanding of the unique contributions made by the CRM processes of a firm toward firm performance controlling for performance of other critical business processes. We address this gap by examining the direct impact of CRM performance on firm performance, as well as how the CRM process leverages the performance of the firm’s NPD and SCM processes. In this paper, we do not identify specific structures, platforms or types of assets a firm uses in its business processes nor do we identify how the structures, platforms or assets vary across firms; by capturing the performance impact of whichever structures, platforms or assets used by firms and their variability across firms, we illustrate the important integration role played by CRM. Results show that CRM process has a direct impact on market performance of the firm, controlling for the other two processes. Moreover, we find that CRM positively moderates the NPD-financial position relationship, but negatively moderates the SCM-financial position relationship. In other words, (a) high CRM-oriented firms are able to extract more value from their NPD processes than moderate or low CRM-oriented firms, but (b) high-CRM oriented firms extract less value from their SCM processes. The latter finding is at odds with the results of Mithas, Krishnan and Fornell (2005) who show that returns to CRM are enhanced when firms share information with their supply chain members.
Second, more studies are needed to establish links between performance of business processes and various types of firm performance (Boulding et al. 2005). In line with this reasoning, we investigate the performance synergy effects between CRM and NPD/SCM on two types of firm performance, namely, effectiveness (e.g., market share and sales) and efficiency (e.g., profitability and ROA). Our results show that controlling for the effects of NPD and SCM, high CRM performance has a direct influence in generating greater effectiveness through superior market position for the firm; further, it has a significant positive impact on the firm’s financial position (i.e., efficiency) in combination with the NPD process of the firm and a significant negative impact on the firm’s financial position in combination with the SCM process of the firm. The first result is consistent with previous findings that higher performance on CRM, as evidenced by high customer satisfaction and loyalty, should be able to drive a firm’s market share and sales. The finding relating to CRM and NPD is also consistent with expectations. We expect CRM to provide useful input information to the NPD process in both the value creation and value extraction stages of new product offerings to the market. The finding relating to CRM and SCM suggests that the goals of the two processes may be at odds with each other. Attempting to maximize the goals of CRM may come at the expense of maximizing the goals of the SCM process. Overall our findings confirm the view that CRM is better treated as an investment rather than a cost.

Third, besides the contributions to CRM and marketing-finance literature, we also contribute to market orientation literature by providing a broad understanding of process-based mechanisms through which market orientation of a firm enables superior firm performance. Chain of marketing productivity model (Rust et al. 2004) indicates that one of the strategic roles of marketing is to guide the development of marketing assets which can then be leveraged within the firm’s core business processes (e.g., CRM, NPD, and SCM) to affect its performance in both the short and long run. Since market orientation is a strategic philosophy of the firm that influences how it implements the marketing concept (Kohli and Jaworski 1990), we empirically test Rust et al.’s model in this paper with specific focus on the important role played by CRM in intervening between a firm’s market orientation and its performance consequences. Additionally, even though the primary focus of this paper is on CRM, we do examine the mediation role of NPD and SCM simultaneously with CRM. Our results provide evidence that the performance of CRM may have full mediating effects on both MO-firm effectiveness and MO-firm efficiency relationships.

Fourth, there is a recognition that collective execution of business processes provides firms with sustainable competitive advantage (Srivastava et al. 1999). The only study examining the effects of synergy among all three processes (Ramaswami et al. 2009) did not find empirical support for this proposition. We provide a replication of their test and investigate if synergy among processes brings positive results for the firms in our study setting.

In summary, drawing upon Srivastava et al.’s (1999) marketing-business processes-performance framework and Rust et al. (2004)’s chain of marketing productivity model, the goals of this paper are fourfold:

1. To provide an understanding on the contribution of CRM to a firm’s market and financial performance
2. To reveal the different synergy effects between CRM and NPD/SCM on firm effectiveness and firm efficiency.
3. To examine the important role played by CRM in intervening between a firm’s market orientation and its performance consequences.
4. To provide empirical support for the assertion that interaction among all three CRM, NPD and SCM positively contributes a firm’s financial performance.
The remainder of this article is organized as follows. To begin, we offer a theoretical foundation to provide guidance to the study. Then we develop and set forth the research hypotheses. Next, we detail the methods, including a discussion of the data collection and data analysis procedures. Last, our study concludes with a discussion of findings and implications for theory and practice, as well as for future research.

**FROM MARKET ORIENTATION TO FIRMPERFORMANCE**

Consistent with extant literature, we adopt the cultural perspective of market orientation, defined as a set of organizational norms and values which help implement the ‘marketing concept’ (Narver and Slater 1990). During the past two decades, researchers have pursued intensive research on the consequences of market orientation (MO). The most popular notion in the literature has been that market orientation directly brings superior performance to a firm (e.g., Narver and Slater 1990, Slater and Narver 2000). However, the viability of such a direct MO-firm performance linkage has met with increased skepticism due to the non-significant, even negative effects of market orientation reported in recent empirical studies (e.g., Grewal and Tanshuaj, 2001; Sandvik and Sandvik, 2003; Pelham and Wilson, 1996). Accordingly, researchers have shifted their attention from direct relationship to potential mediators of the relationship. For example, in a recent meta-analysis, Kirca et al (2005) found that customer satisfaction, an indicator of the performance of CRM based on Srivastava et al (1999), may play an important mediating role. Contributing to the same literature, this paper investigates a more general CRM-based mechanism via which the value of MO can be transferred to superior firm performance. Further, we also examine the mediating effects of other two core processes in any organization, namely, NPD and SCM.

**Hypotheses Development**

**CRM as a potential mediator**

According to Slater and Narver (1999), a market-oriented firm “seeks to understand customers’ expressed and latent needs and develop superior solutions to those needs” (p. 165). On one hand, a market-oriented firm is more likely to exploit and explore its knowledge to collect, analyze and apply the acquired customer information (Jayachandran et al. 2005) in pursuit of creating superior value for customers as compared to competitors. For example, through CRM, a market-oriented firm is more likely to create suitable advertising, promotion, sales and customer service programs to improve customers’ perception and experience. On the other hand, implementation of CRM solutions requires firms to have a customer relational orientation (Jayachandran et al 2005; Srinivasan and Moorman 2005). In line with this reasoning, we believe that performance of CRM is the direct consequence of market orientation.

\[ H_{1a}: \] Market orientation is positively related to performance of CRM.

In addition, CRM performance also plays a critical antecedent role to firm effectiveness and efficiency. On one hand, superior CRM performance, as evidenced by customer satisfaction and customer loyalty, helps a firm generate a stable customer base (e.g., Noordeweer, John and Nevin 1990; Mittal and Kamakura 2001) and improve its customer-learning capability (Tuli, Kohli and Bharadwaj 2007). A firm with stable customer base and strong capability of learning enjoys a competitive advantage by providing superior value than competitors. On the other hand, superior CRM helps a firm reduce the costs of activity such as marketing-related costs, inventory costs and customer service costs etc. For example, customer loyalty and word of mouth enhance a firm’s advertising and promotional efficiency and thus reduce marketing-related costs (e.g., Luo and Homburg 2007). In addition, superior CRM helps a firm better adjust its production cycle according to customer demand patterns to lower the mismatch between firm inventory and customer orders and thus reduce its inventory costs (e.g., Bharadwaj, Bharadwaj, and Bendoly, 2007). Furthermore, superior CRM helps a firm reduce its customer service costs that might occur because of the rejection of unsuitable offerings as a result of a poor understanding of customer requirements (e.g., Anderson, Fornell and Lehman, 1994). In line with this reasoning, we posit

125
H1b: Performance of CRM is positively related to market position.

H1c: Performance of CRM is positively related to financial position.

Synergy between NPD and CRM

At a macro-level, customer value creation and appropriation necessitate the achievement of two central organizational tasks: exploiting existing competencies and exploring new opportunities. The notion of exploitation and exploration (March 1991) has been studied in several strategy disciplines including organizational learning and strategy (e.g., Levinthal and March 1993), innovation (e.g., Rothaermel and Deeds 2004) and entrepreneurship (e.g., Shane and Venkataraman 2000). However, how the synergy of core business processes contributes to a firm’s exploitative and explorative activities is still a mystery. We believe that the synergy of CRM with NPD optimizes a firm’s execution of its exploitative and explorative activities.

A firm may develop incremental innovations to exploit its existing competencies. Incremental innovations involve small improvements to an existing product or product line that helps maintain or improve a firm’s competitive position over time (Business Dictionary). Although firms spend a great deal of energy and R&D budget on incremental innovations, the magnitude of the linkage between incremental innovation and market share is still inconclusive. While most managers believe that incremental innovation has relatively little impact on market performance, Banbury and Mitchell (1995) found that a firm’s ongoing ability to introduce important incremental innovations quickly has a major impact on its market share. Regardless of whether the magnitude of the linkage is strong or weak, we believe that CRM could help magnify this relationship by 1) increasing current customers’ usage of new products through superior customer loyalty programs; 2) gaining new customers (especially non-users) through superior WOM/referral program; and 3) providing insights on the needs of competitors’ customers to increase the number of switching customers.

On the other hand, a firm may introduce radical or breakthrough innovations, which involve the application of significant new technology (Tushman and Nadler, 1986), to explore new market opportunities. There is a strong and consistent support on the market-share rewards to pioneers in extant research (e.g., Robinson and Fornell 1985, Urban et al. 1986). However, in reality, firms face enormous failure rate with radical innovations due to risk arising from customer and market uncertainties (Rice et al. 2001). As a result, effective NPD process can reduce risk by developing products that match customer needs as closely as possible. CRM also provides a tool for managers to minimize risks associated with customers and markets. In addition, recent findings reveal that the major challenge of radical innovations lies not in the radical technology creation process, but in the commercialization of these technologies (Christensen and Bower, 1996; Tushman and O’Reilly 1996). The commercialization stage of NPD requires firms to have a superior customer-facing and learning function. Firms with superior CRM are more likely to optimize the performance of commercialization by selecting the right segments, picking the right launch time, providing suitable positioning strategy, and creating effective advertising, promotion and sales campaigns etc. Last, providing valuable insights on customers’ requirements on either incremental or radical innovations, CRM helps a firm decrease the high costs associate with each stage of NPD, from idea generation, idea evaluation, idea implementation to final idea commercialization. Thus we posit that

H2a: The synergy between CRM and NPD positively contributes to market position.

H2b: The synergy between CRM and NPD positively contributes to financial position.
**Synergy between SCM and CRM**

A supply chain is defined as “a set of three or more entities directly involved in the upstream and downstream flows of products, services, finances, and/or information from a source to a customer (Mentzer et al, 2001).” Like NPD, effective SCM should be able to contribute to a firm’s exploitation and exploration activities and the synergy between CRM and SCM may help it maximize the returns from these activities.

One of the exploitative strategies, for example, is market penetration. By significantly decreasing the associated costs such as costs of raw materials, manufacturing costs, transaction costs and customer service costs etc., superior SCM may help a firm quickly penetrate a market in which current or similar products already exist. However, overly pursuing efficiency may be very risky for a firm. Due to the conflicting goal of high customer value and low costs, the short-term success of market penetration may be achieved at the cost of sacrificing a firm’s long-term benefits. Without understanding the necessary level of customer requirements, efficiency-oriented SCM may decrease usage from current customers and motivate customers to try competitor’s products. Thus, CRM, as a lever, helps a firm achieve the long-term returns of market penetration by providing updated and current insights from customers and thus maximize the long-term returns to market penetration.

In addition, in order to achieve sustainable growth, a firm needs to continuously explore new opportunities. One of the explorative strategies, for example, is market diversification. A firm either modifies current products to meet new market opportunities or develops new products to serve existing markets better. No matter which approach a firm selects, understanding current customers’ latent needs and potential customers’ expectation is extremely critical for achieving superior performance effects from diversification. In addition, customer insights can help firms make the best choice on selecting and qualifying desired supply chain partners. In line with this reasoning, we believe that the synergy of CRM and SCM leads to superior performance of a firm’s explorative activities. Better the performance of explorative activities, better is likely to be the firm’s market performance and financial performance. Thus, we posit

\[ H_{3a}: \text{The synergy between CRM and SCM positively contributes to market position.} \]

\[ H_{3b}: \text{The synergy between CRM and SCM positively contributes to financial position.} \]

**Synergy among all CRM, NPD and SCM**

Srivastava et al (1999) suggest that the synergy among the three core processes, CRM, NPD and SCM, may likely yield superior performance for firms than simply maximizing the outcomes of individual processes or the synergy effects among any two of them. In addition, O’Reilly and Tushman (2004) also observe that few companies have the capability to integrate all three processes well. It is not surprising that integration of all three processes may provide competitive advantages that are much harder for competitors to imitate (Ramaswami et al 2009). Consistent with the literature, we posit

\[ H_4: \text{The synergy among all CRM, NPD and SCM positively contributes to a firm’s market position and financial position.} \]
METHODS

Sample
Data for this study was collected with the help of the Zyman Institute of Brand Sciences (ZIBS). A random sample of 400 firms from the ZIBS data base was generated. The sample firms were contacted through the ZIBS newsletter and a brand conference that was organized by the institute. The key informant was identified as the CMO of a firm (or the marketing manager in case there was no CMO). A survey prepared for the study was mailed to CMOs/marketing managers of the sample firms. To increase response rates, participating firms were promised a descriptive report summarizing how assets were being utilized across firms and their impact on firm performance. Of the 400 firms contacted, responses were obtained from 121 firms, yielding a response rate of 30 percent. After accounting for missing data, the final sample for the study was 82, giving an effective response rate of 20.5 percent. Although this number is low, it compares favorably with response rates obtained in most academic studies in recent years.

Measures

Market orientation (α=.84)
We followed Narver and Slater's (1990) procedure to assess the extent of an organization's market orientation. This scale includes 8 items to assess the extent of a firm's customer-orientation and competitor-orientation. The Cronbach's alpha coefficient of the 8 item scale is .84 - exceeding the .70 threshold recommended by Nunnally (1978) for the test of scale reliability. (All survey items are reported in Appendix.)

Performance of CRM (α=.87)

We used 4 items to measure this construct. These items capture the performance of knowledge usage and leverage in CRM process. Knowledge of customers can enhance the CRM process' ability to provide higher value to customers than competitors as well as increase the scope of relationship with customers by identifying and addressing their needs across products. The Cronbach's alpha coefficient of the 4 item-scale is .87.

Performance of NPD (α=.86)

We used 3 items to measure this construct. These items capture the performance of knowledge usage and leverage in NPD process. Intellectual assets relating to the NPD process can help firms develop more new and differentiated products that are successful in the market place. The Cronbach’s alpha coefficient of the 3 item-scale is .86.

Performance of SCM (α=.89)

We used 3 items to measure this construct. These items capture the performance of knowledge usage and leverage in SCM process. Intellectual assets in the SCM domain enable companies to understand market demand dynamics better and thereby contribute to reducing end-to-end costs that can either offer price-reduction potential or profit-increasing potential for the firm. The Cronbach's alpha coefficient of the 3 item-scale is .89.

Performance measures (α=.840, 0.880)

We measured market position using subjective perceptions of market performance on sales and market share indicators and financial position using similar measures of profitability and ROA. The Cronbach's alpha coefficient for market position is .840, and .88 for financial position.
Control variables

We include firm size (number of employees) and firm type (B2B vs. B2C) to control their effects on a firm's market position and financial position. In addition, we also use the size of marketing area (number employees in marketing area) as a control variable to the performance of CRM.

Common Method Bias

Common method bias could be a potential problem as we gather information on the study’s constructs from a single informant. Hence, we undertook preventive mechanisms at the research design and estimation stages (Podsakoff, McKenzie, Lee, and Podsakoff 2003). Specifically we use the following methods a) Harmon one-factor test, b) a latent factor-analytic approach to Harman’s one-factor test (McFarlin and Sweeney 1992; Sanchez and Brock 1996), c) questionnaire ordering, d) common variance between non-hypothesized pairs of constructs, e) a full mediation test, and f) interaction effects. If common method bias poses a serious threat to the analysis and interpretation of the data, a single latent factor would account for all manifest variables (Podsakoff and Organ 1986). In our case, we got a considerably worse fit for a single dimensional model than for the measurement model. In addition, we had a similar failure of the one factor model using principal components analysis. Additionally, in the questionnaire design ordering of dependent construct items was interspersed with those of independent variables so that conclusive perceptions could not consistently influence respondents’ answers. During estimation of the model freeing of additional inter-construct covariance amongst non-hypothesized relationship didn’t improve overall model fit. Further, the presence of full mediation (performance of CRM) suggests that the single informant per firm reliably captured significant effects of the phenomena without bias. If there were bias due to the common method or instrument, it would persist through partial direct paths (mediation) neither which was observed in this study (Blalock 1964). Finally, significant interaction effects between CRM and NPD/SCM provide further evidence that common method bias was unlikely to be a serious concern.

Analysis

Table 1 provides the correlations, descriptive statistics, and psychometric properties of the constructs used in the study. The complete conceptual model represented in Figure 1 was estimated using partial least squares (PLS) using SmartPLS 2.0 software (Ringle, Wende, and Will 2005). PLS is a variance-based structural equation modeling (SEM) technique that maximizes the explained variance of the endogenous latent constructs. It is a distribution free non-parametric test based SEM that relies on bootstrap standard errors to test the statistical significance of parameter estimates. Review of PLS SEM is beyond the scope of this article and readers are referred to Hair, Ringle, & Sarstedt (2011) and Hair et al (2012) for a thorough treatment of this topic.

Why PLS (and not CB-SEM)?

The primary reason for using PLS SEM over covariance-based structural equation modeling (CB-SEM) is that our study’s model focuses more on theory development and prediction of direct and synergistic effects of market-based capabilities on firm performance outcomes. Specifically, market-based capabilities (Srivastava, Shervani, and Fahey 1999) theory has remained mainly conceptual and to our best knowledge there is only one empirical work (Ramaswami, Srivastava, and Bhargava 2009) that directly tests the relationship between the three organizational capabilities (namely CRM, SCM, and NPD) and firm performance. However, in their original conceptualization Srivastava, Shervani, and Fahey (1999) not only argue for the independent direct effects of these three capabilities, but also provide arguments in support of how these capabilities could come together in a dynamic fashion that subsequently guarantees competitive advantage for the firm. So we attempt to validate these conceptual propositions by trying to predict the synergistic impact of these capabilities on market and firm performance. PLS-SEM provides a powerful environment to test the predictive relevance of these causal relationships and also to verify the predictive validity of the overall conceptual model of market-based
capabilities. Apart from these conceptual and empirical advantages over CE-SEM, our consideration of PLS is also relevant considering the sample size restriction ($N = 82$), many multi indicator latent constructs, and multiple latent variable interactions. Such complexities make CB-SEM models inadmissible and non-identifiable.

**Estimation**

The estimation was carried out by running the complete structural model simultaneously with all the hypothesized effects in *SmartPLS* 2.0. First, the outer or the measurement model was evaluated, and second the inner or structural model was evaluated. Measurement model was evaluated by checking the composite reliability, average variance extracted, indicator loadings and discriminant validity of the latent constructs (Fornell and Larcker 1984; Hair et al., 2012). Table 1 shows that the composite reliability values of the constructs ranged between .89 - .94, the AVE ranged between .53 - .89, and the Cronbach’s-$\alpha$ ranged between .84 - .89. Further all the standardized factor loadings were significant at $p < .01$ and the AVEs were greater than the squared correlations between the constructs. Overall the measurement model fit indices show strong psychometric properties of the constructs used.

Structural model evaluation was carried out in a series of steps. First, to check whether the parameter estimates were free from collinearity issues, we extracted the latent variables scores and assessed the variance inflation factor (VIF). The VIF values ranged between 1.48 and 2.56, well below the threshold level of 5 thus providing evidence that collinearity might not be an issue. Second, we checked the $R^2$ values of the endogenous constructs. The results from Figure 1 suggest that $R^2$ values were moderately high. Next, the statistical significance of the parameter estimates was tested using bootstrapping. We ran bootstrapping using 5000 samples with no sign changes option. The $t$-values derived using bootstrapping is reported in the results in figure 1. We discuss the significance of the parameter estimates in the results section.

Next, we validate the predictive relevance of the model by assessing Stone-Geisser $Q^2$ using the blindfolding procedure (Gotz, Lierhr-Gobbers, and Krafft 2006). Using the default omission distance of 7, we applied blindfolding to the two performance variables financial performance (FP) and market performance (MP) separately. The results of the cross-validated redundancy showed that the $Q^2$ values were considerably above zero for FP and MP with 0.62 and 0.45 respectively thus showing strong predictive relevance. Next, we checked for the effect sizes by calculating $f^2$. $f^2$ is calculated as the change in $R^2$ values after re-estimating the model without the key exogenous variables. In this study CRM is the key antecedent to market and financial performance. $f^2$ values were 0.13 and 0.38 for FP and MP respectively showing moderately high impact of CRM on the performance variables. Finally, unlike CB-SEM there is no global fitness of index measure to evaluate the model; hence we calculated the goodness of fit (GoF) measure suggested by Tenenhaus et al. (2005). GoF was calculated as the square root of the product of average communalities and average $R^2$ and the value was 0.582 indicating moderately high overall goodness of fit.

In sum, diagnostics measures from evaluation of measurement and structural model provide strong evidence of measurement and structural integrity of the study’s model. Having established the validity of the inner and outer models we next report the results of test of our hypotheses.
Figure 1: Theoretical Framework and Results

Notes: Standardized parameters estimates are shown with (t-values) estimated using bootstrapping of 5000 samples. R^2 values are shown above the constructs. Control variables not shown. MO: Market Orientation; MP: Market performance; FP: Financial performance
Table 1 Correlations, Summary Statistics, and Construct Validities

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MO</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. CRM</td>
<td>.627</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. NPD</td>
<td>.469</td>
<td>.562</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. SCM</td>
<td>.528</td>
<td>.589</td>
<td>.402</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Market Position</td>
<td>.466</td>
<td>.683</td>
<td>.470</td>
<td>.465</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. MKT size</td>
<td>.040</td>
<td>-1.09</td>
<td>-</td>
<td>-.027</td>
<td>-.086</td>
<td>-.123</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8. Firm Size</td>
<td>.012</td>
<td>-0.97</td>
<td>-.045</td>
<td>.129</td>
<td>-.062</td>
<td>.000</td>
<td>.170</td>
<td>1</td>
</tr>
</tbody>
</table>

**Construct Validity**
- Cronbach Alpha: .840 .870 .860 .890 .840 .880
- Composite Reliability: .890 .910 .920 .930 .920 .940
- Average Variance Extracted: .530 .730 .790 .820 .860 .890

Notes: Sample based on n=82 firms. Entries on the diagonal demote the square root of the average variance extracted; "N/A" single-item constructs.

**Results**

We test the importance of CRM as the intermediate channel through which market orientation of the firm impacts its market and financial performance. We test the significance of these effects by assessing three indirect paths through CRM using bootstrapped standard errors (Preacher and Hayes 2008). Specifically, we test whether the indirect pathways MO → CRM → MP, MO → CRM → FP, and MO → CRM → MP → FP are significant. Results show significant indirect effects for the impact of MO on MP via CRM at .39 (standard error SE .096, p < .01) and for the impact of MO → CRM → MP → FP at .27 (.08, p < .01). Thus CRM seems to play a critical role in intervening between a firm’s market orientation and its performance consequences. To further validate that the effects are completely mediated, we ran several addition model, model only with direct effects (MO → MP and MO → FP) and model with both direct and indirect effects. The results show that by adding the CRM as a potential mediator, the direct effects MO → MP and MO → FP are changed from significant to nonsignificant, providing some evidence to support the full mediating effect of CRM. Overall, the standardized estimates of $H_{1a}$ (MO → performance of CRM; 0.65; t=8.75), $H_{1b}$ (performance of CRM → market position; 0.59; t=4.91), $H_{2b}$ (CMR*NPD → financial performance; 0.19; t=1.90 significant at 90% level), $H_{2b}$ (CRM*SCM → financial performance; -0.24; t=2.15) and $H_{4}$ (CRM*NPD*SCM → market performance; t=1.9) provide support to all the hypotheses mentioned. However, we failed to support $H_{1c}$ (performance of CRM → financial performance), $H_{3a}$ (CRM*NPD → market position) and $H_{3a}$ (CRM*SCM → market position).

**Additional Analysis**

**Response Surface Approach**

To uncover more complex relationship in the synergistic impact of CRM with the other two processes on financial position, we conduct a polynomial regression based response surface analysis (RSA) (Edwards 2002).
Results from RSA have significant managerial relevance from a resource allocation perspective. Specifically RSA helps answer questions such as 1) how does consistency in resource allocation among processes impacts firm performance (e.g., CRM and SCM have similar resources allotted); 2) how does discrepancy in resource allocation among processes impact firm performance; 3) What is the optimal way of allocating resource across processes for better profitability?

Response surface of CRM vs. SCM on financial position

General form of RSA is represented in the polynomial regression form as:
\[ FP = b_0 + b_1 \text{CRM} + b_2 \text{SCM} + b_3 \text{CRM}^2 + b_4 \text{CRM*SCM} + b_5 \text{SCM}^2 + e, \]  

where, FP is financial position. First we conduct a lack of fit test to establish that the above second order quadratic model is adequate to represent the relationship between predictors (CRM and SCM) and the response variable (FP). The lack of fit diagnostic index was insignificant with F-value 2.07 ($p = .2126$ ; $df = 71$) thus showing evidence that the polynomial model was adequate. Further the model showed evidence of significant linear ($F = 34.94, p < .001; R^2 = .47$ ) and cross-product ($ F = 2.97, p = .08; R^2 = .02$ ) effects while insignificant quadratic effect ($F=.25, p = .78$). These results were consistent with the PLS model results obtained (see Figure 1). Next, we test for the significance of the individual parameters estimates in equation (1) using bootstrapped standard errors to be consistent with our PLS estimation of the overall model. As seen from table 2 (Panel A) parameters $b_1$, $b_2$, $b_3$, and $b_4$ were significant.

Using the estimated parameters we construct the three dimensional response-surface as shown in figure 2. Interpretation of the surface is based on (a.) the alignment between the two processes CRM and SCM along the ‘line of congruence’ and (b.) the discrepancy between the two processes along the ‘line of incongruence’ (Edwards 2007; Shanock et al 2010). The surface is examined by analyzing the slope and the curvature along these two lines to answer questions regarding CRM-SCM fit (misfit) and how it favors (hinders) financial position. Following standard recommendations of using RSA (see Edwards 2002, 2007 for derivations) the slope and curvature are calculated using estimated from equation (1) as:

Line of perfect agreement or congruence or fit (i.e. setting ‘CRM = SCM’ in Equation 1):
\[ \text{Slope } a_1 = (b_1 + b_2); \text{ Curvature } a_2 = (b_3 + b_4 + b_5) \]  

Line of perfect incongruence or misfit (i.e. setting ‘CRM = - SCM’ in Equation 1):
\[ \text{Slope } a_3 = (b_1 - b_2); \text{ Curvature } a_4 = (b_3 - b_4 + b_5) \]

Table 2, panel B reports the calculated values, standard errors, and the significance. The results show that slope (a1) along the line of fit and the curvature (a4) along the line of misfit are both positive and significant. There are two key takeaways from these results interpreted along with the response surface in figure 2. First, under the condition of fit, defined as similar performance of CRM and SCM (shown as a solid line in the surface floor of the figure 2), simultaneously improving the performance of both CRM and SCM positively leads increasing financial performance in a linear way (as the curvature a2 is insignificant, we don’t have evidence to support the non-linear relationship). Second, under condition of misfit, defined as the performance of CRM and SCM are not similar (shown as a dotted line in the surface floor of the figure 2), continuously increasing the performance discrepancies between these two processes will improve financial performance in a curvilinear way. As seen from the figure 2, it appears that maximum financial outcome is achieved when the performance of CRM is highest while the performance of SCM is lowest. We conduct a ridge analysis to determine that maximum financial leverage occurred at CRM=2.2 and SCM=-0.58 (where the average performance is defined as 0). At first glance, these two findings seem to contradict to each other, the implications for managers are further discussed in detail in the discussion section.
Response surface of CRM vs. NPD on financial position

For the response surface of CRM vs. NPD on financial position, the lack of fit indices was still significant at $F = 6.49 \ (p = .0124)$ and the overall model showed significance only for the linear effect. Hence we didn’t construct a response surface. However the significant lack of fit indicates that the quadratic polynomial model with the existing predictors may not be sufficient to represent the synergies between CRM and NPD. This might signal relevance of other potential variables or a more complex polynomial model to represent the fuller complexities of CRM and NPD synergies.

Table 2
Panel A. Polynomial Regression - Response Surface Analysis

<table>
<thead>
<tr>
<th>Dependent Variable = FP</th>
<th>Estimated Parameters</th>
<th>Std. Error</th>
<th>Sig. (2-tailed)</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.075</td>
<td>0.110</td>
<td>0.503</td>
<td>-0.281 to 0.152</td>
</tr>
<tr>
<td>CRM (b₁)</td>
<td>0.496</td>
<td>0.106</td>
<td>0.002</td>
<td>0.333 to 0.733</td>
</tr>
<tr>
<td>SCP (b₂)</td>
<td>0.235</td>
<td>0.136</td>
<td>0.068</td>
<td>-0.094 to 0.441</td>
</tr>
<tr>
<td>CRM² (b₃)</td>
<td>0.195</td>
<td>0.111</td>
<td>0.078</td>
<td>-0.023 to 0.417</td>
</tr>
<tr>
<td>CRM*SCP (b₄)</td>
<td>-0.244</td>
<td>0.151</td>
<td>0.072</td>
<td>-0.519 to 0.081</td>
</tr>
<tr>
<td>SCP² (b₅)</td>
<td>0.025</td>
<td>0.101</td>
<td>0.780</td>
<td>-0.209 to 0.211</td>
</tr>
</tbody>
</table>

Notes: Standard errors were calculated from 5000 bootstrapped samples.
<table>
<thead>
<tr>
<th>Line of Congruence (CRM = SCP)</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope $a_1$</td>
<td>0.73</td>
<td>0.10</td>
<td>7.143</td>
<td>0.000</td>
</tr>
<tr>
<td>Curvature $a_2$</td>
<td>-0.02</td>
<td>0.05</td>
<td>-0.481</td>
<td>0.632</td>
</tr>
<tr>
<td>Line of Incongruence (CRM = SCP')</td>
<td>Coefficient</td>
<td>Standard Error</td>
<td>t-value</td>
<td>p-value</td>
</tr>
<tr>
<td>Slope $a_3$</td>
<td>0.26</td>
<td>0.19</td>
<td>1.406</td>
<td>0.164</td>
</tr>
<tr>
<td>Curvature $a_4$</td>
<td>0.46</td>
<td>0.22</td>
<td>2.065</td>
<td>0.042</td>
</tr>
</tbody>
</table>

Figure 2: Three Dimensional Response-surface for CRM and SCM
DISCUSSION

The three key motives of this study are to examine 1) the role that CRM plays in shaping the MO-firm performance relationship; 2) the synergy effects of CRM with NPD/SCM on firm effectiveness and firm efficiency; 3) the synergy effect among all three CRM, NPD and SCM on firm performance. Overall, we found that market orientation leads to superior market performance through superior performance of CRM. Importantly, our data shows that CRM may fully mediate the MO-market performance linkage even after controlling for the intervening influences of the other two core business processes, NPD and SCM. In addition, we found that the synergy between CRM and NPD/SCM has significant impacts on firm efficiency (e.g., profit, ROA); however, we didn’t observe the similar synergy impacts on firm effectiveness (e.g., market share, sales); more interestingly, we observed that CRM positively moderates the NPD-financial position relationship, but negatively moderates the SCM-financial position relationship. Last, our results confirm the notion that the synergy among all three CRM, NPD and SCM positively leads to superior financial performance.
**Theoretical Implications**

Linking market-based assets literature with another rich stream of literature on MO, this study provides the following contributions to enhance our understanding on the phenomena related to market orientation, CRM and various types of firm performance.

**Contributions to market orientation literature**

Our study reveals a general CRM-based mechanism which mediates the impact of market orientation on firm performance. Because market orientation increases a firm’s exploitation of customer information, high market-oriented firms are more likely to create suitable advertising, promotion, sales and customers service programs to improve customers’ perception and experience than competitors. Firms with superior customer experience are more likely to create competitive advantage by providing superior value than competitors. As such, the performance of CRM is not only the direct consequence of market orientation but also a very critical strategic antecedent to firm effectiveness. Such a mediating effect still holds even after taking into account the intervening effects of the other two business processes, NPD and SCM. Firms may use different structures, platforms or types of assets in their business processes; however identifying how the structure, platforms or assets vary across firms is beyond the scope of this study; by capturing the performance impact of whatever structures, platforms or assets used by firms and their variability across firms, we illustrate the full mediating role played by CRM in intervening between market orientation and firm effectiveness.

**Contributions to market-based assets literature**

As an important market-based asset, CRM has received increasing attention from researchers. Further exploration of CRM and its related phenomena was not only warranted, but also desperately needed (Zablash, Beuenger and Johnston, 2003). Following this call, our paper contributes to the market-based assets literature in the following ways. First, we retest Srivastava et al’s (1999) assertion that synergies among core business processes contribute to firm performance. Specifically, we focus on the synergy between CRM and NPD/SCM on firm performance. To the best of our knowledge, since Srivastava et al proposed their framework, only one study (Ramaswami et al 2009) empirically tested the integrated role of CRM on firm performance. Different from Ramaswami et al (2009) study, this study separates firm performance into effectiveness (e.g., market share and sales) and efficiency (e.g., profitability and ROA) dimensions and investigates the integrated role of CRM on both types of firm performance. The study results, however, did not find support for synergistic impact between CRM and NPD/SCM on firm effectiveness. Considering the strong main effect of CRM on firm effectiveness (e.g., market share), one plausible explanation of this unexpected finding is that CRM is a sufficient determinant of sales and market share, and NPD/SCM are business processes that contribute more to efficiency than effectiveness. Consistent with our prediction, our finding confirms the positive synergy effect of CRM and NPD on superior firm efficiency. Moreover, surprisingly, we find negative synergy effect between CRM and SCM on firm efficiency. This finding implies that the goals of CRM and SCM may be in conflict with each other. Attempting to maximize the goals of CRM may come at the expense of maximizing the goals of the SCM. To uncover the complex relationship in the synergistic impact of CRM and SCM, we conducted response surface analysis. Our additional analysis shows that under situations of symmetric investment in CRM and SCM, increasing investment for both processes at the same time may lead to superior financial performance; however, under situations of asymmetric investment in CRM and SCM, high CRM and low SCM may maximize a firm’s financial performance. Last, it is widely acknowledged that CRM, NPD and SCM may intertwine and exhibit synergistic effect. Our study provides some empirical evidence to support the notion.

**Managerial Implications**

This study also provides several relevant implications for managers. First, managers may believe that market orientation is like a magic trick, which can automatically improve firm performance.
However, it may not be true. Our findings show that without superior performance of CRM, market orientation does not guarantee superior market performance. Therefore, a firm needs a strategic plan for the creation, development and leverage its knowledge to improve its CRM performance. Second, there is an implicit belief that CRM involves huge expenditures without accountability and that it is difficult to show its value for the firm. On one hand, our results show that CRM has strong main effect on firm effectiveness even after controlling for the intervening effect of NPD and SCM. On the other hand, the synergy of CRM with other processes helps a firm minimize risks associated with customers and markets and reduce costs of activities through superior loyalty and referral programs. Overall, our findings confirm the view that CRM is better treated as an investment rather than a cost. Therefore, the findings of this study can be used by marketing managers to suggest that marketing adds value to the firm by enhancing the performance of CRM and its synergy with other core business processes. Moreover, this study has drawn managers’ attention on the issues of investment trade-offs. Although CRM, NPD and SCM are all required for value-creation and value-appropriation, a firm may face a trade-off among them due to the limited budget. Specifically, our finding on positive synergy of CRM with NPD indicates that a firm can improve its financial performance by improving the performance of either CRM or NPD or both. In addition, surprisingly, we find negative synergy effect of CRM with SCM on financial performance. To make this finding more relevant to managers, we generate two scenarios to help managers diagnose their possibility of improving financial performance. The first scenario is under the condition of similar performance of CRM and SCM. Under this condition, a firm can improve its financial performance by two means: 1) equally improve the performance of both processes since we find that simultaneously improving the performance of both processes will increase a firm’s financial performance in a linear way; 2) increase the performance of one process thus increase the discrepancy between CRM and NPD (the same as scenario 2). The second scenario is under the condition of discrepancy of CRM and SCM. Our results show that 1) increasing the discrepancy between CRM and SCM improves a firm financial performance in a curvilinear way; 2) the situation of highest investment in CRM and lowest investment in SCM may maximize a firm’s financial performance. Last, by showing the positive synergy effect among all CRM, NPD and SCM on financial performance, we encourage a firm’s investment in communication and cooperation among three departments, marketing, new product development and supply chain.

Limitations and Directions

Despite its contributions, the implications of the study have to be tempered based on the study’s conceptual and methodological limitations. First, even though the response rate obtained in this study was similar to those in most academic studies in recent years, the relatively small sample size is likely to limit generalizability of its findings. More research is needed to test the monological model proposed in this study using larger samples. Another concern in our study is that it relies exclusively on subjective measures of performance of CRM, NPD and SCM. Future research is warranted to develop and use objective non-financial metrics to assess the “effective performance” of core business process. In addition, future research may need to identify the sub-processes of CRM and how these sub-processes interact with other core business processes to better understand the role of CRM within a firm.
SELECTED REFERENCES


*Full reference list are available on request.*
Microsoft and Apple are building closer ties in software development. Peugeot and Toyota are working together to create a new city car for the European market. Often we come across news items as above where we see competitors working together for different reasons. The term that defines this type of relationship between two parties in a supply chain is known as “coopetition”. Coopetition, according to Bengtsson and Kock (2000), is a dyadic and paradoxical relationship that emerges when firms (or customers) cooperate in some activities and at the same time compete with each other in other activities. Coopetition is not a new phenomenon. Airlines have been sharing flights and routing systems for a long time. Ford Motor Co. and Volkswagen collaborated with each other in South America since as early as the 1980s to better their profits. With increasing competition and demands from customers, competing organizations have come to depend on each other (Luo 2007) for a variety of activities. There is a constant need for organizations to learn and internalize competitor’s skills and resources (Luo 2007), to increase their strategic flexibility (Luo 2007; Bonel & Rocco 2007), and to innovate efficiently (Powell, Koput, & Smith-Doerr 1996). As a result, coopetitive relationships are becoming more prominent in the market place today. Although a few scholars have documented the existence of coopetitive relationships among competitors in different industries and different cultures, research on coopetition is still sparse (Walley 2007, Dagnino & Padula 2002). Some of the industries in which scholars have documented the existence of coopetitive relationships between competitors are Hong Kong manufacturing industries (Chin, Chan, & Lam 2008), Italian soft drinks and beverage industry (Bonel & Rocco 2007), Austrian grocery industry (Kotzab & teller 2003), Swedish brewery and lining industry and Finnish dairy industry (Bengtsson & Kock 2000), Indian retail sector (Varman & Costa 2009), and the hotel industry in Australia (Ingram & Roberts 2000). Even though this indicates the prevalence of coopetitive relationships across a variety of industries, surprisingly, theory and empirical investigations on coopetition are sparse and still in their infancy (Walley 2007; Dagnino & Padula 2002).

This paper advances our understanding of coopetition by drawing on practice and assemblage theory (DeLanda 2006). According to assemblage theory, assemblages emerge when entities interact. Entities or components have crucial capacities. These entities interact with each other, and the interactions are synthesized by other processes. When there is synthesis, there is stability in the assemblage that emerged as a result of the interaction. When there is not much synthesis, then the assemblage suffers from lack of stability. As prior literature demonstrates, coopetition involves simultaneous cooperative and competitive behavior between competitors (Bengtsson & Kock 2003). Using assemblage theory to explain the phenomenon of coopetition helps us understand the nature of the relationship between two parties or entities, the factors that encourage cooperation and the factors that foster competition between the entities. We suggest that using an assemblage theory framework to study coopetition can help us understand when and why entities cooperate versus compete. It takes a network based approach, in that, it accounts for the existence of multiple networks of different kinds between, within, and across entities. It emphasizes that cooperation or competition is the result of the interactions of many different entities and their innate capacities and whether there would be cooperation or competition is determined by the nature of the interaction between the entities. We advance the proposition that when there is stability in an assemblage, it would lead to cooperative behavior by the entities. In contrast, when there are processes that destabilize the identity and thereby the stability of an assemblage, it would lead to competitive behavior by the entities.

We make important research contributions. First, we propose a radically new framework for understanding coopetition. We propose that practices of cooperation and competition are determined by
the interactions among and between assemblages. This advances a different typology for the study of coopetition. Second, we advance network research by highlighting the implications of multiple overlapping networks in which actors participate. That is, we demonstrate how coupling and decoupling from networks of relations affects cooperative/competitive behavior. There are multiple overlapping networks that the actors are typically part of. We also extend this stream of research by emphasizing the role played not just by human actors, which is the predominant stance taken by network researchers, but also by non-human actors that might play a significant role, in either synthesizing the assemblage or in disrupting it. Third, limited research in the area of coopetition has demonstrated benefits of coopetitive relationships on economic variables like firm performance (Ingram & Roberts 2000) and firm profitability (Luo, Rindfleisch, & Tse 2007). There has been a call in the literature to study the effect of coopetitive relationships on non-economic variables like social interaction and information flow (Walley 2007). We study the role of coopetitive behavior of entities on these non-economic variables, thereby filling a gap in the literature. Fourth, we capture internal coopetition, that is, coopetitive behavior by employees and different sub units within a firm. Walley (2007), in his agenda for further research on coopetition, emphasizes internal coopetition as one of the useful areas to further our overall understanding of coopetition. Finally, we integrate micro and macro levels of analysis, and explain the emergence of assemblages at a larger spatial scale as a result of interactions that occurred at smaller spatial scales.

COOPETITION

The term coopetition is believed to be first used in the 1980s by Ray Noorda, founder and CEO of Novell. It was further developed by Nalebuff and Brandenburger in 1996. Since then there has been some work documenting the existence of coopetitive relationships. Originally, the term coopetitors was used to refer to suppliers, customers and complementors. There is some research that uses this definition of coopetition. Gradually “competitors” were added into the definition of coopetition along with suppliers, customers and complementors. More recent research defines coopetition as “a situation where competitors simultaneously cooperate and compete with each other,” (Bengtsson & Kock 2003) is the definition we adopt for our paper. We investigate coopetitive relationship between competing firms in the same industry, to better understand the relationship between the coopetitors and, the factors that determines cooperation or competition at a particular point in time.

Scholars have provided different kinds of frameworks and typologies to understand coopetition. Bengtsson & Kock (2000) advanced a “competitive/cooperative” framework that classifies relationships between competitors on the basis on whether cooperation or competition is dominant in the relationship. Bengtsson & Kock, in 2003, advanced another framework that dealt with “reciprocal coopetition” in which the two firms engaged in coopetitive relationships on equal terms. Dowling et al (1996) proposed a framework, taking into account the nature of competition between the two parties- whether they were in direct competition or indirect competition with each other. But one common issue and concern that scholars have struggled with, is the unit of analysis. What level of actor involvement is important in coopetitive relationships? We provide a framework that will help scholars overcome this issue as we integrate micro and macro levels of analysis to better understand coopetition.

Although research in “coopetition” is still in its infancy, scholars have used a wide array of terms to refer to coopetitive relationships. For instance, Luo et al (2007) use the term “competitor alliance” to refer to alliances that firms form with rivals. Gulati (1998) uses the term “strategic alliances” to indicate a coopetitive relationship. He defines “strategic alliances” as voluntary arrangements between firms involving exchange, sharing, or codevelopment of products, technologies, or services. Along similar lines, Hamel & Prahalad (1989) study strategic alliances, by which they refer to cooperative ventures between competitors across different countries like US & Japan, and Europe & Japan. Mitchell, Dussauge, & Garrette (2002) use the term “scale alliances” to firms that contribute similar resources to gain scale and “link alliances” to alliances where firms contribute complimentary resources. Dowling et al (1996) refer to “multifaceted relationships” that incorporate elements of both traditional competitive relationships and
collaborative relationships. Network researchers like Gnyawali & Madhavan (2001) take a structural embeddedness perspective and focus on simultaneous cooperative and competitive advances by firms in the network. Then there is some research that uses the term “co-opetitors” to indicate suppliers, customers, and complementors (Afuah 2000).

One common element that emerges from these various terms and definitions is that, all these terms attempt to address and understand the same dynamic between two or more partners, specifically competitors, that collaborate and work together to accomplish a specific objective. The studies on co-opetition reveal some common antecedents that contribute towards coopetitive relationships. For example, similar past experiences, a sense of common history, economic constraints, physical proximity all lead to coopetitive relationships between competitors as is evidenced in the Indian retail sector (Varman & Costa 2009), Sydney hotel industry (Ingram & Roberts 2000), Italian soft drinks and beverage industry (Bonel & Rocco 2007), and Austrian grocery industry (Kotzab & Teller 2003). Also in all these cases, while intense competition continues, there is evidence of socialization and friendship among competitors, and implicit social norms that formalize cooperation.

Our objective with this research is to provide an overarching framework that would encompass some of the keys views of co-opetition long held in the literature while at the same time provide us with a different perspective on co-opetition itself. We deal with co-opetition, simultaneous cooperative and competitive behavior by firms, and we further our understanding of this phenomenon by identifying factors and processes that motivates an entity to cooperate or compete with its competitor. We propose that this motivation to cooperate or compete on the part of the entities is dependent to some extent on the capacities possessed by these entities, and how these capacities interact in relationship with other entities.

**ASSEMBLAGE THEORY**

Assemblage theory was created by Gilles Deleuze, a French philosopher. It was further developed by Manuel DeLanda in the year 2006. Social network theory has shown that social entities possess intensive and extensive properties. Some of the intensive properties of social entities are density, and degree of connectedness. Some of the extensive properties of any social entity in general are the length and the area of the entity. Assemblage theory adds another property to the mix- the capacity of the entities. Capacity denotes what the entities are capable of doing when they interact with one another. The capacities of entities to interact with one another, leads to emergence of other large scale entities, called assemblages. Assemblages are wholes that are characterized by relations of exteriority. Relations of exteriority indicate that a component part of an assemblage can be detached from it and assembled into a different assemblage. That is, a person that belongs to one group can easily detach from that group and reassemble into another group at any time. So this denotes that a component or person can be a member of multiple different assemblages. The assemblage emerges because of the interactions of the various entities that exist within it. The different components that typically exist in the assemblage are heterogeneous in nature. Heterogeneity is one of the important characteristic of assemblages.

When a component detaches from an assemblage and attaches itself into a completely different assemblage, the interactions of that component within the new assemblage might vary significantly and it is partly based on the capacities or properties possessed by the component. The components could possess two different kinds of properties- expressive properties and material properties. Examples of some expressive properties possessed by components are the expression of solidarity within the assemblage, legitimacy etc. Some of the material components are the physical space, the objects and the like. These properties play a crucial role in assemblage capacities and relations.

Processes operate within an assemblage to synthesize different heterogeneous components in an assemblage and establish unity and stability within an assemblage. Some of the synthesizing processes in the assemblage are called territorializing processes or factors. Territorializing factors, are processes that
increase the degree of internal homogeneity in an assemblage. These processes are needed both for the emergence and maintenance of an assemblage. If there are territorializing processes, then there is stability in the assemblage. In contrast, when there are deterritorializing processes, processes that increase the internal heterogeneity within an assemblage, there is disruption that may lead to the disintegration of the assemblage. The identity of an assemblage at any spatial scale is always the product of a process (territorialization or deterritorialization) and it is always dynamic because at the same time both these processes- territorialization and deterritorialization are working and creating either stability or friction and changing the dynamic of the assemblage.

As larger assemblages emerge from the interaction of its parts, the whole that emerges acquires agency, reacts back and affects the components, by either providing them with new opportunities or by constraining them. So the basic premise of assemblage theory is that, there are component parts that might chose to interact with other heterogeneous component parts. And this interaction creates larger assemblages, when there are territorializing processes that play a synthetic role within an assemblage. At the same time, there are also deterritorializing processes that may break the assemblage by disrupting it, and forcing its components to join other assemblages. This leads to a very dynamic assemblage that is constantly on the verge of stability or disruption.

Our research context effectively demonstrates the existence of multiple assemblages, and dynamic interactions with these assemblages. We also bridge the gap between micro and macro levels of analysis by demonstrating that interaction of entities at a smaller scale interacts with emergent assemblages at larger scales. This framework helps us understand coopetition using a completely different perspective than what has been done in the past. We examine various territorializing processes and deterritorializing processes along with the analytical properties of components and demonstrate the existence of either cooperation or competition resulting from the interaction between components.

**RESEARCH CONTEXT**

We chose the cosmetics and fragrances section of department stores in US because this provides us with a unique context where we can observe both cooperative and competitive behavior on the part of the sales people. During our in-store observations, we noticed a lot of interaction among salespeople representing the same brand of cosmetics and also a lot of interaction among salespeople across brands, that is, among sales people that were representing different brands. The various cosmetic brands are very proximally located to each other, in that all these different competing brands set up counters close to each other and are co-located on a common platform, called the fragrances and cosmetics department.

Some of the background information on how this department works is provided in a concise manner for a better understanding of the setting. The sales people that represent various brands of cosmetics are recruited jointly by both the department store and the brand they represent. They are paid a flat rate and a commission for every sale and the commission is jointly paid by the department store and the brand. Also, the cosmetics and fragrances section in a department store is very different from other sections or departments in the store. The dynamics at play are different, and the way sales people are recruited, compensated and managed are different.

The sales people working in the department also felt that the cosmetics and fragrances department operate differently from the rest of the store. Some of the quotes from the sales people emphasize the uniqueness of this department:

"I worked for fine jewelry and I worked for clothing but I didn’t notice this. It was different in the fine jewelry and clothing, it was much more friendly and people helped each other. It was not this competition." (Vera, a Clarins representative)
“The nature of interpersonal relationships here..I don’t think unless you work in cosmetics you would understand that.” (Nina, a Clinique representative)

The presence of cooperative and competitive elements, the nature of interpersonal interactions and dynamics of the cosmetics and fragrances section provides us with an excellent avenue to study coopetition in a context that is unique and can expand our understanding of coopetition.

**METHODOLOGY**

We conducted preliminary interviews with store managers from different department stores to understand their perception of the interactions among representatives of different cosmetic brands and interactions among representatives of the same cosmetic brand. We also used these preliminary interviews as a guide to understand the training program offered by the department stores, the recruitment process adopted by the department stores and the compensation plan of sales associates representing different cosmetic brands and the goals they are assigned to.

We conducted participant observations in four different store locations to observe the nature of interactions among the representatives of various cosmetic brands, how they interacted within their own brand and with other brands. We also observed the patterns of movement of the associates from one brand to another, from one department to another, and from one store to another.

We then conducted preliminary interviews with sales representatives at the fragrances and cosmetics section at department stores helping us gather insights about the dynamics that are prevalent in that particular department, and these insights also further helped us in designing the questions for our indepth interview with the sales associates or brand representatives. We conducted in-depth interviews with a total of 13 sales associates/brand representatives and counter managers for various cosmetic brands in a prominent department store in the south western part of US. Each interview lasted for a maximum of 45 minutes. To compare the cosmetics and fragrances department with the rest of the store, we also talked to sales people from other departments in the store.

**FINDINGS**

**Overview of Findings**

The cosmetics employees, counters and brands are nested within the department store, within the mall, within the broader socio-cultural assemblage of cosmetics, cosmetics brands and department store brands. Our findings, overviewed in Figure 1 and described next, show how and why cooperation and competition evolve within this retail assemblage.
First we illustrate that actors within the cosmetics assemblage are drawn in through an array of
different relationships and emotional connections. Next, we show, cosmetics actors are in constant
movement, coupling and decoupling with different stores, departments, brands, counters, and other
employees in dynamic, contingent assemblages. Coupling and decoupling happens across a span of years,
but also multiple times in a single day. Third, we examine actor and assemblage capacities as they relate
to the cosmetics department, stores, brands and other actors. To understand the implications for
cosmetics department continuity and growth requires an understanding of how actor and assemblage
capacities are implicated by these fluid assemblages.

Together these three findings set the stage for a closer examination of the evolving dynamics
within this context. We focus in the next portion of results on two significant interlocking dynamics: (1)
de-territorializing and territorializing processes as actors shift from assemblage to assemblage; and (2)
competitive and cooperative processes that evolve from the interplay of de-territorializing and
territorializing processes and heterogeneity in actor and assemblage capacities. The multiplicity of
assemblages in interplay creates both threats and opportunities for the profitability and growth of
cosmetics, brands and the store. Ultimately, actor and assemblage capacities affect their response to
disruptions caused by fluctuating alliances and drive the evolution of competition and cooperation within
this context. Our findings have broad implications for how we understand these constructs and their
consequences in other business contexts.

Entering the Cosmetics Assemblage
We find employees are drawn into cosmetics from an array of alliances including the
store, the product category, particular brands and personal relationships. That is, the cosmetics
assemblage within a given department store represents a multi-level array of different closely-knit
relations among actors. In Table 1 we summarize how actors may be drawn to cosmetics through their
relationship with a store brand, involvement with cosmetics, an emotional connection with a particular
cosmetics brand, or personal connections and relationships with employees within the cosmetics assemblage.

**See Table 1**

Strong department brands such as Macy’s, Dillard’s, Nordstom’s and so on want employees within their store to feel a primary alliance and commitment to the store brand and have negotiated hard in the past decade for more control over the actors in the cosmetics department. For example, Priscilla, store manager describes how she works to measure and ensure commitment to the store even as employees navigate multiple brands, consumers’ preferences and other relationships within the cosmetics department. Both Priscilla and Steve, store manager for a different department store, felt that employees in their cosmetics departments are loyal first and foremost to the store and only secondarily to other relationships within cosmetics. Our interviews with managers of cosmetics brands such as Estee Lauder (which also owns the cosmetics lines Clinique, Origins and Mac), affirmed that they too seek to retain control over the recruitment, training and placement of cosmetics representatives within department stores, at contrast with the store managers’ narrative. This tension between the control narratives of store and brand managers was a major factor contributing to the difficulty of getting data in this context.

As evidenced in Table 1, employees may be pulled into cosmetics primarily because of their allegiance to the store. The fragrance team leader for instance has been with the store for 20 years and reflects throughout her interview experiences in several departments and her commitment to store goals even goals that have little to do with the customer or the department. The store rewards opening credit accounts and she notes that she was moved into the department primarily because of her ability to do this. Several other individuals note their bonds with the collective culture of the store or their broad relations with people within the store. Notably, when Blanca goes to brand training sessions she sees herself not as a brand representative, but rather as a representative of the store location where she works.

Our store manager interviews emphasized that the cosmetics department and employees were fully integrated with other store departments and store goals. However, across our interviews with cosmetics employees representing multiple department stores, we learned that employees may feel only secondary, tertiary or no loyalty whatsoever to the store, serving different loyalties and relations instead. For example, as indicated in Table 1, some are uniquely drawn to cosmetics, waiting for years for an opportunity to work in cosmetics, as one of our informants Sarah reported in her interview. Others reflect on the unique culture, relations, spaces and rewards associated with working in cosmetics. In these cases, working with cosmetics is far more important than a particular store or brand. For yet other employees the cosmetics brand constitutes the primary emotional bond. For example, Rocio exudes a long-standing passion for Clinique, saying “I love it and I can’t work for another line. This is my passion.” Another employee Vera currently represents Clarins, but still feels a lingering loyalty to Estee Lauder. Thus, employees may envision their futures more in terms of their affiliation with the brand than with the store or product category. Finally, some are drawn into cosmetics primarily because of personal relationships with other employees in the department. For example, two young women, both also going to college, reflect on how personal relationships helped them join the group and also shape their experiences within the group. Miriam learned about the job opportunity from her godmother, who also works at the same counter and for the same brand. This personal relationship shapes how Miriam does her job (she feels a much stronger responsibility to help with extra, non-commission tasks), and how employees view her (they resent her personal relationship with the counter manager). Although only represented by one person in our data set, an extreme example of how diverse loyalties can be at play, Iris talked about leaving a job she absolutely loved in order to have a job that allowed her to better service external loyalties in her private life. That is, she was looking for a less interesting, less involving job. She now represents Estee Lauder and feels loyal to that brand.
Cosmetics Assemblage Coupling and Decoupling

As described earlier, a central feature of groups is that as actors come together in a group they create a whole that cannot be reduced to the sum of the parts but rather represents a collective capacity that is a true synthesis of all the component relations and capacities. This “we” power is fundamental to the efficacy and continuity of families, organizations, communities and nations (Epp and Price 2008; Cayla and Penaloza 2013; Thomas, Price and Schau 2013; Sassen 2006). At the same time, collective capacity is always contingent in that actors constantly decouple and couple with differing assemblages affecting their own capacities and those of the whole. Moreover, assemblages themselves e

The relationships and emotional bonds that attract an actor into the cosmetics assemblage may have a lasting effect on how they move and interact within cosmetics and the broader store and brand environment. However, we also observed and uncovered in interviews that processes of assemblage coupling and decoupling among actors and assemblages are pervasive both over a longer temporal span and on a daily and hourly basis.

Cosmetics Assemblage and Underlying Career Trajectories

In this section we unfold some common coupling and decoupling activities that affect the cosmetics department. Specifically, Table 2 illustrates career trajectories for several of our Macy’s informants. These career trajectories illustrate the decoupling and coupling dynamics of our informants within a broader temporal framing. That is, relations among component parts are shifted and retained across our informants’ careers and aspirations.

See Table 2

As illustrated in Table 2, coupling with Macy’s because of a love of Clinique may gather into an aspiration to move up in management at Macy’s as in Rocio’s case. By contrast, Mariclare has been with Macy’s for 20 years coupling and decoupling from various departments and brands but remaining committed to Macy’s organizational goals and processes. Mariam, who met her husband at Macy’s, feels no alignment with Macy’s goals. She feels affiliation with the Clinique counter manager (her Godmother), affiliations with Clinique representatives at her counter (with some notable exceptions), and an affiliation with Clinique as a brand and organizational culture (again with some strong reservations about how Clinique rewards “creates monsters” at the Clinique counter. Blanca entered the current Macy’s cosmetics assemblage through her affiliation with a Macy’s store on the West Coast. Subsequently she represented several cosmetics presents, including a short four-month stint with Christian Dior. Even as she decoupled from Christian Dior to represent Clarins for seven years, her short affiliation with Christian Dior left her longing to be part of that assemblage again. Although she remains with Macy’s her aspiration is to continue to represent and grow with the Christian Dior brand community.

Table 2 underscores the variety and pervasive character of these processes, but can’t capture the emotional character of these movements. Narratives of career coupling and decoupling show the tug and pull of loyalties and how actor and assemblage capacities trigger both. For example, when Vera came to the Southwest Macy’s location she was hired to represent Chanel and she did well, but reflects, “Most of the products we did not have. I thought it was too disorganized. That’s the reason I decided to leave the counter.” In this case the low capacity of the brand within the overall Macy’s assemblage led her to Estee Lauder “a bigger account, more opportunities, more sales.” Vera also brought unique individual capacities to this assemblage because the brand is popular in Latin America and she is fluent in several languages including “Spanish, Portuguese, Italian and French.” She reports, “I really did well. I worked 4 days not 5 but I was the top seller of the counter.” However, over time the interpersonal dynamics with the counter manager worsened and Vera felt it was impossible to do her job, “She made my work very difficult. I said I don’t need to work in this way, with counter dispute and the possibility.” Because of this, Vera
decoupled from a high capacity brand (Estee Lauder) to manage the Clarins counter. She observes that working for Clarins “It is very difficult,” “it’s a small line. It’s not so easy. It’s not very popular in this area.” While it is a low capacity brand in this assemblage, it is a high capacity brand in other contexts, “It’s a number one line in Europe, Canada, Australia…” Moreover, the broader Clarins brand assemblage empowers and respects her individual capacities within this low capacity setting “anything you do they are very positive with you...anything you do they are so grateful.” As our conversation with Vera unfolds she gives examples of service to the customer that transcends the brand and store assemblage that she represents. She cross-refers both within her counter, that she shares with Shiseido, and to other brands, especially Estee Lauder, within the store. Her affiliation with customers seems stronger than her affiliation with any brand or store. In fact, she believes she “can sell anything,” because of her ability to communicate with people. In subsequent discussion we unfold how these dynamics shape both actor and assemblage capacities. Apparent in Vera’s story is the moment-to-moment coupling and decoupling that occurs on a daily basis. For example, Vera talks about balancing just doing her work behind her counter and trying to have friendly relations with other cosmetics representatives. She sees it as a delicate balancing act between staying “completely busy all the time, but I need to be careful, I need sometimes to go and talk a little bit…”

**Coupling and De-Coupling in Daily Assemblage Interactions**

Store managers highlighted that cosmetics employees represent all the brands and focus on solving the customer problem irrespective of brand. That is, from these interviews we were led to believe that there was a more or less seamless movement of employees across brands in the service of customer needs. What we learned from cosmetics employees was an entirely different story. In general, counters act as mini-territories and structural barriers to movement. At the boundaries, some representatives roam as predators to pull in customers who might otherwise be lost to neighboring brands or even representatives within their own brand. For example, Rocio describes how she needs “to be outside the counter and look for customers…you need to be alert. Don’t talk to some people. Don’t go to another counter.” Another Clinique representative, Mariam observes about Rocio “She has eyes in the back of her head,” and jumps on every available customer. Brand commissions exacerbate this predatory behavior and restrict cross-referral and cross-brand help and cooperation. These deterritorializing processes that serve to destabilize the cosmetics assemblage are detailed in a subsequent section. Nevertheless, despite both material and expressive barriers, coupling and decoupling within the cosmetics assemblage and within the broader environment of the store and mall happen on a daily basis. For example, Sylvia, a Lancôme representative at Dillard’s’ is friends with the Lancôme representative at Macy’s. They’ve gotten to know each other through Lancôme training and also go to lunch together. Although store policy suggests that when the Dillard’s Lancôme doesn’t have an item she should refer the customer to the Dillard’s Lancôme at the cross-town mall, she instead refers the customer to her friend in the Macy’s store of that same mall. Cosmetics representatives also reflect social norms about how to navigate the barriers imposed by store and brand commissions. As described in detail later, reps earn a higher commission on their brand than when they ring up a competing brand. When reps help out at a different brand counter than their own, they ring the sale up using one of the brand reps name for that counter rather than their own. As long as this is reciprocated, this norm helps bridge the de-territorializing effect of brand commissions on the overall cosmetics assemblage. Complex business friendships evolve in this environment including ones characterized by “quid pro quo” relations as in the social norm above, but also real bonds of affiliation from proximal relations within a counter and brand space and/or traveling, training, sleeping, eating and partying together as representatives of a particular brand such as Clinique. In the next section we illustrate the broad heterogeneity in cosmetics actor and assemblage capacities. High actor and assemblage capacities can be mobilized in support of territorializing or de-territorializing processes.
Actor and Assemblage Capacities

As mentioned briefly in the earlier sections, actors and assemblages have material and expressive capacities. These range on a continuum. Material capacities are stocks of resources. Resources here could be time and energy spent in maintaining relations, knowledge base of the actors, equipment, and other resources that can be used to reinforce behaviors. In our retail context, an indication of material capacity could be the sales level of a brand, and how well known the brand is. In contrast, expressive capacities facilitate “flow” of communication, knowledge, information, and cooperative relationships within the system. This could be accomplished by simple use of words or other non-linguistic acts that display solidarity and trust, social norms, general beliefs, and serves as a badge of identity. In our context, one form of expressive capacity would deal with how well the actor manages to keep the assemblage integrated and intact by displaying a notion of solidarity among its actors. Each actor, both human and non-human, has some level of material and some level of expressive capacity. The differences in actor’s capacities could be a crucial contributor to heterogeneity in the assemblage. As illustrated in Figure 1, the capacities of actors and assemblages influences the structure and composition of the cosmetic assemblage.

When these heterogeneous actors interact, it affects and typically enhances the capacities of not just the assemblage but of the individual actors that comprise the assemblage.

Table 3 illustrates the material and expressive capacities of different actor-assemblages. Each actor has some element of material and expressive capacity. In the course of our interviews, we uncovered some of the material and expressive capacities of actors. Vera, a representative of Clarins, observes that Clarins “is a small line” indicating that Clarins, as a cosmetic brand displays a lower material capacity in contrast to Estee Lauder, which she observes is a “bigger account, more opportunities, more sale”. So among the different brands in the cosmetics, some brands display a higher material capacity while others display a higher expressive capacity. Vera, who also represented Chanel briefly after she first moved into cosmetics mentions about Chanel that “There was too much confusion at that time. It was too disorganized”. She also mentions the lack of training and support provided by Chanel, which eventually forced her to move to Estee Lauder. This gives a clear indication of a low expressive capacity of Chanel as a cosmetic brand, as it did not create a sense of identity among its representatives. In contrast, Nina observes that “Clinique is a wonderful brand; we are always going to have customers for Clinique”. This is the only brand she has represented and she mentions her love for the brand, and how she would never represent another brand. So Clinique, as a cosmetic brand has done an excellent job of creating a strong sense of identity and solidarity among its representatives, which indicates its high expressive capacity.

The department store is a crucial actor in this setting. It has higher material capacity in some instances and lower material capacity in others, and higher expressive capacity in some settings and lower expressive capacity in others. As illustrated in Table 3, Heather, a Clinique representative observes, that Macy’s pays her “a slightly less commission” when she sells something other than Clinique. This hints at Macy’s lower material capacity in this context. But in a completely different context, Heather observes that since she is a “Macy’s employee”, she needs to meet Macy’s goals in order for her “to get a raise or promotion or something”. This indicates Macy’s higher material capacity since it can use strong mechanisms to reinforce behavior it desires among its employees. Miriam, also a Clinique representative, observes that she “feels like a number” in Macy’s. She is upset over the fact that no one in Macy’s bothers to know her as a person, because of which she mentions, she might choose to move up in Clinique if she gets an opportunity, but not in Macy’s. Macy’s in this case, demonstrates a low expressive capacity, since it is unable to create the sense of pride and identity in employees like Miriam, who are waiting for a chance to leave the organization. In contrast, Marianna, who has been with Macy’s about 15 years, is very pleased with everything Macy’s has done. She mentions that the managers will give them “little notes” of acknowledgement when they see the employees doing something good, or being really helpful to someone. She also mentions many instances where she believes Macy’s is doing something good to the employees that other stores normally wouldn’t. In this context, Macy’s displays a high expressive capacity.
Just as cosmetic brands and stores are actors with varying levels of material and expressive capacities, individual actors in the assemblage also have different levels of material and expressive capacities. When Vera, a then Estee Lauder representative, was able to work only for “4 days and not 5” because of other personal commitments, or when Miriam, a Clinique representative, who is also a mother of a 2 year old pursuing a college degree, has to divide her loyalties among her family, school, and work, it decreases the time and effort that the person can invest towards her job. This is an instance of low material capacity of individual actors. In contrast, when Vera speaks 4 different languages, “Spanish, Portuguese, Italian, and French”, she demonstrates a high material capacity, simply by possessing more skills and knowledge than her co-workers. Miriam observes about Rocio that some entrepreneurs she works with “always have an eye on the counter”. She claims she has no clue how they manage to do that and stay alert all the time. This hints at a higher material capacity of Rocio. Just as some actors possess material capacities, others or even the same actors might also possess expressive capacities. When Vera, a current Clarins representative, recounts her interpersonal issues with the Estee Lauder counter manager, which drove her to move to Clarins, it indicates a low expressive capacity of the Estee Lauder counter manager, who could not keep her representatives together. In contrast, Nina, a Clinique representative feels “more like a counselor sometimes” as she is the counter manager of a very heterogeneous Clinique counter. She mentions that her counter has many different kinds of people, and that she is constantly trying to smooth out differences and eliminating friction among them, in order for them to effectively work together.

In addition to the above mentioned actors, there are other non-human actors that possess material and/or expressive capacities. For example, counter space is a non-human actor in this setting. Miriam, a Clinique representative mentions that operational things like “arranging cases, and making sure everything is in the drawer” and that the counter is “clean” are also just as much a part of their jobs as is selling. But counter space, as an actor has a low material capacity when there are people “that are only eager to sell” and “not do other things at the counter”. But the same counter space, attains a higher material capacity, when Nina, the Clinique counter manager assigns “areas of pride”, basically areas that each rep is in charge of, since counter space then warrants the employees time, attention, and involvement. Another non-human actor that has a low expressive capacity is: customer service. Miriam, an Elizabeth Arden representative mentions that when a customer comes in not knowing what brand or product she wants, she would try to see if the customer “seems open to it”. She then goes on to say that every once in a while she gets a “difficult customer” but she states she just has to “let it roll off her back” and not let customers bother her. Customer service, in this case, has a lower expressive capacity as the employee’s specific product knowledge and incentives are organized around the brand she represents. But when a customer who has multiple loyalties towards a variety of brands comes in, there is no incentive for the employee to serve the customer. Several other non-human actors, in contrast to customer service, have a higher expressive capacity. Commissions and social norms, both non-human actors have high expressive capacities. Heather, a Clinique representative states that they try not to sell products from other counters “because those girls need their commission”. Miriam, another Clinique representative, talks about social norms that are prevalent in cosmetics. She says she could ring up products from other counters for herself but she would not do it because “we all have a lot of respect for each other”. In both these cases, commissions and social norms create a strong sense of community within the assemblage and play an expressive role.

See Table 3

De-territorializing and Territorializing Processes

Assemblages can be understood in terms of the material and expressive capacities of assemblages, described above and in terms of stabilizing and destabilizing processes, that are constantly shaping assemblage dynamics. In general, whenever the heterogeneity of an assemblage is increased, it is
destabilized and deterritorialized—that is, increased heterogeneity reduces the sharpness of an assemblage’s boundaries and identity. By contrast, whenever the homogeneity of an assemblage is increased, it is stabilized and territorialized—that is, homogeneity increases the sharpness of the assemblage’s boundaries and identity. A central tenet of the natural world is that the potential capacity of an assemblage to integrate heterogeneity and assert stabilizing and territorializing processes will drive whether it survives and grows or disintegrates and collapses (Pascale, Millemann and Gioja 2000; Taleb 2012; Thomas et al. 2013). As we have already demonstrated, at every assemblage level (store, cosmetics, counter and brand) we see coupling and decoupling (such as adding a new cosmetics representative behind the counter of a brand assemblage, or creating a new counter arrangement within the cosmetics assemblage) that contribute to assemblage heterogeneity and hence deterritorialization. Increased heterogeneity can also happen as a consequence of emergent capacities within the assemblage, such as interpersonal frictions or personality clashes. While the same processes, in some situations play a territorializing role, in others they may play a deterritorializing role. The strength of these processes and the potential capacity of an assemblage to respond to heterogeneity determines the emergence and maintenance or collapse and disintegration of assemblages.

In our context, we observed processes that played a territorializing role in some situations, and a deterritorializing role in others. We elaborate on the role played by these processes under different circumstances and demonstrate how it leads to either cooperative or competitive behavior on the part of assemblages and actors. Since we are dealing with constant micro movements of entities from one assemblage to another, we observed a lot of friction and tension when entities detach from an assemblage in order to attach to another assemblage. While a particular process may play a territorializing role for one assemblage, the same process may play a deterritorializing role for another assemblage. For example, the capacity of a cosmetics brand to create a sense of unity and belongingness through training and shared goals, may diminish the capacity of the cosmetics or store assemblage to engage participants in their community and goals. In general territorializing processes enable cooperative behavior within that assemblage. As a result, the entities within that assemblage form a unified group, cooperating with each other, but, absent territorializing processes at other levels, this may lead to competition between assemblages. For example, if Stores territorialize goals across brand and department assemblage this can contribute to cooperation and a sense of belonging at each assemblage level. Alternatively, if actors feel they must choose between Store and brand goals, this is deterritorializing and actors are pulled back and forth depending on the respective assemblage capacities. Some processes employed by different actors that might lead to cooperative or competitive behavior among actors within assemblages are discussed below and summarized in Table 4.

**See Table 4**

**Store**

The store assemblage benefits if sales people identify and feel affiliated with the store enabling them to compete effectively against other stores. However, sales people in the cosmetics and fragrances section of the department store are jointly recruited by both the store and the brand, commissions are jointly paid by the store and the brand, and sales people have both store and brand goals. Depending on territorializing processes among the store and brand assemblages, the store can end up competing for the employees’ loyalties and affections, not just against another competing store, but against the brands that it houses within its store. If the salespeople are more attached to the store assemblage, they will meet the store level goals over the brand level goals, and will refer customers to other products/brands within the store instead of directing them to competing stores. If on the other hand, the sales people are more attached to the brand they are representing, that is, they are more attached to the brand level assemblage that they are part of, then they might give more importance to their brand level goals than store level goals, and might get more comfortable referring customers to their brand assemblage in one of the
competing department stores. The store uses territorializing processes to enhance employee affiliation to the store level assemblage.

Goals: The employees get daily, weekly, monthly goals from the store. Meeting these goals is important for them to keep their jobs. In some cases, when an employee is unable to meet her store goals, the store tries to help the employee and fix any issues that might have caused poor performance. Iris, an Estee Lauder representative mentions that her Macy’s goal is “for selling anything. Any department.” She also states that cosmetic employees do not walk around the store looking for things to sell. In case a customer came to her with a few other items in her hand and wants her to bill those items along with her Estee Lauder purchase, Iris states, “I would ring it up with that and those would also count towards my store goal.” Macy’s in this case, employs goals as a mechanism to eliminate friction between the customer and the employee, encouraging the employee to stay within and relate to the store assemblage. In contrast, Marianna, an Elizabeth Arden representative admits that “it can be stressful” when it is a slow day, since the prospect of having to meet her sales goal for the store seems a difficult task. Her quote suggests, that goals, in some cases serve to deterritorialize employees, making it difficult for them to identify and relate to the store assemblage.

Commission: Some departments operate on a commission basis while others pays a fixed standard rate to its employees. Cosmetics and fragrances operate on commissions. For every cosmetic product or fragrances the employee in the department sells, she gets a commission, on top of the standard pay. The commission for each product is about 3% and it is jointly paid by the store and the cosmetic brand. That is, if an employee in this department represents the cosmetic brand, Clinique, then for every unit of Clinique product she sells, she gets a 3% commission, which is jointly paid by the store and by Clinique. However, if the sales person sells a brand she does not represent, she gets much less commission, because she loses the brand portion of the commission. Marianna, an Elizabeth Arden representative believes that “not all stores work the same way but Macy’s does”. She is appreciative of the effort taken by Macy’s to keep its employees happy by paying a commission on all sales, thus smoothing the effects of brand commissions and goals and increasing employee engagement and store level cooperation. While store commissions help, employees still perceive a disincentive to help other cosmetics brands. Miriam, a Clinique representative notes that the commission structure deters employees from helping each other out. She states that even if “did ring something from Estee Lauder if no one was there”, she would “only get a 2% commission”, because she forfeits the brand commission. Mariclare, fragrances team leader, also mentions that if an employee “cross sells something”, they get a much lower commission percentage. Although the store commission helps to boost cross-selling by offering some commission, cross-selling still comes at a personal cost.

Training: Stores train employees to help them meet their sales goals. Store training starts as soon as a person is recruited for the position. Miriam, a Clinique rep in Macy’s states that she had her training “immediately”, which was “on the computer – learning how to use the register and also just getting to know what the store is all about and more of the background”. For Heather, another Clinique representative, her initial training at Macy’s happened even before she “ever started on the floor”. These initial store trainings give the new employees confidence and comfort in using the computer systems and in addressing other basic customer needs. Training is a strong territorializing mechanism to increase employee affiliation with the store assemblage. The stores also follow up with subsequent training to teach employees relationship management, how to build trust and relationship with customers, and how to effectively understand and satisfy their needs and wants. Nina, a Clinique representative, and Iris, an Estee Lauder representative, as mentioned in Table 4, emphasize the nature and intent of the subsequent training programs provided by Macy’s. The two reps mentioned that they believe the objective of these training programs is to increase employee effectiveness and efficiency. Training, in this case plays a territorializing role and increases
employee identification and loyalty to the store assemblage. In other cases, training programs might play a deterritorializing role. Socialization, for instance, is a very important part of an employee life in an organization. But as mentioned by Heather, a Clinique representative, the initial store trainings are done on an individual basis and accords no opportunity for the new employee to socialize with other employees on the floor. This could serve as a deterrent for the new employee in forming bonds and relationship with other co-workers, and effectively coupling with the store level assemblage. As already mentioned, the content of subsequent store training is very general. It does not provide any product level knowledge for the employees. Because product training is handled by the brand, the lack of product knowledge also hinders cross-selling between brands that might benefit customers and the store. Moreover, the general training provided by the organization, could easily be taken by the employee to another firm. So it could potentially provide many opportunities and avenues for the employee to detach from the current store assemblage and engage with a different store assemblage.

Practices and behaviors: The store employs many salespeople in different departments. Some departments operate on a commission basis while others pay its employees a standard flat rate. But across all departments, employees look up to the store for supportive and considerate behavior, both as a motivation for better performance and in cases where they need help, support, and understanding. When the store management adopts a supportive stance, and helps employees through problems and crisis, it performs territorializing process, that boosts employee morale and attachment towards the store assemblage. As a result, there is cooperation within the store assemblage. Iris, an Estee Lauder representative, as highlighted in Table 4 mentions that the store tries to help employees meet their goals, and Marianna, an Elizabeth Arden representative states that the store acknowledges them for performing well and helping others. The store also employs other mechanisms that play a territorializing role. It employs flexible scheduling, an important benefit and loyalty bond for Iris, a Estee Lauder representative. Heather, a Clinique representative, and Iris, an Estee Lauder representative, as shown in Table 4, appreciate that Macy’s keeps them constantly informed about their performance. This gives them an opportunity to seek help and also keeps them motivated and on track. Such territorializing efforts, increase employee attachment to the store.

While some factors just mentioned play a territorializing role, actors also engage in unsupportive behaviors that play a deterritorializing role. When Miriam, a Clinique representative expresses her discontent with Macy’s because of Macy’s not filling positions promptly or because Macy’s has a policy of encouraging cut-throat behavior by heavily rewarding the “entrepreneurs” (further detailed in Table 4), we observe actors feeling less affiliation and loyalty to the store. Two employees that normally would work well together, now compete against each other for monetary rewards, causing tension. Sales people are the face of a store and brand, dealing with customers all the time. When the store treats them unfairly or fails to know them on a personal level, this lack of effort by the store plays a deterritorializing role, as evidenced by interviews from Miriam, a Clinique representative, and Blanca, a Dior representative. Also Blanca, as explained in Table 4, states that she spends money from her pocket in an effort to acquire and retain retail customers, but the store does not reimburse her for her efforts, causing tensions and psychological decoupling from the store.

Brand
Just like the store, the brand tries to employs processes that can strengthen the brand assemblage by playing a territorializing role or weaken the brand assemblage by playing a deterritorializing role. The same process can play both these roles in different situations. When the territorializing role is stronger, there is cooperation within the brand assemblage. As a result, the entities that comprise the brand assemblage cooperate with each other. In contrast, when deterritorializing processes are stronger, the entities that comprise the assemblage compete with each other and cause disintegration of the brand.
assemblage. Some territorializing processes used by brands are elaborated below and summarized in Table 4.

Goals: Marianna, an Elizabeth Arden rep, and Blanca, a Dior representative, both have goals from Macy’s and brand they represent. Both these employees mention their aspiration to stay and grow in their respective brands. Yet the goal structure set forth by the brands elicits different responses from the informants. As illustrated in Table 4, while goals pertaining to brand assemblage are more important to Marianna, Blanca mentions meeting her store goals would make her “safe”. Brand assemblage goals, while it plays a territorializing role with Marianna, plays a deterritorializing role with Blanca.

Commissions and Rewards: The commission and reward structure set forth by the brand can play a territorializing or deterritorializing role. As shown in Table 4, Miriam, a Clinique representative states that the additional rewards she gets from Clinique serves as an incentive to perform better in some situations thereby performing a territorializing role, but she also laments that the same reward system gets “pretty intense” and “turns people into monsters sometimes”, playing a deterritorializing role.

Training: Brand level training is more specific than store training and is aimed not just at relationship management with the customers, but it also seeks to impart product knowledge to its sales people. It focuses on application of cosmetics, new products and lines from the brand, ingredients in its products, the history and background of the brand. Unlike store training, the brand training is a common training that happens in one of the bigger cities in the state, and it includes sales people that represent the brand across all department stores and cities, or states in some cases. A typical brand training session could last for anywhere between 1 to 3 days, depending on the content. The brand provides transportation, accommodation and food for the sales people. There are many avenues for socialization for the sales people. Nina, a Clinique representative calls it “a small get away”. As illustrated in Table 4, she and Blanca, a Dior representative, indicate their familiarity with respective representatives from competing store assemblages on account of training. Hence, brand training programs facilitate brand unity that cuts across store boundaries. This helps create cooperation among representatives of Clinique or Dior across the two competing stores. Blanca’s quotes from Table 4, also show how brands use training programs to recognize and acknowledge employee contributions, thereby making them feel more associated with the brand assemblage. In contrast, Heather, a Clinique representative, and Vera, a Clarins representative mention that the brand trainings happened months after their recruitment. While Heather had some help from her co-workers in learning about her job and the products, Vera mentions that she “figured out everything” herself. If brands don’t train their sales people right after recruitment, and if they do not maintain the quality of training programs, these might play a deterritorializing role.

Practices/Behaviors: As illustrated in Table 4, Heather, a Clinique representative, states that the complexity of the interview process made her come out of it believing that she was “the best for the right position”, thereby playing a territorializing role and making her identify more with the brand, Nina, also a Clinique representative, merely had a phone interview before “they put her on”. She did not have much interaction with the brand executives, and cannot recall any similar excitement as Heather in getting the position. While the interview process enabled employee identification in Heather’s case thereby making her feel part of brand assemblage, it does not engage Nina effectively with the brand. Additional promotional activities by brands can play a territorializing or deterritorializing role. Vera, a current Clarins representative, mentions the additional promotional activities that Estee Lauder undertakes, which makes it “very popular over the border” in contrast to Clarins that does not engage in much promotion, which leads Vera to mention that “it is not very popular” hence making it “hard to make a sale”. While promotional activities by Estee Lauder plays a territorializing role, lack of it by Clarins plays a deterritorializing role.
Other Actor Assemblage

There are other non-human actors in this setting that can play either a territorializing or deterritorializing role. For example, Counter space facilitates bonding and plays a territorializing role between Blanca, a Dior representative and Marianna, an Elizabeth Arden representative, as can be observed from Table 4. Blanca states that she feels the need to help Marianna, since “she shares the bay”. In contrast, Blanca details how counter space plays a deterritorializing role for the cosmetics assemblage by creating a physical barrier that prevents her crossing that space. She mentions incompatible interpersonal relations with a different brand representative and how the counter space prohibits her movement into the other actor’s counter space. Blanca also mentions the territorializing role played by social norms. She details some of the social norms of the cosmetics department, for instance, in regards to things like – what should be done in case a customer is purchasing many different cosmetic brands, who should ring up the purchase. These social norms, that are mentioned in Table 4, plays a territorializing role, by promoting cooperation across brand assemblages, but at the same time, as can be observed from her quote in Table 4, social norms lead her to deterritorialize from a brand assemblage and from the customer, since she says she “can’t even look there” once she hand a customer over to another brand representative. Finally, actors can develop a bond or relationship on account of common interests and backgrounds. As can be observed from Marianna’s quote from Table 4, she developed friendship with an actor from a different store assemblage on account of their common military background. So common backgrounds play a territorializing role, enabling cooperative behavior between these two actors.

The Evolution of Cooperation and Competition

We proposed a new framework summarized in Figure 1 that draws from assemblage theory to understand factors that determine cooperative and competitive behavior among actors in an assemblage. In a cosmetics department at department stores, where competitors are proximally located to each other, we demonstrate that employees are actors within different assemblages and there is constant decoupling and coupling of actors across and within assemblages. We demonstrated that material and expressive capacities play a crucial role for understanding coopetition. Capacities range on a continuum and differences in actor capacities can contribute to assemblage heterogeneity. Actor and assemblage capacities influence assemblage composition, and assemblage composition and interaction of actors, in turn, affect capacities. We discussed territorializing and deterritorializing processes and how these influence cooperation or competition. We observed from our data that territorializing processes promote cooperative behavior while deterritorializing processes promote competitive behavior.

We bring together our discussion of Figure 1 by positing that to fully understand the phenomenon of coopetition, we need to consider both the dimension- capacities and processes together. We demonstrated that deterritorializing processes cause friction and promote competitive behavior within an assemblage. By contrast, territorializing processes help unify and create feelings of commitment and belonging. As illustrated in Figure 2, conceptually, assemblages may be more or less heterogeneous and may engage in either territorializing or deterritorializing processes. Figure 2 describes four possible quadrants, however, in our context we observe considerable coupling and decoupling that contributes to generally higher levels of heterogeneity. Further, although our pattern of findings is consistent with Figure 2, with only depth interviews we can’t empirically establish whether and how assemblage performance maps to the Figure 2. Future research should directly examine links between territorializing and deterritorializing processes, assemblage heterogeneity and assemblage performance.

See Figure 2

When actor or assemblage heterogeneity is low this may hinder the capacity of the system to innovate and grow. That is, changes (including the myriad coupling and decoupling processes that characterize the cosmetics assemblage) inherently destabilize and deterritorialize yet are vital to
organizational innovation. When low assemblage heterogeneity is combined with deterritorializing processes, we posit this leads to friction around small differences within the assemblage. Vera, a Clarins representative, describes “It’s a lot of women and a lot of free time if you don’t use it right”. Vera goes on to observes about the young girls in the cosmetics department “they are very competitive because they think they will do more this way” but she quickly goes on to mention that the “intelligent thing” would be to work together instead of compete with each other. This highlights a situation when actors in the assemblage are similar, and there are processes that create friction and make them competitive, but the assemblage or the actors don’t perform as well, because the deterritorializing processes cause friction and tension, sharpens differences and leads to bickering and fights among actors. Along the continuum, when there are deterritorializing processes that operate in an assemblage composed of heterogeneous actors, instead of embracing their heterogeneity and using it to the benefit of the actor and the assemblage, the actors focus on individual gains and end up focusing only on themselves. Miriam, a Clinique representative, who belongs to a very heterogeneous Clinique assemblage, mentions that the reward system employed both by the store and cosmetic brand leads to actors that are very “sales goal oriented” and they sometimes become “monsters” stepping over everyone’s feet and not adhering to any of the social norms set forth by the assemblage. Such an assemblage has rich heterogeneity but no processes for integrating, bridging or leveraging these differences for the collective good. This can eventually lead to disintegration of the assemblage.

At the other end, there could be territorializing processes employed by different actors. These processes lead to cooperative behavior. We posit that when territorializing processes are employed in an assemblage composed of actors with low heterogeneity, it can lead to stagnation because there are no differences for the actors to embrace, and there are all supporting and cooperating with each other. This leads to a closed network in which no outside or new information penetrates, and the assemblage does not perform well, as there is nothing new to enrich or increase actor and assemblage capacities. On the other hand, when territorializing processes are employed in an assemblage composed of heterogeneous actors, the territorializing processes provide opportunities for the actors to embrace heterogeneity by interaction while at the same time smoothen out any friction by emphasizing on each actor strengths and commonalities. Nina, a counter manager of a highly heterogeneous Clinique assemblage observes that “everyone has their strengths”. She notes that while some actors in her assemblage are “more goal or sales oriented” demonstrating a high material capacity, others are “more operational”. She says she plays the role of a “counselor”, with a high expressive capacity, smoothing out any issues or frictions between the actors that arise on account of their heterogeneity. And many informants in our data unanimously agree that Clinique is the biggest counter with the largest sale in the department. We posit that actor and assemblage heterogeneity in interaction with territorializing processes, leads to cooperative behavior that is most beneficial and effective in terms of performance.

CONCLUSION
We demonstrate that assemblages exist at different levels and cosmetics employees, counter, and brand assemblages are nested within store assemblage. Actors within the cosmetic assemblage are constantly coupling and decoupling with different store, department, counter, and brand assemblages. Stores should take into account the existence of different assemblages and should understand the effects of employee coupling and decoupling on its performance. It should employ stronger territorialization processes that transcend other cosmetic, counter and brand assemblages, in order for employees to engage and identify with the store assemblage. Instead of structuring the cosmetics department as a separate island within the store, stores should design counter spaces that will facilitate better movement of employees within and outside their own departments and counters. Stores also should embrace actor heterogeneity when designing an assemblage and couple it with territorializing processes. Emphasizing and promoting higher rewards for “entrepreneurs” with high material capacities only, disregards the benefits of heterogeneity, and eventually might lead to disintegration of such an assemblage. Brands should interpret representative performance and brand performance in light of existence of multiple
assemblages that influences employee loyalties and affiliations. They should design effective territorializing processes, like sooner training for new representatives, in order to increase employee identification and loyalty to the brand assemblage.
REFERENCES


Table 1: Entry into cosmetics

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Informant quotes</th>
</tr>
</thead>
</table>
| Store              | • “I came here to this store (looking for a job) and when I came everybody smiled and said “hi” and asked if I needed help. I felt very welcome. So I said this is my place.”  
• “I applied to Store X. And then the store said there was an opening in Shiseido.”                                                                 |
| Cosmetics          | • “I am happy coming and working here for my department. I am very excited to come and work. I enjoy cosmetics. I enjoy my department. I love what I am doing. I have passion for my job– make up and facials.”  
• “I had never actually done cosmetics before. So I was very excited to get in. I tried at several places, but I knew the cosmetics was hiring here.”                                                                 |
| Brands             | • “It has always been Clinique. Because it’s like my personal true brand. I have used Clinique ever since I was 14. 15 years altogether! So I started in my early 20s but I used Clinique my entire life. That’s kind of why I wanted to get into Clinique because I had a passion for it. And you always do better at selling if you have a passion for something, if you love something. So that’s always been my love, I love Clinique.”  
• “Because I have been using Clinique for 20 years (so I wouldn’t have been happy even if they offered me a job at Estee Lauder or a different brand). I used other brands but I feel Clinique saved my skin and I believe in the product 100%, so I always want to sell what I believe in. Like I can’t see something I don’t believe in. I love Clinique from my heart. So that’s why everything is so easy for me. My older sisters used it and I saw the results and I said I want to use Clinique”  
• “I love it and I can’t work for another line. This is my passion. And I believe in the product.”                                                                 |
| Personal Connections | • “I was an assistant manager at Payless shoes here in town. And my God mother works here. So she told me there was an opening at the counter. She really wanted me to try and apply for it. So I did and got the job. I have been here for about 5 years.”  
• I knew I never wanted to work another Christmas cleaning dressing rooms again. And (when I applied for a position here) it so happened that the cosmetics manager was one of the Clinique girls from when I was in the store back then.”                                                                                                                                 |

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## Table 2: Career trajectories of select Macy’s employees

<table>
<thead>
<tr>
<th>Informant (Years with Macy’s)</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
<th>Time 4</th>
<th>Time 5</th>
<th>Career Aspirations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iris (30 years)</td>
<td>Circle K (Org 1)</td>
<td>Macy’s (Org 2)- Clarins</td>
<td>Macy’s- Elizabeth Arden</td>
<td>Macy’s- Fragrances</td>
<td>Macy’s – Estee Lauder</td>
<td>Estee Lauder</td>
</tr>
<tr>
<td>Blanca (10 years)</td>
<td>Macy’s (Org 1)- Helper</td>
<td>Macy’s- Elizabeth Arden</td>
<td>Macy’s – Christian Dior</td>
<td>Macy’s- Clarins</td>
<td>Macy’s (different location)- Christian Dior</td>
<td>Christian Dior</td>
</tr>
<tr>
<td>Mariclare (20 years)</td>
<td>Macy’s (Org 1) – Shiseido</td>
<td>Macy’s- Estee Lauder</td>
<td>Macy’s- Elizabeth Arden</td>
<td>Macy’s- Fragrance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vera (9 years)</td>
<td>Macy’s (Org 1) – Jewelry (different location)- Chanel</td>
<td>Macy’s- Estee Lauder</td>
<td>Macy’s- Christian Dior</td>
<td>Macy’s- Clarins</td>
<td>Sell anything</td>
<td></td>
</tr>
<tr>
<td>Marianna (15 years)</td>
<td>Victoria’s secret (Org 1)</td>
<td>Macy’s (Org 2)- Lancome</td>
<td>Macy’s- Revlon</td>
<td>Macy’s- Christian Dior</td>
<td>Macy’s- Elizabeth Arden</td>
<td>Elizabeth Arden</td>
</tr>
<tr>
<td>Rocio (5 years)</td>
<td>Introduced to Clinique in Costa Rica, grew up using Clinique in Costa</td>
<td>Macy’s (Org 1) – Helper in fragrances</td>
<td>Macy’s- Clinique</td>
<td></td>
<td>Management position</td>
<td></td>
</tr>
<tr>
<td>Miriam (5 years)</td>
<td>Payless (Org 1) – Assistant Manager</td>
<td>Macy’s (Org 2)- Clinique</td>
<td></td>
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<td></td>
<td>Clinique/ Nursing</td>
</tr>
</tbody>
</table>
Table 3: Illustrative Actor- Assemblage Capacities

<table>
<thead>
<tr>
<th>Assemblage</th>
<th>Types of Capacity</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cosmetic Brand Assemblage</td>
<td>Material</td>
<td>Vera on Clarins: “It is a small line. So it is not easy. It is not very popular in this area”</td>
<td>Vera on Estee Lauder: “Bigger account, more opportunities, more sale,” “It is very popular over the border”</td>
</tr>
<tr>
<td></td>
<td>Expressive</td>
<td>Vera on Chanel: “There was too much confusion at that time. It was too disorganized.”</td>
<td>Nina on Clinique: “Clinique is a wonderful brand, we are always going to have customers for Clinique.”</td>
</tr>
<tr>
<td>Store Assemblage</td>
<td>Material</td>
<td>Heather in Macy’s commission: “I get a slightly less commission for anything that is not Clinique.”</td>
<td>Heathen on Macy’s: “In order to get a raise or promotion or something like that, because I am a Macy’s employee, I have to meet these goals.”</td>
</tr>
<tr>
<td></td>
<td>Expressive</td>
<td>Miriam on Macy’s: “I feel like a number here”</td>
<td>Marianna on Macy’s: “Every once in a while a manager..they give us little notes out when they see us doing something good.” “if they see us being really helpful to someone, they will acknowledge it.”</td>
</tr>
<tr>
<td>Individual Representatives</td>
<td>Material</td>
<td>Vera: “I worked 4 days not 5” Miriam: “2 year old baby”, “Going to school for a nursing”.</td>
<td>Vera: “I speak Spanish, Portuguese, Italian, and French.” Miriam on other representatives: “They always have an eye on the counter.” “They have an eye on the back of their heads”.</td>
</tr>
<tr>
<td></td>
<td>Expressive</td>
<td>Vera about the counter manager at Estee Lauder: “I think it was hard for her to work with a person that was new and was doing so well.”</td>
<td>Nina: “I come in and feel more like a counselor sometimes.”</td>
</tr>
<tr>
<td>Other Actors</td>
<td>Material</td>
<td>Miriam on entrepreneurs: “There are other operational things too like arranging cases, making sure everything is in the drawer, but there are some sales people who are very sales oriented.” “They are the ones eager to sell, but they are not eager to help or do other things at the counter.”</td>
<td>Miriam: “We have what we call areas of pride. Our counter manager assigns us different areas of the bays that we are in charge of, and we have a tester unit that we are in charge of.”</td>
</tr>
<tr>
<td></td>
<td>Expressive</td>
<td>Miriam: “Every once in a while, you get a difficult customer, but you just have to let it roll off your back. You can’t let customers bother you.”</td>
<td>Heather: “We try not to sell other counter products because those girls need their commission. So we want them to have their sales.” Miriam: “We can ring it up our self but we all have a lot of respect for each other.”</td>
</tr>
<tr>
<td>Actor</td>
<td>Processes</td>
<td>Territorializing Role</td>
<td>Deterritorializing Role</td>
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<tr>
<td>Store- Actor Assemblage</td>
<td>Goals</td>
<td>“Macy’s goal is for selling anything. Any department (we don’t go and sell in other departments). They would come to us. I mean if they had a few things in their hand, say a coat or whatever and asked me to please ring it up along with their Estee Lauder purchase, I would ring it up with that, and that would also count towards my store goal.” (Iris – Estee Lauder)</td>
<td>“It can be stressful. It can be. On days when it is busy, you know the business is okay but on days when business is going slow, you know, there are not that many people, it can get stressful.” (Marianna-Elizabeth Arden)</td>
</tr>
<tr>
<td>Commission</td>
<td></td>
<td>“Yeah. Not all stores work the same way but Macy’s does. They give you the same commission.” .” (Marianna-Elizabeth Arden)</td>
<td>“I mean even if I did ring something from Estee Lauder if no one was there, I only get a 2% commission. So it’s a smaller commission than when I am ringing up any other area. So I think that deters people from helping out.” (Miriam-Clinique)</td>
</tr>
<tr>
<td>Training</td>
<td></td>
<td>“Immediately (after recruitment) I had my Macy’s training, which was on the computer – learning how to use the register and also just getting to know what the store is all about and more of the background.” (Miriam- Clinique)</td>
<td>“If you are not working for that brand but you cross sell something of that brand, then your commission is less. The percentage is less.” (Mariclare – Fragrances)</td>
</tr>
<tr>
<td>Practices/ Behavior</td>
<td></td>
<td>“We have training constantly – on how to talk to customers, how to get information from them, how to make them comfortable.” (Iris- Estee Lauder)</td>
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<tr>
<td></td>
<td>“Sometimes when you are unable to make your goals (store), they try to help you accomplish that. They try to ask you what they can do to help you be successful.”(Iris- Estee Lauder)</td>
<td>“Right now I think there is one person short. I think one person in Lancôme and they are short of a counter manager in Estee Lauder.” “Recently, I have had to go over and help their customers a lot. And that takes away from my sales in Clinique because I am not ringing up those sales for myself.” (Miriam-Clinique)</td>
<td></td>
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<td></td>
<td>“Every once in a while, the manager gives us little notes out when they see us doing something.” (Marianna-Elizabeth Arden)</td>
<td>“There are people that are very eager to sell. They are not eager to help out or do other things at the counter.” “They are not always different groups of people. Some of them are mean mapping these areas and departments. And there are no penalties for being as such. It is all rewards.” (Miriam- Clinique)</td>
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<tr>
<td></td>
<td>“I think the scheduling, the communication with management is very important. I think that the hours and everything we have, the new scheduling process is really very nice because you can switch your days around. That makes it really nice. We have really good managers in the store and we are really pretty lucky.” (Iris-Estee Lauder)</td>
<td>“You are so weak, you need to do this..and this..and this”. It can be really hurting. Give us a little break.</td>
<td></td>
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</tbody>
</table>
**Brand-Actor Assemblage**

**Goals**

- It becomes part of your store goals. And then I have to subtract it and rework all the math to see what my Clinique sales were, so that’s why I don’t like to do that.” (Heather-Clinique)

- “XXX has a system of report card on what you did, what you were expected to do and how and what you did.” “So we are always kept informed of where we are at.” (Iris-Estee Lauder)

- “But on my score card, it is only going to show what I sell from Clinique. That’s what they are grading me on. So they are grading me on how I sell and perform for the line I am working for, basically Clinique.” (Nina-Clinique)

- “The manager asked me first if I would be interested (in working for Estee Lauder) and if I would like to go on and interview for the job with them.” (Iris-Estee Lauder)

- “And in order to get a raise or something from Macy’s because I am an employee of Macy’s, you have to meet these goals.” (Heather-Clinique)

- “I think for me, in order for Elizabeth Arden to keep in business, it is important for me to keep Elizabeth Arden going. So Elizabeth Arden goal is more important.” (Marianna-Elizabeth Arden)

- “Macy’s sets a lower goal and Dior sets a higher goal. Macy’s wants you to do the same as last year. Dior wants you to do more. So If I make Macy’s goals, I am safe.” (Blanca-Dior)

**Commission and Rewards**

- “Every 4 months we get to spend money to get our skin care online. So that’s kind of our present from Clinique.” (Miriam-Clinique)

- “So you do this, you get that. Do this, get that. So it spirals out of control. It is pretty intense. In Clinique we have very low priced items. So that’s really a lot to do. So it’s huge and some people turn into monsters sometimes.” (Miriam-Clinique)

- “Clinique does that. They put us in a hotel, they pay for our food, the night out, and then the next day they pay for our food as well. It is like a small get away. It is kind of nice.” (Nina-Clinique)

- “Clinique sends you to classes a couple of times a year. It was a couple of months before I actually got sent to training.” (Heather-Clinique)

- “We know them pretty well [sales people that represent Clinique in a competing department store in the same city]. We all go to the same school. When customer wants a product that we don’t carry, we offer to search for it online and send it to them, but most of them don’t want to do that because they want their foundation, they want to try colors and...” (Vera-Clarins)
staff like that. So we send them to Dillard’s.” (Nina- Clinique)

“[During training], they ask me to stand up and talk because they say I have a lot of traffic and I sell very well with each customer. So they ask me to talk in class. They appreciate me a lot.” (Blanca- Dior)

<table>
<thead>
<tr>
<th>Practices/ Behaviors</th>
<th>“There were lots of interviews.” “They want to make sure they have the best for the right position. I was really excited that I got it. It was nerve wrecking.” (Heather- Clinique)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Estee Lauder is very popular over the border. They are extremely aggressive. They want you to know about them, hear about them. They give out lots of free samples.” (Vera- Clarins)</td>
</tr>
<tr>
<td>XXX interviewed me and then they recommended me to Clinique and then Clinique did like a phone interview with me and then they put me on.” (Nina- Clinique)</td>
<td></td>
</tr>
<tr>
<td>“Clarins, of course they want to sell. But it is not very popular, it is so hard to make a sale.” (Vera- Clarins)</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Other-Actor Assemblage</th>
<th>Counter Space</th>
<th>“But the first thing I am doing is to sell Elizabeth Arden because she shares the bay with me and I want to help her. So I try to leave the money in my area.” (Blanca- Dior)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social Norms</td>
<td>“My product is more expensive, so she give it to me.” (Blanca- Dior)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“You feel afraid to cross that space because of how that person has been behaving for 20 years. No one wants to cross that space because she is there.” (Blanca- Dior)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“It is courtesy. I walk back. I can’t even look there because other Lancôme person is there.” (Blanca- Dior)</td>
</tr>
</tbody>
</table>

| Common interests/ backgrounds | “I have friendship with two girls. They are up in (city). Just because they were the other military girls.” (Marianna – Elizabeth Arden) |
Figure 2: The Evolution of cooperation and competition

Vera: “It’s a lot of women, and a lot of free time if you don’t use it right...They are very competitive because they think they will do more this way. But they do not understand that if we work together...I think that would be the intelligent thing to do...it would be a business thing.”

Miriam says about the entrepreneurs. They are “very sales goal oriented”. They also just sell and do not do their part in operational things like “keeping their counter clean”.

Unnecessary chatter and fights over even minor differences - Unproductive

High Competition: Monster Entrepreneurs

Low Heterogeneity

Insularity and low performance

High Heterogeneity

High Cooperation within an Assemblage

Nina says about the people in her brand assemblage and highlights the heterogeneity she encounters: “Everyone has their strengths, some people are more goal or sales oriented, some are more operational.” She also says she plays the role of a “counselor” to keep the group effective. And many informants emphasized that Clinique was the biggest counter with the highest sales.
UNTENTENDED CONSEQUENCES OF RELATIONAL STRATEGIES: IMPLICATIONS FOR INNOVATION OUTCOMES

Sean Yim, Washington State University

INTRODUCTION

Extant literature provides a great deal of theoretical and empirical evidence that strong interfirm relationships (IFRs) make superior business outcomes to the participants of the relationships, especially with regard to innovation outcomes as a valid path toward the firm’s sustainable competitive advantage (e.g., Chandy and Tellis 1998; Dyer and Singh 1998; Sivadas and Dwyer 2000; Wuyts, Dutta, and Stremersch 2004). One of the dominant explanations for this phenomenon is derived from a resource-based perspective (e.g., Dyer and Singh 1998; Palmatier, Dant, and Grewal 2007). That is, newly attained resources from a firm’s IFRs are the sources of the firm’s competitive position in its market. However, the literature also suggests that the superior business outcomes in IFRs do not hold universally due to internal and external factors. Opportunistic behaviors in IFRs (e.g., Wathne and Heide 2000) limit the quantity and quality of information flows between partners. Environmental uncertainty in the high-tech industry (e.g., Eisenhardt and Martin 2000) also provides evidence of counter arguments against the resource-based explanation.

There seems to be substantial variance in how firms develop, manage, and maintain IFRs. IFRs between close, selected partners seem to be more beneficial than broadly constructed IFRs with a number of others with, namely, arm’s-length transactions (e.g., Anderson and Weitz 1992; Ganesan 1994). Two relational strategies are found in the literature to be legitimate drivers for building the closer IFRs. That is, firms that are willing (i.e., relational proclivity) and able (i.e., relational capability) to build strong IFRs, are more likely to attain successful business outcomes. Relational proclivity is defined as the extent of a firm’s willingness to seek out, engage in, and build closer relationships with selected partners (Johnson and Sohi 2001). Relational capability refers to a firm’s ability to initiate a process of IFR formation, to interact, and to manage key functional information with the selected partners in IFRs (e.g., Dyer and Singh 1998; Johnson, Sohi, and Grewal 2004; Wuyts et al. 2004).

Furthermore, a growing body of social network theory literature indicates that although dyadic relationships have been a major factor in explaining relational strategy-competitiveness mechanism for decades, understanding the nature of network systems among relationships has become more prominent (e.g., Swaminathan and Moorman 2009; Wuyts et al. 2004). Following the literature, we believe that the network perspectives should be considered beyond the dyads in order to better understand the association between the relational strategies and the successful business outcomes in IFRs. First, if the network system contains strong relationships among the participating firms (i.e., network density, Antia and Frazier 2001), the system enables members to efficiently exchange resources. The interfirm network has the ability to infuse the participating firms with unique and valuable resources, which, otherwise, could not be transferred to the firms (e.g., Borgatti and Halgin 2011). Second, if a firm is positioned in the center of the network system (i.e., network centrality, Antia and Frazier 2001), the firm has an influence on other members of the network and engages in closer relationships with its network members.

The literature also suggests the inefficiency of network closeness and strength when the exchanged information is redundant among the network’s members (e.g., Fang 2008; Rindfleisch and Moorman 2001). Firms become naïve and satisfied with immediate gains when they feel overconfident in their attained resources, their information, and the benefits they expect to derive from a network (e.g., short-term market response), rather than investing in sustainable competitiveness (e.g., innovation). A firm that is in the central position of information exchange with the power to influence other members in
a network system may fall into the state of organizational inertia (e.g., Palmatier 2008; Zhou and Wu 2010), which, in turn, has a detrimental effect on the creation of successful business outcomes.

As such, we investigate the indirect effect of relational proclivity and relational capability on innovation outcomes through network centrality and network density in the current study. We expect a positive indirect effect of relational strategies on innovation outcomes through network density because a firm can access to high quality information derived from the dense network relationships, and make an efficient new product development decision through the network system. We further expect a negative indirect effect of relational strategies on innovation outcomes through network centrality because the organizational inertia that is derived from the central position in the network relationships overrides the other potential benefits from the network system. Figure 1 depicts the conceptual model of the current study. In the current study, we examine two different types of innovation outcomes: 1) revolutionary innovation, and 2) platform innovation. First, revolutionary innovation refers to a firm’s innovation outcomes that are high impact and high in originality. Here, innovation impact refers to the extent to which a firm’s innovation outcome influences other technology development in future, whereas innovation originality refers to the extent to which a firm’s innovation is less likely to be built around prior art. Second, platform innovation refers to a firm’s innovation outcomes that are high in originality, and that influence its own subsequent inventions. Similar to revolutionary innovation, platform innovation captures the extent of innovation originality. Moreover, platform innovation captures the extent to which a firm creates innovation outcomes that are expected to influence the firm’s own future technology development streams.

FIGURE 1
The Conceptual Model

Note: Solid lines depict the hypothesized paths.
We believe there are three important contributions from our research. First, beyond dyads, network perspectives of multiple IFRs are critical in order to understand a firm’s business success, especially, its innovation outcomes in network relationships. We consider both intra-firm aspects of IFRs (i.e., relational strategies), and interfirm aspects of IFRs (i.e., network characteristics) in the current study. We believe this approach helps to explain the previously unexplained variance of a firm’s innovation outcomes in network relationships. Second, we expect to demonstrate the unintended consequences of firm’s relational strategies on innovation outcomes and discover what we believe are important underlying mediating mechanisms in explaining the relationship. Unlike previous research, we expect to investigate the effect of relational strategies on innovation outcomes that may diverge depending on how firms position themselves in their network relationships. Third, following the extant innovation literature (e.g., Henderson and Clark 1990; Sood and Tellis 2005), we introduce the concept of platform innovation, conveying the attributes of technological originality and future strategic options for firms. The measure of platform innovation is based on patent citation counts, considering both backward and forward self-citation counts (e.g., Hall, Jaffe, and Trajtenberg 2005).

The following sections present the conceptual background and hypothesis development. Then, we discuss our research method, analytical approach and the empirical tests we used, including suggested measures of innovation outcomes. We conclude the general discussion with managerial and theoretical implications and suggest future research ideas based on what we have learned in this research.

**CONCEPTUAL BACKGROUND**

**Relational Strategies**

Previous studies in relationship marketing literature investigate how relational strategies influence firm’s innovation outcomes in various ways (e.g., Rindfleisch and Moorman 2001; Sivadas and Dwyer 2000). We observed that numbers of studies discuss interfirm factors of relationship marketing, i.e., trust-commitment (e.g., Morgan and Hunt 1994), power (e.g., Frazier and Summers 1984), dependence (e.g., Heide and John 1988), and other governance topics (e.g., Kawan, and Narayandas 1995; Noordewier, John, and Nevin 1990). Another body of relationship marketing literature discusses the intra-firm factors of relationship marketing such as relational proclivity (e.g., Johnson and Sohi 2001), corporate competency (e.g., Sivadas and Dwyer 2000), relational capability (e.g., Dyer and Singh 1998), relational knowledge stores (e.g., Johnson et al. 2004), and the like. In the current research, we focus on investigating the effect of relational proclivity and relational capability on innovation outcomes.

**Relational Proclivity**

Relational proclivity refers to the extent to which a firm has a willingness to seek out, engage in, and forge closer relationships with selected suppliers, rather than maintaining arm’s-length transactions with a number of suppliers (Johnson and Sohi 2001). In practice, the degree of relational proclivity seems to vary across firms in spite of seemingly beneficial consequences of the closer relationships (e.g., Larson 1992; Rotter 1967). Johnson and Sohi (2001) assert that a higher level of relational proclivity improves firm connectedness in interfirm relationship. Consistent with their study, in general, a firm that possesses a strong relational proclivity believes interfirm relationships are beneficial, whereas a firm with weak relational proclivity is likely to avoid strong embedded ties with their partners.

**Relational Capability**

Extant literature defines the relational capability as a firm’s ability to forge, develop and govern partnerships (e.g., Dyer and Singh 1998; Sivadas and Dwyer 2000). Positing on a knowledge-based perspective (e.g., Conner and Prahalad 1996; Grant 1996), we operationalize a firm’s relational knowledge stores (Johnson et al. 2004) as the firm’s relational capability, consistent with Grant (1996) who asserts that the integration of knowledge is the basis of organizational capability. We conceptualize the relational capability in three dimensions, i.e., functional, interactional, and initiation dimensions.
Thus, the relational capability, in current research, refers to a firm’s ability 1) to interact with selected suppliers instead of maintaining an arm’s-length relationship with a broader range of suppliers (e.g., Anderson and Weitz 1992; Ganesan 1994), 2) to manage the key functional information in the relationship (i.e., costs, quality, delivery, and inventory control), and 3) to make strategic decisions ranging from selection, assessment, evaluation to supplier relationship development.

**Network Characteristics**

Network literature highlights interfirm relational factors as important determinants of business success (e.g., Fang 2008; Sivadas and Dwyer 2000; Swaminathan and Moorman 2009), and brings enriched explanations of how firms behave in multiple relationships, even beyond dyads (Borgatti and Halgin 2011; Cook and Emerson 1978; Houston et al. 2004). Networks possess the ability to infuse firms with unique resources that can lead to a competitive advantage (Gulati, Nohria, and Zaheer 2000). Networks can also result in undesirable consequences in certain circumstances. The network advantages are acquired through the strength of the tie to another firm as well as the embeddedness of the interfirm relationship (Granovetter 1973; Uzzi 1997). Strong relationship ties can benefit the firm by improving interfirm trust and coordination (Bulte and Wuyts 2007). However, the network disadvantages can surface when the firm’s overconfidence in collecting benefits from the relationship, along with its risk-averse tendencies, are observed in the network (Bonacich 1987; Borgatti and Halgin 2011). Thus, understanding network characteristics becomes more critical in order to foresee the benefits from the network relations.

We focus on network centrality and network density, which are two crucial drivers of innovation outcomes, as suggested in the literature (e.g., Cui and O’Connor 2012; Houston et al. 2004).

**Network Information Centrality**

Network centrality, in general, refers to the strength of a firm’s position in the network information flows (e.g., Antia and Frazier 2001) and the firm’s perception of closeness with its network partners (e.g., Freeman 1979; Houston et al. 2004). We observe that extant literature conceptualizes the network centrality in two different perspectives. Antia and Frazier (2001) note that network centrality is the strength of the focal firm in the network system. They argue, positing on the perspectives of transaction cost economics and network theory, that the behaviors of the central player in the agent network system influence the behaviors of other agents in the system against the principal’s contract enforcement. On the other hand, Swaminathan and Moorman (2009) define network centrality as the extent to which a firm is directly connected with its network partners. This degree of centrality (e.g., Houston et al. 2004) reflects the central firm’s opportunities, power, and influence, which, in turn, likely impact its financial performance.

Information or knowledge about technologies, markets, and availability of (existing or future) resources plays an important role in creating a firm’s innovation outcomes (e.g., Conner and Prahalad 1996; Grant 1996; Luca and Atuahene-Gima 2007). Consistent with the knowledge-based perspective (e.g., Conner and Prahalad 1996), having access to a variety of information, as well as a firm’s access to the information pool in a network, enables the firm to gain competitive advantage, whereas information redundancy in a network negatively affects the innovativeness of the new product (e.g., Fang 2008; Rindfleisch and Moorman 2001). Thus, the control of information-flows in a network system is likely beneficial to a firm that has the power. Accordingly, the network information centrality in current research refers to the strength, influence, and closeness of a firm’s position in the network relations with its suppliers. We use network information centrality, network centrality, and centrality interchangeably.

**Network Density**

The extant literature proposes two different ways of looking at the network density conceptualization, e.g., the strength (Antia and Frazier 2001) and interconnectedness of firms (Swaminathan and Moorman 2009). The network density is utilized in various domains of research. Firms
in dense networks have the potential for greater cooperation, improved information sharing (e.g., Sparrowe et al. 2001) and flow (e.g., Kogut 2000). Dense networks have also been found to impact contractual enforcement (e.g., Antia and Frazier 2001), and improve firm value creation (Swaminathan and Moorman 2009). One consistent theme across the literature is that a dense network enhances trust among network members, and gives the network the ability to share high quality of information with other members of the network (e.g., Antia and Frazier 2001; Houston et al. 2004; Swaminathan and Moorman 2009). In current study, we conceptualize network density as the strength of a firm’s network connectedness with its suppliers.

HYPOTHESIS DEVELOPMENT

In the current competitive industrial environment, most firms utilize their internal and external resources and information in order to survive and maintain their competitive position in the market. Our hypothesizing mechanism lies on the notion of ‘inside-out’ dynamics and ‘outside-in’ dynamics (e.g., Day 1994). We argue that a firm’s internal relational factors (i.e., relational strategies) affect interfirm relational factors, which, in turn, decide the firm’s network characteristics. Then, the interfirm network characteristics would have decisive influences on the firm’s innovation strategic behaviors, which, in turn, would result in its innovation outcomes.

Implications for Network Characteristics

A firm’s relational strategies send strong signals to its existing and potential suppliers by showing its relational proclivity and capability to manage and enhance the relationship with other firms. These signals lead to bilateral trust and commitment to each other in the relationship (Morgan and Hunt 1994; Palmatier et al. 2007). When trust and commitment plays a role in the interfirm relational mechanism, firms are willing to share their internal and external strategic information (Frazier et al. 2009). In general, a firm’s relational proclivity and relational capability influence trust-commitment and information-sharing mechanisms in the relationship.

There are also some distinct characteristics in the relational strategies. While the relational proclivity activates bilateral trust-commitment and information sharing mechanisms, the relational capability is prone to influence unilateral trust-commitment and information-sharing from suppliers to the focal firm. These relational strategies (i.e., relational proclivity and relational capability) provide the focal firm a competitive position as suggested by the literature (e.g., Dyer and Singh 1998; Johnson and Sohi 2001; Sivadas and Dwyer 2000). Supplier firms are more likely to select the focal firm among other alternative partnerships when the focal firm has the high level of relational proclivity and relational capability.

The unilateral and bilateral strategic information sharing enable the focal firm to position in the center of a network, and the relational competitiveness allows it to gain a power and influence other partners in the network. Hence, we expect a firm’s relational strategies to positively influence the network information centrality. Furthermore, the strategic information-sharing and the trust-commitment mechanism also enhance the strength of the connectedness among network members. Thus, we also expect the firm’s relational strategies to positively influence the network density. We summarize the underlying mechanism in the first panel of table 1. Here, we formally hypothesize as follows.

\[ H_1: \] The greater a firm’s relational proclivity, a) the greater the firm’s network centrality and b) the greater the firm’s network density in its network of suppliers.

\[ H_2: \] The greater a firm’s relational capability, a) the greater the firm’s network centrality and b) the greater the firm’s network density in its network of suppliers.
TABLE 1
Underlying Mechanisms in Hypotheses

Panel A: Model 1 – effect of relational strategies on network characteristics

<table>
<thead>
<tr>
<th>Relational Strategies</th>
<th>Focal Firm's IIS / EIS</th>
<th>Supplier's Perception of Trust &amp; Commitment</th>
<th>Focal Firm's IIS / EIS</th>
<th>Supplier's Perception of Trust &amp; Commitment</th>
<th>Relational Competitiveness</th>
<th>Net Effect</th>
<th>Network Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proclivity</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+ (H_{1a})</td>
<td>Centrality</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td>+ (H_{1b})</td>
<td>Density</td>
</tr>
<tr>
<td>Capability</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+ (H_{2a})</td>
<td>Centrality</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td>+ (H_{2b})</td>
<td>Density</td>
</tr>
</tbody>
</table>

Panel B: Model 2 – effect of network characteristics on innovation outcomes

<table>
<thead>
<tr>
<th>Network Characteristics</th>
<th>Information Flow</th>
<th>Efficient Decision Making in NPD</th>
<th>Information Variety / Redundancy</th>
<th>Org. Inertia</th>
<th>Net Effect</th>
<th>Innovation Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centrality</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>- (H_{3a})</td>
<td>Platform</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>- (H_{3b})</td>
<td>Revolutionary</td>
</tr>
<tr>
<td>Density</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+ (H_{4a})</td>
<td>Platform</td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+ (H_{4b})</td>
<td>Revolutionary</td>
</tr>
</tbody>
</table>

Innovation Outcomes

Innovation is one of the most prominent firm strategies that leads to competitive advantage. However, the innovation strategies seem to vary across firms under current competitive environments. Assuming a heterogeneous level of resources, firms face critical decisions in the creation of innovation as to whether they exploit current resources and knowledge, or explore new opportunities for innovation. Firms can internalize their own knowledge or adopt external knowledge, and decide whether they emphasize the newness of innovation or impact of innovation. While the literature indicates that, even though each strategy seems to have both of advantages and disadvantages, balancing among strategic decisions is to hedge risks from either one or the other (e.g., Eisenhardt and Martin 2000). In the current research, we consider two different concepts of innovation outcomes in the balancing perspective, i.e., platform and revolutionary innovation.
**Revolutionary Innovation**

Patent measures (i.e., patent counts; Trajtenberg 1990) have been used as the one of the dominant indicators of innovation outcomes across disciplines (e.g., Chandy et al. 2006; Dutta, Narasimhan, and Rajiv 1999; Hall et al. 2005; Trajtenberg, Henderson, and Jaffe 1997). Two important dimensions of innovation outcome measurement by patent count have been emerged in the literature. First, innovation originality reflects innovativeness of the firm’s patent portfolio (e.g., Dutta et al. 1999; Trajtenberg 1990), the extent to which the firm’s innovation outcomes are connected to prior art. A higher level of innovation originality implies that the firm’s innovation outcomes are less influenced by the existing technologies, i.e., newness of the firm’s technologies. Second, innovation impact, captured by the number of forward citations of a firm’s patent portfolio, reflects the extent to which the firm’s innovation outcomes influence subsequent new technologies (e.g., Kim et al. 2013). That is, the higher the level of innovation impact, the greater importance of the firm’s technologies.

Revolutionary innovation captures both attributes of originality and impact. This aggregated innovation concept reflects a new technology that disrupts current technologies, redirects the technology paradigm, and changes market structures (e.g., Christensen et al. 2006). The higher level of a firm’s revolutionary innovation implies that the firm relies less on prior art, and the firm’s innovation outcomes influence the subsequent new technologies.

**Platform Innovation**

Our second innovation concept is platform innovation. The concept of platform innovation has been discussed in the literature (e.g., Henderson and Clark 1990; Sood and Tellis 2005). Henderson and Clark (1990) introduce the definition of architectural innovation as follows:

“... [I]nnovations that change the way in which the components of a product are linked together, while leaving the core design concepts (and thus the basic knowledge underlying the components) untouched... (Henderson and Clark 1990, p.10)”

Two important firm strategic behaviors of innovation are embedded in the definition (i.e., changing components of a product, and maintaining the core design concepts). Later, marketing literature also discusses the firm innovation behaviors (e.g., Sood and Tellis 2005), and provides the brief definitions of each type of innovation. In Sood and Tellis ’ (2005) work, the platform innovation reflects the concept of creating core design concepts, and component and design innovation refers to the architectural innovation from Henderson and Clark ’s (1999) definition. Our concept of platform innovation takes into account three firm strategic behaviors of innovation, partly consistent with the extant architectural and platform innovation concepts: 1) newness of platform (or core design), 2) expected architectural innovation (or component or design innovation), and 3) exploitation (or internalization by self-citation).

In the “patent count” literature, researchers found an interesting observation: “self” citations. It refers to the fact that firms cite their own previous inventions (e.g., Hall et al. 2005). This observation provides an important implication in the current research. In a network of relations with suppliers, a firm may find an efficient way of creating innovation and internalizing its network knowledge, rather than exploring external sources of knowledge out of the network. Thus, we conceptualize the platform innovation as a firm’s innovation outcomes that are high in originality, but influence its own subsequent inventions.

Platform innovation has distinct characteristics from other concepts of innovation outcomes. Consistent with options theory, as discussed in the literature (e.g., Bowman and Hurry 1993; Johnson et al. 2003), platform innovation reflects a firm’s future-oriented innovation strategies, and opens various opportunities, which provide efficient development avenues for future inventions. However, firms need to
consider the cost of cannibalization of its invested asset more seriously in the creation of revolutionary innovation (e.g., Chandy and Tellis 1998). We summarize the characteristics of each type of innovation outcomes in table 2. Although platform innovation may also cannibalize a firm’s previous investments in R&D and operations, we believe that it promises efficient new product developments (hereafter NPD) in future, and reflects a firm’s strategic innovation behavior in network relations.

**TABLE 2**

<table>
<thead>
<tr>
<th>Innovation Outcomes</th>
<th>Innovation Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Efficient NPD</td>
</tr>
<tr>
<td>Platform</td>
<td>O</td>
</tr>
<tr>
<td>Impact&lt;sup&gt;1&lt;/sup&gt;</td>
<td>O</td>
</tr>
<tr>
<td>Originality&lt;sup&gt;1&lt;/sup&gt;</td>
<td>O</td>
</tr>
<tr>
<td>Revolutionary</td>
<td>O</td>
</tr>
</tbody>
</table>

<sup>1. These items are not hypothesized, but it is essential to understand their characteristics for other hypothesized innovation outcome variables.</sup>

**Implications for Innovation Outcomes**

Previous studies discuss the impact of network relations on a firm’s innovation outcomes (e.g., Goldenberg et al. 2009; Soh 2010). A firm in the central position in network relations encourages information flow among network partners and it plays the role of information hub for the network in order to communicate market and technology information among the network members. This fluid information flow, in turn, enhances the firm’s innovation outcomes. Similarly, discussions of critical NPD information and NPD decisions take place in this communication channel. The firm’s central position in the network helps to reach efficient NPD decisions. For example, when the firm plans to develop platform innovation or revolutionary innovation, which requires cannibalization of existing assets not only in the firm, but also in its supplier’s facility, the firm’s control position of related information eases the potential conflicts among the network partners and drives the NPD project more efficiently.

The network centrality, however, bares traits of inefficiency in its nature. Most of the information related to markets and technologies is communicated within the connected communication channel and it results in a lack of information variety and information redundancy. In such a case, the limited information disturbs the firm’s innovativeness in its NPD outcomes. In addition, a firm which is high in network centrality, has influencing and controlling power over its suppliers, and falls in organizational inertia (e.g., Lavie and Rosenkopf 2006; Palmatier 2008; Zhou and Wu 2010). Network literature explains that when an actor is in a control position, it no longer looks for additional network partners and shows a tendency of risk-aversion with satisfaction of the current stability of network relations (e.g., Borgatti and Halgin 2011). The firm with the inertia often fails to adapt itself to external and internal changes and, in turn, fails to achieve competitive advantages. Although there are advantages to a firm’s network centrality, we expect that the disadvantages from the firm’s central position in a network override the expected advantages and result in the firm’s network centrality being harmful to the firm’s innovation outcomes. Therefore, we hypothesize as follows.

**H<sub>3</sub>:** The greater a firm’s network centrality, the lower is the firm’s a) platform innovation and b) revolutionary outcomes.
Network density is a preferable network trait in firm’s NPD process. A firm’s high network density also increases the quantity and quality of information within network relations (e.g., Antia and Frazier 2001; Borgatti and Halgin 2011). Strong connectedness with suppliers accelerates the NPD process through efficient communication and minimizing conflicts in the process among the network members. Previous research indicates, however, that information redundancy from a dense network is a preferable outcome (e.g., Rivera, Soderstrom, and Uzzi 2010). The redundant information here reflects solid NPD ideas and consensus among the network members for efficient and effective NPD decisions. Rather than the somewhat detrimental effect of network density (e.g., Swaminathan and Moorman 2009), we expect network density to enhance a firm’s NPD process and innovation activities, and, in turn, positively influence the firm’s innovation outcomes. Here, we suggest the following hypothesis.

H₄: The greater a firm’s network density, the higher is the firm’s a) platform innovation, and b) revolutionary outcomes.

METHODS

Context and Data Collection

We collected data from firms in high-tech industries, which are under constant pressure to innovate and introduce new products (e.g., Narasimhan, Rajiv, and Dutta 2006; Sorescu, Chandy, and Prabhu 2007), and are likely to build relationships among channel members. In preliminary field interviews, managers in high-tech industries noted the importance and relevance of relational strategies with their channel members and of constant NPD in sustaining their competitive position in the markets. They also validated our research model and nomological net. Our sample included firms operating in advanced materials, biotechnology, computer software, medical, and pharmaceutical industries.

Contact information for marketing and new product development managers of firms in the selected industries was obtained from commercial list provider. Rigorous prescreening via mail (i.e., postcards) and telephone resulted in 532 managers as possible study participants. We mailed survey packets that provided a cover letter describing the project, the survey instruments, and two incentives (i.e., $5 cash and an opportunity to receive summary results). We followed a mixed mode method for this data collection and used both mail and electronic surveys. The survey generated 237 responses, for a response rate of 44.5%, which compares favorably with extant literature (e.g., Ganesan, Malter, and Rindfleisch 2005; Johnson et al. 2004).

We assessed nonresponse bias by comparing early and late responders (Armstrong and Overton 1977), as well as firmographics bias, in terms of the number of employees, sales, and firm financial performance, by comparing responding to non-responding firms. The tests indicated no differences and eliminated concerns of response bias. We also verified the qualifications of the key informants as suggested in the literature (e.g., Kumar, Stern, and Achrol 1992). The qualification screening indicated that 58.4% of the informants were new product development managers, 34.2% senior executives, and the remaining 7.4% product managers. The average tenure period in the firms was 12.8 years, and respondents had been in their current positions for 6.4 years. Finally, managers considered themselves highly qualified in the topics of interfirm relationships, R&D, and NPD (seven-point scale, M = 6.48, SD = .58).

In measures of innovation outcomes, we used U.S. Patent and Trademark Office (i.e., USPTO; http://www.USPTO.gov/) and an online patent data provider (i.e., Patent Integration; http://www.patent-integration.com/) to obtain firm’s patent data. Due to the unavailability of patent data in such firms, the matched sample became 154 firms. In the final sample, there were five different types of industries according to the first digit security industry code (i.e., SIC). We utilized databases from Center for
Research on Security Price (CRSP) and Compustat to collect financial data in measures of control variables (i.e., firm size, industry turbulence, and technology turbulence).

**Instrument Development and Pretesting**

We employed formative scales (e.g., Diamantopoulos and Winklhofer 2001; Jarvis, MacKenzie, and Podsakoff 2003) to measure relational capability. The scale items of the interaction and the function dimensions were adopted from Johnson et al.’s (2004) work. We had to develop new scale items for the initiation dimension. The preliminary interviews with executives in high-tech industries indicated that the ability to initiate relationships is associated with selecting and assessing potential suppliers, evaluating the selected suppliers, and maintaining the extant relationship. Based on the comments from the executives, we created new five scale items with seven-point scales, anchoring 1 = very little knowledge and 7 = lots of knowledge. We modified the instruments according to the feedback from the pre-evaluation from five experts in interfirm marketing research, and from the pretest with 25 advanced MBA students, who had managerial experience. In the series of pretests, no issues were discovered, and no further changes were considered necessary.

Then, we checked the formative construct validity with the responses of the unselected 83 samples. The traditional assessments of construct validity and construct reliability are irrelevant to validating the formative construct measure by its nature (e.g., Gruber et al. 2010; Hulland 1999). The extant literature suggests a multicollinearity check among items as a possible validity assessment of formative construct (e.g., Diamantopoulos and Winklhofer 2001; Gruber et al. 2010). We test multicollinearity on the item level by calculating variance inflation factors (i.e., VIFs) and condition index (Belsley, Kuh, and Welsch 1980). The VIF values for each dimension of relational capability are well below the cutoff criterion of 10 (i.e., ranging 1.28 – 3.96), indicating there is no issue of multicollinearity in our formative measure of relational capability (Diamantopoulos and Winklhofer 2001). In addition, the condition indices for each dimension range between 21.38 and 23.56, indicating the indices are below the threshold of 30 (Belsley et al. 1980). In sum, the multi stages of pretests indicated that we can use the current 15-item formative construct of relational capability in our model estimation.

**Measures**

After implementing a comprehensive search for preexisting measures of the variables, we incorporated perceptual measures for reflective and formative constructs, and archival measures for innovation outcomes and other control variables.

**Perceptual Measures**

We employed a formative construct for relational capability (see the details in instrument development and pretest section), and reflective constructs for relational proclivity, network information centrality, and network density. First, the measure of the relational proclivity was adapted from Johnson and Sohi ’s (2001) work. The preliminary interview with the executives suggested that we modify the measurement instruments. We used a five-item scale to measure the construct, anchored by 1 = strongly disagree and 5 = strongly agree. Second, network information centrality was measured in a four-item scale, anchored by 1 = strongly disagree and 5 = strongly agree, adapted from Antia and Frazier ’s (2001) measures of the network centrality. Third, network density was measured by a four-item scale anchored by 1 = strongly disagree and 5 = strongly agree, adapted from Antia and Frazier (2001) as well. The scale items are reported in Appendix A.
Innovation Outcome Measures

Our perceptual measures were conducted from the second half of 2007 to the first half of 2008. To capture a firm’s innovation outcomes, we collected published patents that were assigned to each focal firm between 2006 and 2008 (hereafter innovation measure window) from both USPTO and an online patent data provider. The published patent information enables us to measure backward patent citations and provide us the benchmark patent for counting forward citations. Although the truncation issue in the forward citation counts has been discussed (e.g., Chandy et al. 2006), we believe multi-year patent data collection will minimize the issue while comparing the multi-year patent portfolio among firms.

For innovation impact measure, we calculated the average forward citations by the ratio of total forward citation counts to the total number of published patents in the measure window (e.g., Kim et al. 2013). For innovation originality, the backward citation counts are fixed at the time of patent publication and the number does not change over time. We employed the inverse notion of average backward citation to measure the innovation originality (e.g., Ahuja and Morris Lampert 2001). Therefore, our measure of revolutionary innovation, consistent with our conceptual definition to convey both attributes of impact and originality, is obtained through the product of impact and originality measures (i.e., a ratio of total number of forward citation counts in the measure window to total number of backward citation counts).

The concept of platform innovation has two main attributes, i.e., originality and internalization of existing technology knowledge. In order to avoid publication bias in our measure of self-citations, we collected patent application data between 2006 and 2012. Then, we compared published patent data in the innovation measure window with the application data. This measure provides the average self-citation counts that reflect the extent of internalization of a firm’s own technology knowledge, calculated by total number of self-citation counts over total number of published patents in the innovation measure window. Thus, consistent with our conceptualization of platform innovation, we measured platform innovation as the ratio of total number of self-citations to total number of backward citations.

Control Variables

We controlled for external environmental factors, firm size, and industry heterogeneity in our model estimation. Previous research suggests that environmental turbulence largely affects a firm’s financial performance (e.g., Fang, Palmatier, and Steenkamp 2008) and innovation outcomes (e.g., Zhou, Yim, and Tse 2005). First, consistent with extant measures of the turbulence variables, we included industry turbulence (e.g., Fang et al. 2008) and technology turbulence (e.g., Osborn and Baughn 1990), which may have influenced the magnitude and direction of a firm’s innovation outcomes. For each industry (i.e., first digit SIC), industry turbulence was calculated as the ratio of an industry sales standard deviation to the mean value of industry sales. The technology turbulence was measured for the ratio of industry-level R&D expenditures over the industry-level sales.

Second, firm size varies cross firms in our sample. It may affect the strength of a firm’s network position and a firm’s network connectedness with suppliers. Furthermore, the firm size has been discussed as one of determinants of the firm’s innovation outcomes in the Schumpeterian perspectives (e.g., Chandy and Tellis 1998). We employed the firm’s total assets as an indicator of the firm size after normalization by logarithmic scaling. Third, industry heterogeneity would be another concern that affects the firm’s network characteristics and innovation outcomes. In our final sample, we have five different industries according to the first digit SICs. Thus, we incorporated four binary variables, coded as 1 or 0, in order to control for fixed effects from the industry heterogeneity. We summarize the variable definitions, measures, and data sources in Table 3.
TABLE 3
Definitions of Variables and Measures

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definition</th>
<th>Measures</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation Outcomes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact</td>
<td>The extent to which the firm’s innovation outcomes influence subsequent new technologies</td>
<td>The ratio of total forward citation counts to total number of published patents in the measure window&lt;sup&gt;1&lt;/sup&gt;</td>
<td>USPTO Patent Integration</td>
</tr>
<tr>
<td>Originality</td>
<td>The extent to which the firm’s innovation outcomes are connected to prior art</td>
<td>The ratio of total number of published patents in the measure window over total backward citation counts</td>
<td></td>
</tr>
<tr>
<td>Revolutionary</td>
<td>A firm’s innovation outcomes that are high in impact and high in originality</td>
<td>The product of originality and impact; the ratio of total forward citation counts in the measure window to total backward citation counts</td>
<td></td>
</tr>
<tr>
<td>Platform</td>
<td>A firm’s innovation outcomes that are high in originality, and influence its own subsequent inventions</td>
<td>The ratio of total forward self-citation counts in the measure window to total backward citation counts</td>
<td></td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry Turbulence</td>
<td>The extent of the focal firm’s industry-level market volatility</td>
<td>The standard deviation of industry-level sales across the measure window over average industry-level sales (e.g., Fang et al. 2008)</td>
<td>CRSP</td>
</tr>
<tr>
<td>Technology Turbulence</td>
<td>The extent of the focal firm’s industry-level technology volatility</td>
<td>The industry-level total R&amp;D expenditure over industry-level total sales (e.g., Osborn and Baughn 1990)</td>
<td>COMPUSAT</td>
</tr>
<tr>
<td>Firm Size</td>
<td>Total Asset of focal firm</td>
<td>Logarithmic value of average total asset in the measure window</td>
<td></td>
</tr>
</tbody>
</table>

Note: See Appendix 1 for the measurement instruments of relationship strategies and network characteristics<sup>1</sup>. The measure window refers to a period between 2006 and 2008.

RESULTS

Analytic Approach

We utilized partial least squares (hereafter, PLS) approaches in order to test structural equation modeling (hereafter, SEM) in current research (Chin 1998; Löhnmoller 1989; Wold 1985) with the software package SmartPLS 2.0 (Ringle, Wende, and Will 2005). Covariance-based SEM approaches, e.g., AMOS or LISREL, often fail to estimate the model with both reflective and formative constructs due to the identification problems (Gruber et al. 2010). Instead, we decide in favor of the PLS approach as this approach allows us to accommodate SEM modeling with both types of constructs (Chin 1998; Wold 1985), especially under conditions of small sample size (Chin and Newsted 1999).
Measure Validation

Using the PLS approach, we conducted tests of reliability and validity of the measurement model as suggested by Chin (1998). For the reflective constructs (i.e., relational proclivity, network information centrality, network density), all loadings of manifest variables were greater than .7, and Cronbach’s alphas were .83 for relational proclivity, .80 for centrality, and .89 for density, which are all over threshold criterion at .70. Composite reliability for each factor is greater than .87, which satisfies the conventional criterion as well. Then, we tested average variance extracted (AVE), and all AVEs were over .50 (see Appendix). All indicated that these measures demonstrate adequate convergent validity and reliability (Fornell and Larcker 1981). As shown in table 4, values on the diagonals indicate the AVEs and they suggest satisfactory discriminant validity for the reflective constructs (Fornell and Larcker 1981). Overall, the results showed that our measures of the reflective constructs possess adequate reliability and validity.

TABLE 4
Descriptive Statistics and Correlations

* p < .05; ** p < .01; *** p < .001
Notes: n = 154; Table depicts AVE on diagonal and correlations on off-diagonal; N.A.: not applicable items.

As we demonstrated the validity check for the formative construct in the pretest section, we tested its validity again with the final sample (n = 154). The calculated VIFs across all three dimensions of relational capability were below the threshold value at 10, ranging from 1.47 – 3.44. The highest condition indices for three dimensions ranged between 19.30 and 25.32 and were all below the upper limit threshold at 30 (e.g., Belsley et al. 1980).

Hypotheses Tests

We report results of PLS estimation of our model in table 5. Consistent with Chin’s (1998) work, we estimated the coefficient of determination R². Then, we use summated scales to run a multi-path analysis in PLS to get path coefficients and standard errors. The R² values for the four endogenous variables (i.e., centrality, density, platform, and revolutionary), ranging from .280 - .736, suggest satisfactory explanatory power of our model.

For the hypotheses, the results indicate support for H1; a firm’s higher level of relational proclivity positively influences the firm a) to take the central position of network relations with its suppliers for information exchanges (i.e., network information centrality, b = .073, p < .05) and b) to form a denser network with the supplier (i.e., network density, b = .178, p < .001). We also find support for H2; a firm’s higher level of relational capability positively influences the firm a) to take the central position of network relations with its suppliers for information exchanges (i.e., network information centrality, b = .443, p < .001), and b) to form a dense network with the suppliers (i.e., network density, b = .614, p < .001). We report path coefficients of control variables in “Model 1” column of table 5.
Then, the second path of the model is reported in the last column of the table. The results support negative effects in H3; the higher network information centrality, a) the lower level of platform innovation outcomes has a firm (b = -0.091, p < .001) and b) the lower level of revolutionary innovation outcomes has a firm (b = -0.088, p < .001). However, the results show that H4 is partially supportive; the effect of network density on platform innovation outcomes is positive and statistically supportive (b = 0.126, p < .001), whereas the effect of network of density on revolutionary innovation outcomes is not supportive (b = -0.057, n.s.).

TABLE 5
The Effect of Relationship Strategies on Innovation Outcomes: Test Results

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Model 1</th>
<th>Model 2</th>
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<tbody>
<tr>
<td><strong>Relational Strategies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proclivity</td>
<td>H1 (+)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.073*</td>
<td>.178***</td>
</tr>
<tr>
<td></td>
<td>(.029)</td>
<td>(.023)</td>
</tr>
<tr>
<td>Capability</td>
<td>H2 (+)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.443***</td>
<td>.614***</td>
</tr>
<tr>
<td></td>
<td>(.030)</td>
<td>(.023)</td>
</tr>
<tr>
<td><strong>Network Characteristics</strong></td>
<td></td>
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</tr>
<tr>
<td>Centrality</td>
<td>H3 (-)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-.091***</td>
<td>-.088***</td>
</tr>
<tr>
<td></td>
<td>(.026)</td>
<td>(.025)</td>
</tr>
<tr>
<td>Density</td>
<td>H4 (+)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.126***</td>
<td>-.057</td>
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<tr>
<td></td>
<td>(.034)</td>
<td>(.060)</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
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</tr>
<tr>
<td>Ind. Turbulence</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>-.055†</td>
<td>.051</td>
</tr>
<tr>
<td></td>
<td>(.029)</td>
<td>(.037)</td>
</tr>
<tr>
<td>Tech. Turbulence</td>
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<tr>
<td></td>
<td>-.013</td>
<td>-.067*</td>
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<tr>
<td></td>
<td>(.024)</td>
<td>(.030)</td>
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<td>Firm Size</td>
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<tr>
<td></td>
<td>.163***</td>
<td>.019</td>
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<tr>
<td></td>
<td>(.029)</td>
<td>(.024)</td>
</tr>
<tr>
<td><strong>Industry Heterogeneity</strong></td>
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</tr>
<tr>
<td>SIC2</td>
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<td></td>
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<tr>
<td></td>
<td>.027</td>
<td>-.016</td>
</tr>
<tr>
<td></td>
<td>(.031)</td>
<td>(.023)</td>
</tr>
<tr>
<td>SIC5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.016**</td>
<td>-.039***</td>
</tr>
<tr>
<td></td>
<td>(.006)</td>
<td>(.008)</td>
</tr>
<tr>
<td>SIC7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.020</td>
<td>-.069*</td>
</tr>
<tr>
<td></td>
<td>(.032)</td>
<td>(.028)</td>
</tr>
<tr>
<td>SIC8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-.069**</td>
<td>-.119***</td>
</tr>
<tr>
<td></td>
<td>(.016)</td>
<td>(.019)</td>
</tr>
<tr>
<td><strong>R-square</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.280</td>
<td>.511</td>
</tr>
</tbody>
</table>

1. Industry SIC 3 are used as a benchmark for industry dummies.
Note: †: p < .1; *: p < .05; **: p < 0.01; ***: p < 0.001; the reported numbers are path coefficients with standard errors in parentheses; SMARTPLS 2.0 M3 has been used to analyze the structural equation model.
As a post hoc test, we estimate the indirect effect of relational strategies on innovation outcomes through network characteristics. The Sobel (1982) test results show that six indirect paths out of a total of eight indirect effects are statistically significant, whereas two indirect effects on revolutionary innovation outcomes through network density are not significant. We report the post hoc test results in table 6.

### TABLE 6
Indirect Effect Tests: Sobel Test Results

<table>
<thead>
<tr>
<th>IVs</th>
<th>Med:</th>
<th>Centrality</th>
<th></th>
<th>Density</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Platform</td>
<td>DVs:</td>
<td>Revolutionary</td>
<td></td>
</tr>
<tr>
<td>Proclivity</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Capability</td>
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</tr>
</tbody>
</table>

| Proclivity | -0.07* | -0.06* | 0.02** | -0.01 |
| Capability | -0.40** | -0.39** | 0.077** | -0.035 |

Note: *: p < .05; **: p < 0.01; the reported numbers are path coefficients with standard errors in parentheses; Sobel (1982) test is applied for the indirect effect estimation.

We find an interesting result in line with an argument by Chandy and Tellis (1998). We controlled firm size when we estimated innovation outcomes, and the effects of firm size on innovation outcomes are negative and statistically significant. Chandy and Tellis (1998) are against the conventional view of firm size as a determinant of innovation in Schumpeterian literature, and we too confirmed their argument in our results though they were not hypothesized.

**DISCUSSION**

In today’s turbulent business landscape, collaboration with a firm’s suppliers is one of the most promising strategies in the firm’s new product development process. Interfirm relationships affect the quantity and quality of the information that flows among the collaborating members. Our study, however, indicates that the extent of innovation success varies across firms that have different levels of relational competencies. How firms position themselves in their networks is also critical to innovation success. First, empirical results show that the relational strategies (i.e., relational proclivity and relational capability) positively influence network characteristics. While relational capability is one of the most important competencies that help the firm determine its network characteristics, relational proclivity is also important in interfirm relationships.

Second, a firm that resides in the central position of a network system sometimes suffers the unintended consequences of lower innovation outcomes than do the other members of the network. While a firm’s dense and strong network system guarantees quantity and quality of information-sharing among network partners, a firm’s central position in the network becomes a pitfall affecting its innovation outcomes. A firm with high network centrality falls into an organizational inertia that is detrimental to the firm’s innovativeness. As a result, the firm struggles with homogeneous information in the network, which, in turn, negatively affects the firm’s innovation outcomes. We believe that our study provides some important implications for knowledge development in the literature, and for interfirm relationship practices from a managerial perspective.
Theoretical Implications

Our study makes three important contributions to the literature. First, network perspectives of multiple IFRs are critical in order to understand the relationship between the IFRs and a firm’s innovation outcomes. In our study, we examined the relationship between the intra-firm aspects of IFRs (i.e., relational proclivity and relational capability), and the interfirm aspects of IFRs (i.e., network centrality and network density). We believe this approach is a valid path to examine the overall relationship between the IFRs and the innovation outcomes in the nomological net. A firm’s internal competencies play an important role in signaling the formation of an IFR with each individual partner. A firm’s multiple IFRs, which connect its partners together, are based on its relational strategies and help to determine the characteristics of the network in which that the firm is involved. Furthermore, the firm’s external aspects of IFRs (i.e., network centrality and network density) influence the firm’s innovation strategy. Unless the innovation outcomes are co-created by the network members and are equally accounted for in each member’s business outcomes, the innovation outcomes of the focal firm are solely the firm’s own assets. Likewise, the current study explains how we investigate the IFRs marketing phenomena that we observe and that we are interested in. Thus, we suggest others adopt this approach in studying other types of strategy-performance relationship.

Second, we demonstrate the unintended consequences of a firm’s relational strategies on innovation outcomes through important mediating mechanisms. The results indicate that the indirect effect of a firm’s relational strategies on innovation outcomes significantly diverge depending on the type of network characteristics in the relational strategies. The network centrality route suggested a negative indirect effect of the relational strategies on innovation outcomes, whereas the network density route projected a positive indirect effect. In past literature, scholars have proffered that a firm’s central position of information flows in its network relationships would be advantageous, but our findings contradict that assumption. We encourage others to examine and discuss the findings in the current research in more depth in order to contribute to our knowledge development in this area of the marketing literature.

Third, through our literature review, we introduced the extended concept of platform innovation, which indicates the attributes of technological originality and future strategic options. Extant literature informs us that platform innovation captures only the attribute of originality (e.g., Sood and Tellis 2005). However, we believe that the reason firms spend tremendous amount of money on R&D is to build the product platform the firms expect to utilize on subsequent NPDs as a strategic option. Thus, they expect efficient future NPD processes, which, in turn, may allow firms superior positioning with respect to the competition. Our measure of platform innovation was designed according to the conceptual background, using both backward and forward self-citation counts (e.g., Hall et al. 2005). In addition, the indirect effect of relational strategies better explained the variance of platform innovation than did the revolutionary innovation in current structural equation modeling. Though this observation is currently limited to our findings, it implies that IFRs are to be understood as a process of building strategic options. We suggest that other researchers join us in the march of investigating this new type of innovation outcome, and we hope platform innovation helps us better understand a firm’s innovation strategy in future.

Managerial Implications

Our research also provides several managerial implications. First, a firm with multiple IFRs is unconsciously affected by the characteristics of the network in which the firm is involved. A firm’s relational strategies (i.e., relational capability and relational proclivity) seem to inherently put the firm in a dense network and in the center of the information hub among the network members. Our study showed that a dense network helps the firm to gain superior innovation outcomes by increasing the quantity and quality of shared information. However, the central position is not necessarily beneficial to the firm’s innovation outcomes. If the firm resides in the middle of the information flow in the network system, the firm needs to balance its role as an influencer (or a controller) with its role as a motivator. Control over
the information flow has advantages in an efficient NPD process. However, the control may limit the quantity and quality of information in the network system. Moreover, the perceived power from the influencer role could result in organizational inertia, which, in turn, negatively influences the firm’s innovation activities. Hence, the firm needs to encourage its network members to communicate freely with each other and with other parties outside the network as well. Balancing the roles of influencer and motivator may help a firm avoid the negative effects of network centrality on innovation outcomes.

Second, extant literature emphasizes the importance of relational capability, whereas there is limited attention on relational proclivity. Relational capability and relational proclivity are complementary constructs. If a firm is capable of building interfirm relationships, but it is not looking for or not willing to engage in the relationships, the firm may end up with transactional relationships with its suppliers instead of network relationships. On the other hand, if a firm is willing to engage in interfirm relationships, but it is not capable of building the relationship, then the firm is not appealing to its partners, and the partners will not be willing to share their information with the firm. As such, both relational strategies are essential for a firm to build strong IFRs and network relationships with their suppliers. Thus, firms need to realize the importance of balancing both strategies in order to get the most benefits and enhance interfirm performance within their IFRs.

Third, we discovered that smaller firms attain higher levels of innovation outcomes as a result of network relationships, holding constant other alternative explanatory variables. Consistent with Chandy and Tellis (1998), the firm size does not matter with regard to the innovation of the firms. Rather, we want to emphasize that smaller firms have a better chance to gain the most out of IFRs and we hope that this finding is evidence that encourages more small- and medium-size firms to engage in closed IFRs.

**Limitations and Further Research**

Our research has several limitations and as we have several substantive contributions. First, only U.S. firms were considered in our data. We suggest further research with international alliances and network relationships that involve more relational dynamics, diversification of partnering strategies, and constraints, from overseas partnerships. Second, we controlled contextual factors in the current study such as industry turbulence and technology turbulence. The examination of the contextual effect on the current indirect relationships among the relational strategies, the network characteristics, and the innovation outcomes will enrich our understanding of, and knowledge in, marketing literature. Third, the underlying mechanisms that we discuss in Figure 1 are all conceptual arguments, and have not been empirically tested in the current study. We suggest that further research investigate and empirically examine the underlying mechanisms and the relationships among the mechanisms. Finally, we assume that a firm’s IFRs with its suppliers are stable across time and last longer than they really do. This premise allowed us to interpret the relationship between relational strategies, network characteristics, and innovation outcomes. Our measures of innovation outcomes produce the most benefit with the assumption that their attributes impact innovation. Extant relationship-marketing literature emphasizes the importance of understanding relationship dynamics (e.g., Palmatier et al. 2013). Hence, we suggest that further studies investigate the longitudinal perspectives of alliances and the characteristics of IFRs, in order to overcome the limitations the cross-sectional snapshot of IFRs pose in the current study.
REFERENCES


Goldenberg, Jacob, Sangman Han, Donald Lehmann, and Jae Hong (2009), "The role of hubs in the adoption processes," *Journal of Marketing*, 73 (2).


APPENDIX A: Measures

**Relational Capabilities (Formative)**
(Scale items anchored by 1 = “very little knowledge” and 7 = “lots of knowledge)

**Interactional** (scale adapted from Johnson, Sohi, and Grewal 2004; VIFs Range: 1.47 – 2.09)
1. Negotiating with suppliers
2. Interactions and contacts for partnering activities
3. Developing and implementing cooperative programs with suppliers
4. Building strong communication with suppliers through the use of networked computers
5. Resolving disagreements with suppliers

**Functional** (scale adapted from Johnson, Sohi, and Grewal 2004; VIFs Range: 1.92 – 3.22)
1. Cost-reduction strategies involving suppliers
2. Working with suppliers to reduce delivery times
3. Working with suppliers on quality management
4. Integrating suppliers into the firm’s JIT system
5. Enhancing suppliers’ production capabilities and capacities

**Initiation** (Newly developed scale; VIFs Range: 2.10 – 3.44)
1. Assessing the match between us and a potential exchange partner
2. Developing relationships with partners
3. Evaluating the benefits of a relationships with specific partners
4. Figuring out when to commit to a partner
5. Figuring out which exchange partner we can trust

**Relational Proclivity** (scale adapted from Johnson and Sohi 2001)
(Construct reliability = .880; AVE = .595; range of loadings .709-.830; scale items anchored by 1 = “strongly disagree” and 5 = “strongly agree”)

*In general, in my firm the view is that...*
1. Close partner-type relationships with suppliers offer a major advantage in doing business.
2. Teaming up and working closely with suppliers allows us to be more effective.
3. Most often, suppliers can be trusted.
4. Most of the time, suppliers will not take advantage of us.
5. Generally it is okay to engage in close interfirm relationships.

**Network Information Centrality** (scale adapted from Antia and Frazier 2001)
(Construct reliability = .872; AVE = .630; range of loadings .746-.824; scale items anchored by 1 = “strongly disagree” and 5 = “strongly agree”)
1. News about us spreads quickly to our suppliers.
2. News about our suppliers comes quickly to us.
3. Our firm serves as an information hub for our suppliers.
4. Our suppliers get news about markets from us.

**Network Density** (scale adapted from Antia and Frazier 2001)
(Construct reliability = .923; AVE = .750; range of loadings .791-.914; scale items anchored by 1 = “strongly disagree” and 5 = “strongly agree”)
1. We have very close ties with our suppliers.
2. We have strong communication with our suppliers.
3. We interact on a regular basis with our suppliers.
4. We believe it is better to have strong relationships with our suppliers.
PUTTING THE “US” IN TRUST: THE ROLE OF CONSUMER COLLABORATION IN ONLINE COMMUNICATION

Laurel Aynne Cook, University of Arkansas

ABSTRACT

Drawing from Service-Dominant theory (Vargo and Lusch 2004), the present research presents the first research to examine the influence of consumer collaboration on consumers’ evaluations and purchase decisions in online communications (e.g., blogs). A mixed-method (qualitative and quantitative) approach was used across two studies to discover the elements and consequences of collaboration most important to consumers (Study 1) and to test how changes in online communication affect trust, attitude, and purchase decisions when collaboration is present or absent (Study 2). Results show interactions consistent with the S-D conceptual framework. Importantly, a company’s use of consumer collaboration significantly improves attitudinal and behavior measures. Since companies have more to gain from consumers than a fiscal transaction, these results have important implications for businesses and consumers.

In a world where most consumers’ interaction with a company remains limited to a sales transaction, the idea of engaging consumers through relationship techniques appears promising. Recent research suggests that consumer participation in new product development (NPD) is one strategy that will promote innovation and improve consumer perceptions (Coviello and Joseph 2012; Hoyer et al. 2010; Kristensson, Matthing, and Johansson 2008). However, the feasibility of engaging every consumer with this or similar techniques is extremely low. Other practices such as focus groups and group interviews require financial and temporal resources that companies cannot afford to spend across their entire customer base. What, then, can be done to prevent consumers’ perceptions that they are mere cogs in capitalistic attempts to maximize profits? If companies communicated the inclusion of a subset of consumers in their product development process, would that be enough to tangentially engage the rest of the consumer base as a whole? In other words, can the knowledge of consumer collaboration serve as a relationship proxy? Moreover, how might this information be used to overcome negative perceptions experienced in the consumer-to-consumer (C2C) communication domain?

The marketing mix, otherwise known as the ‘four Ps’ (Kotler and Levy 1969) and used to influence product acceptance, includes tools that are no longer solely under the control of the marketer. Until recently, this idea was considered iconoclastic and potentially dangerous. However, a company’s sustainable competitive advantage fundamentally requires continuous innovation - a resource that is not limited to its employees. Seeking knowledge and creative ideas from consumers is one increasingly popular way to improve processes and performance. Consumers have become involved in marketing functions ranging from NPD to product promotion, yet many of these activities take place outside the company’s reach. For example, in 2006, Unilever’s Dove brand launched a 75 second YouTube video as part of the “Campaign for Real Beauty” social media endeavor. The online initiative garnered immediate results - three million views within the first quarter. Deighton (2008) indicates that the Dove campaign earned the brand an additional $1.2 billion in value, thus demonstrating the link between consumer engagement and firm performance. However, the fortunate result was in response to the risk Dove took to cede control of the discussion about the brand and its campaign. “The [Dove] campaign had touched a nerve with the public. Thousands of blogs and Internet chat forums showed a rich diversity of public dialog” (p. 7). As illustrated, social media has exponentially changed the decision-making environment.

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4 As taught in introductory marketing classes, the 4Ps include the following: product, place (i.e., distribution), price, and promotion.
for consumers. Given the pervasiveness of the internet and the ease of sharing information, companies are motivated now more than ever to enter into this communication domain in a way that maintains credibility and promotes engagement. In turn, individuals want to do more than consume: they want to work with companies to share their knowledge and creative ideas.

The recent Marketing Science Institute ranking of 2012 – 2014 research priorities states that “trust between people and their institutions and in social networks” (MSI 2012, p. 5) is of great significance. Of specific concern are the methods companies can implement to build trust in ways that have favorable behavioral (i.e., marketplace) outcomes. Additional research on the role of trusted advisors and decision-making is also requested. Therefore, the present research seeks to discover how collaboration can be used for trust-building. Information about collaborative product development will then be experimentally tested in the context of online blogging - a domain where consumers have considerable influence over product and brand discussions.

In this paper, we use a mixed-method (qualitative and quantitative) approach across two studies to discover the elements and consequences of collaboration most important to consumers (Study 1) and to test how changes in online communication affect trust, attitude, and purchase decisions when collaboration is present or absent (Study 2). Using adult participants with children, we test for these differential effects using a real blog designed for parents. Together, the studies demonstrate that consumers’ attitudes, evaluations, and purchase decisions are influenced by a product’s collaborative development. Consumer collaboration has also been identified as a key moderator useful in overcoming the negative effects of a blog’s disclosure (e.g., monetary payment) and source (e.g., company-owned) on evaluations. As service-dominant (S-D) theory suggests, a product’s utility can increase even when the consumer is tangentially engaged (Vargo and Lusch 2004). Informing consumers of the collaborative nature of a product’s development is enough to engage consumers and significantly improve evaluations.

CONSUMER COLLABORATION

Technological advances have engendered an environment where information is easily shared across a global pool of influencers. These developments have provided businesses with a new stream of innovative ideas from both current and potential consumers. A wider range of opinions across multiple market segments combined with faster and easier ways of sharing those ideas has made the producer-consumer dichotomy redundant. Consumers are now invited to participate in the production process in what is commonly referred to as consumer collaboration. Collaboration should be distinguished from a similar concept of co-creation, a term more familiar among marketers and popularized with the advent of S-D logic (Vargo and Lusch 2004). Originally known as co-production, the premise of co-creation is the one most readily adopted by marketing researchers. “The consumer is always the co-producer” (p. 11).

The theory recommends that companies should recognize a product or service’s value as cyclical and integrative. It is no longer appropriate to assume value is delivered to the consumer in a linear fashion. Instead, companies should work with the consumer to create it. In other words, consumers and producers no longer need to be mutually exclusive in the production and provision of goods. However, the distinction between co-creation and collaboration, as Sanders and Simons (2009) note, is that co-creation is a unique form of collaboration where the end result may be unknown. Hereafter, the general term ‘collaboration’ will be used to denote its role in NPD. In the most controlled form of collaboration, the end result is known and often includes a newly designed product that reflects equal input from company personnel and consumers.

There are many examples of collaboration where consumers’ ideas and judgments were used to manufacture and market single products or entire product lines. Collaboration, as a continuum, can take many forms. The low end of collaboration, known as crowd-sourcing, involves product development that has been completely outsourced to consumers. Examples include Threadless apparel, Dell’s IdeaStorm, and the Digg social news site. The next form of collaboration is known as group achievement and
involves idea development through teamwork. Seldom used in product development, group achievement has been primarily used as a promotional tool for businesses (e.g., Groupon), philanthropic endeavors (e.g., Pepsi Refresh), or fund raising (e.g., Kickstarter). At the far end of the continuum is the highest expression of collaboration known as co-creation (Prahalad and Ramaswamy 2004). In co-creation, the business works jointly with consumers to create products (e.g., Dew Labs Community and Lego Cuusoo), advertise (e.g., Doritos), or repair a brand’s image (e.g., McDonald’s team of “mommy bloggers”). Again, drawing from the tenets of S-D logic, co-creation is a consumer’s “participation in the creation of [a business’s] core offering” (Lusch and Vargo 2006, p. 284). While some research has examined the impact of co-creation on consumer behavior (e.g., Payne, Storbacka, and Frow 2008), the focus has primarily been on the effect of a consumer’s direct experience with a firm’s collaboration activities. The present research that examines consumer responses to indirect collaboration offers greater implications for those businesses that want to reap the rewards of collaboration but cannot afford to directly involve each consumer.

Collaboration, as a form of value co-creation (Prahalad and Ramaswamy 2004; Vargo and Lusch 2008), is an extension of the customer-centric philosophy of marketing (Kotler 1972). While the concept of ‘value creation’ began as an internal goal within the confines of a business, it has now extended to include customer involvement. This has interesting implications for NPD and consumer responses. On one hand, products that are self-designed (i.e. customized) have been shown to significantly influence consumer preferences (e.g., Deng and Hutchinson 2009; Franke and Piller 2004) above traditionally produced items (i.e., “off-the-shelf” consumer goods). However, does this preference translate to products designed by other consumers? If a product is not self-designed (i.e., the result of direct collaboration with the company), would preferences shift back to those products created without customer collaboration?

In addition, the provision of collaboration information (for others) may be useful in attenuating the harmful effects companies have experienced when entering C2C communications. For example, patterns in website usage reflect the shift away from commercial sites (e.g., company websites) toward sites with consumer-generated content (e.g., blogs and forums). In a four-year study of internet usage, visits to a company website over the course of six months decreased from 85% in 2008 to only 72% in 2011 (Universal McCann 2012, p. 36). For consumers who want a social experience, visiting a site limited primarily to information and distribution- as is the case with most company websites, is undesirable. However, when companies attempt to influence brand/product discussion in the C2C realm by providing bloggers with product or monetary payment (for example), consumers’ evaluations of the site, company, and future intentions significantly decrease once the material connection between the blogger and company is disclosed (Sprott, Martin, and Martin 2012). Collaboration, as a unifying strategy for integrating consumers’ ideas with a company’s resources, may serve as a useful tool for reducing and/or reversing these historically negative effects. More formally,

**H1:** Consumer collaboration moderates the effect of disclosure blog type on the following consumer perceptions: a) website evaluations, b) company evaluations, and c) participatory evaluations (e.g., social distance and engagement). The effect of blog type on evaluations will be stronger (weaker) for product reviews on a consumer (company) blog.

**H2:** Consumer collaboration moderates the effect of disclosure blog type on purchase decisions (e.g., purchase intentions and price willing to pay). The effect of blog type on purchase decisions will be stronger (weaker) for product reviews on a consumer (company) blog.

The severity of consumers’ distrust of company-influenced product reviews is directly related to type of compensation the blogger receives. Bloggers may be motivated to write a product review for altruistic reasons while others are driven by profit-seeking motives (i.e. economic reasons). Lawrence,
Fournier, and Brunel (2012) show that economic motives in an online product review are generally viewed as less credible than non-economic motives. Thus, we predict the following:

H3: The positive effect of collaboration on consumer evaluations and purchase decisions will be greater (weaker) for monetary (product) payment compensation disclosures.

COMMUNICATION IN THE BLOGOSPHERE

Consumers are influenced by a growing number of family, friends, and peers whose opinions are shared with more people and across greater distances than ever before. This development shows that the internet has rapidly become the medium of choice for communicating and consuming information in this century. This also highlights the pivotal role social media can have for marketers. In response, the influence of traditional marketing strategies such as print and television advertising is waning (Trusov, Bucklin, and Pauwels 2009). Marketing messages can appear impersonal to consumers who value participation. For this growing population, standard marketing communications often appear forced and unresponsive to feedback. Kerr et al. (2012) describes this influence among consumers in the realm of C2C online communication as “consumer power.” The power of consumers to drive and/or change perceptions presents a demarcation in the effectiveness of marketing messages. This shift is especially prevalent in traditional business-to-consumer (B2C) communications (e.g., print ads, websites). However, when brand and products are discussed in the realm of C2C communications, they must first be viewed as authentic and credible in order to be persuasive.

To benefit from C2C communications and wield control back from the consumer, some marketers have employed stealth marketing tactics. Petty and Andrews (2008) describe stealth marketing as a marketing communication that is masked in 1) commercial message or 2) source. Undisclosed product reviews by consumers who have been paid with money or free product provide one example of stealth marketing. A blog, as one of the most commonly used social media tools, is a forum for a large number of product reviews. However, the commercial nature of many company-controlled blogs is far from transparent. While 61% of marketers use blogs (Stelzner 2012), many consumers are unaware of their corporate source when product reviews are provided.

The potentially negative implications of stealth techniques for marketing managers and other constituencies (such as policy makers) are great and of paramount importance to researchers. For example, when Ashley and Leonard (2009) tested the effects of “unmasked” stealth marketing attempts, the effects on brand commitment and trust were significantly decreased. In an effort to protect and fully inform consumers, the Federal Trade Commission (FTC) recently issued “Guides for the Use of Endorsements and Testimonials in Advertising” (FTC 2009). In these guidelines, product reviewers must disclose any material connection to the seller. For example, if a power blogger posts a product review, he/she must disclose payment from the seller (in the form of money, free product, or product samples). These FTC guidelines apply to blogs, websites, or any social media outlets. In a recent series of experiments, Sprott, Martin, and Martin (2012) measured the effects of endorsement disclosures (product samples, free product, and monetary payment) on consumers’ perceptions of information quality, firm evaluations, and repurchase intentions. As hypothesized, the effects were significant and negative. Information quality, evaluations, and repurchase intentions increased only for C2C endorsement-free blogs. Their results support the FTC’s guidelines and raise important questions for researchers: will firms protect the authenticity that consumers so highly value or will they work harder to disguise their stealth marketing efforts?

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5 A power blogger is a consumer who has a large number of online followers and publishes new content on a regular basis. As a result, they are extremely influential among consumers.
Endorsement disclosures may have a negative effect on consumers’ receptiveness and behavioral outcomes due to an “activation of persuasion knowledge” (Wei, Fischer, and Main 2008). When consumers discover manipulated attempts to persuade their perceptions, firm evaluations and trust are negatively impacted. Marketing messages as a result of these attempts by the firm are viewed as dishonest and unreliable. The tenets of the elaboration likelihood model (Petty and Cacioppo 1986) suggest that negative influences on persuasion are directly related to the consumer’s level of involvement and the communicator’s credibility. As credibility decreases, so too does persuasion (Kelley 1967). Drawing from attribution theory, consumers may perceive an endorsement as external (i.e. as a result of an FTC regulation), resulting in negative perceptions. However, if information about a product’s collaborative development was provided, would consumers attribute the overall message as internal? In other words, could the historically negative effects of a blog’s endorsement be mitigated by a company’s strategic use of consumer collaboration in NPD? If this added information is attributed internally, there should be a positive effect on attitudes and behavioral outcomes. In a seminal article on social exchange and how marketing messages are attributed, Houston and Gassenheimer (1987) introduce the concept of social distance and describe its role in the relationship between a company and its consumers. In a purchasing scenario, individuals generally experience greater levels of social distance, or degrees of “closeness”, with the company than peers who recommended the product. In an online context, consumers personally identify (i.e., smaller social distance) with peer blogs more than they do with blogs owned by companies. As a result, we expect the following:

H4: When consumers view a parent-owned blog, there will be a positive correlation between social distance and measures of a) trust, b) attitude, and c) purchase decisions.

H5: No such correlation between these measures will be observed when the blog is owned by the company.

Given the proliferation of information about brands and products discussed between consumers online, it is expected that a greater number of companies will employ a variety of strategies to influence the discussion. So far, the ability to exert any control in C2C communications is small and very risky. Currently, “the blogosphere is now so large, it is an accurate barometer of consumer opinion” (Universal McCann 2008, p. 33). Therefore, influence by companies will need to be made in a way that instills trust and positive perceptions among consumers. In response, the present research will examine the following research questions: Without the use of collaboration, will consumer self evaluations (e.g., social distance) and company evaluations (e.g., attitude and purchase decisions) follow the patterns previously described when a blogger’s material connection to a company is disclosed? Alternatively, is collaboration a potential moderator—useful in reducing and potentially reversing these negative results? To investigate these questions further, we use a qualitative approach to discern the elements and consequences of collaboration most important to consumers (Study 1) and then formally test the aforementioned hypotheses in an online experiment (Study 2).

STUDY 1

Method

The purpose of Study 1 was to qualitatively identify factors that drive evaluations of consumer collaboration. These factors were then used in the next study to test the effectiveness of collaboration in attenuating the negative effects of disclosing a material connection to a company in a peer blog. The present study was an exploratory questionnaire with open-ended and rank-order questions administered to 240 adult consumers obtained through Amazon’s online crowdsourcing market, Mechanical Turk. Since a parent-owned blog stimulus would be provided, all participants were prescreened and only those who are parents of at least one school-aged child (ages 5-18) were questioned. The sample had a median income of $40,000-49,999, 53% had at least some college, and nearly one-half of the participants (48%) had a
college degree. The majority of the sample was female (65%) and the mean age of the respondents was 35 years.

**Results and Discussion**

The primary dependent variables for this study were rank-order and open-ended responses regarding the elements, consequences, and interpretation of engagement and consumer collaboration. To familiarize participants with this concept, they were told the following, “The product you are about to see involved a process where consumers’ feedback was utilized during every step of development. This is often called consumer collaboration. The result was a completely new product that reflected equal input from company personnel and the parents who volunteered their time.” To contextualize responses, a blog authored by parents was shown and timed to remain visible for a minimum of 60 seconds. The blog included a product review for an outdoor playhouse created by a fictitious company, Clifton Toys. Next, participants were asked to rank the following elements of consumer collaboration in order of importance: experience, social interaction, active participation, enthusiasm, and communication. The following consequences of collaboration: trust, emotional commitment, word of mouth, brand loyalty, brand community involvement, and goodwill, were also ranked in order of importance. Each element and consequence was based on recent ethnographic research in the domains of collaboration and consumer engagement (Vivek 2009; Zhao and Rosson 2009). Finally, after each question participants were asked to elaborate about their top choice. For example, “Since you ranked [answer] first as an element of consumer collaboration, please describe what this means to you.”

The qualitative responses were coded using QSR International’s NVivo 9 software program (Richards and Richards 1993; Bazeley and Richards 2000; Gibbs 2002). The NVivo program allows researchers to electronically code consumers’ text responses iteratively as compared with traditional paper and pencil methods. The program allows large amounts of data to be analyzed across participants for common themes. The data were analyzed using this thematic analysis method (Boyatzis 1998) and the themes that resulted from this study were used to design and structure Study 2. As outlined in Table 1, five common themes are evident: (1) consumer involvement; (2) B2C and C2C company-facilitated connections; (3) communication; (4) authenticity; and (5) the importance of listening.
<table>
<thead>
<tr>
<th>Themes</th>
<th>Example</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Involve</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Product or process improvement</strong></td>
<td>“Involve customers into the process of improving the goods or services provided by a company.”</td>
<td>556</td>
</tr>
<tr>
<td><strong>Idea implementation</strong></td>
<td>“Listen to the consumer, take their ideas and implement them.”</td>
<td>365</td>
</tr>
<tr>
<td><strong>Involvement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Product development</strong></td>
<td>“Encourage active feedback from customers and actually listen to and incorporate information from that feedback in developing products.”</td>
<td>306</td>
</tr>
<tr>
<td><strong>C2C Interaction</strong></td>
<td>“Having an active and real, not pandering, social media presence makes a world of difference. Foster an [online] community, encourage interaction not just between company and consumer, but between consumers as well.”</td>
<td>91</td>
</tr>
<tr>
<td><strong>Connect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Product testing</strong></td>
<td>“Companies need to also send samples to potential consumers in order for them to be able to try the product and get a taste for the quality of it as well.”</td>
<td>258</td>
</tr>
<tr>
<td><strong>Blogger relationships</strong></td>
<td>“Reach out to bloggers (they are amazingly tied to their readers!) Make the public feel like more than just a sale or dollar amount.”</td>
<td>36</td>
</tr>
<tr>
<td><strong>Communicate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Share stories</strong></td>
<td>“I like to hear other people’s experiences with that brand.”</td>
<td>200</td>
</tr>
<tr>
<td><strong>Consumer’s voice</strong></td>
<td>“I want to see what real people say.”</td>
<td>191</td>
</tr>
<tr>
<td><strong>Authenticity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Feedback from current or potential consumers</strong></td>
<td>“It means a company solicits feedback from people who actually uses or may use the product that is either out in the marketplace or is about to be introduced to the marketplace.”</td>
<td>170</td>
</tr>
<tr>
<td><strong>Listen</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>First steps for improvement</strong></td>
<td>“Begin by asking consumers our thoughts which then allows [the company] to better develop products that consumers actually need and will purchase.”</td>
<td>66</td>
</tr>
</tbody>
</table>
Nearly half of all participants (49.2%) indicated that the most importance element of collaboration included the experience of inclusion in the business process. This result is not surprising given the pivotal role experience has in engaging consumers (Vivek 2009). In fact, current views of relationship marketing suggest that the process of co-creation is built primarily upon consumers’ experiences (Prahalad and Ramaswamy 2003; Prahalad and Ramaswamy 2004). It is important to note that experiences are independent of a sales exchange. Again, the S-D paradigm suggests that value often follows a consumer’s experience(s) - it is not always a prerequisite. Participants echo this sentiment and add that the experience of other consumers is also significant. For example, “I rely on the experience of other consumers with a product to make my buying decisions. Company ads are untrustworthy but an ‘everyday’ person has nothing to lose when rating a product.” Interestingly, only a small percentage (14.2%) indicated that active participation is the most important element of collaboration. This result suggests that collaboration through others may be sufficient to reap the rewards of indirect engagement.
TABLE 2
Study 1: Elements, Consequences, and Interpretation of Collaboration

<table>
<thead>
<tr>
<th>Themes</th>
<th>Example</th>
<th>Frequency</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elements of Collaboration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience</td>
<td></td>
<td>118</td>
<td>49.2</td>
</tr>
<tr>
<td>Social Interaction</td>
<td></td>
<td>61</td>
<td>25.4</td>
</tr>
<tr>
<td>Active Participation</td>
<td></td>
<td>34</td>
<td>14.2</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td></td>
<td>17</td>
<td>7.1</td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td>10</td>
<td>4.1</td>
</tr>
<tr>
<td><strong>Consequences of Collaboration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td></td>
<td>141</td>
<td>58.8</td>
</tr>
<tr>
<td>Emotional Commitment</td>
<td></td>
<td>64</td>
<td>26.7</td>
</tr>
<tr>
<td>Word of Mouth</td>
<td></td>
<td>20</td>
<td>8.3</td>
</tr>
<tr>
<td>Brand Loyalty</td>
<td></td>
<td>10</td>
<td>4.1</td>
</tr>
<tr>
<td>Brand Community Involvement</td>
<td></td>
<td>4</td>
<td>1.6</td>
</tr>
<tr>
<td>Goodwill</td>
<td></td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Consumers’ Interpretation of Engagement Importance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Changing</em>: educate, enable, integrate, listen, utilize</td>
<td>326</td>
<td>18.1</td>
<td></td>
</tr>
<tr>
<td><em>Community</em>: blog, communication, educate, forum, speak, understanding</td>
<td>316</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td><em>Events</em>: fun, loyalty, online, presence</td>
<td>264</td>
<td>14.6</td>
<td></td>
</tr>
<tr>
<td><em>Think</em>: consider, design, research, time</td>
<td>244</td>
<td>13.5</td>
<td></td>
</tr>
<tr>
<td><em>Active</em>: attention, excite, feedback, impression, proactive, seeking, support</td>
<td>221</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td><em>Concept</em>: brand, part, product, variety</td>
<td>221</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td><em>Product</em>: line, making, profitability</td>
<td>212</td>
<td>11.8</td>
<td></td>
</tr>
</tbody>
</table>

Note: Frequency for the elements and consequences of collaboration are based on responses ranked 1 (= first). Thematic nodes for consumers’ interpretations were initially created using a generalized word frequency cluster analysis.
Perhaps the greatest discovery was made when participants were asked to rank the most important consequences of collaboration. A substantial number (58.8%) of participants indicated that trust was the primary reward of collaboration. Trust is not only an important factor in driving brand loyalty, but is also a necessary requirement for attracting new customers. If collaboration can be used as a trust-building benefit that extends beyond those consumers directly involved, perhaps this addresses the “research question of great urgency for consumer-oriented relational marketing” (Garbarino and Johnson 1999, p. 91) that has remained elusive to marketers. Substantial research supports the mediating role of trust in brand building (Barnes 2011), the exchange of knowledge (Levin and Cross 2004), loyalty (Vlachos et al. 2009), and behavioral measures such as buying intention (Ha, Swinder, and Muthaly 2010). Trust, as a multidimensional construct, is requisite for relational commitment (Morgan and Hunt 1994). It is, in fact, the “cornerstone [of] the strategic partnership” (Spekman 1988, p. 79) between a business and its consumers. However, in the domain of C2C communication (e.g., online blogs), attempts by a company to influence product or brand discourse is viewed as unreliable and distrustful. Consequently, research that addresses a new technique to favorably introduce businesses to C2C exchanges is highly warranted.

Since the success of online communications generally stems from accessibility—those brands/companies that are top of mind for consumers, we asked consumers to provide, in their own words, an interpretation of the importance of being engaged by companies. While the study of consumer engagement is still in its infancy, it has generated many preliminary and exploratory studies since 2005. Kahn (1990) was the first academic to study engagement in the organizational behavior literature and described it as an expression of employees’ self-expressions. Since then, psychologists and researchers in the field of information systems have applied the concept to consumers. Vivek (2009) provided the first systematic and empirically tested measure of consumer engagement in the marketing literature. Specifically, she defines consumer engagement as “the intensity of the participation and connection with the firm/brand’s product offerings and/or its organized activities” (p. 95). As Berger and Schwartz (2011) suggest, immediate and ongoing word-of-mouth (WOM) is the result of accessibility. This premise is contrary to the intuition of marketing managers that WOM is a result of buzz marketing where content must be interesting in order to be prolific. Therefore, engagement is a critical tool for keeping brands accessible in the minds of consumers. As the bottom of Table 2 shows, the most common interpretation of engagement is related to change. Engagement means listening to consumers and taking the next step to integrate consumer feedback. The next theme reflects the communal nature of consumers’ relationships with companies. Engagement is also active and can be facilitated through events or centered around the company’s product offering.

The attitudes and opinions of consumers shared online through blogs, products reviews, and other avenues, can aggregate into powerful information viewed as more credible than traditional marketing messages. Results from our study confirm this belief. For example, one participant suggests that “for another consumer, [he or she] will be more likely to believe someone like themselves who actually used the product over taking the company’s word for it.” Therefore, information about a company’s utilization of collaboration may serve as a cue of trustworthiness.

Perhaps the provision of collaboration information offers additional explanatory power in consumers’ attitudes and intentions. To the extent that the most important consequence of collaboration is trust, information provided by a company regarding a product’s collaborative development should increase consumers’ perceptions of trust toward the brand. Study 2 will test this premise in the communication domain with the highest levels of company mistrust—C2C blogs. While a consumer’s blog disclosure regarding a material connection (i.e., monetary or product payment) to a company traditionally results in decreased perceptions of trust and behavioral intentions, Study 2 will test the role of collaboration as a potential moderator—useful in attenuating these negative effects.
STUDY 2

Study 1 shows the importance of experience as a critical element of consumer collaboration. Of greater importance is the benefit of trust in collaborative product development. Because active participation ranked low in consumers’ preferences, providing information about a company’s collaboration with others (i.e., indirect participation) should be enough to significantly improve trust, attitude, and purchase decisions. As a result, Study 2 was an experiment designed to investigate the effectiveness of consumer collaboration in improving perceptions across blog disclosure types (e.g., C2C blogs with compensation disclosures, company-owned blogs). Recent research shows that most consumers (73%) have read a blog, 34% of blog postings discuss brand and products, nearly a third (32%) of viewers trust a blogger’s opinions on products and services, and an impressive 36% view companies more favorably when they have blogs of their own (Universal McCann 2008). As a result, an online blog was determined to be the most appropriate context for testing the role of collaboration information.

Method

Experimental Design. A 2 (collaboration: present or absent) X 3 (disclosure blog type: consumer blog; product payment; consumer blog; monetary payment; company-owned blog) between-subjects experiment was conducted. More than half of bloggers are parents with school-aged children less than 18 years old. In response and based on positive perceptions of opinions from like-minded “others” from Study 1, the context of the present study includes a blog written by a parent. Since 50% of consumers are more likely to purchase toys online (Nielsen 2012a), an electronic learning tablet was used for the product review across all conditions. In fact, home electronics represented the product category with the largest percentage (75%) of consumers likely to make a purchase decision based on online product reviews (Nielsen 2012b). An example of the blog stimulus is offered in Appendix 1.

Sample and Procedure. Participants were 216 adult consumers obtained through MTurk. Cell sizes ranged from 49 to 59. Participants were first required to answer a qualifier question. Given the category (toys) of the product review included in the blog, only parents of at least one child ages 3 – 12 were invited to participate. Most (56.5%) were parents of children ages 3 – 8. The survey began with an introduction to the concept of consumer collaboration.

“Consumer collaboration typically refers to a process where companies work with consumers to create a brand new product or service together. Companies that collaborate with consumers recognize that customers have more to offer than revenue. They can also offer ideas, feedback, and time. Consumer collaboration includes an ongoing conversation between the company and the customer. As consumers’ opinions change or as ideas form, the company can respond in real time to create a product (or service) with greater value.”

To illustrate the concept with a real business, an example from Lego® Cuusoo™ was provided.

“Lego Cuusoo is a website where Lego consumers can submit their ideas for new Lego products and collect votes to make their ideas become a reality. They can also vote for other user ideas. Ultimately, new product ideas that are supported by 10,000 votes have a chance of being selected to become part of the Lego Group’s product portfolio. Consumers who have their ideas chosen will earn 1% of the total net sales of the product. The new Minecraft™ set was the first to receive 10,000 votes of support from users and went through the entire product development process. This new Lego set was developed

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6 A trailer control condition without an endorsement disclosure was also included as a baseline, but is excluded in the primary analyses for the 2 x 3 design.
in collaboration with following four LEGO fans: Chris M., Michael T., Kyle T., and Bjarne T. They developed their product concepts in collaboration with the Lego designers who helped shape the product into its final version. The final product was a huge success in stores and quickly sold out in a matter of days.”

Participants were then asked about the importance of using collaboration in addition to estimating the frequency they felt collaboration was practiced by companies. Next, the survey contained a mock blog product review and measures of interest. Each participant was randomly assigned to one of the six experimental conditions and presented one version of the blog stimuli. Approximately half (49%) were also shown information regarding the collaborative nature of the product’s development. Specifically, they were told the following: “The toy product you are about to see involved a process where the company, Clifton Toys, utilized consumer collaboration during every step of development. The result was a completely new product that reflected equal input from company personnel and parents like you who volunteered their time. In summary, the toy product you are about to view was created solely through the consumer collaboration process.” The sample had a median income of $40,000-49,999, and 90% had at least some college. More than one-half of the sample (57%) had a college degree. The majority of the sample was female (66%) and the mean age of the respondents was 33 years.

**Measures.** The following four sets of measures were addressed: website evaluations; perceptions of trust and brand attitude; social distance and engagement; and purchase decisions.

Website evaluations included a five-item semantic differential measure of trust in the blogger (α = .84) drawn from prior research on online credibility (Shamdasani, Stanaland, and Tan 2001; e.g., “This blogger is: unbelievable/believable”). Source credibility (e.g., Kozup, Creyer, and Burton 2003) included three seven-point scale items (α = .88). Examples include “Based on the information provided, I believe the toy company marketing this product is:” (endpoints of “honest” and “dishonest”). Revisit intentions were measured with a single seven-point item. Participants were asked “What is the likelihood that you would revisit this blog again?” (endpoints of “not very likely” to “very likely”).

Company evaluations included a three-item semantic differential measure of trust in the company (α = .81) used to determine the degree a company is perceived as reliable and capable (Sirdeshmukh, Singh, and Sabol 2001; e.g., “Overall, I think Clifton Toys is: very untrustworthy/very trustworthy”). For company responsivity, participants were asked to indicate if Clifton Toys was “very unresponsive to customers” or “very responsive to customers” on a single seven-point item. Brand attitude included three seven-point scale items (α = .91) adapted from Sengupta and Johar 2002). Example include “I think Clifton Toys is a very good toy company” (endpoints of “strongly disagree” to “strongly agree”).

Given the unifying nature of consumer collaboration, social distance was included to measure the degree of closeness felt toward the company. Since no existing scale for this concept was available, this item was developed based on insights from Nielson (1998). Specifically, participants were asked the following: “Using the sliding scale, please indicate the level of social distance you feel between yourself and the toy company (Clifton Toys). Drag the bar to represent the level (1 - 10) that best reflects your perception” (endpoints of “1 = smallest distance” and “10 = largest distance”). Participants were also told “Social distance is your perception of the degree of remoteness between you and the company. For example, a rating of ‘10’ would be appropriate for a stranger (i.e. maximum social distance) while a rating of ‘1’ would be appropriate for your best friend (i.e. minimal social distance).” A measure of engagement was also included to assess consumers’ perceptions of participation and connection with the company. Five seven-point items (α = .78), adapted from Vivek (2009) and Schaufeli et al. (2002), were shown to participants. Examples include “This company cares about my ideas” and “Based on the information provided in the blog, I would enjoy sharing my opinions with this company” (endpoints of “strongly disagree” to “strongly agree”).
Purchase decisions included purchase intentions and willingness to pay. PI included three seven-point scale items ($\alpha = .93$) drawn from prior research (Cook, Burton, and Howlett 2011; e.g., “How likely would you be to purchase the product, given the information shown?” (endpoints of “very unlikely” to “very likely”). WTP was a single-item measure. Participants were told the following: “Electronic learning tablets sold by other toy companies (of similar quality) sell for an average of $115.00 (in a range of $90 - $140, depending on the brand). Based on this information, what would you be willing to pay for a learning tablet sold by this specific company given the information shown?” and asked to provide a numeric value.

Studies have shown a strong correlation between consumers’ inclinations to disbelieve marketing messages (e.g., advertisements) and their ability to attend and recall the information provided. Thus, advertising skepticism was included in the study as a control variable. Seven seven-point scale items ($\alpha = .94$) were modified from Obermiller and Spangenberg (1998). Examples include “Advertising is a reliable source of information about the quality and performance of products” (endpoints of “strongly disagree” and “strongly agree”). Finally, all participants were asked if they recognized the product in the blog (yes/no).

Results

Manipulation Checks. Near the end of the survey, after all dependent measures had been collected, participants were shown the aforementioned collaboration information and then responded to the following question, “In the online blog that you saw in this survey, did you see the exact information about consumer collaboration?” When collaboration was absent, 68% reported that they did not see the information while 55% correctly recalled seeing the information ($\chi^2 = 11.5, \text{df} = 1, p < .001$). Participants were also asked if the product shown was created in collaboration with consumers with 84% correctly confirming the presence of consumer collaboration. Next, participants were asked about the type of blog (i.e., managed by parents or by the toy company) they viewed. 87% of those shown a company-owned blog correctly identified their experimental condition while 88% correctly reported that they saw a parent-owned blog ($\chi^2 = 104.2, \text{df} = 3, p < .001$). To evaluate the effectiveness of the ‘payment disclosure’ manipulation, participants were asked about the blogger’s compensation. Crosstab analyses indicate 91% accuracy for those in the ‘product payment’ condition, 76% accuracy for those in the ‘monetary payment’ condition, and 78% accuracy for those in the control condition ($\chi^2 = 152.8, \text{df} = 6, p < .001$). These results indicate consumer awareness of the blog and collaboration manipulations when they were presented in the blog’s product review.

Effects on Company, Website, and Consumer Evaluations. H1 predicted an interaction between disclosure blog types and the provision of consumer collaboration information on website, company, and consumer (i.e. participatory) evaluations. Results are shown in Table 3. As shown, collaboration information and blog types interact to influence several of our dependent measures. Plots for company responsivity and brand attitudes are shown in Figure 1.
TABLE 3
Study 2: Effects of Consumer Collaboration and Disclosure Blog Types on Website, Company, and Consumer Evaluations and Purchase Decisions

<table>
<thead>
<tr>
<th>Univariate F Values</th>
<th>Website Evaluations</th>
<th>Company Evaluations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent Variables</strong></td>
<td><strong>Website Evaluations</strong></td>
<td><strong>Company Evaluations</strong></td>
</tr>
<tr>
<td></td>
<td>Trust in Blogger</td>
<td>Source Credibility</td>
</tr>
<tr>
<td>Disclosure Blog Type (DBT)</td>
<td>21.8****</td>
<td>7.59****</td>
</tr>
<tr>
<td>Collaboration (CB)</td>
<td>2.88*</td>
<td>7.29***</td>
</tr>
<tr>
<td><strong>Interaction Effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBT x CB</td>
<td>2.48*</td>
<td>.706</td>
</tr>
</tbody>
</table>

With Advertising Skepticism as Covariate
**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .1$

<table>
<thead>
<tr>
<th>Univariate F Values</th>
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<th>Purchase Decisions</th>
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<td><strong>Independent Variables</strong></td>
<td><strong>Consumer Evaluations</strong></td>
<td><strong>Purchase Decisions</strong></td>
</tr>
<tr>
<td></td>
<td>Social Distance</td>
<td>Engagement</td>
</tr>
<tr>
<td>Disclosure Blog Type (DBT)</td>
<td>1.847</td>
<td>4.13**</td>
</tr>
<tr>
<td>Collaboration (CB)</td>
<td>.667</td>
<td>4.90**</td>
</tr>
<tr>
<td><strong>Interaction Effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBT x CB</td>
<td>.749</td>
<td>1.41</td>
</tr>
</tbody>
</table>

With Advertising Skepticism as Covariate
**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .1$
FIGURE 1
Study 2: Plots of the Moderating Role of Consumer Collaboration on varying Blog and Disclosure Types

A: Interaction Plot for Company Responsivity

B: Interaction Plot for Brand Attitude

C: Interaction Plot for Purchase Intentions

D: Interaction Plot for Willingness-to-Pay

Note: Experimental conditions are: Condition 1 (consumer blog, product payment disclosure), Condition 2 (consumer blog, monetary payment disclosure), Condition 3 (company blog, no disclosure)
As shown in the figure, the effects of a monetary payment disclosure are driving the two-way interaction for company evaluations. Without (with) collaboration there is a negative (positive) effect of the monetary payment disclosure. For perceptions of company responsivity (Panel A), the provision of collaboration information has no effect on the product payment consumer blog. Alternatively, perceptions for the monetary payment consumer blog and company blog significantly increase when collaboration information is provided. As suggested by the plots, contrasts for the differences are significant for the monetary payment condition (F(1, 148) = 17.8, p < .001; $\eta^2_p = .11$), and company blog (F(1, 148) = 4.7, p = .032; $\eta^2_p = .03$), but not for the product payment condition (p > .4). A similar pattern of results emerge for trust in the company where contrasts of the differences are only significant for the monetary payment condition (F(1, 148) = 12.9, p < .001; $\eta^2_p = .08$), and company blog (F(1, 148) = 3.9, p = .05; $\eta^2_p = .03$), but not for the product payment condition (p > .3). Contrasts for brand attitude (Panel B) also show significant improvement for the monetary payment condition (F(1, 148) = 18.0, p < .001; $\eta^2_p = .11$), and company blog (F(1, 148) = 4.7, p = .03; $\eta^2_p = .03$), but no difference for the product payment condition (p > .6).

Website evaluations include perceptions of trust (of the blogger), source credibility, and revisit intentions. The significant main effects of collaboration and blog type were qualified by an interaction only for trust in the blogger (F(2, 148) = 2.5, p = .08). Planned contrast tests show that the provision of collaboration information increases trust in the blogger only for the monetary payment condition (F(1, 148) = 4.8, p = .03; $\eta^2_p = .03$). There is no difference in the other conditions (p’s > .1). The result is similar for source credibility where lower levels (i.e., the company is viewed as more credible) are shown when collaboration is present (M = 2.45) than when absent (M = 3.3; F(1, 148) = 6.3, p = .01, $\eta^2_p = .04$). To our surprise, there is no difference in revisit intentions for either consumer blog condition (p’s > .2), yet intentions significantly increase for the company blog: M_coll_present = 4.1, M_coll_absent = 2.9; F(1, 148) = 6.8, p = .01, $\eta^2_p = .04$). This suggests that collaboration information may be used as an engagement tool that is useful in driving traffic back to a company-managed site.

Social distance and engagement represent the consumer evaluations hypothesized in H4. The lowest levels of social distance were recognized in the monetary payment condition although the differences between collaboration conditions were not significant (M_coll_present = 5.28, M_coll_absent = 5.5; p > .5). Interestingly, the highest levels of social distance were recognized in the company blog when collaboration information was provided (M_coll_present = 6.89, M_coll_absent = 5.86). While there were no main or interactive effects for social distance, the higher levels of distance for the company blog may represent important relational changes for consumers. For example, social distance may increase with collaboration because the consumer’s direct relationship with the company (conceptualized as viewing a company-created blog v. a consumer-blog) now includes an unknown “other.” The function of collaboration information as a mediator (i.e., relational cue) between the company and its consumers may be limited to a C2C communication setting. On the other hand, blog disclosure type had a greater effect on engagement (F(2, 148) = 4.1, p = .018, $\eta^2_p = .05$) than the use of collaboration information (F(2, 148) = 4.9, p = .028, $\eta^2_p = .03$). Thus, these results support H1a and H1b, but fail to support H1c.

Effects on Purchase Decisions. Collaboration was also expected to moderate the effects of disclosure blog types on purchase decisions predicted in H2. An interesting, yet contradictory pattern of results emerge between intention and willingness to pay. For purchase intentions (Panel C), the moderating effect of consumer collaboration is insignificant for the product payment and company blog conditions (p’s > .1). Only in the monetary payment consumer blog do purchase intentions significantly improve when collaboration information is provided: M_coll_present = 5.4, M_coll_absent = 4.1; F(1, 148) = 13.9, p < .001, $\eta^2_p = .09$). However, an alternative pattern can be seen for willingness to pay (Panel D). In the product payment condition, participants are willing to pay more without collaboration information (M =
$95.75) than when collaboration information is present (M = $83.57). As suggested by the plot, this contrast is significant (F(1, 148) = 4.8, p = .03, $\eta^2_p = .03$). It is important to note that the control condition (consumer blog, no payment disclosure) reflects an identical pattern; M_{coll_present} = $86.69, M_{coll_absent} = $94.43. However, the pattern of means support collaboration in the other conditions (monetary payment: M_{coll_present} = $92.44, M_{coll_absent} = $85.50; company blog: M_{coll_present} = $91.44, M_{coll_absent} = $90.14), though the differences are not significant (p’s > .3). This may suggest WTP as a proxy for trust in the product. Since the products were created with unknown “others,” perhaps participants were not willing to pay as much as they would for products created solely by the company. Together, the results confirm the moderating effect of consumer collaboration for consumer blogs (with product or monetary payment disclosures) and company blogs. These effects were indeed greater for the consumer blogs [effect sizes ranging from .04 (small) to .11 (large)] on consumer evaluations and purchase decisions- fully supporting H2. As the next hypotheses (H3) suggests, in the “economic motive” conditions where the blogger is compensated with money, contrasts show that the effect of collaboration is greatest (F(1, 148) = 13.9, p < .001; $\eta^2_p = .09$), but only for purchase intentions. Though smaller, the effect of collaboration on WTP is higher with product payment (F(1, 148) = 4.8, p = .03; $\eta^2_p = .03$). These results offer partial support for H3.

Additional Tests of Hypotheses. H4 predicted a positive correlation between social distance and measures of trust, attitude, and purchase decisions only when participants viewed a consumer blog (i.e., parent-owned). Bivariate correlation analyses, based on Pearson correlation coefficients, indicated a positive and significant correlation between social distance and trust in the blogger, trust in the company, revisit likelihood, brand attitude, and purchase intentions (r’s ranging from .185 - .339, p < .05 for each). The correlation between social distance and willingness to pay was also positive, but was not significant (r = .129, p = .1). Consequently, the pattern of findings fully supports H4a and H4b and only partially supports H4c. Meanwhile, H5 predicted that the aforementioned correlations between social distance and our dependent measures would not be observed when participants viewed a company blog. Results are fully supportive of this prediction as all correlations were insignificant (r’s ranging from .007 - .117, p ≥ .39 for each).

Other Results: Effects Relative to the Trailer Control. We also collected data for a baseline trailer control (n=30) where the consumer blog had no payment disclosure and no mention of consumer collaboration. Bonferroni contrasts between this control and other dependent variables showed a varied pattern of effects across the various dependent variables. Since recent research (e.g., Sprott, Martin, and Martin 2012) has shown negative differences between the control (i.e., “authentic blog”) and blogs with product or monetary payment disclosures, the effects of the present research are unexpected. Interestingly, there are no differences between the trailer control and the product payment blog disclosure (p’s > .2). The only exception is for consumer engagement where the difference is moderate (M_{control} = 5.2, M_{payment} = 5.7; p = .08). For the monetary payment blog disclosure, differences exist only for company responsibility (p = .043), trust in the company (p = .04), and brand attitude (p = .011). As expected, differences between the control and the company blog are significant (p ≤ .009). Values for trust the blogger, revisit likelihood, source credibility, company responsibility, trust in the company, and brand attitude are all lower for the company blog.

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7 Suggested norms for partial eta-squared ($\eta^2_p$) effect sizes: small = 0.01; medium = 0.06; large = 0.14.

8 Correlations were determined separately for those shown a parent-owned blog and others who were shown a company-owned blog.
GENERAL DISCUSSION

In a recent survey of nearly 4,000 marketers from around the world, most reported plans to significantly decrease their use of traditional marketing communications (Stelzner 2012). For example, 53% have no plans to use or will decrease the use of print ads (p. 38). A large majority (78%) have no plans to use or will decrease the use of television ads (p. 39). Alternatively, 68% indicate plans to increase the use of blogs (p. 26). This pattern is also reflected for other media channels and suggests a positive response by companies for consumers’ changes in communication preferences. Consumers want information about brands and products to be delivered in a socially interactive manner. While commercial websites fail to meet this need, other online venues (e.g., blogs, forums, and social networks) easily address this issue. This shift generally results in greater C2C discourse, but new ways of integrating the consumer into value creation has presented an opportunity for better relationship management. Consumer collaboration is a powerful marketing strategy. Its benefits include increased satisfaction, higher levels of brand loyalty, and a more sustainable competitive advantage (Roser and Samson 2009). Of equal significance, as the present research illustrates, is the ability for collaboration to indirectly engage consumers in a way that also promotes positive evaluations and purchase decisions.

Many companies have identical marketing measures of social media success. Unfortunately, these measures create a “one-dimensional social experience” (Universal McCann 2012, p. 13) for consumers. These shallow relationships occur when companies ask their customers to ‘like’ them on Facebook or provide them with a coupon on a blogger’s site. On the other hand, co-creative collaboration represents a very deep relationship used for building or promoting products and brands. Collaborating with every consumer is limited to those firms specializing in customized products. Most companies, though, offer mass-produced products. For these companies, the implications of collaboration information represent critical new ways to credibly (and more persuasively) market products to consumers en masse while efficiently managing resources.

Managerial and Policy Implications

Our results extend previous research by increasing the external validity of our findings with stimuli modeled after actual consumer blogs (i.e. not scenario-based). The role of collaboration information is shown as a useful tool in moderating the negative effects of a blog’s disclosure (e.g., monetary payment) and source (e.g., company-owned) on consumer evaluations. These results extend to a greater number of companies that are unlikely to utilize direct collaboration for all customers. Together, these results have implications for producers, for consumers, and for policy makers. The significantly positive effect of collaboration information also has important managerial implications. These results are promising for those marketing managers who need to comply with FTC regulations yet want to utilize collaboration to improve brand perceptions and purchase decisions without the use of covert tactics. Other policy implications stem from the current societal view of capitalism that has limited the role of companies in addressing social issues. As Porter and Kramer (2011) note, “the purpose of the corporation must be redefined as creating shared value, not just profit per se. This will drive the next wave of innovation and productivity growth in the global economy. It will also reshape capitalism and its relationship to society. Perhaps most important of all, learning how to create shared value is our best chance to legitimize business again” (page. 64). Even if consumers are not directly engaged by companies to co-create products (i.e. shared value), the simple knowledge of collaborative NPD may be enough to strengthen one of the most important factors needed for a strong and long-lasting relationship-trust.

Limitations and Future Research

A few limitations that restrict the generalizability of our findings should be recognized. First, the collaboration tactics studied here represent only the highest end of dual co-creation with consumers (i.e., equal input from consumers and the firm). Since collaboration represents a continuum of consumer involvement, future research could investigate the effects of collaboration information with tactics that
involve low (e.g., crowdsourcing) and medium levels (e.g., group achievement). Second, the lack of main or interactive effects for social distance may reflect its contextual dependence. For example, Study 2 included a low-involvement product (electronic learning tablet toy) where the tendency to engage in effortful processing may be low (Chaiken, Liberman, and Eagly 1989). Future research could incorporate high-involvement products (e.g., cars or prescription drugs) to test the role of social distance when self-relevance and processing effort are higher. Social distance and other measures of psychological distance are also highly correlated with temporal orientation. As a result, temporal orientation and other individual difference factors may have a moderating influence on collaboration information that future research could address.

Next, there was forced exposure to the experimental stimuli and the setting in which responses were obtained may differ from the typical online environment where consumers retrieve information from multiple sources. Other contextual variables (e.g., other posts from the same blogger) and marketing mix factors (e.g., online banner ads) may also influence responses, yet were not accounted for in the present research.

Consistent with the FTC’s legislation requiring the disclosure of any material connection between an online advertiser (such as a blogger) and a company, our objective was to address a concern that is timely and critical to marketing managers, consumers, and policy makers. Given the practical nature of our research objectives, our final limitation is the application of relevant theory (S-D logic) rather than a specific contribution. Therefore, future research could address topics such as utility variety (e.g., time, place) that conceptually enhance S-D logic and relevant theories of relationship marketing. Future research that examines changes in time utility (for example) with direct collaboration (i.e., products created through self-customization) versus indirect collaboration (i.e., products created collaboratively by others) would enrich our theoretical knowledge in addition to helping marketers develop more efficient NPD strategies. Ultimately, marketers should keep in mind that modern utility is no longer linear. Consumers no longer need to be on the receiving end of value when they can help companies create and grow value for themselves and others.
REFERENCES


APPENDIX 1
Study 2: Consumer Blog; Monetary Payment Disclosure

Note: The blog’s ‘Disclosure of Material Connection’ was made in accordance with FTC § 255.0 of the ‘Guides Concerning the Use of Endorsements and Testimonials in Advertising’ (FTC 2009)
MODELS OF SEQUENTIAL EVALUATION
IN BEST-WORST CHOICE TASKS

Tatiana Dyachenko, Rebecca Walker Naylor, & Greg M. Allenby, Ohio State University
(This is an abridged version of the full paper. Please e-mail dyachenko.1@osu.edu for the full version)

ABSTRACT

We examine the nature of best-worst data for modeling consumer preferences and predicting their choices. We show that, contrary to the assumption of widely used models, the best and worst responses do not originate from the same data-generating process. We propose a sequential evaluation model and show that later choices have systematically larger coefficients as compared to earlier choices. We also find the presence of an elicitation effect that leads to larger coefficients when respondents are asked to select the worst alternative, meaning that respondents are surer about what they like least than what they like most. Finally, we investigate global inference retrieval in choice tasks, which can be represented by the central limit theorem and normally distributed errors versus episodic retrieval represented by extreme value errors. We find no difference between the two error specifications and advise to use the proposed sequential logit model for practical reasons. We apply our model to data from a national survey investigating the concerns associated with hair care. We find that accounting for the sequential evaluation in the best-worst tasks and the presence of the scaling effects leads to different managerial implications compared to the results from currently used models.

INTRODUCTION

Experimental choice tasks are commonly used in marketing research to get the respondents to discriminate among a set of options. Data generated from choices are often easier for respondents to provide because people make choices every day, and avoid the tendency people have to evaluate everything as being good or acceptable. However, choice data suffer from being less informative than continuously valued data. At an individual level, respondents also become fatigued after being asked a dozen or more questions about the same construct. A challenge in the use of choice data in marketing is the limited information it reveals to the analyst.

Researchers have dealt with data deficiency at the individual-level in a number of ways. The most prevalent way is to employ Bayesian random-effect models that pool information across respondents while retaining the ability to study an individual respondent’s choice model coefficients (see Rossi et al., 2005). While this approach helps shore-up data deficiencies at the individual level, it rarely leads to coefficients possessing small levels of uncertainty because of the sparseness of information available at the individual-level. An alternative approach is to collect additional data by asking respondents to indicate more than just their top choice. Examples include the use of the exploding logit model of Chapman and Staelin (1982), in which a full ranking of the choice alternatives is obtained, and the best-worst format (Louviere, 1991; Finn and Louviere, 1992) for data collection, in which the top and bottom choices are collected. According to the Sawtooth Software company, a leading organization offering software for conjoint and best-worst analyses, in 2011, 57% of the software users have utilized the best-worst tool, called MaxDiff (Sawtooth Software, 2011).

In this paper, we examine the nature of best-worst data for modeling consumer preferences and predicting their choices. We present evidence indicating that the best and worst responses do not originate from the same data-generating process. Contrary to existing models that treat the worst data as the minimum and the best as the maximum of a single evaluative process, we find evidence of systematic departures along two dimensions. First, we find evidence indicating the presence of sequential evaluation where most respondents are more likely to select the worst alternative followed by the best from the
remaining choice alternatives. We find that attribute coefficients are systematically greater in the second decision, indicating greater surety in choice.

The second finding is the presence of an elicitation effect that leads to larger coefficients when asked to select the worst choice alternative. We find that respondents are surer about what they like least than what they like most. This finding interacts with the first finding in that its presence depends on the ability to control for the decision sequence. For the minority of respondents who select the best alternative first, their coefficients for the worst alternative are larger due to both the sequence and the elicitation effects. Conversely, for the majority of respondents who select the worst alternative first, the sequence and elicitation effects tend to partially cancel each other out.

We also investigate the presence of global inference versus an episodic memory retrieval process. Episodic memory retrieval is consistent with the use of maximal extreme value theory when respondents are asked to indicate their most preferred option. Similarly, when asked for the least preferred option, we expected to find minimum extreme value theory to fit the data best. Both distributions are derived from selecting a best or worst event from a set of events. Global inference retrieval (Tulving, 1972; Carlston, 1980) is characterized by an averaging process leading to a normal distribution of errors by the Central Limit Theorem. To our knowledge, this investigation is unique to the literature as assumed error distributions tend to be made either out of convenience or for theoretical considerations, and are not based on empirical evidence.

We examine data from a national survey investigating the concerns associated with hair care. The data were collected to study the prevalence of needs among a subset of the U.S. population. Our results caution against the use of dual elicitation schemes such as best-worst analysis unless accompanied by models accommodating sequential and elicitation effects. We find that the presence of these effects leads to different inferences about individual level concerns compared to the results from currently used models without these effects.

The remainder of this paper is organized as follows. Section 2 reviews models of choice consistent with economic theory where best and worst data are thought to arise from the same preference ordering. A sequential model of evaluation is introduced in Section 3, and Section 4 describes our empirical application. Coefficient estimation and results are presented in Section 5 where we show that not accounting for the effects of sequential evaluation inflates coefficient estimates. Implications for marketing research and concluding comments are offered in Section 6.

MODELS OF SINGLE EVALUATION

Models involving the single evaluation of alternative in a choice set are based on an economic view of choice that assumes respondents have a predetermined preference ordering for the alternatives (Manski, 1977). The error terms in these models represent private information not revealed to the analyst that partially determine preferences. We consider three models of single evaluation used to evaluate best-worst choice tasks:

1. A partial ranking model that uses an exploded logit specification (Chapman and Staelin, 1982) based on an extreme value error term.
2. A double censored probit model based on an error term that is normally distributed.
3. The MaxDiff model (Louviere, 1991; Finn and Louviere, 1992) that assumes respondents perform a pairwise comparison of the alternatives and selects a pair that has maximum difference between the items.

The first two models assume that respondents have a latent utility vector \( z \) for the choice alternatives and then select the alternative with the highest utility as the most preferred, and the one with the lowest utility as the least preferred. When the choice alternatives are not product offerings, the latent vector \( z \) can be
thought of as the level of feeling, or intensity, associated with an issue, object or construct. The issue with the highest level of concern is selected as the “most important,” or “best describing,” and the item with the lowest level would be chosen as the “least important,” or “worst in describing.” The models 1 and 2 only differ in terms of the distribution of the error term representing information not revealed to the analyst.

**SEQUENTIAL EVALUATION MODELS**

In this section we develop three models of double, or sequential, evaluation that extends single-evaluation models. The components of the models can be combined to produce a super-model that nests each of the three single-evaluation models, allowing for the evaluation of effects relative to existing choice models. We develop each component separately, citing relevant work from the psychological literature.

3.1 Memory Retrieval Processes

Psychological research has developed a rich literature on how information can be processed and retrieved from memory to create judgments. Tulving (1972) described a memory framework that distinguishes between episodic and semantic memories. Carlston (1980) offered a similar framework of event and inference memory. Event memory is similar to episodic memory, which stores temporal and spacial relationship among events. Inference memory stores abstractions in a multidimensional space, like it is proposed in the semantic memory, which “represents higher level encoding of an observation.” There is an opposing view (Hintzman, 1986) that proposes that only the episodic and no semantic memory exist, and that any abstraction is just another episode, and is created at the retrieval, not encoding of information.

While these theories propose different organization of the information in memory, the retrieval of information is the most relevant component for us. These frameworks suggest that respondents can either retrieve episodes or some form of aggregated, or summarized, information to generate their responses. The support for retrieval of a summarized, or as we will call it in our paper “global”, inference comes from experimental literature. Carlston (1980) found that people “can recall their prior inferences accurately and confidently” and that later judgments are based at least partially on recalled inferences. Hintzman (1986) states that “the information retrieved from memory reflects the summed content of all activated traces responding in parallel.” While there is a discussion in literature on what kind of algebraic operations can represent formation of these global inferences, the most simple one would be based on Central Limit Theorem. The Central Limit Theorem leads to Normal distribution when error realizations are averaged or summed over a set, and accounts for the mean of a set of random variables taking on a Normal distribution regardless of the distribution of the individual errors.

If the responses are made based on retrieved episodes and events rather than averaged information, then respondents could search their episodic memory for occasions, in which the alternative was the most applicable, or represented the best solution. The modeling assumptions can be described by the compatibility principle (Fitts and Seeger, 1953; Fitts and Deininger, 1954; Shafir, 1993; Shafir et al., 1993) that states that there exists compatibility between stimulus and response. The stimulus, or elicitation mode, will have an impact on what episodes or events are used for decision making. Out of a sample of evidence, according to the compatibility principle, respondents would select the evidence with the maximum value if asked to provide the “best” selection. Similarly, we assume the selection of the worst choice option involves the selection of a minimum outcome.

We model this episodic memory retrieval with extreme value errors maximum extreme value (MaxEV) for the best choice and minimal extreme value (MinEV) for the worst choice. The maximum extreme value distribution has a tail to the right and the minimal extreme value distribution has a tail to the left.
3.2 Sequential Decisions

There are several ways to assume how two data generating mechanisms can be related to each other in one model. A naive approach assumes independence between the two realizations of utilities in best-worst tasks with error term assumptions described above.

Unfortunately, these models assume that the same item can be both best and worst. In most commercial applications, the data collection software does not allow the selection of items as both best and worst. As a result, the order of the decision sequence matters in the model with the first decision involving the entire choice set and the second decision involving a choice set with the first choice eliminated. We assume that there is a latent decision sequence for a respondent h indexed by a dummy variable $\theta_h$ that is equal to one if the best choice is selected first, followed by the worst choice.

Another important aspect of the sequential evaluation process is the potential difference in decision confidence from the first to the second choice. The idea of sequential scalars was earlier proposed by Chapman and Staelin (1982) and Ben-Akiva et al. (1992) where analysis revealed change in confidence in decisions during ordering tasks. However, existing models do not allow to separate the effect of the sequence of selection of the alternatives from the effect of the preference ordering. We specifically investigate a model where the coefficients in the best and worst choices are assumed to be proportional to each other, depending on the decision sequence. We introduce parameter $\psi$ to reflect the difference in scale of coefficients between the first and second decision.

3.3 Elicitation Effect

Economic theory assumes that preferences are known to the respondents, stable and retrievable during choice tasks. Psychological theory suggests this may not be true and that the best and worst choices in a Best-Worst choice task may arise from different processes as a result of different contexts. Research offers evidence that preferences and importance weights are constructed and are context dependent (Bettman et al., 1998; Slovic, 1995; Tversky and Simonson, 1993). Specifically, according to the hypothesis testing theory (Snyder, 1981; Snyder and Swann, 1978), also known as confirmatory selectivity bias, respondents engage in a selective information search, characterized by paying attention to the information that would help confirm the initial proposition, or hypothesis. The result of this preferential evidence-gathering is a biased sample that favors hypothesis-consistent evidence and ignores hypothesis-inconsistent evidence. This bias can be represented in the model by differences in preference parameters between select-the-best and select-the-worst tasks. $\hat{\beta}_{\text{worst}} = \hat{\beta}_{\text{best}}$

However, a more parsimonious model, which will avoid the problem of overfitting, accommodates the differences through a scaling parameter such as:

$$\hat{\beta}_{\text{worst}} = \lambda \hat{\beta}_{\text{best}} = \lambda \hat{\beta}$$

where $\lambda > 1$ indicates overall, across all attributes, greater surety of the worst choice than for the best choice. Research has shown that people are often more sure of what they don’t like than what they do like (Meloy and Russo, 2004; Lyubomirsky and Lee, 1999), suggesting an elicitation scaling effect, which can be thought of as an overall bias present between two contexts.

The final model for the asymmetric error term specification is:

$$\Pr(y_{\text{best}} = i, y_{\text{worst}} = j \mid \beta, \lambda, \psi, \theta) = \theta \frac{\exp(x_i \beta) \exp(x_j \psi \lambda \beta)}{\sum_k \exp(x_k \beta) \sum_{l \neq i} \exp(-x_l \psi \lambda \beta)} + (1 - \theta) \frac{\exp(-x_j \lambda \beta) \exp(x_j \psi \beta)}{\sum_l \exp(-x_l \lambda \beta) \sum_{k \neq j} \exp(x_k \psi \beta)}$$
and for the symmetric error term is:

$$
\Pr(y_{\text{best}} = i, y_{\text{worst}} = j | \beta, \lambda, \psi, \theta) = \theta \int_{R_{\text{best}}} \phi(z_{\text{best}} | X, \beta, \Sigma) dz_{\text{best}} - \int_{R_{\text{worst}}} \phi(z_{\text{worst}} | X_{-i}, \psi, \lambda, \beta, \Sigma) dz_{\text{worst}} + 
\left[ (1 - \theta) \int_{R_{\text{worst}}} \phi(z_{\text{worst}} | X, \lambda, \beta, \Sigma) dz_{\text{worst}} - \int_{R_{\text{best}}} \phi(z_{\text{best}} | X_{-j}, \psi, \beta, \Sigma) dz_{\text{best}} \right]
$$

The list of all models is presented in table 1.

### Table 1. Summary of the Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Parameters</th>
<th>Error Term</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Preference Parameter</td>
<td>Best-Worst Scaling</td>
</tr>
<tr>
<td>Single Evaluation Models</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exploded Logit</td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>-</td>
</tr>
<tr>
<td>Probit with double censoring</td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>-</td>
</tr>
<tr>
<td>MaxDiff</td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>-</td>
</tr>
<tr>
<td>Sequential Evaluation Models</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inferred Sequence</td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>$\lambda = 1$</td>
</tr>
<tr>
<td></td>
<td>$\beta_{\text{best}} = \lambda \beta_{\text{worst}}$</td>
<td>$\lambda$ estimated</td>
</tr>
<tr>
<td></td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>$\lambda = 1$</td>
</tr>
<tr>
<td></td>
<td>$\beta_{\text{best}} = \lambda \beta_{\text{worst}}$</td>
<td>$\lambda$ estimated</td>
</tr>
<tr>
<td></td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>-</td>
</tr>
<tr>
<td>Observed Sequence</td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>$\lambda = 1$</td>
</tr>
<tr>
<td></td>
<td>$\beta_{\text{best}} = \lambda \beta_{\text{worst}}$</td>
<td>$\lambda$ estimated</td>
</tr>
<tr>
<td></td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>$\lambda = 1$</td>
</tr>
<tr>
<td></td>
<td>$\beta_{\text{best}} = \lambda \beta_{\text{worst}}$</td>
<td>$\lambda$ estimated</td>
</tr>
<tr>
<td></td>
<td>$\beta_{\text{best}} = \beta_{\text{worst}}$</td>
<td>-</td>
</tr>
</tbody>
</table>

#### 3.4 Identification of the Scale Origin

Our proposed models have a problem of many choice models - the model cannot identify all preferences parameters: one has to restrict one of the parameters to zero and interpret the rest of preference parameters as a difference from the fixed attribute. However, this method suffers from several problems as has been shown by Bockenholt (2004) and Bacon and Lenk (2012).

The first problem is that it would be managerially inappropriate to combine the ordering of attributes from all respondents. Means of the distributions are arbitrary, meaning that it is not obvious is really important to respondents. Combining all respondents together would alter the managerial implications of this kind of research.
Second, the extend of preference heterogeneity among respondents cannot be properly described from the model where one of the attribute parameters is fixed to zero as it is done traditionally in models of choice for identification purposes. Bacon and Lenk (2012) showed that the spread of the distribution of heterogeneity can be either overstated or understated depending on the actual correlational structure among variables.

Finally, as Bockenholt (2004) demonstrated, the actual covariance structure of attributes cannot be recovered from that of from the traditional choice models with relative attribute importance. One cannot infer from the relative judgment data whether any of two variable are positively or negatively correlated.

We follow the line of work on Bacon and Lenk (2012) and combine the information from the choice decision in the Best-Worst tasks with the information on the items measured on the absolute scale. While the ability to identify importance parameters for all attributes removes analytical non-identification hurdle and allows for investigation of the presence, impact and implications of effects presented in this paper, the importance of the scale origin identification goes beyond simple analytical parameter identification and is an appropriate way to put all respondents on a common scale.

The absolute data is collected on the binary scale and serves as a restriction for the preference parameters with the error term added to account for uncertainty in the responses. This absolute judgment data is modeled using a binary logit or probit likelihood for each item.

**EMPIRICAL APPLICATION**

**4.1 Data Description**

We investigate the performance of the models with different combination of effects present using data from a national study of hair products related to the care of aging and damaged hair. Table 1 displays a list of items reflecting concerns associated with hair care. Respondents recruited into the study were female of 50 years or older screened for the inclusion in the survey. All respondents were given 15 best-worst tasks of five items from the list. Respondents were asked to indicate the items from each group of five that they are most and least concerned about.

**TABLE 2. CONCERNS FOR THE BW TASKS**

1. My hair is too oily.  
2. My hair is breaking.  
3. My hair is stiff and resistant.  
4. My hair is coming out more than it used to.  
5. My hair is dry.  
6. My hair is coarse and frizzy.  
7. I have split ends.  
8. I have unruly, unmanageable hair.  
9. My hair’s color is faded and dull.  
10. My hair seems finer.  
11. My hair is damaged from products, treatments or sun.  
12. My hair has been impacted by stress and hormone fluctuations.  
13. My greying hair is unflattering.  
14. I am seeing more of my scalp or receding hairline.  
15. My hair lacks shine.

Three sets of data have been collected that differed in the presentation of the best-worst tasks. The first group of respondents (n = 594) had to complete the traditional best-worst tasks where both columns were presented at the same time as shown in Figure 1. In the other two groups, we manipulated
the order of responses to be either Best-Worst (n = 290) or Worst-Best (n = 299). This was done by removing one of the columns from the task table in Figure 1 and sequentially providing two tables - one to select the best alternative and the second to select the worst. The presence of the absolute judgment data allows us to statistically identify parameters for each of the 15 concerns in Table 2. The likelihood of the models in Table 1 is augmented by the likelihood for the absolute judgment data so that all model parameters are estimable and comparable among respondents. The concerns for which absolute judgment data is available are items 1, 2, 3, 4, 11, 12, 13, 14. Approximately 94% of the respondents indicated they are concerned with at least one of the items.

We also collected other measures that assist in validating our model’s assumptions and inferences. We tracked clicks on the page to gather the observed order of selections. Response latencies are also recorded for each click. Respondents often changed their minds several times about the items, which generated a string of clicks and response latencies. We used the last click to record what sequence of decisions each respondent used in each choice. There is a high consistency between using the last and the first clicks to generate the sequence indicator, but we believe that the last click does indicate that the deciding is over and the sequence can be recorded. The response latencies for the first click were measured from the time the page was loaded to the time the first item was clicked. The total response latencies for best and worst choices are the sums of the time intervals between appropriate clicks. Longer response times correspond to harder decision and more effort (Bettman et al., 1990; Ratcliff and Smith, 2004). This data will help confirm or disconfirm the sequential and elicitation scaling effects from our proposed model.

We also collect information on how difficult it was to select the best and worst alternatives and how confident the respondents were about their choices. We show that information collected on difficulty and confidence are consistent with the response latency data, meaning that harder to answer choices took longer to answer. This information serves two purposes in our analysis. First, it would help validate the elicitation effect between best and worst choices: if, for example, the model finds a scaling effect greater than 1 than this direct measure should show that worst responses are more certain and easier to answer. Second, we should be able to see the effect of the sequence on the difficulty and confidence of choice irrespective of the elicitation mode and, thus, provide support for the inferences about sequence effect made from the model.

We designed a semantic differential scale for identifying how respondents answered the choice questions. We asked them whether they thought about their hair care concerns in general, which would correspond to the global memory retrieval, or if they thought about specific episodes, which would correspond to the episodic memory retrieval. This data was collected to help investigation of model specification assumptions related to the memory retrieval processes. While this measure might not represent how the decisions are truly generated as respondents might be unaware of the processes themselves, we collected it to get a sense of the perceived aggregation strategies that might be linked to the error term distribution assumption.

To investigate an effect of respondents’ involvement in and expertise with the product category on the context effects (Feldman and Lynch, 1988), we collected information on these two dimensions for each respondent. It is known that higher level of involvement and expertise will mitigate contextual effects. We asked respondents to tell us on the five-point scale how involved they are in the hair care category and whether others consider them experts in this category. This will serve as an additional check point for out model’s findings.
ESTIMATION RESULTS

Parameter estimates are based on the first 13 BW tasks, reserving the last two tasks for predictive testing. The in-sample performance of the models is evaluated using log-marginal density (LMD) estimator proposed by Newton and Raftery (1994) and hit rates. The hit rates are the proportion of responses across all respondents and observations that are correctly identified by the models based on the choice probability, calculated using draws from the posterior distribution of the parameters. Out of sample performance is measured by the hit rates using the same methodology. The probabilities for the single evaluation probit models are evaluated using trapezoid rule and for sequential evaluation probit models using GHK algorithm (Keane, 1994; Hajivassiliou et al., 1996).

5.1 Estimation Results of Single Evaluation Models

We first examine in-sample and predictive fits for the logit and probit single evaluation models to motivate the need for the greater model complexity. Table 3 displays the results for these models. As mentioned before, models of single evaluation assume that the same data generating mechanism produces the best and worst evaluations, with the difference in responses due to different censoring mechanism of the same latent evaluation. Thus, the hit rates for “cross” responses (predicting “best” responses with parameters from the estimation based on “worst” responses or predicting “worst” responses with parameters from the “best”-based estimation) are expected to be similar to the hit rates for “own” responses (“best” responses with “best” estimation or “worst” responses with “worst” estimation) when examining in-sample fits or predicting the holdout choice tasks. However, this is not the case.

For both the logit and probit models, the hit rates exhibit a marked reduction when used to predict the cross responses. That is, models calibrated on the best responses predict the worst responses poorly, and models calibrated using the worst responses predict the best responses poorly. It is interesting to note that combining information from best and worst choices in the models hurts both in-sample and holdout hit rates for “best” responses (for example, from 0.604 to 0.587 in logit models), making the out-of-sample fit for “worst” responses slightly better (for example, from 0.470 to 0.490 for probit models) while showing mixed results for the in-sample rates for “worst” answers. These findings provide initial evidence that the best and worst responses are not likely to be generated according to the models of single evaluation.

<table>
<thead>
<tr>
<th>Estimation</th>
<th>In-sample</th>
<th></th>
<th>Out of sample</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Best</td>
<td>Worst</td>
<td>Best</td>
</tr>
<tr>
<td>Logit with “best” only responses</td>
<td>0.7543</td>
<td>0.3672</td>
<td>0.6039</td>
<td>0.3807</td>
</tr>
<tr>
<td>Logit with “worst” only responses</td>
<td>0.4140</td>
<td>0.6056</td>
<td>0.3994</td>
<td>0.4712</td>
</tr>
<tr>
<td>Logit with “best” and “worst” responses (SL)</td>
<td>0.7098</td>
<td>0.6231</td>
<td>0.5866</td>
<td>0.4897</td>
</tr>
<tr>
<td>Probit with “best” only responses</td>
<td>0.7525</td>
<td>0.3672</td>
<td>0.6031</td>
<td>0.3821</td>
</tr>
<tr>
<td>Probit with “worst” only responses</td>
<td>0.4121</td>
<td>0.6056</td>
<td>0.3986</td>
<td>0.4699</td>
</tr>
<tr>
<td>Probit with “best” and “worst” responses (SP)</td>
<td>0.7194</td>
<td>0.6020</td>
<td>0.5866</td>
<td>0.4897</td>
</tr>
</tbody>
</table>
5.2 Model Fit and Comparison

We find that the sequential logit SQL5 and probit SQP5, which incorporate elicitation effect $\lambda$ and sequential evaluation effect $\psi$, as well as infer the sequence of decisions are the best fitting models in-sample and out of sample, implying that the sequential evaluation in best-worst tasks is most likely and the presence of effects is important to include in the model specification.

5.2.1 Memory Retrieval Processes

We investigate the memory retrieval processes discussed in section 3.1 that is linked to the differences in specifications of sequential logit and probit models. We cannot say which process, global or episodic memory retrieval, is more representative for all respondents in the sample that we have collected. We cannot to reject the hypothesis that there is no difference between the asymmetric and symmetric error term specifications.

The responses to the survey item that asked respondents about perceived memory retrieval processes has a bimodal distribution with approximately 57% of respondents leaning toward the global inference retrieval and 43% - to episodic. This almost equal division between the perceived memory type retrieval might be partially responsible for the null effect. We tested a mixture of likelihoods model where the survey responses in- formed the probability of using global versus episodic memory retrieval parameter. While the model performed well, we did not get any improvement in fit compared to models SQL5 and SQP5. For the practical purposes, we recommend using the sequential logit specification as it is significantly easier to estimate but provides the same fit to the data as sequential probit.

5.2.2 Sequential Decisions

We compare our proposed sequential models where we make probabilistic statements about the sequential decisions with the models where the sequence of decisions is observed in a form of mouse clicks. Table 4 shows that in-sample and out of sample fit of our models is consistently better. We find that, except for the holdout hit rate for sequential models with sequence scaling only, all models with inferred sequence of decision are superior to the models with the observed selection order.

To investigate this further, we analyzed the sequential logit model on the two samples where the order of decisions was imposed to be either “best-worst” or “worst-best”. We compared the fit of the models where we (a) inferred the sequence, (b) assumed the sequence according to the task instructions or (c) used the actual click data (Table 6). For these samples, also, the introduction of the observed order of clicks make the models fit worse compared to the models where we infer about the latent decision sequence.

The analysis of the sequence probability parameter $\gamma$ indicates that the majority of respondents are more likely to generate worst responses first and then answer the best choice. The relatively low probability of best-worst decision sequence might seem counter with the observed click data. On average, 68% of first clicks are the “best” choices, but our model suggests that only about 2% of respondents are likely to perform “best-worst” order of decision in their minds. To address the discrepancy between the inferred and observed selection order, we analyze table 6 in more detail.

The fit of the models on the sample with order instructions “best-worst” shows that respondents still followed a different sequence of decision in their minds than what was imposed or observed through the click data. Fit of the model with observed clicks fits the data better than the model that assumes that all respondents followed the instructions. But the model with inferred sequence fits the data significantly better and shows that the mean of the probability parameter $\gamma$ was 4.3%. However, the differences among the models on the sample with imposed “worst-best” order are smaller comparing to those of the “best-worst” sample. This implies that our model with inferred sequence fit the data almost as well as the model with imposed order assumption in “worst-best” sample, suggesting that, first, click data might not be
representative of the underlying cognitive processes and, second, that our model with inferred sequence probability is a good approximation to capture the unobserved direction of sequential evaluation from “worst” to “best” alternatives.

5.2.3 Preference Parameters and Rankings

We find significant heterogeneity in importance weights among respondents. We also find that as the sequential evaluation effect $\psi$ and elicitation effect $\lambda$ are added to the model, estimates of the item effects become less extreme and heterogeneity reduces. This implies that models without these effects tend to overstate the importance of the items.

We now present an analysis of the top concerns of respondents inferred from the different model specifications. In aggregate, the three models of single evaluation agree on the top five items that are of the most concern. However, the sequential evaluation logit SQL5 as well as other sequential models partially change the “aggregate” order of the top five items. While all models agree that, on average, items 4 and 12 are among the top five most important items, sequential evaluation logit with elicitation and sequential effects show that item 15 is now more important than items 13, and that item 12 is more important than items 9, 10 and 13. This is significant considering that items 12 “My hair has been impacted by stress and hormone fluctuations” and 13 “My greying hair is unflattering” address different concerns and would be relevant to different targeting strategies. So, if the company uses a single evaluation instead of sequential evaluation model, the selection of the top three issues that drive marketing activities might be misleading.

While aggregate results are important, the most important findings come from the analysis of the individual-level top concerns. The analysis of the individual specific top concerns showed greater inconsistency between the single and sequential evaluation models. For example, models of single evaluation SL and SMD agree completely on the individual rankings, and SP and SL models highly agree, but the difference for top n items becomes significant between single and sequential evaluation models. The proportion of respondents that agree on individual ranking sets for each of the three pairs of models: single evaluation logit (SL) versus sequential logit (SQL5) (square points), and single evaluation probit (SP) versus SQL5 (diamond points), and SL versus SP (filled dots) for comparison. The left panel of the figure does not take into account the order within each set and the right panel shows the results when the order matters. We see significant drop in proportion of respondents with matched sets for each top n items. For example, for the top 3 items the proportion of matched individual ranking sets drops from 84.5% for SL-SP to 68% for SL-SQL5 pair. If we take into account the order of the items, then the discrepancies between the models are magnified. The proportion of respondents for whom the order of the top items matched between models. For the same example, only 51% respondents have the same top three ordered sets between SL and SQL5 models. These results show how the ranking of items obtained from the single evaluation models can be misleading for the marketing actions and we advise against using the single evaluation models to make inferences about preference parameters from the dual-elicitation procedure such as Best-Worst.

5.2.4 Context Effects

Table 9 reports the means and standard deviations of the upper level parameters of the sequential evaluation models. The parameter means and standard deviations are given for the reparameterization based on equations (22)-(23). Figure 4 displays the distributions of heterogeneity of elicitation effect $\lambda$ and sequential evaluation effect $\psi$ for the model SQL5. Both effects are assumed to be heterogeneous across respondents.

Sequence Scaling Effect

The size of sequence parameter $\psi$ is significantly greater than one (mean of $\ln \psi = 1.489$ in SQL5), which indicates that the second response is more certain for the majority of the respondents. This
finding is consistent with the process measures we collected in the survey. The analysis of the responses on confidence and difficulty shows that when the order “best-worst” was imposed, the “best” decision was slightly harder and respondents were less confident compared to the sample where the “best” choice was presented second. The same is true for the “worst” consideration, which is more confident and less difficult when presented second.

**Elicitation Scaling Effect**

In section 3.3, we discussed how the preference parameters in “best” and “worst” decisions can be specified and presented models where $\beta_{best} \neq \beta_{worst}$. The analysis, however, shows that, while these models (SQL6 and SQP6) had high insample hit probabilities and hit rates, they did not fit the data as well as SQL5 out of sample, indicating model overfitting due to the significant increase in the number of parameters. Thus, the presence of the elicitation scaling factor $\lambda$ that can be thought of as an overall bias between the two elicitation modes is a better solution for the models of best-worst decision.

While there is a significant heterogeneity in the elicitation scaling parameter in SQL5 model, on average, respondents are more certain about and more consistent in the “worst” choices than “best”. The mean of the parameter $\lambda$ is greater than one (mean of $\ln \lambda = 0.156$).

The finding is consistent with process measures that we have collected. All three samples consistently show that the “best” items were slightly harder to select compared to the “worst” ones. This data is supported by the response latencies during the choice tasks. While there is no difference in the first choice latencies, the total time was consistently shorter in “worst” decisions. This means that people put in more effort in “best” choices. A more convincing evidence that the “worst” decisions are faster and easier comes from a look at the samples with imposed order of selection. Except for a few first training choices, the response latencies for the first choices, which are “best” in best-worst imposed sequence sample and “worst” in “worst-best” sample, are lower for the “worst” selections as shown on the left panel of the figure. The same results are true for the total response time for these samples as shown on the right panel. This is consistent with our finding of the positive elicitation effect.

Interestingly, in all three samples, the difficulty of the task and the confidence are negatively correlated, which might be counterintuitive, but is consistent with previous research in psychology (Paese and Sniezek, 1991; Biswas et al., 2011). Research found that effort is positively correlated with confidence in judgments but not necessarily with accuracy. Hence, while respondents report higher confidence in “best” choices, it does not mean that they are more consistent, or “accurate”, in these choices throughout the tasks, but their confidence is higher as a result of higher effort as indicated by response latencies and responses.

**Interaction of Sequence and Elicitation Scaling Effects**

Combining the findings about the parameters shows how the size of the importance parameters $\beta$ between the best and worst choices is modified by the two scaling factors in the most probable sequence “worst-best”. For example, the size of $\beta$ in the worst choice is increased by the elicitation scaling $\lambda$ and the size of $\beta$ in the best choices is increased by the sequential scaling $\psi$. We found that the size of the elicitation parameter is smaller compared to the sequence scaling. That would make $\beta$’s in “best” responses look larger than in the “worst” decision. This is exactly what we saw previously: estimated parameters based on the “worst” data are smaller than those based on the “best” data.

**5.2.5 Involvement Level and Effect Sizes**

We also found a relationship between the elicitation effect size and level of involvement in the category and level of expertise consistent with the work of Feldman and Lynch (1988). They argue that the level of personal involvement and expertise mitigating the contextual effects, which would be elicitation and sequential effects in our case. Table 11 shows means of distribution of heterogeneity of
elicitation scaling $\lambda$ and sequential scaling $\psi$ parameters as a function of involvement and expertise level for the three samples collected. While small sample size in some of categories of the level of involvement and expertise do not allow us to make specific conclusion, in general, respondents with higher level of involvement are less sensitive to the elicitation and sequential effects. Moreover, the sample BW (traditional best-worst tasks) shows that people with high expertise level are more certain about what they are concerned about the most (elicitation scaling parameter $\ln \lambda$ is negative) as apposed to low expertise responses who are more certain about what they are concerned the least (elicitation scaling parameter $\ln \lambda$ is positive).

**DISCUSSION**

Discrete choice experiments are designed to help businesses understand consumer preferences and direct marketing actions. The pursuit to learn about the customers better and make better marketing decisions drives development of new research methods and modification of the existing ones. However, it is important to investigate the decision processes in these choice experiments and what models should be used to make inferences that would allow marketers to properly address consumers’ needs and wants. In this paper, we investigate the decision making process that underlies the choices in Best-Worst (BW) tasks and use psychological theories to drive the model development. We compare the results and managerial implications of our models with that of the models that are widely used in practice.

We find evidence favoring the presence of sequential evaluation in BW tasks and believe that this decision process should be taken into account when analyzing the data from these tasks. Our proposed models for BW tasks are based on the sequential two-step evaluation of the items. They provide a better fit to the data and have better ability to predict choices out of sample than the currently used models of single evaluation such as logit, probit and MaxDiff. In addition, we showed that the individual rankings of the top attributes needed for marketing actions would be misleading if based on the single evaluation models.

The model of sequential evaluation allowed us to uncover and incorporate several effects that are present in the choice decisions in BW tasks, such as the sequence and elicitation effects. These effects support the idea of preference construction, which is not consistent with the economic view that preferences pre-exist, the assumption that is used in simple single evaluation models of choice prevalent in practice. Additionally collected process data supported findings on these effects from our models.

We find that respondents are more likely to select the least item from a choice set before selecting the best item, and the estimated scaling effect in this sequence indicates that the item coefficients are larger in the second choice, which is consistent with the respondent’s being surer of their choices. This effect contributes the most to the fit improvement as compared to the fit of single evaluation models.

We also obtain evidence of an elicitation effect. The elicitation mode matters and impacts the construction of the biased sample of evidence as respondents seek evidence congruent with the question at hand according to the hypothesis testing theory. We found that respondents tend to be more sure about items that describe them least than about items that describe them best. This phenomenon has been receiving attention in the consumer behavior literature (Meloy and Russo, 2004; Lyubomirsky and Lee, 1999), and we found evidence that the scaling factor is able to capture the mechanism of preference construction better than using unrestricted $\beta_{best}$ and $\beta_{worst}$.

As an extension of the proposed sequential evaluation models, one could apply non-linear elicitation scaling function. This extension would be based on the theory of differential adjustment of importance weights under different elicitation tasks, which would provide additional evidence for the confirmation bias in these tasks. We would predict based on previous research in psychology literature that positive attributes are weighted higher under select-the-best condition and negative attributes are
adjusted to have a stronger effect on choices under select-the-worst condition. This would require data from a category of products or concerns where importance parameters are more likely to spread across positive and negative domains and, thus, provide more information on the issue of differential scaling.

Finally, we investigated the presence of episodic inference retrieval that is represented by the model with extreme value error term distribution versus global memory retrieval represented by the normal distribution. The sample did not have enough information to reject the assumption of no distinction between the two processes. We also analyzed a likelihood mixture model to determine the probability of respondents executing one type of memory retrieval versus another, but did not get improvement in model fit. However, to our knowledge, this was first to attempt to guide error term specification selection with the psychological theories of decision making and not computational convenience. We hope that this effort will offer first steps in error term consideration for development of future marketing models.

While our proposed models are better models to use to analyzed BW data, this investigation of the psychological processes underlying these tasks brought us to the conclusion that this research tool, while allows for collecting more data on each respondent, does not consider the appropriateness of imposing a dual elicitation procedure on respondents. In typical market conditions consumers face choices where they try to maximize their utility by the action of selecting products. This decision is consistent with the tasks of selecting the best alternative in the choice experiments. However, rarely do people have to reject or give up an alternative explicitly, which would correspond to the answering the “worst” choice in BW tasks. We believe that researchers should avoid using collecting the “worst” responses unless there is a good justification that comes from the expected consumer behavior on the marketplace.

In addition, some of current research moved toward extending BW choice tasks into multi-attribute alternative space. While from the technical standpoint our model can easily be extended to these cases, the presence of multiple attributes per alternative would likely lead to other effects coming into play, such as interaction between the attributes or simplification strategies employed by respondents, just to note a few, which would have to be accounted for in the choice models. We think that it is very important in the model development stage to stop and think about whether the tool that is used to collect data on preferences makes sense and is consistent with anticipated decision processes on actual purchasing decisions.
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FOCUSING ON DESIRABILITY VERSUS FEASIBILITY: 
THE INFLUENCE OF FIT BETWEEN GOAL PROGRESS AND 
CONSTRUAL LEVEL ON SUBSEQUENT SELF-REGULATION

Jooyoung Park, University of Iowa

ABSTRACT
This article examines the relationship between goal progress and construal level and its influence on subsequent goal pursuit. Using action identification theory, we hypothesized that greater perceived goal progress leads to higher-level construals and that the fit between goal progress and construal level is more likely to enhance self-regulation than nonfit as a result of increasing engagement. Our findings indicate that, compared with lesser perceived goal progress, greater goal progress induces higher-level construals (studies 1-3). Moreover, the fit between goal progress and thinking style strengthens engagement (study 4), so that, as people perceive greater goal progress, abstract thinking (i.e., "why") is more likely to promote goal-consistent behavior than concrete thinking (i.e., "how"); studies 3 and 4).

INTRODUCTION
People often fail to achieve their goals, and such failure can have a substantial impact on them as well as on society. For example, a recent analysis by the Wall Street Journal found that most people with 401(k) plans have insufficient savings to maintain their standard of living in retirement (Browning 2011). Many of these people will need to work longer than expected and to rely on Social Security and Medicare at a time when the future of these government programs has become uncertain (Browning 2011). People also have difficulty achieving their health goals. More than two-thirds of adults in the United States are overweight or obese (National Institutes of Health 2012), and the majority are not satisfied with their progress toward losing or maintaining their weight (International Food Information Council Foundation 2011). Personal health consequences of being overweight include increased risk of heart disease, diabetes, and cancer (National Institutes of Health 2012). Societal consequences of obesity include $147 billion a year in increased health care costs in the United States alone, representing almost 10% of all medical spending (Finkelstein et al. 2009).

Given the importance of these problems, a substantial amount of research has investigated and identified conditions that lead people to engage in or disengage from their goals (Fishbach and Dhar 2005; Fishbach, Dhar, and Zhang 2006; Fishbach and Zhang 2008; Louro, Pieters, and Zeelenberg 2007). Although accumulated evidence from studies based on control theory suggests that lack of progress increases motivation (Carver and Scheier 1982, 1990; Lord and Levy 1994), other research suggests that both high and low goal progress decrease motivation (Atkinson 1957; Louro et al. 2007; Schmidt, Dolis, and Tolli 2009). In this article, we show how high (low) goal progress can lead to either increased or decreased motivation by changing the level of mental construal. In the following section, we first review the literature on the relationship between goal progress and subsequent goal pursuit. Then, drawing from the literature of the construal level theory (Trope, Liberman, and Wakslak 2007) and that of the action identification theory (Vallacher and Wegner 1986, 1987), we formulate our research questions.

THEORETICAL BACKGROUND
The Impact of Goal Progress on Subsequent Self-Regulation
Goals can be defined as "internal representations of desired states" (Austin and Vancouver 1996, 338), and they are often represented in terms of progress or movement toward some abstract, desired state (Fishbach and Dhar 2005). In particular, research based on control theory (Carver and Scheier 1982, 1990) conceptualizes goal progress as a temporary discrepancy between the current state and the reference state and describes how monitoring such a discrepancy influences subsequent self-regulation
The main insight from this research is that high goal progress induces a sense of goal attainment and thus signals that less effort is needed (Carver and Scheier 1990). As a result, people are likely to decrease their investments in time and effort when they perceive sufficient goal progress. Relatedly, in the presence of multiple goals, research on the dynamics of self-regulation demonstrates that people are more likely to disengage from a focal goal as they experience greater goal progress on this goal. For example, Fishbach and Dhar (2005) induced different levels of goal progress by asking participants to indicate the amount of effort they had devoted to pursuing their academic goals compared to high versus low standards and found that greater goal progress led people to engage in activities that were inconsistent with a focal goal. Although work informed by control theory suggests that motivation is highest at low levels of goal progress, other work has come to a different conclusion. For instance, Schmidt et al. (2009) posit that people tend to disengage from a focal goal when facing adversity in the course of goal pursuit because lack of progress indicates that continued investments in time and effort are unlikely to pay off in the end. This prediction that low progress can negatively affect goal pursuit is also well reflected in the expectancy value theories of motivation (Atkinson 1957; Louro et al. 2007). Specifically, the expectancy value theories of motivation postulate a curvilinear relationship between goal expectancy and motivation, with motivation being highest at moderate levels of goal expectancy and at lowest at low and high levels of goal expectancy respectively (Atkinson 1957; Louro et al. 2007). Considering a positive relationship between goal expectancy and goal progress (Schmidt et al. 2009), this curvilinear relationship implies that both high and low progress undermine motivation.

Combined, these studies led to seemingly inconsistent predictions about how goal progress will affect motivation (Atkinson 1957; Carver and Scheier 1990; Hyland 1988; Louro et al. 2007; Schmidt et al. 2009). This raises important questions about how high (low) goal progress can lead to both increased and decreased motivation as well as how to best motivate people. The present research examines how goal progress influences people's mental construal. Based on this relationship, we identify effective ways to improve self-regulation by changing construal level.

Following control theory, we define goal progress as the pursuit of a goal and hypothesize that perceptions of goal progress can be affected by comparisons with a reference value such as expected movement or social comparison (Fishbach and Dhar 2005). For example, according to this definition, if a person spent more time exercising than a reference value (e.g., personal expectations or social comparisons), he or she would perceive greater goal progress than if he or she spent less time than a reference value. Moreover, the present research focuses on abstract goals that do not have specific end states, as many goals have indefinite targets (e.g., being healthy or saving for retirement). In the next section, we review the relationship between goal progress and construal level and develop our research hypotheses.

The Relationship between Goal Progress and Construal Level

Construal level theory posits that any action can be construed at either concrete or abstract levels depending on psychological distance. Concrete construals are contextualized representations that answer the question of how an action is to be performed, and abstract construals are decontextualized and answer the question of why an action is performed (Dhar and Kim 2007; Trope et al. 2007). In accordance with construal level theory, action identification theory postulates that any action can be organized in a cognitive hierarchy, from low-level identities pertaining to how one acts to high-level identities pertaining to why one acts (Vallacher and Wegner 1987).

Furthermore, action identification theory advocates the existence of an optimal level of identification, whereby identification level shifts in order to perform or maintain actions effectively (Vallacher and Wegner 1987; Houser-Marko and Sheldon 2008). To illustrate, consider different stages of
learning golf. People generally want to understand the larger meanings of their actions, such as “enjoying playing goal” (Vallacher and Wegner 1985, 1987; Wegner and Vallacher 1986). However, at the beginning stage, a person may experience difficulty “driving a golf ball to the green;” thus “enjoying playing golf” is desirable but ineffective in the sense that the player's capacity to carry out such an action may simply be lacking. Thus, the theory posits that when performance of an action is poor, conscious concern shifts to the details of the action, perhaps thinking about “keeping one's eye on the ball” or “getting a good grip on the club” (Wegner and Vallacher 1986, 556). When a person can successfully perform an act, however, low-level identifications tell only pieces of a complete, integrated action, leading to ineffective performance of the complete action. Therefore, the theory asserts that people's attention moves to a higher level of identification once people can successfully perform intended acts. That is, when a person can successfully drive a golf ball, thoughts may shift to "playing golf" or "winning the game," an ultimate reason for wanting to be able to drive the ball properly. A number of studies have empirically demonstrated that increased difficulty of enactment, complexity (i.e., variety of means or subacts), familiarity, enactment time, and learning time (i.e., the amount of time it takes to learn to do the action well) can move people to lower levels of identification (Vallacher and Wegner 1987).

This accumulated evidence of research grounded in action identification theory indicates that the level of representation of an action is associated with performance level and that low performance may lead to lower levels of representation (mental construal). In the process of goal pursuit, this suggests that people perceiving low progress may pay more attention to specific means or subacts required to effectively achieve their goals (a lower level of construal), whereas people perceiving high progress may consider the general meaning or value of their goal (a higher level of construal). On this basis, we hypothesize the following:

H1: Greater perceived goal progress leads to higher levels of construal than lesser perceived goal progress.

The Influence of Fit between Goal Progress and Construal Level

Theories of mental construal generally distinguish between two different aspects associated with goal-directed actions, desirability and feasibility (Liberman and Trope 1998; Bagozzi and Dholakia 1999). Desirability concerns the end state of an action, whereas feasibility pertains to the ease or difficulty of reaching the end state (Liberman and Trope 1998). Also, in the language of action identification theory, desirability refers to the “why” of an action, which reflects the abstract, high-level aspects of an action, whereas feasibility corresponds to the “how” of an action, which mirrors the concrete, low-level aspects of an action (Vallacher and Wegner 1987; Liberman and Trope 1998). In the previous section, we proposed that greater perceived goal progress would draw people's attention to more abstract, higher levels of construal. Based on this relationship, we further propose that matching the primary aspects of goal pursuit (i.e., desirability and feasibility aspects) with people's goal progress will influence engagement in the focal goals and subsequent self-regulation. Support for this so-called fit effect can be found in recent consumer studies (Labroo and Patrick 2009; Lee, Keller, and Sternthal 2010).

Based on the premise that a positive mood (vs. a negative mood) signals that a situation is benign and thus allows people to psychologically distance themselves from the situation, Labroo and Patrick (2009) predicted that a positive mood evokes high-level construals. To confirm this relationship between mood and construal level, they examined motivational influences of high- or low-level construal framing under different mood conditions. In the context of academic goals, they found that participants in a positive mood considered their academic goals more important after thinking about why they studied for exams (i.e., high-level construal) rather than how they studied for exams (i.e., low-level construal). Conversely, participants in a negative mood indicated that their academic goals were more important after considering their goals at low-level construal rather than high-level construal. These findings indicate that
a positive (negative) mood increases abstract (concrete) construal and that the match between ones’ mood and the construal level at which one views a goal facilitates goal engagement.

Lee et al. (2010) offer a more direct explanation of the underlying mechanisms of the motivational influences of fit. The authors proposed that promotion-focused people tend to construe information at an abstract, high level whereas prevention-focused people tend to construe information at a concrete, low level. From this relationship, they further speculated that a correspondence between one's regulatory orientation and the level at which he or she construed the information would stimulate an experience of engagement that in turn would enhance processing fluency and persuasion. In one study, they induced regulatory mind-sets and then asked participants to evaluate a fictitious brand whose advertisement was described in terms of either an abstract, high-level construal (i.e., “why one should exercise”) or a concrete, low-level construal (i.e., “how one should exercise”). They found that participants evaluated the brand more favorably when they reviewed the advertisement construed at the level that fit their regulatory focus than at the level that did not fit their regulatory focus. More important, they demonstrated that the experience of engagement (e.g., feeling motivated) underlies the fit effects. In line with this finding, the regulatory engagement theory (Higgins 2006; Higgins et al. 2008) well describes the motivational influences of fit via the experience of engagement.

The regulatory engagement theory refers “strength of engagement” to a motivational force people experience when they engage in choices or decisions with strategies that fit their motivational orientation (Higgins 2006). More specifically, it postulates that pursuing one’s goal in a right or proper way influences the subsequent value of the goal, especially by intensifying the force of attraction toward the goal. For instance, Higgins et al. (2008) argued that whether the process of goal pursuit is considered by the actor as the proper or right way to pursue the goal in the given circumstances influences engagement as well as the value of their choice or decision.

On the basis of action identification theory, we predict that people will consider their goal pursuit at different levels depending on goal progress. If goal progress drives people's attention to different aspects of goal pursuit (why vs. how), then there will be more and less appropriate manners people consider in pursuing their goals. More precisely, we anticipate that people perceiving greater progress may think of their goal pursuit at an abstract, superordinate level, whereas people perceiving lesser progress may think of their goal pursuit in a concrete, subordinate manner. Following the notion that fit (appropriateness) effects increases goal engagement and the valuation of goals, we expect that thinking of goal pursuit in an appropriate manner will in turn influence engagement and subsequent self-regulation.

H2: Fit between goal progress and construal level is more likely to foster engagement and influence subsequent self-regulation than nonfit.

Summary and Overview of Studies

Four studies tested these hypotheses. Studies 1 and 2 investigate the relationship between goal progress and construal level. Specifically, study 1 demonstrates that people who perceive greater progress tend to think at a more abstract, higher level by using a fewer number of groups when categorizing objects than people who perceive lesser progress. Study 2 provides further evidence on this relationship by showing that greater progress draws people’s attention to more abstract aspects (i.e., "why") of goal pursuit than concrete aspects (i.e., "how"). Given the relationship between goal progress and mental construal, studies 3 and 4 examine the motivational influence of fit between goal progress and construal level across different domains of self-regulation. Study 3 illustrates that fit between goal progress and abstract (i.e., "why") versus concrete (i.e., "how") thinking of pursuing an academic goal enhances goal-related efforts, whereby abstract (concrete) thinking leads people perceiving greater (lesser) progress to expend more effort toward a goal-congruent activity. Lastly, study 4 replicates the influence of fit on the
subsequent pursuit of a goal-related action in the domain of money management and also demonstrates that engagement underlies the fit effects.

**STUDY 1: GOAL PROGRESS AND CONSTRUAL LEVEL**

Study 1 investigated how goal progress influences construal level. Following prior studies (Fishbach and Dhar 2005; Fishbach et al. 2006), we manipulated goal progress through social comparison. We predicted that comparison with a low social standard (one hour of exercise during the previous week; high progress) would induce greater perceived progress toward a fitness goal than comparison with a high social standard (10 hours of exercise; low progress). After manipulating goal progress, we examined its influence on construal level using a classification task (Liberman, Sagristano, and Trope 2002), in which participants classified objects into categories. Researchers often use this classification task to measure construal level based on the premise that an abstract, higher-level construal leads to broader, more inclusive categories. Therefore, when people adopt an abstract, higher-level construal, they tend to use fewer categories to classify objects.

**Method**

Seventy-seven undergraduate students (49 were male) were randomly assigned to one of the two conditions (goal progress: high vs. low). On arrival, participants were informed that prior participants answered only the first item and that we were reusing their papers. When they received their booklets, participants first reported the amount of time they had spent working out during the previous week. On the following page, they found the fictitious participant’s response for the amount of time he or she had spent exercising over the previous week. Depending on the experimental condition, the fictitious participant’s response was either one hour (low standard; high perceived progress) or 10 hours (high standard; low perceived progress). As a manipulation check, participants also indicated their perceived goal progress on a 7-point scale (1 = no progress; 7 = a lot of progress).

Participants then performed a classification task (Liberman et al. 2002), in which they classified items for each of two scenarios (i.e., going camping and organizing a yard sale) into groups. For the camping scenario, participants were asked to imagine that they were going with their family on a camping trip and were thinking about what to bring. They then placed objects (see appendix A for the complete list of objects) into groups by writing down which objects belonged together and circling the objects that belonged in the same group. Because a higher-level construal allows people to think more abstractly and categorize objects in a more inclusive way, we predicted that high goal progress would lead to a higher-level construal, which in turn would lead people to use fewer categories to classify objects than low goal progress.

**Results and Discussion**

Our manipulation of perceived goal progress worked as expected. Although the actual amount of time spent working out was not significantly different in the high ($M_{\text{high progress}} = 5.02$) and low ($M_{\text{low progress}} = 4.30$; $F(1, 75) < 1$, NS) progress conditions, participants exposed to the low social standard (one hour, $M_{\text{high progress}} = 4.41$) perceived greater progress than those exposed to the high social standard (10 hours, $M_{\text{low progress}} = 3.65$; $F(1, 75) = 3.99, p < .05$).

To test whether goal progress affected construal level, we conducted a multivariate analysis of variance on the number of categories in the camping trip and yard sale scenarios, with goal progress condition as the independent variable. Consistent with hypothesis 1, there was a significant effect of condition on the number of categories ($F(2, 74) = 4.35, p < .05$). Participants in the high progress condition used fewer categories to classify items than participants in the low progress condition for both the camping trip ($M_{\text{high progress}} = 5.16$, $M_{\text{low progress}} = 6.13$; $F(1, 75) = 5.32, p < .05$) and the yard sale scenarios ($M_{\text{high progress}} = 5.24$, $M_{\text{low progress}} = 6.53$; $F(1, 75) = 8.32, p < .01$, see figure 1). These
findings provide evidence supporting the hypothesis that greater perceived goal progress leads to higher-level construals.

**Figure 1**

**Study 1: The Influence of Goal Progress on Construal Level**

This study tested hypothesis 1 about the relationship between perceived goal progress and construal level. Although the actual amount of time was not significantly different in the high and low progress conditions, participants in the high progress condition perceived that they had made more progress towards their goals than participants in the low progress condition. Furthermore, as we predicted, greater perceived goal progress led to higher levels of construal. Consistent with action identification theory (Vallacher and Wegner 1986, 1987), these results suggest that people focus on a global perspective when they perceive they have made high goal progress, whereas they focus on specifics and details when they perceive they have made low goal progress.

In this study, we observed different construal levels in the high and low goal progress conditions by using a classification task which was not directly relevant to the domain of self-regulation primed. Although our findings are consistent with the carry-over effects in previous research (Förster and Dannenberg 2010), there is still room to clarify the link between goal progress and mental construal. That is, one could ask if the findings also hold true in a directly relevant domain. Our next study tested the influence of goal progress on construal level using two tasks that were either directly or indirectly relevant to the domain of self-regulation.

**STUDY 2: GOAL PROGRESS AND DIFFERENT ASPECTS OF GOAL PURSUIT**

The primary purpose of study 2 was to clarify how goal progress affects construal level by examining its influence on cognitive shifts regarding the focal goal primed in this study as well as a set of unrelated actions. The influence of goal progress on construal level observed in study 1 may have occurred because different levels of goal progress drew people's attention to different aspects of their goal pursuit (i.e., "why" vs. "how" aspects), which in turn influenced general mental construal. To test this possibility, we examined the aspects of goal pursuit people focus on at different levels of goal progress. If different cognitive concerns explain the relationship between goal progress and construal level, more thoughts concerning "why" aspects (desirability concerns) should appear in the high progress condition,
whereas more thoughts concerning "how" aspects (feasibility concerns) should appear in the low progress condition. Also, as a supposedly unrelated task, the 25-item Behavioral Identification Form (BIF; Vallacher and Wegner 1989) was used to assess construal level. The BIF questionnaire includes 25 activities, followed by two statements. One statement describes the activity on a low level of construal, and the other statement describes the activity on a high level of construal. For example, "locking a door" is followed by (1) "putting a key in the lock" (low-level construal) and (2) "securing the house" (high-level construal).

Furthermore, to ensure the generalizability of our findings, we conducted this study using a different manipulation of goal progress and a different population. We used a fitness goal and manipulated different levels of perceived goal progress by providing participants with an article about the average middle-aged American's effort to achieve. Consistent with prior research (Fishbach and Dhar 2005), we predicted that participants would perceive greater progress when they compared their effort to a low standard (Approximately one thirds of Americans exercise two or more days a week) than to a high standard (Approximately two thirds of Americans exercise five or more days a week).

**Method**

Eighty one people from a large online subject pool (35 were males; $M_{age} = 33.44$) were randomly assigned to 2 conditions (goal progress: high vs. low).

First, we asked participants to provide their fitness goals in an open-ended question. They then specified the number of days they had exercised over the previous week. Then, we manipulated perceived goal progress using low versus high standards (Fishbach and Dhar 2005). All participants were given an article discussing Americans' workout habits. The article used in the high progress condition set a relatively low workout reference point and was entitled "Majority of Americans Exercise Less than Two Days a Week". The article in the low progress condition, on the other hand, set a relatively high workout reference point and was entitled "Majority of Americans Exercise More than Five Days a Week". As in study 1, participants indicated their perceived goal progress on a 7-point scale (1= no progress; 7 = a lot of progress). Then, to examine whether different levels of perceived goal progress draw people’s attention to different aspects of goal pursuit, we asked participants to list thoughts that came to their mind as they considered the pursuit of their fitness goals. Following this thought generation task, participants completed the BIF questionnaire (Vallacher and Wegner 1989).

To investigate the possible impact of involvement, we also measured the level of involvement in thought generation using two items ("To what extent were you trying hard to list your thoughts?" and “How much effort did you put into listing your thoughts?") on a seven-point scale (1= not at all; 7 = very much). Finally, participants provided their demographic information.

**Results and Discussion**

The manipulation of goal progress worked successfully. Although the number of days exercising over the previous week was not significantly different in the high ($M_{high\ progress} = 3.19$) and low ($M_{low\ progress} = 2.68$; $F(79) = 1.16, \text{NS}$) progress conditions, perceived goal progress was greater in the high progress condition than in the low progress condition ($M_{high\ progress} = 4.58$, $M_{low\ progress} = 3.63$; $F(79) = 6.06, p < .05$).

**Influence of Goal Progress on Construal Level**

We first calculated participants' BIF scores. Participants' responses were specified as binary variables, in which we coded high-level construal as 1 and low-level construal as 0. Then, we summed each participant's responses across the 25 items to obtain a BIF score. The result of an analysis of variance (ANOVA) examining the influence of goal progress (i.e., high vs. low levels) on the BIF scale
was significant. Supporting hypothesis 1, participants in the high progress condition ($M_{\text{high progress}} = 16.86$) showed higher levels of construal than participants in the low progress condition ($M_{\text{low progress}} = 14.39$; $F(79) = 3.44$, $p < .05$, one-tailed; see figure 2). Consistent with the findings in study 1, this result indicates that greater goal progress leads to a higher-level construal compared with lesser goal progress.

Figure 2
Study 2: The Influence of Goal Progress on Construal Level

Goal Progress and the Aspects of Goal Pursuit
To explain the link between goal progress and construal level, we examined the types of thoughts participants listed when considering their goal pursuit. We first asked two independent judges to classify each of the participant’s thoughts into either "why" or "how" aspect (Kappa = .751) and then asked a third judge to re-code conflicts between the two judges. Two participants had no “why” or “how” thought listings and were therefore removed from subsequent analyses. Then we calculated ratios of abstract and concrete thinking for each participant by dividing the number of "why" or "how" thoughts by the sum of them. Then, we performed a one-factor repeated measure ANOVA on these two measures depending on goal progress. In support of our predictions, participants in the high progress condition listed a larger proportion of "why" thoughts ($M = .626$) than "how" thoughts ($M = .374$). Conversely, participants in the low progress condition generated a greater proportion of "how" thoughts ($M = .630$) compared to "why" thoughts ($M = .370$; $F(77) = 6.78$, $p < .05$; see figure 3). These results suggest that goal progress changes peoples’ focus to different aspects (why vs. how) of goal pursuit.
In study 1, we used a classification task which was not directly relevant to the domain of self-regulation primed in the study to examine people's construal level. This raises a question whether the effects of goal progress on an unrelated task was carried over by the shifts in mental representations of focal goal pursuit. We addressed this question in study 2 by examining whether people focused on “why” versus “how” aspects of their goal pursuit in different goal progress conditions. The results revealed that greater progress tended to shift people’s attention to abstract, superordinate aspects rather than concrete, subordinate aspects of goal pursuit. In addition, the results of the BIF scale showed that greater progress increased construal level, supporting Vallacher and Wegner's (1987) contention that task performance directs cognitive attention to different levels of identification. Taken together, these results suggest that greater perceived goal progress increases construal level.

One important issue unaddressed in Studies 1 and 2 is how the understanding of the relationship between goal progress and construal level benefits consumer welfare. In the following studies, we examined how these findings affect subsequent self-regulation.

**STUDY 3: THE INFLUENCE OF ABSTRACT VERSUS CONCRETE THINKING ON SELF-REGULATION**

The purpose of this study was threefold: (1) to show the goal progress effects on construal are robust, (2) to rule out a possible confound of goal proximity, and (3) to examine the relationship between fit and motivation. To demonstrate that the construal level findings in studies 1 and 2 were robust, we used a different goal domain and manipulation of goal progress. We used an academic goal and manipulated perceptions of goal progress by asking participants to indicate the amount of time they had spent studying in the previous day in either a narrow scale or a wide scale (figure 4). Consistent with prior research (Fishbach and Dhar 2005), we predicted that participants would perceive greater progress when they indicated the time spent on the narrow scale (which had two hours as its end point) than on the wide scale (which had eight hours as its end point). To check the impact of perceived goal progress on construal level, we used the BIF questionnaire as we did in study 2.
Figure 4
Study 3: Examples of Progress Feedback

The second objective was to rule out a possible confounding effect of goal proximity on construal level. Unlike control theory, some research in the motivation literature has conceptualized goal progress in terms of the distance between the current state and a specific end state (Brendl and Higgins 1996; Brown 1948; Hull 1934). Because distance to the end point, namely "goal proximity," is often correlated with the amount of movement in the process of goal pursuit (Louro et al. 2007), the manipulations used in this study could affect goal proximity as well as goal progress. Thus, it is unclear whether the perception of periodical movement or the distance between the current and end states influences construal level. To clarify this issue, we measured perceived goal progress as well as goal proximity in this study.

Study 3 also tests our proposition that fit between goal progress and construal level exerts a larger motivational influence than nonfit. We propose that abstract thinking will motivate people to achieve their goals more than concrete thinking when people perceive greater goal progress, and that concrete thinking will motivate people to achieve their goals more than abstract thinking when people perceive lesser goal progress. To test this prediction, we asked participants to consider how or why they pursue their academic goals and then to report their intended expenditure of effort toward their academic goals.

Method

One hundred undergraduate students participated in the study (63 were male). Participants were randomly assigned to a 2 (goal progress: high vs. low) × 2 (construal level: abstract vs. concrete thinking) between-subjects design.

First, we asked participants to provide their most important academic goal at the moment in an open-ended question. They then specified the amount of time they had spent studying in the previous day. We induced a sense of goal progress using two scales with different end points (two hours vs. eight hours; Fishbach and Dhar 2005). Participants in the high progress condition indicated the amount of time they had spent studying on a narrow scale, and participants in the low progress condition indicated the amount of time on a wide scale. We further instructed them to fill in the entire scale if their time spent studying went beyond the end point. Next, participants indicated their perceived goal progress on a 7-point scale (1 = no progress; 7 = a lot of progress) and perceived goal proximity by rating how close they were to and how far they were from achieving their academic goals on a 7-point scale (1 = not at all; 7 = very much) (Louro et al. 2007). Participants then completed the BIF questionnaire (Vallacher and Wegner 1989).

To test the motivational influence of fit between goal progress and construal level, we randomly assigned participants to two construal-level conditions. In the abstract construal condition, participants were asked to write about why they should study for their course work, whereas in the concrete construal
condition, they were asked to write about how they should study for their course work. We then asked participants to specify the amount of time they would spend studying that night, which reflects subsequent self-regulation. Finally, participants provided their demographic information.

**Results and Discussion**

Our goal progress manipulation worked as expected. The actual amount of time spent on course work was not significantly different in the high and low progress conditions (\(M_{\text{high progress}} = 3.61, M_{\text{low progress}} = 4.18; F(1, 98) = 1.26, \text{NS}\)) but, perceived goal progress was significantly greater in the high progress condition than in the low progress condition (\(M_{\text{high progress}} = 5.70, M_{\text{low progress}} = 4.84; F(1, 98) = 13.40, p < .01\)). In contrast, and as expected, the high and low progress conditions had no significant effect on goal proximity (\(\alpha = .718; M_{\text{high progress}} = 4.79, M_{\text{low progress}} = 4.80; F(1, 98) < 1, \text{NS}\)).

**Influence of Goal Progress on Construal Level**

We calculated participants' BIF scores to examine hypothesis 1, that greater perceived goal progress would lead to high levels of construal, following the same procedure used in study 2. An ANOVA examining the influence of goal progress (i.e., narrow vs. wide scales) on the BIF scale revealed a significant difference in the BIF scores in high and low progress conditions. Consistent with our hypothesis, participants in the high progress condition showed higher levels of construal (\(M_{\text{high progress}} = 17.30\)) than participants in the low progress condition (\(M_{\text{low progress}} = 13.52; F(1, 98) = 14.70, p < .01\); see figure 5). These results indicate that compared with lesser goal progress, greater goal progress leads to a higher-level construal. Additional analyses showed that perceived goal proximity was not significantly correlated with the BIF scores (\(r = .16, \text{NS}\)), whereas perceived goal progress was significantly correlated with the BIF scores (\(r = .30, p < .01\)), consistent with our prediction that goal progress rather than goal proximity influences construal level.

**Figure 5**

*Study 3: The Influence of Fit on Construal Level*
**Fit Effects on Expenditure of Effort**

We measured the amount of time participants intended to spend studying for course work to assess whether fit between goal progress and construal level influenced subsequent self-regulation. We included the amount of time participants had spent studying in the previous day as a covariate to control for between subject differences. The analysis of covariance results revealed the predicted pattern of the interaction ($F(1, 95) = 5.30, p < .05$). Participants in the high progress condition planned to spend more time studying that night after abstract (vs. concrete) thinking about their academic goals ($M_{abstract} = 4.30$, $M_{concrete} = 3.41$). Conversely, participants in the low progress condition planned to spend more time after concrete (vs. abstract) thinking ($M_{concrete} = 4.56$, $M_{abstract} = 3.68$; see figure 6).

**Figure 6**
Study 3: Fit Effects on the Amount of Time Planning to Spend Studying

<table>
<thead>
<tr>
<th></th>
<th>Abstract Thinking</th>
<th>Concrete Thinking</th>
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<tr>
<td>High Progress</td>
<td>4.30</td>
<td>3.41</td>
</tr>
<tr>
<td>Low Progress</td>
<td>3.68</td>
<td>4.56</td>
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</table>

In sum, across different domains of self-regulation (fitness goals in studies 1 and 2 and academic goals in study 3) and different ways of assessing construal level (a classification task in study 1 and the BIF questionnaire in studies 2 and 3), we found that greater goal progress leads to higher-level construals. In order to exclude the possibility that our results were driven by goal proximity (i.e., the discrepancy between the current state and a specific end state) rather than goal progress, we directly measured goal proximity in this study. Supporting the proposed relationship between goal progress and construal level, these additional analyses revealed that goal proximity did not differ across high and low progress conditions and was not significantly correlated with construal level.

In addition, we examined the impact of abstract versus concrete thinking on subsequent goal pursuit using a behavioral measure. Participants in the high progress condition planned to spend more time studying after thinking about their academic goals in an abstract (vs. concrete) manner, whereas participants in the low progress condition intended to spend more time after thinking in a concrete (vs. abstract) way. These results suggest that compared to nonfit, fit between goal progress and construal level is more likely to direct people’s efforts toward goal-congruent activities.
STUDY 4: THE MEDIATING ROLE OF ENGAGEMENT

The objectives of study 4 were to replicate the motivational influence of fit between goal progress and construal level in another goal domain and to examine the underlying process of the fit effects. We used money management as the focal goal and manipulated goal progress using fictitious information on U.S. college students’ spending habits. We predicted that participants would perceive greater progress toward their money management goals when comparing their spending habits with those of average college students who spent relatively more money (vs. less). To assess the motivational influence of fit between goal progress and construal level on subsequent self-regulation, we manipulated construal level by asking participants to consider their pursuits of money management goals in terms of either an abstract or a concrete construal level as we did in study 3. We expected that participants in the high progress condition would be more likely to behave in a way congruent with their money management goals when considering their goal pursuits at a high level, whereas participants in the low progress condition would be more likely to behave in such a way when considering their goal pursuits at a low level. We further investigated whether engagement underlies the fit effects of goal progress and construal level.

Method

Ninety-two undergraduate students participated in the study (M_Age = 21; 69 were male). This study used a 2 (goal progress: high vs. low) × 2 (construal level: high vs. low) between-subjects design. Participants were randomly assigned to one of the four conditions.

We first primed the focal goal by asking participants to specify their money management goals in an open-ended question. We then provided participants with fictitious information on U.S. college students' saving habits. Participants in the high progress condition were told that U.S. college students were spending a lot more than they used to, spending approximately 50% of their disposable income on clothing and entertainment. Conversely, participants in the low progress condition were told that U.S. college students were spending a lot less than they used to, spending less than 10% of their disposable income on clothing and entertainment. After reading this information, participants reported their goal progress compared with the average college student on a 7-point scale (1 = no progress; 7 = a lot of progress). We also measured goal proximity using the same items used in study 3.

We hypothesized that goal progress would interact with goal construal framing and subsequently influence self-regulation. To test this prediction, similar to study 3, we asked participants to think about their goal pursuit at different levels of construal. Participants in the abstract construal condition wrote about why they should achieve their money management goal(s), and participants in the concrete construal condition wrote about how they should achieve their money management goals. We expected that engagement would mediate the effect of fit between goal progress and the manner in which people consider their goal pursuit and subsequent self-regulation. To demonstrate this underlying process, we assessed engagement using two items, participants’ experience of feeling motivated from Lee et al. (2010) and feeling compelled based on Higgins (2006). Participants were asked to indicate the extent to which they felt motivated/compelled to pursue their money management goal(s) when thinking of either the reasons for managing their money or the ways of managing their money in the previous question on 100 millimeter line scales anchored by "not at all" and "a lot." We also asked them to report how much money they planned on spending for eating out with friends compared to their normal amount on a 100 millimeter line anchored by "much less than average" and "much more than average." Lastly, participants provided their demographic information.
Results and Discussion

As predicted, participants in the high progress condition (i.e., compared themselves with students who were spending a lot) perceived making greater progress toward their money management goals than those in the low progress condition (i.e., compared themselves with students who were spending little) \( (M_{\text{high progress}} = 4.74; M_{\text{low progress}} = 4.07; F(1, 90) = 5.88, p < .05) \). This result demonstrates that the manipulation of goal progress was successful. Consistent with the results in study 3, perceived goal proximity \( (\alpha = .809) \) was not significantly different in high versus low progress conditions \( (F < 1, \text{ NS}) \).

**Fit Effects on Goal-Congruent Behavior**

An ANOVA on goal progress (high vs. low progress) × construal level (concrete- vs. abstract-level message) yielded a significant interaction effect \( (F(1, 88) = 6.56, p < .05; \text{see figure 7}) \). Participants in the high progress condition intended to spend less eating out with friends when they thought about their pursuit of money management goal(s) in an abstract terms rather than in a concrete terms \( (M_{\text{abstract construal}} = 3.62, M_{\text{concrete construal}} = 4.70) \), whereas participants in the low progress condition planned to spend less eating out when they construed their goal pursuit in a concrete manner rather than in an abstract manner \( (M_{\text{concrete construal}} = 3.27, M_{\text{abstract construal}} = 4.64) \). Consistent with our expectations, these results provide support for the fit effects of goal progress and construal level on self-regulation.

**Figure 7**

Study 4: Fit Effects on Spending for Eating Out

![Chart](chart.png)

**Mediating Role of Processing Fluency**

Given the significant interaction effects of goal progress and construal level on self-regulation, we further examined whether engagement \( (\alpha = .819) \) mediated the influence of fit between goal progress and construal level on self-regulation. We first conducted a series of regression analyses (Baron and Kenny 1986). The regression analyses revealed significant influences of fit (fit = high progress & high construal level or low progress & low construal level; nonfit = high progress & low construal level or low progress & high construal level) on engagement \( (\beta = 1.033, SE = .401; p < .05) \) and of engagement on expected spending for eating out with friends \( (\beta = -.340, SE = .119; p < .01) \). The effect of fit on expected spending for eating out significantly decreased \( (\beta = -.944, SE = .479, p < .052, \text{ Sobel} = 1.91, p = .055) \) when we entered engagement as a mediator \( (\beta = -.278, SE = .122; p < .50) \). In addition, bootstrap
analyses (Preacher and Hayes 2004; Zhao, Lynch, and Chen 2010) revealed that the mean indirect effect was negative and significant ($M = -.2868$), with a 95% confidence interval excluding zero ($-.8009$ to $-.0116$). The significant indirect and direct effects of fit suggest the partial mediating role of engagement on the relationship between fit and self-regulation.

The results of study 4 add further evidence for the influence of fit between goal progress and construal level on self-regulation. Consistent with the findings in study 3, the fit between goal progress and construal level positively influenced subsequent self-regulation. Further, the results suggest that engagement partially mediates the influence of fit on self-regulation.

**GENERAL DISCUSSION AND FUTURE DIRECTIONS**

In line with previous research on construal level theory and action identification theory, we predicted that greater perceived goal progress would increase construal level. On the basis of this relationship, we further expected that fit between goal progress and construal level would foster goal engagement and influence subsequent self-regulation. In study 1, we employed a social comparison to induce a sense of goal progress (Fishbach and Dhar 2005; Fishbach et al. 2006) and assessed construal level using a classification task (Liberman et al. 2002). We found that participants in the high progress condition classified objects in a more inclusive way using fewer categories than participants in the low progress condition. In study 2, we manipulated perceived goal progress by using fictitious information on a relevant social comparison group’s efforts toward the focal goal and examined the aspects participants primarily focused on and construal level. Consistent with the findings of study 1, the results revealed that higher progress led to a higher construal level (i.e., higher BIF scores) and also drew participants’ attention to more abstract, higher-level aspects of goal pursuit. These findings provide support for our hypothesis that greater progress evokes a higher level of construal.

In studies 3 and 4, we tested the influence of fit between goal progress and construal level on subsequent self-regulation. In the context of academic achievement, study 3 examined how abstract versus concrete thinking influenced one’s intended effort toward a goal-related activity under different levels of goal progress. Participants in the high progress condition planned to devote more time to studying for their course work after abstract thinking (i.e., "why" study for course work) than after concrete thinking (i.e., "how" to study for course work). Conversely, participants in the low progress condition intended to spend more time after concrete thinking than after abstract thinking. Study 4 replicated the fit effects on engaging in goal-congruent behavior in the context of money management, providing additional evidence for hypothesis 2. Further, study 4 demonstrated that the experience of engagement partially mediates the fit effects.

One limitation to our research is our conceptualization of goal progress as a temporary discrepancy between the current state and the desired state (Carver and Scheier 1990). Other research has conceptualized goal progress in terms of the distance to the end state of a goal (i.e., goal proximity). Because the perception of goal proximity can be also influenced by the amount of movement in the process of goal pursuit (Louro et al. 2007), the goal progress manipulations employed in this research could affect goal proximity. To rule out this confounding effect as well as to clearly establish the relationship between goal progress (vs. goal proximity) and construal level, we measured goal proximity in studies 3 and 4. The results showed that the perception of goal proximity was not correlated with our goal progress manipulations (studies 3 and 4) nor construal level (study 3). Although these results are inconsistent with goal proximity having a direct impact on construal level, further investigations are needed to completely dismiss this possibility.

These findings add to our understanding of the influence of goal progress on information processing in multiple ways. First, supporting action identification theory, our data show that different levels of perceived progress toward a focal goal triggers different cognitive representations of goal
pursuit. Furthermore, the findings from studies 1 and 2 indicate that the influence of goal performance is not limited to mental presentations of goal-related actions. These findings provide empirical support the carry-over effects of processing styles to unrelated domains proposed by Förster and Dannenberg (2010).

Second, the results of this study help to explain seemingly conflicting findings in the motivation literature. Research based upon control theory suggests lower progress induces greater motivation (Carver and Scheier 1982, 1990; Cheema and Bagchi 2011), whereas other research indicates that both low and high progress decrease motivation (Atkinson 1957; Louro et al. 2007). Recently, Bonezzi, Breidl, and De Angelis (2011) have shown that a close (far) distance to a goal can either increase or decrease motivation depending on whether one monitors progress in terms of distance from the end state or the initial state. Unlike Bonezzi and colleagues, the present study focuses on goal progress rather than goal proximity. According to our findings, construal levels at which people consider their goal pursuit moderate the influence of low (high) goal progress on subsequent goal pursuit. Consistent with control theory, low progress can increase motivation when one directs his/her attention toward manageable steps or details rather than the larger meaning of goal pursuit. High progress, on the other hand, can increase motivation when one directs his/her attention toward a global meaning rather than specific steps of goal pursuit.

Third, the present research demonstrates engagement underlies the influence of fit between goal progress and construal level on self-regulation. Regulatory engagement theory (Higgins 2006) identifies two different outcomes of fit effects: a directional experience of pleasure versus pain and an experience of the intensity of motivational force. The line of research grounded in regulatory engagement theory posits that the use of a proper way or means to pursue goals increase the value of the goals by intensifying the engagement in the goals (Higgins et al. 2008). Adding support to regulatory engagement theory, our findings from studies 3 and 4 suggest that an appropriate way of thinking one's goal pursuit according to goal progress improves facilitates goal-consistent behavior through increasing engagement.

The findings in this research offer implications for consumer welfare by providing an answer for the question of how to best motivate people. According to our findings, different levels of goal progress attract people's attention to different aspects of goal pursuit, whereby greater progress draws people's attention to desirability rather than feasibility concerns. Because abstract thinking of goal pursuit fits desirability concerns in high progress conditions, abstract (vs. concrete) thinking is more likely to foster goal engagement and influences self-regulation. Conversely, as people perceive lesser goal progress, concrete rather than abstract thinking better fits their mental construal and thus is more likely to enhance engagement and self-regulation. Thus, in the course of goal pursuit, people should view their goal pursuit in a manner that fits their progress.

Many companies promote their products as a way to help people achieve their goals. Some companies employ abstract construal framing by emphasizing superordinate features or the end state of an action, whereas others employ concrete construal framing by stressing the means to achieve the end state. For example, HSBC, a large financial services company, motivates its clients by emphasizing why they need to plan for their retirement (i.e., abstract construal framing: "The quality of life you want in the future will depend on how well you plan for your retirement now"; http://www.hsbc.com/1/2/retirement). Conversely, Merrill Edge, another financial services company, emphasizes how its clients should plan for retirement (i.e., concrete construal framing: 'Find out how to begin planning, saving and investing, and learn how to monitor your progress'; http://www.merrilledge.com/m/pages/retirement.aspx). Our findings demonstrate that the motivational influence of abstract versus concrete framing differs depending on goal progress. Therefore, companies should consider customized feedback or messages based on their customers’ progress.
Appendix A
Objects Used for the Classification Task in Study 1

Camping Trip Scenario
Brush, tent, matches, camera, soap, gloves, bathing suit, shovel, fishing pole, hat, snorkel, shirts, sweater, sneakers, coat, raft, dog, boots, marshmallows, socks, blanket, flashlight, pants, sunglasses, rifle, shoes, cigarettes, rope, hot dogs, canteen, toothbrush, underwear, beer, sleeping bag, pillow, insect repellent, potato chips, axe.

Yard Sale Scenario
Chairs, roller blades, sweaters, crib, candy dish, fish tank, board games, blender, bikes, coats, dumbbells, infant clothes, books, coffeemaker, puzzles, plates, CDs, toaster, toys, cutlery, shoes, skis, chess set, birdcage, ties, baseball cards, picture frames, juicer, ceramic figurines, glassware, boots, dolls, clock, records, T-shirts, lamps, skateboards, paintbrushes.
REFERENCES


A MULTI-SYSTEM APPROACH TO SUSTAINABILITY: EXPLORING EMBEDDEDNESS IN ECOLOGICAL, SOCIAL, AND MARKETING SYSTEMS

R. Bret Leary & Richard J. Vann, University of Wyoming

ABSTRACT
This paper extends macromarketing theory by integrating existing knowledge about the marketing and social systems with emerging understandings of how the ecological system relates to the quest for sustainability across systems. Our research shows that marketing and social systems are actually further embedded within a larger ecological matrix-type system that provides foundational grounding for both systems to properly function. The ecological system serves as a matrix that binds together the three systems with its structure and services. Market actors and the communities they are a part of rely on a functioning ecological landscape. For macromarketers, this shift in thinking pushes marketing systems theories and models to explicitly address the ecological system in further systems research. For sustainability as a megatrend, an embedded systems approach to sustainability lends momentum to theory and practice that confront the complexity of a holistic, multi-system vision of sustainability.

INTRODUCTION
“Societies fail when their resources are squandered...as societies grow in size and scope, it becomes increasingly difficult to effectively manage the core resources that form the foundation of that civilization, and it is this mismanagement that ultimately proves to be a society’s undoing.” - Burroughs and Rindfleisch (2012, p. 261)

The opening quote underscores the driving force behind sustainability as a megatrend (Lubin and Esty 2010). Overuse of natural resources threatens the long-term health of the ecological system. This paper explores the relationship between this ecological system and the social and marketing systems that rely on it for their continued existence.

The primary objective of this research is to build off of prior work on systems in the macromarketing discipline (e.g. Layton 2011; Varman and Costa 2008) that view the marketing system as embedded within a social matrix. Our contribution to the macromarketing literature on sustainability is to show that marketing and social systems are actually further embedded within a larger ecological matrix-type system that provides foundational grounding for both systems to properly function. We find that it is necessary to understand the presence of the ecological matrix if we are to achieve a more sustainable future. Furthermore, as a result of multiple systems embedded within one another, there are a series of interactions between these systems whose impact resonates across all three. These interactions are susceptible to external influences that give rise to a volatile nature of sustainability within and across the systems.

The theoretical framework for this paper draws on literature from the macromarketing and ecology disciplines to highlight prior work that is relevant to the research at hand. We first review literature on marketing systems and their position within a larger social matrix. Using an analogy from cell biology, we then introduce the ecological system as a matrix upon which both the social and marketing systems are embedded. Next, we review research on interactions between systems. Finally, we look at “shocks” to marketing systems and discuss how these differ from external factors we have termed macro-disturbances.
We utilize the forest industry as a context to discover the presence of an ecological matrix that provides the foundation for social and marketing systems as well as insight into system interactions. We conduct depth interviews with ten individuals associated with different organizations within this industry to develop a grounded theoretical model (Glaser and Strauss 1967). Informants provide insight into their perspectives on sustainability in the forest industry and how it can best be achieved. Analyzing these data, we find the embeddedness of the marketing and social systems within the ecological matrix as a key consideration that must be taken into account if we are to understand how society can be made more sustainable. Additionally, our data reveals a series of macro-disturbances that wreak havoc on all three systems and describes how these disturbances significantly alter the relationships between systems. We conclude this paper with a discussion on the implications of this paper for three areas: theory, practice, and sustainability as a megatrend.

THEORETICAL CONSIDERATIONS

Embedded Systems

Marketing systems are foundational to the discipline of macromarketing, with an eye towards systems-level thinking overcoming the micro, firm-centric approach that has embodied marketing thought and research for decades. From primitive societies that were governed by trade to the complex aggregate systems discussed by Wilkie and Moore (1999), marketing systems are ever-present and essential to the delivery of value that will serve the needs of societal members through various assortments (Layton 2007, 2009). With multiple participants and variables continuously interacting in such an open system (Fisk 1967), the constant and dynamic flow of materials and information encouraging “continual growth and progress” (Wilkie and Moore 1999, p. 205) form the basis for marketing systems. Indeed, it has been argued that all “micromarketing activities occur in and thus derive meaning from some larger marketing system” (Shultz 2007, p. 294). These systems are structured around numerous actors (e.g. suppliers, producers, consumers, governments) with varying interests and capabilities, ensuring the inherent complexity and evolution of marketing systems (Layton 2009; Mittelstaedt, Kilbourne, and Mittelstaedt 2006).

As systems-level thought has evolved, so has our understanding of the nature of marketing systems. Recently, Layton (2011) defined a marketing system as:

a network of individuals, groups, and/or entities embedded in a social matrix linked directly or indirectly through sequential or shared participation in economic exchange which jointly and/or collectively creates economic value with and for customers through the offer of assortments of products, services, experiences, and ideas that emerge in response to or anticipation of customer demand (p. 260).

This definition is distinct from earlier conceptual definitions of marketing systems from Layton (e.g. 2007, 2008) in that it notes the emergence of a social matrix in which marketing systems are embedded, adding depth to prior considerations of these systems. Building on the work of Dixon (1984, p. 4), this paper identifies a social matrix as a dynamic system “organized around relations of actors to each other” that “respond to changing internal and external problems.”

Varman and Costa (2008) use the work of Dixon (1984) to suggest that behavior in marketing systems is implicitly dependent on the social norms and community ties that direct the social contract for exchange within these systems. In other words, marketing systems are embedded within a larger social matrix that influences system outcomes, and these embedded marketing systems are an integral part of a greater societal order rather than a separate function. Similarly, Mittelstaedt and colleagues (2006, p. 135) argue that “markets are embedded in a network of social relationships” in which market-mediated exchanges produce consequences for the participants involved, either positive or negative. Succinctly
put, the social matrix encapsulates the marketing system, and in order to understand marketing systems one must understand the social and normative influences that are guiding and helping to shape economic activity.

The relationship between the social matrix and the marketing system is not simply one-way, however, with the social matrix only influencing the marketing system. Instead, the economic exchange at the heart of marketing systems also facilitates the development of community ties and, eventually, social norms (Varman and Costa 2008). There are unique interactions between the marketing system and the social matrix within which it is embedded, as the matrix “shapes and is shaped by” the marketing system (Layton 2011, p. 262). As Varman and Costa state in a subsequent paper (2009), the market is involved in “complex integration and interaction with the surrounding community and society of which it is a part” (p. 453). These continual interactions help to determine system behavior (Redmond 2013), and we use these interactions as a foundation for the rest of this paper.

Building on the notion of interactions within embedded systems, this paper contends that in order for sustainable future outcomes to be achieved, marketing systems thought and theory needs to extend beyond current conceptualizations of a marketing system as solely embedded within a larger social system. Instead, this paper proposes that the marketing and social systems both exist as part of an even larger ecological matrix (defined subsequently) that increases the complexity and volatility of the interactions between these entities (see Figure 1). This ecological matrix provides the basis for our understanding of sustainability, as the resources needed for survival and exchange within the social and marketing systems are primarily provided by the natural ecological matrix we inhabit (Fisk 1973). Inasmuch that the ecological matrix provides the resources necessary for exchange, there is the implicit knowledge that members of the social matrix (e.g. humans) play the vital role in the acquisition and transformation of these resources into the various assortments of value (Dixon 1984; Layton 2011), as well as managing these resources for the common good (Shultz and Holbrook 1999).
Dixon (1984) hints at this notion of ecological embeddedness when he mentions that marketing is a “function required by the material environment” (p. 14). He states that a role of the social system is to adapt to the material environment and utilize the materials of this environment to meet the needs of society. In such a manner, the material environment must be “interpreted in a way relevant for human action” (p. 14) so that the useful resources from the physical environment can be used to benefit society. Although Dixon (1984) discusses the marketing and social systems as inevitably linked to a material environment, he does not go so far as to invoke an embedded nature of the systems within each other, as this research does. Similarly, Layton (2011, p. 263) says that economic transactions take place “within a specified social matrix and/or wider environment” without explicitly denoting what is meant by this wider environment and it’s role influencing the marketing and social systems. Furthermore, this paper is primarily interested in the interactions between these three embedded systems and what they mean for a more sustainable future. As such, the concept of embeddedness discussed in this paper is distinct from, but adds to the previous research done by Dixon (1984) and Layton (2011).

One foundational premise for sustainability is that we must find more effective ways to deploy currently used resources (Senge et al. 2008). Thus, in order for the notion of sustainability to flourish as a megatrend rather than as a passing fad, scholars must develop a greater understanding of the embedded nature of the marketing and social systems within an all-encompassing ecological matrix that provides these resources. Such a perspective implies that sustainability deserves consideration at three distinct levels: the marketing system level, the social system level, and the ecological system level. Moreover, scholars must be able to view and interpret how these embedded entities uniquely interact with one another and also the factors that influence these interactions. This viewpoint enhances macromarketing theory with regard to marketing systems and sustainability as heard through the voices of our informants.
An Ecological Matrix

To further hone in on the nature of what is entailed by an ecological system as a matrix and also system embeddedness, we employ an analogy to research in the biological sciences. For biological systems, a growing body of research highlights the importance of an extracellular matrix as the foundational element of biological organisms (Franz, Stewart, and Weaver 2010). Composed of a network of macromolecules, this extracellular matrix forms the physical “scaffolding” on which cells form to compose tissue and organ systems in an organism (Alberts et al. 2002, p. 1). While earlier studies focused almost exclusively on the matrix as serving to “stabilize the physical structure” of more complex systems, recent research has established that the extracellular matrix has “a far more active and complex role in regulating the behavior of the cells that contact it, influencing their survival, development, migration, proliferation, shape, and function” (Alberts et al. 2002, p. 1). In short, the extracellular matrix is the system in which all the other biological systems that compose the organism are fundamentally grounded. This sort of relationship between systems implies that the tissue and organ systems within a biological organism are embedded within an extracellular matrix.

In many respects, the relationships between ecological, social, and marketing systems demonstrate a similar set of connections. The ecological system functions similarly to the extracellular matrix in a biological organism. From a macromarketing perspective, an ecological matrix is the foundational system that provides the substrate for other embedded systems (i.e. the social and marketing systems) to properly function (Varman and Costa 2008; Layton 2011). System embeddedness refers to a hierarchical arrangement of systems where progressively more specialized systems (e.g., marketing systems as provisioning systems) rely on more fundamental matrix-type systems (e.g., needs of the social system) for their structure and existence. In other words, the systems embedded within a matrix-type system require the structure, resources, or capabilities within the matrix to exist and advance. This paper proposes that the physical landscape of the ecological system is the scaffolding on which the embedded social and marketing systems grow and operate. However, as will be discussed in greater detail through the voices of our informants, the changing properties of the ecological system influence the “survival, development, migration, proliferation, shape, and function” (Alberts et al. 2002, p. 1) of the social and marketing systems. The health of the interrelated systems is nested within the ability of the ecological system to continue to provide both the resources (air, water, food) and services (carbon sequestration, water filtration, arable land) that the social and marketing systems rely on for their continued existence. To advance theories of sustainability in macromarketing, we must attain a greater understanding of the embedded nature of these systems if they are to remain in perpetuity for future generations.

Our daily lives are structured within this ecological matrix-type system that provides the necessities for survival. We rely on certain basic elements without which we could not live. Things like continual supplies of “air, water, food, minerals, and energy” (Fisk 1973, p. 28) are foundational for our existence, and the environmental imperative that we now face brings current levels of resource use into sharp relief. These supplies are not only necessary for our own lives, however, but also for the proper functioning of a marketing system. Without the flows of material provided by the natural habitat, modern society would cease to thrive. For example, Redmond (2013) implies that, without material flows from a natural source, we would not be able to build houses and the housing market would cease to exist. As evidenced by the recent collapse of the housing market and its negative impact on the national economy, the housing market is one of the most influential in the United States. Understood in this example is the fact that society and its marketing systems would not be where they are currently without the foundational grounding and resources provided by the ecological system.

This paper shows that, in modernized society the marketing system is intricately embedded within both the social and ecological systems. Interestingly, however, the marketing system often does not take into account the dimensions of this embeddedness. Instead, there is a common perspective that the social and environmental systems act independently of each other or are, at best, only loosely integrated (Chapin
and Whiteman 1998). This notion remains a problem for future sustainability efforts, as greater recognition of the intricate linkages between all of the systems could prove fruitful. In fact, it has been stated that in order for a marketing system to be sustainable in the long-term, it must “operate in a human, socially constructed world as well as on an ecological level” (Chapin and Whiteman 1998, p. 12). This powerful statement presents a challenge for sustainability within the marketplace, as great consideration should be given to its embedded nature within a social and ecological system. We now turn to discussion on the unique interactions between the three systems.

Interactions Among Systems

It would be convenient and simplistic to view the marketing, social, and ecological systems as separate entities, like the legs of a stool. In such an analogy, they would be distinct from one another, and able to be discussed and analyzed apart from one another with minimal interaction. However, as this paper has suggested, these entities are not connected only at certain points. Instead, the interwoven pattern of embeddedness amongst these systems ensures changes in one will inevitably lead to changes in the others (Layton 2011). It is because of the interdependence of these embedded marketing, social, and ecological systems that greater attention be given to understanding the interactions that arise. We first look at prior research on the overlap between social and ecological systems before explicating on the interactions among all three systems.

It has been argued in the ecology literature that the primary step to be taken towards a more sustainable future is to “link ecological and social processes into a common conceptual framework” (Chapin and Whiteman 1998, p. 12). These two systems are indeed inseparable, as the resources offered by the ecological system are essential in determining the function of a social system (Redmond 2013), while the actions of members within the social system directly influence the efficiency and effectiveness of an ecological system (Vitousek 1994). The interactions between the two systems are directly tied to the long-term sustainability of each (Chapin and Whiteman 1998). These same authors make the claim that the nature and provisioning of a social system depends upon how communal members of these systems utilize the local ecological system. Furthermore, the very framework of community and culture are reliant upon the supply of resources attained from their natural surroundings, as “all humanly used resources” are embedded within the complex workings of intertwined social and ecological systems (Ostrom 2009, p. 419). Ostrom (2009) continues on by saying that in order to understand these complexities we must understand the interactions between the systems.

According to Vitousek (1994), many changes in the ecological system are unequivocally based on human activity, with alterations in landscape, abrupt change in ecological diversity, and exacerbation of resources being some of the most dramatic examples of the social system interacting with the ecological system. Additionally, Kilbourne and colleagues (1997) state that current levels of resource consumption from members of the social system are highly detrimental to the long-term sustainability and health of ecological systems. As seen, it is impossible to separate these systems, as they are intricately linked and highly interdependent upon each other. Changes within either of the systems will have significant consequences for the other (Anderies, Janssen, and Ostrom 2004). Dixon (1984) sums up the interaction between the social and ecological systems well by succinctly saying that social institutions direct the manner in which society adapts to its material environment.

This paper recognizes, however, that it is not enough to only consider the interactions between the social and ecological systems in order to be more sustainable. Instead, we also look at a marketing system that is embedded within these broader social and ecological systems. As was discussed previously, a marketing system is concerned with providing values to the customer through the economic exchange of assortment (Layton 2007). For a more sustainable future, it is imperative that we understand how this exchange “shapes and is shaped by” (Layton 2011) not only by the surrounding social system, but also by the larger ecological system. The interactions between the marketing, social, and ecological
systems can be either positive or negative. For instance, the Fair Trade movement has integrated practices aimed at positive consequences across all three systems, as their promotion of “social justice, sound environmental practices, and economic security” (Moore 2004) encourages positive interaction. Unfortunately, however, oftentimes these interactions entail negative consequences for the ecological system. In fact, one of the main reasons sustainability is such a driving issue currently is because for much of history the aim has been to benefit the marketing and social systems, often at the expense of the ecological system (Solow 1991). These potential negative consequences among the systems are not always considered, as Burkink and Marquardt (2009) found in their analysis of the corn-based and ethanol fuel systems; the substantial growth in the ethanol industry produces negative impacts on the environment that often are not understood when conducting exchanges within the marketing system.

These systems are susceptible to outside forces that can cause disturbances and interruptions in their structure and interactions. Often referred to as a “shock” to the marketing system (e.g. Mittelstaedt and Shultz 2009), much of the macromarketing research has studied the effects of these systemic shocks on performance and resiliency (e.g. Burkink and Marquardt 2009). For example, these same authors discuss how a shock to the energy system can induce rapid increase to oil prices that lead to negative effects to the corn and ethanol marketing systems. Although this prior literature has referenced changes in the marketing system as a shock, this paper chooses to describe external influences across the marketing, social, and ecological systems as macro-disturbances. The disturbances referenced by our informants describe crises that are viewed as continuous situations impacting all three systems over an extended period of time rather than discrete events only occurring within the marketing system. When multiple systems are involved, as this paper proposes, these ongoing crises work their way the multiple systems with more lasting effects and a broader scope of impact across the systems than traditional conceptualizations of a marketing system-level shock. As will be subsequently shown in our data, these disturbances might begin in any of the three systems, but resonate throughout all of the systems with drastic consequences.

Although the previous research discussed from the macromarketing and ecology literature provides examples of interactions between the ecological, social, and marketing systems, no observed research has explicitly viewed all three systems as embedded. As such, this is the first macromarketing paper to take the perspective that the exchange within a marketing system is not only shaped by a social system (Varman and Costa 2008), but that both the marketing and social systems are embedded within and reliant upon an ecological matrix-type system that provides the foundational grounding for these systems. Through the words of our informants, this paper shows that in order to attain a more sustainable future, it is beneficial to take into account how these systems interact with one another. Further, this research shows how macro-disturbances impact the relationships and interactions among the ecological, social, and marketing systems. Finally, our data shows how misalignments among the systems are causes for many of the current problems we are faced with regarding sustainability. We conclude with a discussion on these findings and implications for the sustainability paradigm, theory, and practice. We next discuss the context that illuminates this paper’s findings.

**METHODOLOGY**

**Context**

We utilize the forest industry to highlight how systems uniquely interact and are impacted by disturbances and misalignments across systems. The forest industry is an extractive industry, one that is intimately involved in the process of procuring flow material from the natural environment that can be used to benefit society, as discussed by Dixon (1984). The paper, pulp, and fiber product as well as the wood needed for construction that are provided by harvested trees in the ecological system are integral to both a functioning social and market-based system. Forest land also provides many social and recreational benefits to the American population through hiking trails and scenic wildlife viewing. As
such, we felt this industry to be an appropriate lens through which we investigate interactions between the ecological, social, and marketing systems and the overall implications for future sustainability.

Forest land ownership in the United States is divided into the public and private domain, with the majority of forested land (57 percent) being owned by private land owners; consequently, 43 percent is publicly owned land (Society of American Foresters 2013). Breaking down the land ownership into geographical regions, approximately 2/3 of forested land west of the Mississippi River is publicly owned while 4/5 of the land east of the Mississippi River is privately owned (see Nelson, Liknes, Butler 2010 for visual representation). As will be seen through the voices of our informants, there are differences in the way public and private lands are managed and who makes these decisions. Furthermore, the forest industry is heavily impacted by multiple macro-disturbances that have affected the interactions between all three systems of interest within this paper, as will be explicitly illustrated by our data.

The forest industry is also very contentious; substantial discord remains among industry participants with regards to where and how many trees should be cut for human use. Conservation organizations who advocate less human intervention in the forests have come into direct conflict with members of the forestry industry who are in favor of more aggressive harvesting techniques (Gritten and Mola-Yudego 2010). These conflicting voices within the industry allow for greater depth of insight into how people with different viewpoints view sustainability and the interactions between systems. Interestingly, sustainability itself has become a business within the forestry industry with the rise of sustainability certification agencies. The main purpose of these agencies is to standardize forest management practices and label products for the public that have been responsibly managed. As will be shown subsequently through our informants, these certification agencies have become important actors in the forestry industry, with the significant role of ensuring that sustainable products reach the marketplace for use by both consumers and businesses alike.

Method and Informants

In order to get a holistic perspective of the forestry industry from multiple areas, the authors self-selected informants from different organizations associated with this industry to participate in a depth interview lasting approximately one hour (see Table 1). All interviews were conducted by telephone, as most of our informants were located in different areas across the Rocky Mountain West of the United States. The final number of informants for this research across was ten, which is consistent with other qualitative research in the sustainability domain (e.g. Connolly and Prothero 2003; Connolly and Prothero 2008). There were nine males and one female interviewed. All individuals and respective organizations were assigned pseudonyms for confidentiality of response. The individuals ranged in industry-level experience from 3 years to greater than 35 years. All interviews were transcribed verbatim for a total of 263 pages of interview data. See Table 1 for informant information.
Consistent with other qualitative studies in macromarketing (Varman and Costa 2008), the authors employ an emergent, qualitative design. Using a grounded theory approach (Glaser and Strauss 1967), the analysis of our data was ongoing and iterative moving through stages of initial coding, concept identification, concept categorization, and model development all with reference to the existing literature. To complement the ongoing analysis, the authors foreground informants’ voices about the relationships between systems (ecological, social, and marketing) through a complementary mix of description, analysis, and interpretation (Wolcott 1994). By comparing both within and across groups and seeking disconfirming cases for the identified model, the authors present a model that integrates our informants’ voices and existing systems literature in macromarketing and ecology.

**Findings**

The data for this project has been collected and is in the final stages of analysis, interpretation, and write-up. While we do not present the sum of our findings in the current paper for space purposes, the data analyzed thus far has indicated the embeddedness of the marketing and social systems within a greater ecological matrix-type system, which we have presented in-depth in our theory section. Furthermore, we have identified four macro-disturbances through our interpretation and analysis: (1) the mountain pine beetle epidemic, (2) climate change, (3) adoption of the New Environmental Paradigm, and (4) the housing and construction crisis. Finally, we have identified three different themes that we term *Factors of Embeddedness* that influence the embeddedness of the marketing, social, and ecological systems. These are: (1) temporal cycles, (2) system activity, and (3) system complexity. See Figures 1 and 2 for visual representation of findings. We will have the write-up of these data completed in time to present at the Mittelsaadt Symposium. We now present the preliminary implications of this paper for macromarketing and sustainability.
IMPLICATIONS

This paper provides implications for three domains: theory, practice, and sustainability as a megatrend.

Implications for Theory

The marketing systems literature has previously envisioned a provisioning marketing system as embedded within a social system, with a bi-directional relationship between the two systems (Varman and Costa 2008; Layton 2011). We extend current theory to show that this perspective is limited in scope, as it does not take into account the ecological matrix that provides the foundation upon which the other systems operate. From a systems perspective, it is necessary to view the marketing and social systems as embedded within this ecological system if we are to achieve a holistic understanding of how these systems function. As seen from our data, these systems are dynamic in nature, constantly interacting with each other with consequences resonating through all the systems. It is impossible to view the systems in isolation from each other, as they shape and are shaped by each other (Layton 2011). Most importantly, this paper extends the current macromarketing research on systems by emphasizing the role of ecological systems in determining the effectiveness and efficiency of the social and marketing systems.

Beyond recognizing the presence of the ecological matrix and its role in shaping the others, this research also introduces the factors of embeddedness that induce system misalignments into current theory. When dealing with embedded systems, it is imperative to understand that each individual system operates under certain constraints that are often distinct from others. Our findings illustrate three such factors that cause system misalignment within the forestry industry. These factors speak to the dynamic nature of embedded systems in that they are constantly negotiating their own needs in accordance with other systems. For instance, the human-created systems (i.e. social and marketing) are reliant upon the resources that are available to them from the ecological system in order to maintain proper function.
However, as evidenced by our data, the ecological system is also dynamic in nature and is constantly changing in response to the actions of the social and marketing systems. This misalignment and continual flow of interaction among the systems ensure that scholars should always have interesting questions that lead to unique insight into the nature of embedded systems.

**Implications for Practice**

As discussed by our informants, the misalignments between ecological, social, and marketing systems put practitioners in the forestry industry in a difficult position. When considering sustainability, practitioners have two primary options. They can try to grapple with the full complexity of the situation or they can choose from among a set of simplifying heuristics that privilege one particular system. For practitioners, this set of options is equally applicable within other business contexts where sustainability is a concern. Classic marketing and management texts and the many that have followed encourage taking control of systems (Kotler 1967; Drucker 1954). In line with this emphasis on control, the tendency for practitioners is to adopt short-run approaches that lean too heavily on fixing only one system. Such approaches fail to take into account the embeddedness of the social and marketing systems and lead to sub-optimal outcomes across systems.

To better prepare managers for the complexity of sustainability, managerial training will likely have to change with greater emphasis on systems-level thinking (Peterson 2013). This training should improve the capability of marketers and managers to work through the challenges of sustainability at a systems-level. Equipped with the skills to tackle questions of interrelationships (Layton 2011) and indirect effects (Kadirov 2011), practitioners versed in systems thinking will be more likely to place the ecological, social, and marketing systems in constant tension with an awareness of system embeddedness, leading to more sustainable outcomes.

**Implications for Sustainability as a Megatrend**

As the imperative for sustainability in modern society has increased, scholarly thought has attempted to provide a greater understanding of just what it means to sustainable. This research is at the forefront of an emerging body of thought that questions the widely-accepted analogies of sustainability like the “three pillars,” “Venn diagram,” or the “stool.” All of these analogies implicitly assume that the ecological, social, and economic demands of sustainability are only loosely connected, if at all. Instead, this research is in line with recent work (e.g. Cato 2009) stressing the importance of viewing these three demands not as independent from each other but rather as embedded in form. There must be consideration of this system embeddedness when decisions are being made for how to achieve a more sustainable future. As evidenced by our data, we see that only placing a focus on a system-specific solution without consideration of the other systems is likely to lead to long-term issues that will negatively influence the potential for future sustainability across systems. In other words, this paper shows that sustainability in systems is a complex issue; one in which there is no “silver bullet” solution that will cure all ills.

Finally, the data from this paper emphasized the role of the marketplace in helping to drive sustainability. Our informants stressed the importance of marketplace transactions in facilitating sustainability. In order for the marketplace to be a driving influence on sustainability, producers and consumers have to work together to achieve these outcomes. This process begins with sustainable production; in our forestry context, harvesters have to make the decision to practice extraction methods that are sustainable, rather than simply focusing on getting the “most board feet in the shortest amount of time” (Scott) at the expense of ecological system. On the other end, consumers have the opportunity to influence sustainability in the marketplace as demand plays a pivotal role in the marketplace driving sustainability. Our context also illustrates the presence of third-party organizations (i.e. certification agencies) that are uniquely situated between the producers and consumers in the marketplace, ensuring that consumers have access to responsibly managed products. These certification agencies are
representative of the complex nature of the modern marketplace in which there is a multiplicity of participants. This paper offers hope that all of these actors can act in concert to achieve a more sustainable future.

**Limitations and Future Research**

This research relies on qualitative data from the forestry context. We would expect that different market contexts would experience unique macro-disturbances as well as exhibit context-specific factors of embeddedness. However, the basic embeddedness of the social and marketing systems within the ecological matrix should remain similar across contexts. Similarly, while unique to the market context, embeddedness factors will contribute to the complexity of the nested system relationships. New insights are likely to be generated by transporting the model of system embeddedness into new market contexts where different macro-disturbances and factor of embeddedness are in play. Similarly, research integrating this model into system-level interventions may prove beneficial in probing group and individual-level factors that influence the prospects for sustainability.

**CONCLUSION**

Using a grounded theory approach (Glaser and Strauss 1967), this research extends macromarketing theory by integrating existing knowledge about the social and marketing systems (Layton 2011, Varman and Costa 2008; Dixon 1984) with emergent understandings of how the ecological system relates to the quest for sustainability across systems. Within the forestry context, harvesters, producers, and the communities of which they are a part rely on a functioning ecological landscape. The relationship implied by this dependence denotes embeddedness for the social and marketing systems within an ecological matrix. The ecological system serves as a matrix (Alberts et al. 2002) that binds together the three systems with its structure and services. For macromarketers, this shift in thinking pushes marketing system theories and models to explicitly address the ecological system in further systems research. For sustainability as a megatrend, an embedded systems approach to sustainability lends momentum to theory and practice that confront the complexity of a holistic, multi-system vision of sustainability.
REFERENCES


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