**PROCEEDINGS OF THE ANNUAL MEETING OF
THE ASSOCIATION OF COLLEGIATE MARKETING EDUCATORS
HOUSTON, TX**

ADVANCES IN MARKETTING

March 10-11, 2011

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EDITORIAL PREFACE

This year I have received about 40 papers. We are very pleased with the inclusion of papers from variety of marketing topics.

We would like to thank everybody who participated in, helped with, and arranged 2011 Association of Collegiate Marketing Educators proceedings. We want to acknowledge all track chairs for their masterful handling of the reviewing process in the given time, and would also like to thank all the reviewers for their expert critiques.

We would like to thank all authors and co-authors for their timely submissions and adherence to our proceedings standards. Without your efforts our task would have been next to impossible.

Last, but not least, we wish to acknowledge the assistance of A-CME Program Chair Sharon V. Thach in helping us with finalizing these proceedings, especially during the final stages of the process.

Malini Natarajarathinam, Ph.D.
2011 ACME Proceedings Editor
Texas A&M University
College Station, TX

MESSAGE FROM THE PRESIDENT

Greeting to all, and welcome to Houston and an excellent 2011 Association of Collegiate Marketing Educators Annual Conference!

Each year, owing to the diligence of ACME officers and members, our organization has gone from strength to strength. This year's conference represents our best standards of quality in technical papers, presentations, workshops and special sessions.

Sharon Thach, our Program Chair, has worked hard to put together a great program this year. Please join me in acknowledging her time and effort to craft an excellent program. Our thanks are also due for the hard work of organizers of workshops and special sessions, as well as track chairs. A huge thank you goes to our Proceedings Editor Malini Natarajarathinam.

For me personally, it's been an honor and a privilege to have served as President of 2010-2011 ACME. I want you to know that ACME has an outstanding team of officers, and that it's been my pleasure to work with each of them. My heartfelt thanks go to Past-President Patrick D. "Pat" Fountain, Program Chair Sharon Thach, Vice-President Vaidas Lukosius, Secretary Nacef Mouri, and Treasurer Dennis Emmett. To each of you, I owe a debt of gratitude for your sincere and selfless service, consultation, creativity, and collegiality.

My colleagues in the College of Business at Prairie View A&M University were most supportive throughout the four years that I have served as an ACME officer. My thanks go to them for their cooperation. And last, but not the least, my thanks go to my family for their understanding and patience, as ACME priorities frequently took away from family time.

Like all of you, I eagerly anticipate next year's ACME meeting in New Orleans. I'm hoping that it will surpass the excellent quality of this year's conference, and I hope to see you all there.

Kishwar Joonas
President
2010-2011 ACME
Prairie View A&M University
Prairie View, Texas

MESSAGE FROM THE PROGRAM CHAIR

Welcome to the 2011 Association of Collegiate Marketing Educators (ACME) Conference in Houston, Texas. The conference program features workshops and special sessions, as well as technical paper sessions. The Conference luncheon will feature an address by the winner of this year's Outstanding Educator Award, Ashish Chandra.

Congratulations to the authors of all accepted papers including the Best Papers in Track, and the Distinguished Paper, Toward Objective Evaluation for Market Entry Decision: An application of Country Efficiency Evaluation by Gary H. Chao ,Kutztown University, Maxwell K. Hsu, University of Wisconsin-Whitewater and David A. Haas, Kutztown University.

Thank you to all the track chairs, special session and workshop organizers for creating a conference with interesting and thoughtful content. It was a pleasure and an honor to serve as Program Chair, but much credit must also go to the officers of ACME for their work and support of the program organizers: President Kishwar Joonas, Vice President Vaidas Lukosius, Treasurer Dennis Emmitt, and Secretary Nacef Mouri. The Advisory Council of Former Presidents has also been very active and helpful: thank you to Maxwell Hsu, Kimball Marshall, and Pat Fountain for active participation and wise advice.

The tremendous efforts of the Federation of Business Disciplines with its organized, helpful, and supportive Program Chair, Marsha Bayless, were central to ACME's success in affording participants the opportunity for an engaging conference.

As you enjoy the 2011 meetings, I urge you to begin thinking about 2012 which will be ably chaired by Vaidotas Lukosius who is also our current webmaster. Despite our challenging economic times in academia, may we continue to promote research and teaching excellence, enjoy the company of each other, and look toward the future while enjoying the present.

Sharon V. Thach, D.B.A
ACME 2011 Program Chair
Tennessee State University, Nashville, TN

2010-2011 PROGRAM LEADERSHIP TEAM

Track Chairs

Advertising and Marketing Communications:	**P.J. Forrest** Alcorn State University **Amjad Abu Elsamen** University of Jordan
Assurance of Learning:	**Nancy Albers-Miller** Berry College
Business–to–Business and New Product Development:	**Prashant Srivastava** University of Akron
Consumer Behavior and Customer Relationship Management:	**Vivek S. Nataranjan** Lamar University **Kishwar Joonas** Prairie View A&M University
Ethics, Leadership and Corporate Responsibility:	**John C. Knapp** Samford University
Health Care Marketing:	**Dilaver Tengilimoglu** Gazi University
International Marketing and Cross-Cultural Studies:	**Sanjay S. Mehta** Sam Houston State University
Logistics and Supply Chain Management (IDEA Academic and Practitioner Tracks):	**Malini Natarajarathinam** Texas A&M University **Regena Scott** University of Houston Downtown
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Retailing and Services:	**Irfan Ahmed** Sam Houston State University
Selling and Sales Management:	**Michael Pass** Sam Houston State University
Experiential and Service Learning:	**Patrick D. "Pat" Fountain** East Central University **Lynn Murray** Pittsburg State University
New Media, Not-for-Profit Marketing and Social Marketing:	**Ramaprasad Unni** Tennessee State
Student Papers:	**Nancy Albers-Miller** Berry College

Recipients of the 2011 McGraw-Hill/Irwin Distinguished Paper Award

Toward Objective Evaluation for Market Entry Decision: An Application of Country Efficiency Evaluation
Gary H. Chao, Kutztown University
Maxwell K. Hsu, University of Wisconsin-Whitewater
David A. Haas, Kutztown University

BEST OF THE TRACK PAPER AWARD WINNERS

Advertising:
Identifying HiPUpS Using market Demographics and Sales History Data: Setting Advertising Priorities
Kimball P. Marshall, Alcorn State University
Tatiana Verzilina, Alcorn State University

Assurance of Learning:
The Role of Assurance of Learning in Accreditation
Linda A. Hayes, University of Houston - Victoria
Nancy D. Albers-Miller, Berry College

Consumer Behavior:
Consumer Behavior Within the Teen Segment: The Relationship Between Fashion Involvement Level and Lifestyle Activities
Anna A. Magie, Texas Women's University
Deborah D. Young, Texas Women's University

International Marketing:
Toward Objective Evaluation for Market Entry Decision: An application of Country Efficiency Evaluation
Gary H. Chao, Kutztown University
Maxwell K. Hsu, University of Wisconsin-Whitewater
David A. Haas, Kutztown University

Marketing Metrics:
Marketing Dashboards: A Picture is Worth a Thousand Metrics
Pj Forrest, Alcorn State University

Marketing Research:
Issues In Tech-Attributes In New Product Concept Evaluation: De-Biasing Effects Of Choice Based Conjoint
Junhong Min, Michigan Technological University
Deniv Balman, Ithaca College
Tae Eon Lim, TNEX

Marketing Education:
Teaching Marketing Principles: Toward Convergence on Core Concepts
Carmina Cavazos-Olson, University of St. Thomas, St. Paul, Minnesota
Charles Scott Rader, University of St. Thomas, St. Paul, Minnesota

Marketing Strategy:
Generational Specific Teaching Methods Applied to Entrepreneurial Students
Jana R. Minifie, Texas State University.
Victoria Otto, Texas State University.
Bill Middlebrook, Texas State University.

New Media:
Consumer Behavior in the Political Marketplace: An Analysis of Voter Persuasion and Voting Behavior
Grant C. Aguirre II, New Mexico State University

Retailing:
The Effects of 3D Telepresence and 3D Authenticity on the Online Retailer
Raed Algharabat, University of Jordan
Amjad Abu El-Samen, University of Jordan
Charles Dennis, University of Jordan

Student Papers:
A Content Analysis of Inappropriate Facebook Postings
Megan Uebersax, Berry College
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Supply Chain:
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Geoff Willis, University of Central Oklahoma

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CONSUMER BEHAVIOR –DIFFUSION AND DEMOGRAPHICS

WHY THE BASS DIFFUSION MODEL MAY NOT WORK FOR NEW SUBSCRIBER SERVICES

Abdullahel Bari, Troy University

Hani I. Mesak, Louisiana Tech University

Krist Swimberghe, University of Texas Tyler

ABSTRACT

Despite the growing role of the service sector and the declining role of the manufacturing sector in most Western societies (Metters and Marucheck, 2007), published research on the diffusion of new subscriber consumer service innovations remains scanty relative to the literature on new consumer durable (product) innovations (Mahajan et al., 2000). The modeling of diffusion of services provides unique challenges as there is an inward flow of adopters and a concurrent outward flow of customers who leave (disadopt) thus resembling a leaking bucket (Libai et al. 2009). Such a phenomenon does not exist in the diffusion of new products.

This research is motivated by the recognition of the inherent differences between goods and services. While the Bass model (1969) has been shown to represent the diffusion of new consumer durables well without marketing mix variables (Bass et al., 1994), the empirical evidence indicates that the Bass model fails to describe the diffusion of Cable TV service in Canada for several provinces. This may be attributed to the fact that for customer subscriber services, unlike consumer durables, cancellation of service can occur at any time. Based on our empirical findings, the authors recommend that future research would aim at developing and validating diffusion models for subscriber services that would explicitly incorporate customers' disadoption and consider service subscription over time as a repeat-purchases process (Libai et al., 2009). The importance of studying subscriber customer services becomes self-evident in light of the fact that, at present, almost every US household is involved in one way or another, in these services.

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EUCLIDEAN MAPPING OF ATTRIBUTES IN SMALL CARS: A CASE STUDY OF TATA NANO

Tejinder Sharma, Kurukshetra University, Kurukshetra, India

Vivek S. Natarajan, Lamar University, Beaumont, Texas

Gagan Deep sharma, SS College, Fatehgarh Sahib, Panjab, India

EXTENDED ABSTRACT

Small cars are emerging phenomenon. The rise in gas prices plus a shift towards more environmentally friendly consumerism coupled with trend for frugal consumer habits has accelerated the growth of this segment. This paper investigated the consumers' perceptions and relevance of the different dimensions in small car. The study used the TATA NANO- small car developed in India as a reference point of a small car. A survey of demographically stratified sample of 520 respondents from Haryana and Punjab was conducted. Data was collected by means of a Likert type 5-point interval scale questionnaire. The results show that the cost of usage, safety, brand image and availability of service emerge as the most important attributes, present in close proximity to each other.

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NEW MEDIA AND ETHICS

ONLINE RESEARCH METHODS: SAMPLING THE BLOGOSPHERE

Charlotte A. Allen, Stephen F. Austin State University

ABSTRACT

The purpose of this research paper is to provide a plan for gathering primary research information regarding the blogging world. The research questions that will be addressed are: (1) What are the characteristics of a blog?, (2) What revenue models are utilized for blogs?, and (3) Is there a statistically significant relationship between the popularity of a blog and the number of connections/links it has to the Internet? Then, the proposal discusses the data collection method (content analysis) followed by the sampling plan for this proposal.

INTRODUCTION

Before discussing the academic literature that exists about blogs and blogging, it would be a good idea to define what a blog is, so that there is no uncertainty among readers. WordNet (2007) defines a blog as "a shared on-line journal where people can post diary entries about their personal experiences and hobbies; postings on a blog are usually in chronological order." According to the American Heritage Dictionary (2004), the verb "blog" means to write entries in, add material to, or maintain a web-log (an older name for blog). The most concrete definition of a blog is that it is a website where information is updated frequently and is usually presented in reverse chronological order with a list (or links) to other Internet sites, blogs, and news stories (www.cjr.org 2003). Due to the wide range of topics that blogs cover, the information presented can be anything from an analysis of the President's latest speech to a review of a new camera or reaction to a sports event.

LITERATURE REVIEW

A great deal of research has been conducted by marketing researchers and business and computer trade publications concerning the reasons as to why someone would decide to start and maintain a blog. Blogs are essentially online publications, designed to be read by someone, whether it be a large global audience or only an audience of a few people who are interested in the blogger's topic (Editors et al 2002). Recent studies by Technorati and AOL's Digital Marketing Services shed light on some of the main reasons why people write blogs: to establish

themselves as authorities or experts in a field, to create a public record of one's thoughts and opinions, to keep in touch with other people online, especially friends and family, and to use writing as kind of a tool for therapy or self-help (Ingram 2007).

Blogging has also had a major impact in the media and news business as well. Many bloggers see it as part of their jobs to "fact-check" mainstream media (or MSM as it is abbreviated in the blogging world) and to push certain news stories that the bloggers feel that the MSM has ignored (Hewitt 2005). Blogging is "confronting journalism, with the rise of current-events blogs that deconstruct news coverage, spew opinion and even scoop the big media from time to time" (Palser 2002). Blogs are also allowing ordinary people's voices to have an impact in a way that was only possible in the past for those who had access to large media outlets, such as newspapers or televised news shows (Hewitt 2005, Pierro 2007). One of the most popular blogs, instapundit.com, has been known to have half of a million to a million hits on its more popular days (sitemeter 2008). To put this in perspective, Nielsen Media Research reports that CNN was averaging 637,000 viewers in its primetime slots (WorldNetDaily 2005).

Currently, businesses are using blogs to communicate with consumers and as a marketing tactic. Some of the possible benefits to a business blogging are that blogging can help to increase profit, increase website traffic and improve search engine rankings, recruit new employees, and communicate with coworkers (Ellsworth 2007). Blogging can be used in public relations as a crisis communication tactic, since online postings can be put out on the Internet quicker than a traditional press release or news conference (Morgan 2007). As businesses such as Boeing (Holmes 2006) and GM (Baker and Green 2005) run their own official blogs, issues of openness, trust, and source credibility will become more important to blog readers and consumers.

While there have been a number of news articles and online discussions concerning blogs (especially among bloggers, the people who run the blogs), there has been little academic research on this topic, with most of the research being done in the management information systems, communication, and political science areas, rather than in the marketing arena (Lee, Hwang, and Lee 2006; Wagner 2006). One of the few marketing studies is Holzwarth, Janiszewski, and Neumann (2006) who discussed avatars (graphic representations of users or other people online) and their impact on shopping and browsing habits on websites, including blogs. In the last year, there have been multiple academic papers published concerning blogs and politics. Current major academic studies include Wallsten's (2007) analysis of the relationship between the blogging world and mainstream media and Hayes et al.'s (2007) study on the impact of blogging and the credibility of journalists. From a public relations perspective, Trammell (2006) outlined the integration of blogs into presidential candidate websites, and Schoroeder (2006) discussed the dilemma of whether an employee should or should not blog about work. Herring & Paolillo (2006) also examined content on blogs in terms of gender stylized writings of the blog authors. However, no academic studies have examined the actual make-up of the blog itself.

PROJECT JUSTIFICATION

In June 2003, over four million Americans went online and accessed blogs to find out

breaking news and information about the war in Iraq (Rainie et al 2003). In November 2004, Pew Internet studies reported that 8 million Americans (or 7% of the 120 million US adults who use the Internet) said that they had created a blog; however, at that time 62% of US adult Internet population did not know what a blog was (Rainie 2005). By February 2005, over 32 million Internet users were also blog readers (Rainie 2005) with the blogging world almost doubling in size about every 6 months (Sifry 2006). So, what is a blog and where did it come from? In 1998, Jesse James Garrett, the editor of Infosift website, began to compile a list of other Internet sites that were similar to his own site. He then sent that list to another website owner who sent it to another website owner and so forth, forming a communication network (http://rebeccablood.net 2003). A blog (the shortened form of the words- "web-logging") is a website on which information is updated frequently and is usually presented in reverse chronological order with a list to (or links to) other Internet sites and stories (www.cjr.org 2003).

As of early 2006, there were at least 27 million active blogs online, with more blogs in inactive status (Sifry 2006). Technorati's State of the Blogosphere Report showed there to be approximately 72 million blogs in 2007. While the growth rate of blogging in the US is slowing, the growth of blogs outside the US is rising at a much faster rate than in the US. It is quite possible that the number of blogs will reach the 100 million mark in 2008 (Technorati 2007). Since most of the main business trade publications are blogging (e.g., Wall Street Journal, Business Week, Advertising Age, to name a few.), it is ironic that there is such a severe lack of research in the academic world of business disciplines. This proposed research would be the first study in the marketing discipline to analyze the actual contents of the most popular blogs, thus providing results that would be of interest to both the academic and business communities.

RESEARCH PLAN

The research plan section is divided into two sections. First, a section that explains the data collection method (content analysis) which is followed by a section concerning the specifics of data collection and sampling for this proposal.

Content Analysis

While content analysis is a standard data collection tool used in advertising, it is only recently that this technique has been applied to websites (Macias and Lewis 2003-4). Content analysis was also used by Bichard (2006) to investigate communication framing dimensions of time, space, tone, and topic on the official blogs of presidential political candidates in 2004. Macias and Lewis (2003-4) studied what information was presented on prescription drug websites. This research will extend the use of content analysis further into the world of the Internet, specifically targeting blogs.

Content analysis (sometimes called textual analysis in the social sciences) is a standard methodology for studying communication, especially in print and visual media. Holsti (1969) offers a broad definition of content analysis as "any technique for making inferences by objectively and systematically identifying specified characteristics of messages." Content analysis has been used to study advertisements, interviews, brochures, and websites, to name a few. Topics that can be addressed can vary from an analysis by gender and race of spokespersons

in print and television advertisements during a set time period to whether prices are given in numeric or general terms in newspapers ads. Content analysis is a very flexible form of data collection, which is why is has expanded to the Internet and why it will be used as the data collection method for this study.

Research Procedure

To conduct a content analysis of the top 250 blogs, a sample list of 270 blogs will be pulled based on Internet volume rankings. The extra twenty blogs are to insure that the final usable sample is at least that of 250 total blogs. During a six month time period, a screen capture of each blog will be saved for coding. The screen capture will contain the blog's complete postings along with advertisements and any other data for a 24-hour day. A printed copy of the screen capture will be made as well for back-up purposes. While most blogs contain archives of previous posts, the archives cannot be used for this data collection, since they usually contain only the postings for the day and not the advertisements nor the links. It is estimated that eleven blogs a week will need to be randomly sampled (from the list of 270 blogs) during the fall and spring semesters. A longitudinal sample design is being utilized to mitigate the impact of a single current event on data collection.

A coding guide will need to be created to analyze the data on each of the blogs. A coding guide is similar to a survey used in research except that the researcher will fill in the coding guide with information pulled from the blog instead of information given to the researcher over the phone or in person. The coding guide will contain places to record the following information: name and Internet address of blog, date blog was sampled, daily traffic and total traffic of blog, age of blog, rank of blog, number of postings for the day, blog run by an individual or group, number in the group if it is a group, are the individual(s) anonymous, major topic of blog, other topics covered by blog, does blog allow comments, number of links to other blogs and websites, does the blog run advertisements, how many advertisements are on the blog, does the blog have a Paypal or Amazon link, does blog have its own store, does the blog have links to give to charities and/or to political organizations, are there any links to referral sites such a digg or del.icio.us, does blog have a FAQ or a search feature, are there archives, and does the blog offer RSS (Really Simple Syndication) feeds and/or Podcasting. Since most bloggers are on the technological cutting edge, it is expected that by data collection time there will be other technological issues that will need to be added to the coding guide.

After the sic month data collection period, the actual coding of the blogs will begin Following content analysis guidelines, both the investigators will fill out a set of coding guides for each of the blogs. The set of coding guides will be compared for any divergences between them. Any divergences will be investigated and a third party will be brought in to decide any coding issues (a sample of a previously used coding guide, Allen 2007, is contained in the appendix). The data set should be entered and ready for analysis in SPSS shortly. Statistical methods that are expected to be used in data analysis are basic descriptive statistics, correlation analysis, and multiple regression.

Previous research by the principal investigator on this subject has been used to refine the scope, sampling, and data analysis for this proposed research plan. In 2004, the principal

investigator wrote a conference paper discussing what a blog was and how content analysis might be used in blogging research (Author Name 2004). Finally, a content analysis of the top 20 blogs was conducted in 2007 (Author Name 2007). Due to the results gathered in these studies, refinements have been made to the sampling procedure for this proposed study, the coding guide used in the content analysis, and highlighted the necessity of a second coder for quality assurances. Overall, the blogosphere is a very diverse place of opinion and tools with each blog having its own unique flavor of technology and communication to offer its audience. This research plan seeks to gather primary data in order to understand the components of the blogging world (or blogosphere), which in turn has implications for marketing and business strategy.

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APPENDIX

Sample coding guide used in Allen (2007) preliminary work.

Content Analysis   Blog Number:_____

How many bloggers?   Individual   Group   (number: _____)

Blogger using an avatar/alias?   Yes   No

Posts day:_____

Comment section: Yes   No
    If yes, circle which
                Email   Comments Section   Other
        Must users login?   Yes   No

Trackback capability   Yes   No

Permalink capability   Yes   No

Search capability   Yes   No

Archives   Yes   No

Post quotes from other people about blog?   Yes   No

Link to _____ other sites
    If links are divided by blogger,
        How many are pure blogging sites: _____
        How many are combination/ blogging sites: _____
        How many are news organization sites: _____
        Other types of sites:_____

Accept donations to blog?   Yes   No
    If yes, how?   Paypal   Amazon   Money   Other

Accept donations to others?   Yes   No
    If yes, who   Political   Charity   Other

Has own online store?   Yes   No

Advertising   Yes   No

    If yes, how many ads: _____
    Number of political ads:_____

Is blog part of magazine/newspaper?   Yes   No

Subject of blog (Circle main subject, check all that apply):

| Politics | Election | Terrorism |

Iraq/Afghanistan   Technology   Computers

Sports   Religion   Economic

Products/Consumers Fashion/Style   Law/Legal

Ethics   Science   Entertainment

Other:

Initials of coder: _____

CONSUMER BEHAVIOR IN THE POLITICAL MARKETPLACE: AN ANALYSIS OF VOTER PERSUASION AND VOTING BEHAVIOR

Grant C. Aguirre II, New Mexico State University

ABSTRACT

In the political marketplace, the voter can be viewed as the consumer. Utilizing a number of theories and constructs from the field of consumer behavior, this paper seeks to further an understanding of how to effectively persuade voters and motivate them to get out and vote. An argument is made that time constraints moderate even the most effective persuasive message in affecting voter behavior. In order to measure time constraints that affect voting behavior, a number of proxies are proposed. Finally, an argument is made that local governments and politicians are in a unique position to utilize persuasive message techniques, technologies, and overcome the time constraints that moderate voter behavior.

INTRODUCTION AND STATEMENT OF PURPOSE

The challenge of marketing a candidate or idea (i.e. a legislative proposal, an initiative, or referendum ballot measure) in the political marketplace is two-fold. First, the campaign must develop a message that will resonate with voters. Second, the campaign must affect behavior by getting the voter to actually go to the polls.

Effective message persuasion techniques have been well developed and discussed in the consumer behavior literature. These techniques can be utilized by political campaigns in their development of political advertising. A number of theories and constructs that can be applied to the political context are discussed, and an argument is made that marketing scholars can provide unique perspective from which to view voter choice.

Affecting voter behavior presents a unique challenge compared to the product and services market. In the product and services marketplace, the second prong is more easily overcome because the consumer usually gets the instant satisfaction of consuming the goods or partaking in the benefit of the service. However, in the political marketplace, this prong is more difficult to overcome as the consumer (i.e. the voter) may never receive any satisfaction from his purchase decision. A politician or special interest group may develop a message that resonates with their target market; however, they must overcome the free-rider problem present in the political context. As becoming political informed consumes time the incentive to allow others to vote instead of oneself becomes particularly attractive; therefore, one factor that may moderate voter behavior is a constraint on the voter's time. Although this factor seems obvious, the literature is lacking in this area. A number of studies concerning voting behavior and demographic characteristics have been well documented (Achen 1992). However, none of the studies that turned up in the literature review have made a nexus between such characteristics and constraints on a voter's time. This paper proposes a number of measurable variables that may serve as proxies for time constraints that in turn may be predictive of a voter not going to

the polls in spite of an effective message on the part of a campaign.

The remainder of this paper is organized as follows. First, a review of the relevant literature in the field of consumer behavior and political marketing is presented. This review notes the importance of this field as one in which marketers can make a unique contribution, and also some of the gaps in the literature that need to be studied further. Second, the theoretical background is discussed which highlights some of the unique challenges that political marketers face. Third, a number of research propositions are developed and proposed methods of testing these propositions are presented. Finally, this paper concludes with a section on potential contributions, limitations, and implications for future research.

LITERATURE REVIEW

Academic interest in the field of political marketing is a relatively recent development. *The Handbook of Political Marketing* was not published until 1999 (Newman). Initially, there was some early interest in the field of marketing, consumer behavior and politics (Ahluwalia 2000; Crosby, Gill, and Taylor 1981; Crosby and Taylor 1983; Klein and Ahluwalia 2005; Nakanishi, Masao, Lee G. Cooper, and Harold H. Kassarjian 1974; Newman and Sheth 1985; Rothschild 1978; Shaw, Newholm, and Dickinson 2006). However, this initial interest seems to have declined in recent years as Kim, Rao, and Lee note (2008).

As Kim, Rao, and Lee (2008) highlight, there are at least three reasons that marketers should have greater interest in this area. First, campaign spending has become a multi-billion dollar industry in the United States. In the 2004 election cycle, the total spent by presidential candidates alone was $717 million. By 2008, the presidential candidates had spent over 1.3 billion dollars in the primary and general election cycles. Second, although voter behavior has been studied by political scientists, psychologists, sociologists, and economists, marketers and consumer behavior researchers can offer a different perspective and enrich the field. Finally, the study of voter behavior is at least as important as studying why people prefer one brand of a product over an alternative brand.

In their early study of voter behavior, Newman and Sheth (1985) and Sheth (1975) propose a model of voter behavior predicated on seven cognitive domains. These seven domains are: issues and policies, social imagery, emotional feelings, candidate images, current events, personal events, and epistemic issues. With their inclusion of personal events in the model, this is the closest any of the models researched had to a time constraint variable. However, Newman and Sheth describe personal events as an event that would cause a voter to change his or her mind about a candidate or issue and thus switch preference to another candidate. For example, a downturn in the economy and loss of a voter's job may lead him to switch his preference for an incumbent to the political challenger. This construct in their model has been confirmed by political scientists in predictive voting models such as the Abramowitz model (Jones 2002; Jones and Cuzan 2009; Jones, Cuzan, and Armstrong 2009).

In their discussion of personal events, Newman and Sheth assume that the event will change the voter's mind, and that he will in fact vote. They fail to consider the idea that the voter may not vote as a result of some personal event. In the example above, the voter may in fact not be favorably inclined toward the incumbent, and may in fact prefer the opponent; however, due

to a time constraint (i.e. he now has to find a new job) he may elect to spend time solving his personal situation rather than take the time to go to the polls, stand in line, and vote.

Klein and Ahluwalia (2005) studied the impact of negative information (usually in the form of negative advertising by an opponent) on voting behavior. Their study concludes that contrary to widely held beliefs, negative information does not affect all voters the same way. Negative information only affects voters who dislike the candidate. What is not considered is that a very negative campaign may cause a voter to stay away from the polls as he or she may view it as a waste of time since both candidates appear to be equally poor choices. Faced with other demands on his or her time, a particularly vitriolic election may lead the voter to conclude that their time is better spent on more personal issues and needs.

The ecological movement has been studied as motivation for voter behavior (Crosby, Gill, and Taylor 1981). This study is interesting because it does identify characteristics of people attracted to the environmental movement and their impact on the vote in the passage of the Michigan Container Law.

The environmentally sensitive consumer/voter is someone who is aware of his or her social responsibility (Anderson and Cunningham 1972). They tend to be college educated (Brooker 1976), middle class, and liberal (Mayer 1976). This study is of interest because it identifies many of the same characteristics that political scientists have found to be predictive of voting behavior. For example, political scientists have long noted that the more educated an individual is the more likely he or she is to vote. Further, higher socio-economic status is also predictive of voting (Jones 2002). Thus it may be, those individuals are less susceptible to time pressures as they view voting as something intrinsically valuable or their social obligation. The one variable that this study noted that has not been confirmed by other research is that the ecological consumer/voter tends to be liberal. While it is true that people who tend to label themselves as liberal or conservative tend to vote more frequently, most of the literature suggests that conservatives are equally as motivated to go to the polls as are liberals (Jones 2002). Therefore, this characteristic is indicative of an environmentally aware voter, but not of voters in general.

In a follow-up study to the Michigan Container Law article, Crosby and Taylor (1983) examined the stability of a voter's choice after the election. They found that voter's opinions had greater stability if the opinion was one that fit well with the voter's overall attitudes and he or she had made the opinion known to others. Again, this is interesting because it suggest one way in which to overcome the time constraints that many voters have which lead to them avoiding the polls. If people express an opinion on an issue, they have a psychological investment. Therefore, they are more likely to take action and go vote. This would suggest that a political campaign needs to develop messages that are personally important to the voter such that he or she feels personally affected. This is something campaigns in many instances fail to do. For example, in every presidential election since 1973 when abortion was made legal, candidates have appealed to their base by making their position on this issue clear. However, this appeals to only a small number of the voters. Most people have an opinion on abortion; however, as most will never have to make that decision it is not personally relevant to them. Therefore, they may not be motivated to go to the polls even if their preferred candidate's position is in line with their own

opinion.

There was one article in the literature that tangentially suggests an alternative reason that voters may elect not to go to the polls. According to Shaw, Newholm, and Dickinson (2006) political democracy is failing. Therefore, the ethically concerned consumer is using purchasing as a way to influence the marketplace. In response to the exposure of the use of child labor and sweat shop conditions brands such as Nike, Disney, and Kathy Lee Gifford have changed their sources for the goods they market (Strong 1996).

It is plausible that some voters do believe that the system is ineffective or corrupt, and that it is more effective to effectuate change through the market. The recent BP oil spill in the Gulf of Mexico is one example. The government, at least initially, seemed ineffectual at dealing with the crisis. People do appear to be voting with their money at least in the stock market where BP stock has plummeted.

THEORETICAL BACKGROUND

What might be called the classical theory of consumer behavior focused on two fundamental aspects. First, there was the focus on the individual consumer in his purchasing and consumption of products and services. Second, consumer behavior researchers focused on the decision making process. Underlying this second aspect was the assumption that the consumer acted in a rational manner. From this perspective, the consumer was seen as engaging in a decision making process that would lead to the maximization of his utility (Sheth 1979).

However, as Sheth (1979) notes, not all consumer behavior phenomena can be explained by the rational decision making model, and in fact it may apply to only a very small percentage of the actual consumer decisions. This paper argues that in the political marketplace this model is even less predictive of voting behavior. For example, the use and effectiveness of fear appeals suggests that voters base their decisions on more emotional rationale (Newman 1999).

Kassarjian (1971) lists five broad theories (psychoanalytic theory, social theories, stimulus-response theories, trait and factor theories, and self-concept theories) that contribute to consumer behavior. This does not mean that most consumer decisions are entirely irrational either. Katona (1968) develops a theory in which stimuli are mediated by attitudes and motives that have been acquired from past experience.

Kim, Rao, and Lee (2008) use action identification theory to develop an understanding of voting behavior. Since this paper argues that voting behavior is a two step process in which the message must resonate with voters, and then the campaign must overcome the free-rider problem, this approach to explaining message effectiveness is compelling as the authors conducted studies that used voting as the basis for their research.

According to action identification theory, an ad is more compelling when its format conforms to the receiver's information processing mode (Thompson and Hamilton 2006). Information can be processed at the level of abstraction or at the level of the concrete (Trope and Liberman 2000). When information does not fit well with the consumer's information processing

mode at the time, it leads to consumer impatience (Chen, Ng, and Rao 2005).

Major political campaigns (i.e. presidential, campaigns for the United States Senate) are usually begun at least two years prior to the actual election. For example, in the 2008 election two of the Republican candidate (Rudolph Giuliani and John McCain) had formed exploratory committees and started soliciting funds for their election in November of 2006 (Jones 2009). At that time, the candidates began developing their message to influence donors and voters. Based on three sets of experiments, Kim, Rao, and Lee (2008) propose that people process information differently based on the temporal proximity of an event. For events that are in the distant future, individuals tend to process information at the abstract level. Conversely, for events that in the near future, people tend to process information on a more concrete level. According to this theory, when candidates form exploratory committees two years in advance, they should focus on broad policy goals such as economic stimulus and recovery. Immediately prior to the election, the focus needs to be shifted towards reminding people to go vote.

PROPOSITIONS

With the above theoretical framework in mind, a number of propositions are detailed below. This paper first addresses the classical theory of consumer behavior and the responses to that theory. Second, an argument is made that action identification theory adequately describes how to communicate an effective message to the voter, but that the communication is moderated by time constraints in terms of voter behavior.

P1: The classical theory of consumer behavior (i.e. that people make decisions based on a rational analysis of alternatives in order to maximize utility) applies less to the political market place than it does to the product and services market.

As Sheth (1979) notes the idea that consumers engage in a totally rational analysis in their purchasing decisions probably only applies to a limited set of consumer behavior phenomena. However, this does not mean that the decisions are entirely irrational either (Kassarjian 1971). People are complex and the wide varieties of purchasing decisions they make range from the relatively routine and mundane (such as shopping for toiletries) to major purchases such as the purchase of a home which may involve a detailed search for information.

The evidence suggests that in the political marketplace the voter as the consumer of "political goods" is even less rational. The theories that Kassarjian (1971) identified that utilize psychological, social, and stimulus response constructs are perhaps more appropriate for the political marketplace. For example in the United States, presidential elections usually have the highest percentage of turn out and mid-term elections see a decrease in voter turnout (Timpone 1998). In many places, municipal elections have very low voter turnout. In the classical model, the voter would engage in a rational analysis in order to maximize his or her utility. However, people tend to vote in elections in which they have the least amount of influence, and avoid elections in which they can exert the most amount of influence and have the greatest impact on their daily lives.

Presidential elections are no doubt important; however, on a day-to-day basis the

president has very little impact on a citizen's life. Policy at the federal level can take years to work its way through the legislative and bureaucratic process. The constitutional requirement of the Electoral College also serves to dilute a voter's impact in presidential elections. Because of the winner-take-all method that most states employ in their allocation of electoral votes, a vote for the losing candidate in a state has no impact as was evidenced by the 2000 presidential election. In contrast, a few members of a city or town council can have direct and immediate impact on a citizen's life. In many locations throughout the United States municipalities control one or more utility companies such as water, sewer, gas, and electric. A vote by a handful of people on the city council can increase the cost of these services for many citizens thus having an immediate impact on the citizen's monthly budget. Further many of the basic services (fire protection, ambulance services, police protection, street repair, and health services) are provided by municipal and county governments. Thus, the average citizen is likely to have far more contact with these local governmental agencies than a federal or even state bureaucracy, and his or her vote has a much greater influence on election outcomes than it does a vote in a presidential election.

It is possible that local governments and politicians are in a better position than presidential candidates to increase the voter turnout in their respective elections, and increase voter rationale by providing information on local issues. The use of the internet and candidate websites in presidential elections is now well documented. Use of the internet by presidential candidates is now extensive (Tolbert and McNeal 2003). However, such use by local government and officials is probably still lacking. Many municipalities may not have a website or it maybe of limited functionality. Further many candidates for local office perhaps still use traditional media to get their messages out. Since the argument is made that due to time pressures on voters they may elect to not vote, the internet offers the possibility of reaching these voters in a number of ways that have been less well developed at the local level.

First, one reason that voters may not vote in a local election is because they don't feel that they have the time to become informed about the candidates standing for office. In presidential election years, voters are overwhelmed by information on the candidates from cable news networks, papers, bloggers, and the candidate's own websites. However, the information availability at the local level is less obvious. Many towns don't have a local televisions station, and newspaper coverage is often limited. By taking advantage of the internet, local governments and politicians can provide voters with much easier access to local information on issues and platforms.

Second, local government might be able to use the internet to increase voter turnout by making it easier to vote. Voter registration laws differ from state to state; however, many have adopted motor voter laws which allow citizens to register when they renew their driver's license. Local election officials could conceivably make registration even easier by providing the forms in a download format on their websites.

Third, campaigning at all levels involves money in order to develop campaign messages and advertising. Even local politicians rely on campaign contributions to help fund their races. The internet has made it much easier for voters to donate to presidential campaigns through their websites. Local candidates could take more advantage of this technology in their own

campaigns.

P2: Action identification theory explains how temporal proximity to an election affects a message's effectiveness on voter persuasion by matching abstract versus concrete messaging to fit a voter's processing mode; however, this effectiveness is moderated by time constraints when it comes to voting behavior.

Kim, Rao, and Lee (2008) demonstrate through three experimental studies that message framing needs to be constructed so as to fit with the voters' processing mode in order to generate a persuasive message. However, in much of the literature voter persuasion and voter behavior are treated as being the same thing (Kim, Rao, and Lee 2008; Newman and Sheth 1985; Crosby and Taylor 1983). This paper argues that the two are connected but that they are not mutually inclusive constructs. Thus, a message's link to temporal frame leads to greater voter persuasion; however, this is moderated with regard to voting behavior by constraints on the voter's time.

It is possible to persuade someone to have a positive feeling about a candidate or a cause; but it is another for them to invest time in support of that candidate or issue. Because the reward is often achieved after some temporal distance if ever, many people chose to spend their time on something other than voting.

There are a number of items that maybe found to serve as proxies for time constraints that could affect a voter's decision to not participate in an election. First, the number of hours the voter spends working. People who spend more than forty hours a week working, or have two jobs are perhaps less inclined to take the time to go and vote. Also, the distance from one's home to work can act as a time constraint. As the United States experienced suburbanization the commute times for many people have increased over the years. Therefore, it is plausible that someone with a long commute time would be less inclined to get up early to go vote before they go to work, and may not have time before the polls close after work.

Second, the number of dependents in the household is another plausible explanation for not voting. The more children one has the more likely he or she is to have to dedicate time to them. Also, the ages of dependents could be another factor. Younger children are less self-sufficient than adolescents.

Third, social obligations such as church groups, neighborhood watch association, and social and civic clubs may present a time constraint. The more involved someone is the more he or she may not have time to schedule in voting. However, it is also plausible that this variable might not correlate with non-voting as those who are engaged in social and civic groups tend to also be civic minded.

DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH

This paper presents a review of the literature in consumer behavior as it pertains to voting and the political marketplace and two propositions are discussed. An argument is made that marketers and consumer behavior researchers have a unique perspective to share in this field for

a number of reasons. Political campaigning in this country has become big business and campaigns are increasingly using professional marketers and marketing techniques. From a public policy perspective, marketers should be at least as concerned with this area as other more traditional areas of research.

In examining various theories in consumer behavior, the paper concludes that the traditional theory of a rational consumer seeking to maximize his or her utility applies even less to the political marketplace than it does to the market for goods and services.

With regard to effective voter persuasion and voter behavior, action identification theory is used as one explanation for how to effectively frame a message that will be well received by the voter. However, in this paper persuasion and behavior are treated as separated ideas that are connected but moderated by time pressures on the voter.

The field of political marketing is still in the developing stage. Consumer behavior researchers can contribute and enrich both fields by studying voting behavior. Such studies could provide further insight into more traditional fields of consumer behavior such as how consumer process information in low rationale situations with limited facts and time.

This paper presents a number of possibilities for future research. Most of the research in this area has been on large elections with the exception of the Michigan container law (Crosby, Gill, and Taylor 1981). Local elections and voting behavior should be studied to gain a fuller understanding of how people process information and decide to vote. The use of the internet by local governments and politicians should also be further studied.

Finally, the items that may serve as proxies for constraints on voter's time should be tested. This could lead to insight on how to overcome the free-rider problem and increase voter turnout. Further, the potential of the internet for providing information in local races and perhaps even its use in the voting process should be explored as a way to overcome the time pressures many voters feel.

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THE EFFECTS OF 3D TELEPRESENCE AND 3D AUTHENTICITY ON THE ONLINE RETAILER

Raed Algharabat, University of Jordan

Amjad Abu El-Samen, University of Jordan

Charles Dennis, University of Jordan

EXTENDED ABSTRACT

Previous scholars, within the online retail context, consider the notion of three dimensional (3D) telepresence as virtual substitutes for actual experience with the products. However, the telepresence and presence constructs are not necessarily wholly appropriate concepts for marketers since they represent a process of being mentally transported into other areas or being immersed into an illusion environment. Such notions may not be particularly helpful for marketers and Web site designers who are concerned with 3D product visualization of real products. Instead, this study proposes the 3D authenticity construct, which refers to simulating a real product authentically online and investigates the effects of authentic 3D product visualization versus 3D telepresence on consumers' virtual experience. This study aims to investigate the effects of authentic 3D product visualization and 3D telepresence on consumers' virtual experience (VE). Particularly, this study defines and operationlizes VE based on three elements; control, animated colors and 3D authenticity. Moreover, this study investigates the effects of the 3D authenticity antecedents (i.e., control and animated colors) on the creation of 3D authenticity construct, which in turn impacts consumers' hedonic, utilitarian and behavioral intention. To identify how using a 3D product visualization influence consumers' VE, this study adds, to the marketing literature, the notion of 3D authenticity and presents a valid scale to measure it. As such, it is the first study to empirically explore the antecedents of 3D authenticity (control and animated colors) and connects them to the 3D authenticity construct. The emergence of the notion of 3D authenticity makes it easier for marketers and practitioners, interested in using 3D to simulate real products in the non-store retailing context, to use and apply this notion to measure consumers' VE. Previous scholarly literature (e.g., Coyle & Thorson, 2001; Klein, 2003; Li et al, 2002, 2003) has defined and operationalized VE based on the notion of telepresence. The telepresence theory (originally) has been evolved and established in the immersive virtual reality environment. Previous scholarly literature (e.g., Coyle & Thorson, 2001; Klein, 2003; Li et al, 2002, 2003) has used and applied the notion of telepresence to reflect consumers' VE in the bricks-and-clicks context and has used a scale that has been established to measure telepresence in an immersive VR. Moreover, previous online retail researchers (e.g., Coyle & Thorson, 2001; Klein, 2003), in the non-immersive virtual reality context, have used the same scale to measure telepresence in 3D product visualizations. Having such a scale within the online retail context may confuse marketers and users because what measures a T.V telepresence might not be applicable to the 3D computer context. Furthermore, the 3D telepresence scale concerned with the extent to which consumers feel that they are dealing with products that do not exist. Instead, the 3D authenticity construct refers to the ability to imagine a virtual object as real. We find that 3D authenticity has similar antecedents to the 3D telepresence construct. However, 3D authenticity has more impact on

consumers' hedonic, utilitarian and behavioral intention than 3D telepresence. Our results support the previous theoretical work of Lee (2004) which revised previous definitions of telepresence and presence and argued that none of the previous definitions could be used to tap the concept of using virtual environments to reflect the consumer experience. Furthermore, our 3D authenticity construct reflects Klein's (2003) notion of realism, which Klein advised marketers to apply in order to positively influence product beliefs. Our results demonstrate that 3D authenticity is more relevant than 3D telepresence for marketers concerned with using 3D to enhance behavioral intention within the online retailer context.

In a highly competitive environment e-retailers need to find ways of attracting and retaining customers (Khakimdjanova & Park, 2005; Mummalaneni, 2005). A Web site with an authentic 3D is an important stimulus that would help e-retailers to find success and it often helps them to enhance the e-shopping environment (Khakimdjanova & Park, 2005; Park, Stoel, & Lennon, 2008). Our experimental results provide a strong evidence of the influence of the control and animated colors on 3D authenticity (which enables consumers to see a product simulated into 3D virtual model as a real authentic) and 3D telepresence (which enables consumers to be mentally transported into another area). In support of other research (e.g., Coyle & Thorson, 2001; Klein, 2003), we find that the control and animated colors are the main antecedents of 3D authenticity construct and the main tools that enhance consumers' VE. Moreover, in support of the previous findings of Hopkins et al. (2004) and Coyle and Thorson (2001) studies which find a media richness has a stronger impact on perceived authenticity and telepresence (in comparison to user control), We find that the animated color construct is a stronger determinant of 3D authenticity and 3D telepresence than the control construct. In support of Hopkins' et al. (2004) results, we find the animated colors are the main determinant of 3D telepresence rather than the control construct.

The conceptual framework results reveal the usefulness of our framework in interpreting and understanding the relationships among the control, animated colors, 3D authenticity, 3D telepresence, hedonic, utilitarian value, and behavioral intention. In regard to the mediating constructs, this study finds the ability of 3D authenticity to produce hedonic and utilitarian value is more significant than the 3D telepresence construct. Unlike the previous research (e.g., Kim & Forsythe, 2008) which posits the ability of 3D to produce hedonic value more than utilitarian value. This study finds that 3D authenticity produces more utilitarian values than hedonic value. This result comes in accordance with Fiore's et al. (2005a) finding. Moreover, our results support the previous research on 3D area (e.g., Fiore et al., 2005; Yang & Wu, 2009) which posits the ability of 3D product visualization to enhance both utilitarian and hedonic values. A 3D authenticity enables consumers to experience online products without directly inspecting them; it makes Web site retailers the best place to examine a product virtually and it provides consumers with a sense of having a direct experience (Coyle & Thorson, 2001). The direct impact of 3D authenticity on behavioral intention is evidence of the important role played by that construct in enhancing consumers' responses in the online retail context. In comparison to the 3D authenticity, we find insignificant impact of 3D telepresence on behavioral intention.

Managerial Implications

This research empirically finds that 3D authenticity, hedonic and utilitarian values are

significant determinants of the behavioral intention. Retail Web sites' managers should pay more attention to the 3D authenticity antecedents i.e., control and animated colors when designing their 3D virtual models. Including real colors and flashes that consumers can easily control will lead to a more authentic online experience. Moreover, retail Web sites' designers can contribute to enhancing consumers' virtual experience by focusing more on the utilitarian and hedonic values. Any 3D flash should include the essential information that consumers are seeking (i.e., perceived and actual knowledge). For example, consumers should be able to click on any part of the 3D flash to get instance information (or actual) about the laptop. Previous researchers have focused on the ability of the 3D to reflect general information (perceived sensation knowledge) to the audience such as the overall appearance of the products (e.g., Fiore et al., 2005). Therefore, this study encourages marketers to focus more on adding the proper and relevant information to the 3D flashes they design. A helpful 3D site should enable consumers to perceive both the perceived knowledge (external appearance of the product) and the actual knowledge (basic information that might help customers to make their purchase decision easily, according to Jiang & Benbasat, 2005; Jiang & Benbasat; 2007; Sue & Lee, 2005). The direct impact of hedonic value on behavioral intention indicates the importance of the hedonic value within the 3D context. Marketers and managers should focus on the 3D hedonic values, adding an innovative 3D flash with more hedonic value often enhances consumers' search, which may end up in a real actual behavior towards the online retailer (Kim & Forsythe, 2007, 2008). A 3D product visualization ability to enrich consumers' sensation is very important cue in deriving consumers' attention and perception towards the online retailer (Childers et al., 2001; Eroglu, Machleit, & Davis, 2003, Fiore, 2008). Web site developers should improve users' perception of the authenticity of the 3D. To achieve this, Web site developers should consider the importance of the control and animated colors constructs. The empirical results of this research reflect the importance of participants' ability to easily zoom in or out a laptop, and rotate it (control construct). Moreover, participants' ability to change the laptop colors (animated colors) considered another important aspect to enhance users' perception of the 3D authenticity. The significant effect of 3D authenticity on hedonic and utilitarian values suggests that a highly designed 3D flash not only helps participants to get the proper information easily, but also it allows them to have more fun from navigating the 3D flashes. It is very important for Web site developers to build an innovative 3D flashes that can reflect hedonic and utilitarian values. Web site developers should take advantage of the technological advancement and keep developing and updating the online retailers' 3D flashes. Otherwise if all the competitors, on the same industry, use the same 3D flashes then the animation will not attract the consumers' attention (Fasolo et al., 2006). Managers and Web sites designers should work together to ensure that the 3D product visualization provides customers with the complete and accurate information they need. In addition, marketers should decide what information (or knowledge) to focus on before developing any 3D flash.

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MARKETING EDUCATION: STRATEGIES FOR TEACHING AND LEARNING

ONE INSTRUCTOR, SAME COURSE BUT WITH MULTIPLE SECTIONS: SOME INTERESTING FINDINGS

Alma Mintu-Wimsatt, Texas A & M University-Commerce

Kendra Ingram, Texas A & M University-Commerce

Courtney Kernek, Texas A & M University-Commerce

Theresa Sadler, Texas A & M University-Commerce

EXTENDED ABSTRACT

Have you ever heard a colleague complain that one of his/her classes seems to be "better" than the other? Or perhaps, you may have made a comment that you "prefer" students in one class since they tend to be more engaged. While this may be a common occurrence when an instructor is comparing different courses, intuitively this situation ought to be alleviated when the same instructor is teaching multiple sections of the same course.

For accreditation (i.e., work load requirements) and efficiency (i.e., faculty course preparation) purposes, university administrators are inclined to assign faculty members to teach multiple sections of the same course. After all, having the same instructor presupposes that students will receive consistent teaching pedagogy leading to better academic outcomes. However, in several instances, despite having the same instructor, the authors have found that discrepancies exist even between multiple sections.

While anecdotal evidence from colleagues' personal experiences is available, we sought to examine the extant literature dealing with comparisons of multiple sections, taught by the same instructor and using the same delivery method. Surprisingly, we found very little empirical research on the area.

As a result, we embarked on comparing the performance of the students enrolled in two sections of a graduate Marketing Management course taught online by the same instructor. The instructor in this study is a seasoned faculty member who has taught the specific graduate Marketing Management course for several years. The online delivery method is a critical point for comparative purposes since it rules out the extraneous factors emanating from time of day and day of week the course is offered. We offer the follow hypothesis:

H1:   No significant differences will be observed in the grade outcomes of students enrolled in a course with multiple sections but taught by the same instructor, following the same syllabus, and using the same delivery method.

Two concurrent online sections of the graduate Marketing Management course were utilized in this study. Section #1 had 32 enrolled students while Section #2 had 30 students. The graduate Marketing Management course is one of the core courses in the MBA curriculum offered every semester. The same professor taught the course with two sections in one semester utilizing the same syllabus. Therefore, teaching style and course content as potential extraneous factors were minimized. Students' grades were evaluated based on four major components: discussion/participation; case submissions; mid-term and final examinations.

Preliminary statistical analysis showed that mid-term and participation/discussion grades were significantly higher for Section #1. We speculate that the reason for difference is due to the type of students enrolled in Section #1. During the open registration process which starts mid-way through the semester prior, Section #1 is the first section to fill up. Presumably, the students who enroll early are those who are actively engaged with the mechanics (i.e., course scheduling) of their MBA degree and/or proactive in making sure that they get into the appropriate courses (i.e., register early to avoid being "closed out"). Because they are more driven – then this is also reflected in some components of their grades.

HEALTH MARKETING

A VISUAL AID IN BRAND POSITIONING: AN APPLICATION ON PERCEPTION MAPS AND HOSPITALS

Dilaver TENGİLİMOĞLU, Gazi University

Oğuz IŞIK, Sakarya Üniversity

Mahmut AKBOLAT, Sakarya University

ABSTRACT

Determining what kind of place that the factors and hospitals, which are effective for the hospital choice of the consumers, gained in the minds of consumers, has a great importance for the marketing activities. This study, which aims to form the perception maps that show the location of hospitals, has carried out based on the survey application applied to consumers reside in Sakarya city center… 515 people have participated to research between the dates of 24 January-11 February 2010.

At the end of the analysis made, factors, that are expressed to be effected in the hospital choices of the consumers, are gathered in two dimensions such as physical factors and factors related to the treatment. Perceptions maps, which show the location of the hospitals according to these two dimensions, are issued. According to this, while A4 hospital was positioning in positive field related to both factors related to treatment and physical factors, A1 hospital positioned negatively in both fields.

INTRODUCTION

In relation to the developing competition forces of the corporations, knowing the quality of perception that forms in the minds of the consumers and developing strategies accordingly is very important. Therefore, perception maps, which can be used in the strategical marketing process by the accounting managers, have a special importance allowing the market with the visual presentation to the decision maker (Uner and Alkibay, 2001; Bas et al. 2006).

Positioning, which is one of the basic concepts in the sense of brand constitution and management, can be defined as placing the product to the reference frame with the specific

marketing department. Brand positioning, on the other hand, shortly set forth that brand has a certain place with respect to various brands in the perception of the consumers. Brand positioning can be associated with market positioning, which is aimed at target consumers to have a place in the minds that is different, open, and desirable with respect to competitor products. Effective positioning in this sense begins with "differentiation" in the marketing presentations of the corporation (Uztug, 2008).

Therefore, when all the products in the market are mixed with each others, positioning concentrates on how the consumers perceive the products or how they perceive the brand of the products. In other words, positioning is the decision and activities in the sense of creating a certain concept and protecting this created concept related to corporation products in the minds of the consumers and defining the product in the sense of its important features by the consumers-reaching efforts to the ideal point, which will provide the place and purposes that the corporation product covers in the minds of the consumers compared to the competitor products (Uner and Alkibay, 2001).

Various definitions related to perception maps are suggested. Perception maps, from the point of view of Bennet, can be defined as the results obtained from comparing goods or services of the corporations that aim the same market segment by a group of consumers, who has the ability to represent the actual and potential consumers which consist of a certain market segment (Bas et al. 2006). Hair et al. (1992) define the perception maps as presenting two or more dimensions or specifications visually, which are perceived by the consumers.

Perception maps are divided into two categories: compositional (feature based) and not compositional (decompositional, unqualified). Decompositional maps are based on the general perceptions regarding similarities and dissimilarities. Relative positioning of the brands is determined by applying multi-dimensional scaling to collective similarity data. On the other hand, compositional maps are based on rating or awareness level by the answerer according to the feature's set, which is determined previously for the brands. In this way, perception maps are formed by using techniques such as factor analysis, discriminant analysis, and adaptation analysis (Hair et al. 1992), and more recently, brand-anchored conjoint analysis (Bendixen, 1995; Steenkamp, Van Trijp and Berge, 1994).

Perception maps according to Myers (1996), "They are the maps, which are based on quantitative and qualitative approaches arranged for placing and determining the perception statuses by the consumers for the products or the brands on an area" (Bas et al. 2006).

Related to the perception maps that can be prepared as two or three dimensional, it is essential to determine specific features of goods, services, or brands that take place in certain product category. As for appearing the definitive specifications, any element that is related to target market can be used as a variant.

The number of these variants can be between 10 and 50, and even in some cases, it can be more than 50. Although the most frequently used variants in preparing perception maps can be lined up as "quality, price, frequency, and kind of occurrence, comparing with competitor products and specific benefits provided by the product," some other variants such as conformity

of corporations' geographical location, attitude of the employees, physical environment, food and beverage quality, accessibility, and cleaning can also be added (Uner and Alkibay, 2001).

METHOD

This research is based on the area review. In this research, the perception maps are issued, which show the locations according to the preferring reasons of the consumers of the hospitals being active in Sakarya. In the research, a survey form, which is formed by scanning the related literature as data-collecting tool in the research, is used. The first part of survey consists of two parts: 29 expressions, that are considered to be effective in the hospital choice of the consumers arranged according to the 5-point Likert scale (1= has no effect to 5= very effective). On the other hand, the second part of the survey consists of six questions in which consumers' demographical specifications are asked (Appendix-1). Consumers, who reside in the Sakarya District Center, are considered as the universe of the research. In the sample selection, easy sample method is used. In this research, by face-to-face survey techniques, usable 515 surveys are collected. Related to the analysis of the data obtained as a result of the research, factor analysis and discriminant analyses are used. The results are evaluated in 95% confidence interval and in $p<0.05$ significance level.

ANALYSIS AND FINDINGS

As seen in the Table 1, of the participants, who attended to the study, 37.7% of them were women and 62.3% of them were men. Greatest majority (67.0%) of the participants, who attended to the study, were of the consumers with the age of 26–45. Of the participants, who attended to the study, 4.5% of the consumers were over the age of 56. From this point of view, it can be said that most participants were of middle-aged individuals. Of the participants, who attended to the study, 34.4% of them had high school, 23.3% had associate degree, 16.5% had bachelor's degree, 15.7% had elementary degree, and 10.1% had postgraduate education.

According to their professions, the distribution of the attendants was as the following: workers (20.8%) and craftsman (17.5%) are in top and they are followed by educator (13.8%), officer (13.2%), and technical personnel (10.1%), and it is important to consider the industry region of the district in which study was carried out. The attendants obtained an income mostly between 751 and 1500 TL (45.0%). This is followed by participants, who obtained an income between 1501 and 2250 TL (22.9%) and people obtained ≤750 TL income (22.3%). The rate of the people, who obtained an income between 2251 and 3000, is 5.2% and just 4.5% of the attendants notified that they obtained an income worth of 4.5% ≥3001 TL. The attendants mostly live with families consist of 4–6 people (55.7%), and it is followed by 39.0% that is families with 1–3 people. Just 2.9% of the attendants live with families consist of 7–9 people and 2.3% of them live alone.

Before beginning factor analysis, data are previously tested with α reliability coefficient using SPSS program. The test result is 0.921 and data are accepted as safe. After the reliability test, first factor analysis, which consists of 29 expressions that are considered to be effective with the hospital choice, is carried out. As a result of this analysis, KMP value of 0.920 is calculated and the Bartlett Sphericity test result is significant (p=0.000). This result shows that the sample

to carry out factor analysis is applicable.

Table 1
Socio-demographic specifications

	Specification				Specification		
Gender	Woman	194	37.7	≤25		75	14.6
	Man	321	62.3	26–35		197	38.3
	Total	515	100	36–45		148	28.7
Occupation	Worker	107	20.8	46–55		72	14.0
	Craftsmen	90	17.5	**Age** ≥56		23	4.5
	Educator	71	13.8	Total		515	100
	Officer	68	13.2		Primary Education	81	15.7
	Technical person	52	10.1		High school	177	34.4
	Farmer	35	6.8	**Education level**	Associate Degree	120	23.3
	Housewife	33	6.4		Bachelor's Degree	85	16.5
	Retired	32	6.2		Postgraduate	52	10.1
	*Other	27	5.2		Total	515	100
	Total	515	100		≤750	115	22.3
Number of people that you live together	Only	12	2.3		751–1500	232	45.0
	1–3	201	39.0	**Level of income**	1501–2250	118	22.9
	4–6	287	55.7		2251–3000	27	5.2
	7–9	15	2.9		≥3001	23	4.5
	Total	515	100		Total	515	100

* People who work on behalf themselves, such as pharmacist, dentist, and lawyer, in the areas that they work, they received education

As a result of the first factor analysis in which 29 expressions are included, five factors are obtained. In the direction of the above explanations, after the evaluation, factor loads in the study are examined and since the expressions 6th, 7th, 13th, 19th, and 21st showed destructive effects, they are removed from the scale. Factor analysis is again carried out for the remaining 24 expressions. As a result of the analysis, total expressed variance of the scale is 67.617% and its Cronbach's alpha value is found to be 0.910 (Table 2).

Scale used in the study is collected in four groups: in the first group (physical factors), 8, 14, 16, 20, 21, 22, 24, 25, 26, 28, and 29 expressions are used; in the second group (factors related to the treatment), 3, 4, 11, 12, 15, 17, 18, and 23 expressions are used; in the third group (financial factors), 2 and 5 expressions are used; and last group (transportation factors), 1, 9, and 10 expressions are used. Names given to these four groups are used as the dimension names in the perception map. At the same time, factor analysis is a technique which aims to reveal operation specifications of the system by examining the relationships between all variants in a system consisting of dependent variants to each other. By this means, by gathering together in certain factors, variants can be presented in a more summary-shaped data set. Therefore, variants with decreased number can be used in regression and discriminant analysis (Cakmak, 1992).

Table 2
Factor analysis results related to the consumer perceptions effective for the hospital choice.

Kaiser-Meyer-Olkin Measure of sampling adequacy (KMO)			0.915
Bartlett's test of sphericity			Significant
Df	276	Sig.	0.000
Cronbach's alpha	0.910	Explained total variance	67.617

Perception dimensions	Factor loads	Expressed variance	Cronbach's alpha
I. Physical factors		32.465	0.955
Easy access to the units that I look for in the hospital	0.848		
Having clean and well-kept areas that I use	0.828		
The employees being helpful for the patients and their relatives	0.827		
Not having irritating odors	0.823		
Having clean patient rooms	0.810		
Having appropriate and comprehensible direction finding signboards.	0.805		
Having refreshing waiting rooms	0.803		
Providing appropriate appointment time period for the examinations	0.781		
Carrying out the examinations by modern devices	0.767		
Having employees with formal appearance	0.711		
Having good behavior of the medical personnel towards the patients.	0.704		
II. Factors related to the treatment		20.734	0.898
Provided information related to my sickness by the doctor	0.838		
Reserving enough time for the examination by the doctor	0.793		
Having accurate and timely treatment	0.750		
My trust towards the doctor	0.710		
Having the treatment for my sickness in this hospital	0.709		
Getting polyclinic services easily	0.694		
Respect towards my privacy	0.597		
Respect towards patient rights	0.541		
III. Financial factors		7.322	0.774
Having economical treatment expenses	0.902		
Being a public hospital	0.871		
IV. Transportation factors		7.097	0.534
Having easy transportation	0.858		
Being close to house or to workplace	0.651		
Having enough parking lot	0.610		

Mostly used two methods in the preparation of perception maps are discriminant analysis and multidimensional scaling. Discriminant analysis is the proceeding that presents the differences of two or more numbers of groups through discriminant variants. It is a wide concept that involves some statistical processing that is closely related with each other. These approaches

can be discussed in two main categories. While having benefit from these approaches, approaches in the first category are used to construct the differences between groups and approaches in the second category are used for the purpose of separating the units into groups. If the discriminant analysis is applied for determining separation function, it is referred as definitive discriminant analysis, and if it is applied for the purpose of classification, it is referred as estimator discriminant analysis (Cangul, 2006). In this study, discriminant analysis is used for the purpose of constructing the differences between the groups.

If the results of a discriminant (separation) analysis are not meaningful in terms of statistical, it is not right to make a prediction based on that model or constructing the model as in the regression analysis. Related to this significance, it is measured with Wilk's Lambda λ (Nakip, 2003). In this context, since the significance level of first category ($\lambda=0.672$, p=0.000) and second category ($\lambda=0.835$; p=0.000) is p<0.05, their separation powers are an important level. Dimensions of third ($\lambda=0.918$, p=0.152) and fourth ($\lambda=0.973$, p=0.606) categories do not have important level of separation power. Besides, 54% of the whole differences between the variants that form the scale of the dimensions are explained by the first discriminant factor and 23.4% of are explained by the second discriminant factor. Two factors together have 79.8% explanation power. Each hospital brands' location for these determined dimensions are shown in Table 3 and the perception map appears as a result of it which is shown in Figure 1.

Table 3
Distribution between the hospital brands of the variants that are taken by first and second discriminant functions

Brands	1. Discriminant function (physical factors)	2. Discriminant function (factors related to treatment)
A1	−0.631	−0.282
A2	0.602	−1.168
A3	−0.227	0.463
A4	0.499	0.076
Other[*]	0.145	−0.421

*A5, A6, A7, A8, and A9 hospitals

Mostly preferred first four hospitals while forming the perception map are directly taken, and the remaining hospitals are gathered together under other headline.

When the perception map in Figure 1 is considered, it is observed that physical factors and factors related to treatment have a separate effect for the preferring reasons of the hospitals located in the Sakarya District Center. A3 and A4 hospitals have a more positive effect for the people to prefer the hospital with respect to the factors related to treatment. On the other hand, A1 and A2 hospitals have a more negative effect.

A1 and A3 hospitals are public hospitals and A2 and A4 hospitals are private hospitals. From this point of view, it can be said that there is no difference between the private and public hospitals related to treatment. On the other hand, A2 and A4 hospitals appear a more positive with respect to physical factors. By this conclusion, it can be said that private hospitals pay more attention for physical circumstances.
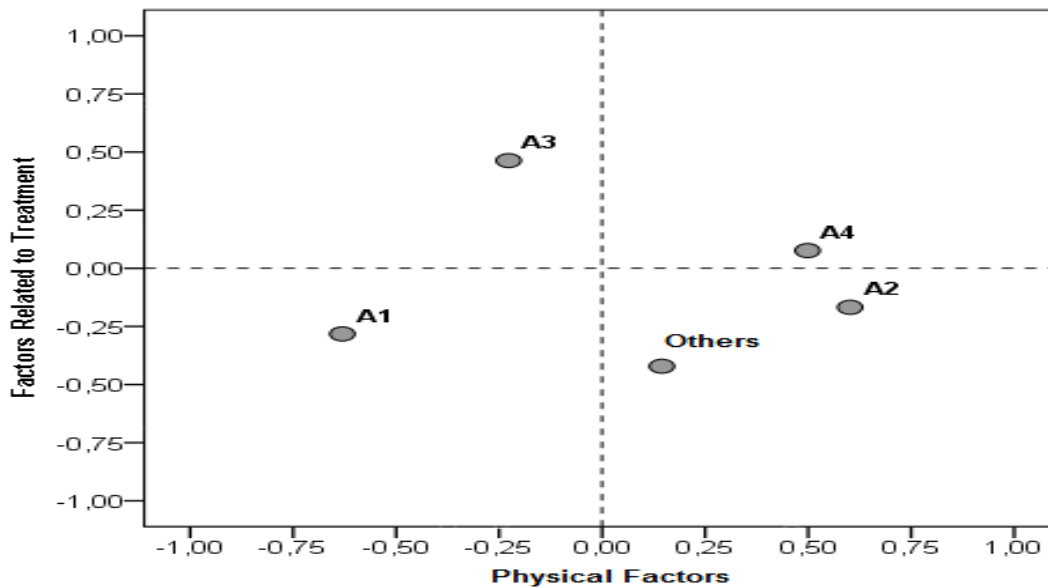
Figure 1. Perception map shows the locations of the hospitals according to the perceptions of the consumers

CONCLUSION

From the factors that are effected for preferring hospitals by the consumers, in relation to the perception map formed with physical elements of the hospital and factors related to treatment; while A2 hospital is the best perceived hospital with 0.602 value for physical elements, A1 hospital becomes the most negatively perceived hospital with –0.631 value for physical elements. On the other hand, in relation to the factors related to treatment offered by the hospital, best perceived hospital is A3 hospital and most negatively perceived hospitals consist of A5, A6, A7, A8, and A9 hospitals of the other groups with –0.421 value. This group is followed by A1 hospital with –0.282 value. While A4 hospital is placed in the area where the two dimensions are positive in the map, A1 hospital is placed in the area where two the dimensions are negative, which are exact opposite.

When we examined the locations where the hospitals are positioned, A2 and A4 hospitals are the ones which are positioned as the closest to each other. Under these circumstances, it can be said that A2 and A4 hospitals compete in the close courses. These two hospitals being private support this situation. On the other hand, A3 hospital, which is a public hospital, is perceived fairly higher from A4 hospital, which is its closest competitor with respect to factors related to treatment. However, performing physical elements in A3 hospital with respect of customer request and expectations can cause increase in the competitive power.

As a result of the study, two dimensions, which differentiate the hospitals in the minds of the costumers related to the health services offered by the hospitals being active in Sakarya, are determined. These dimensions involve the criteria that will guide them in the activities of

positioning and re-positioning that they will carry out during the health service presentation in Sakarya. Notwithstanding, by the perception maps formed from the dimensions, in which dimensions if the hospitals are perceived as to be sufficient and in which dimensions if they perceived as to be not sufficient by the patients, are made in a visual form.

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APPENDIX-1
Factors Affected the Hospital Choice

	By using the scale below, please evaluate the articles that you consider to have effect for you to prefer the hospital that you would like to have service. Very effective ⑤---④---③---②---① Has no effect.					
1	Being close to my home or workplace	5	4	3	2	1
2	Being a public hospital	5	4	3	2	1
3	Having respect to patient rights	5	4	3	2	1
4	My trust toward the doctor	5	4	3	2	1
5	Low treatment expenses	5	4	3	2	1
6	Short-time duration examination	5	4	3	2	1
7	Taking appointment easily by Internet or telephone	5	4	3	2	1
8	Having well-arranged appearances of the employees	5	4	3	2	1
9	Having easy transportation	5	4	3	2	1
10	Having enough parking lot	5	4	3	2	1
11	Separation enough time of the doctor for the examination	5	4	3	2	1
12	Providing information by the doctor related to my sickness	5	4	3	2	1
13	Having good behavior of the nurses toward the patient	5	4	3	2	1
14	Having good behavior of the medical personnel toward the patient	5	4	3	2	1
15	Having treatment of my sickness in this hospital	5	4	3	2	1
16	Having clean patient rooms	5	4	3	2	1
17	Having accurate and timely treatment	5	4	3	2	1
18	Getting polyclinic services easily	5	4	3	2	1
19	Providing service in all branches	5	4	3	2	1
20	Having refreshing waiting rooms	5	4	3	2	1
21	Having appropriate appointment time period for the examinations	5	4	3	2	1
22	Carry out the examinations by modern devices	5	4	3	2	1
23	Respect toward my privacy	5	4	3	2	1
24	Not having irritating odors	5	4	3	2	1
25	Easy access to the units that I look for in the hospital	5	4	3	2	1
26	Having appropriate and comprehensible direction finding signboards	5	4	3	2	1
27	Special services provided in the hospital (MRI, tomography, etc.)	5	4	3	2	1
28	The employees being helpful for the patients and their relatives	5	4	3	2	1
29	Having clean and well-kept areas that I use	5	4	3	2	1

Personal information

1. Your occupation

2. Gender   Female   Male

3. Age (years)

| 15–25 | 26–35 | 36–45 | 46–55 | 56–65 | 66 and over |

4. Monthly income (TL)

| 0–750 | 751–1500 | 1501–2250 | 2251–3000 | 3001 and over |

5. Educational background

| Primary | High school | Associate degree |

Bachelor's degree		Graduate school		Doctor's degree
6. Number of people that you live with your family				
I live alone	1–3	4–6	7–9	10 and over

Thank you for sparing your time.

THE IMPLICATIONS OF SOCIAL MARKETING DESIGN BASED ON CONSUMER PERCEPTIONS: AN EXAMPLE OF DECEPTIVE ADVERTISING

Fu, Chen-Su, National Cheng Kung University

Lin, Chin-Feng, National Pingtung Institute of Commerce

ABSTRACT

Recently, deceptive advertising of slimming products via TV media and Internet has phenomenally increased by using misleading statements in advertising to convince target consumers to purchase the advertised products. This study aims to reveal whether consumer's involvement, trust and loyalty toward the slimming products will influence the effects of deceptive advertisement and whether the demarketing strategy proposed by Taiwan government can reduce the deceptive advertising effects and social costs.

The analytical results of this study indicate that high-involvement consumers pay more attention on the price, guarantee and discount emphasized by the deceptive ads. Conversely, low-involvement consumers care about the package, taste and the weight-loss idea that is conveyed to them. Notably, "efficacy results" is the most important psychological factor that influences consumer perception toward the slimming products and purchase intentions, no matter high or low involvement consumers. Advertising endorsers and guarantee are found to enhance the level of trust and loyalty toward the advertised product. Thus, the government can select appropriate endorsers for its demarketing advertisements to educate people the healthy ways of losing weights, in order to reduce the advertising information asymmetry between buyers and sellers.

RELATIONSHIP BETWEEN HEALTH INSURANCE, FAMILY INCOME, AND THE BURDEN OF OUT-OF-POCKET EXPENSES FOR RX DRUG IN THE US

Manuel Pontes, Rowan University

Nancy Pontes, Rowan University

ABSTRACT

The major purpose of this research is to investigate the relationship between health insurance, family income, and the burden of out-of-pocket (OOP) prescription (Rx) drug expenses for non-elderly persons in the US. To that end, we used 2005 data from the nationally representative Medical Expenditure Panel Survey (MEPS) conducted annually in the US by the Agency of Health Care Research and Quality (AHRQ). Three measures were used to assess whether OOP Rx drug expenses were a substantial financial burden. They are, a) person's family spent ≥ 5% of family income on OOP Rx drug expenses, b) person's family spent ≥ 10% of family income on OOP Rx drug expenses, and c) person had unmet needs for Rx drugs. Results showed that without adjustment for family income, the families of persons (<65 years of age) who had no health insurance were _significantly less likely_ than the families of persons with public health insurance to spend either 5% or 10% of family income on OOP Rx drug expenses. In addition, among persons 18-64 years of age, those with no health insurance were _significantly less likely_ to have unmet needs for Rx drugs than persons with public insurance. Results also show that the uninsured are only a minority of all persons with high OOP burden for purchasing Rx drugs.

In order to examine the effects of income and health insurance we examined the relationship between type of health insurance on OOP drug expense burden at two levels of family income as a percentage of the Federal Poverty Level (FPL) (0-124% of FPL, ≥125% of FPL). Families of persons with no health insurance and higher incomes (≥125% of FPL) were significantly less likely to spend a large percentage of family income (either 5% or 10% of family income) on OOP drug expenses than lower-income (0-124% of FPL) families of persons with either private health insurance, public health insurance, or no health insurance. Among lower income families (0-124% of FPL), those with persons who had no health insurance were _not more likely_ than those with persons who had health insurance to spend a large percentage of family income (5% or 10% of family income) on OOP expenses for Rx drugs. Finally, among adults (18-64 years), uninsured persons with higher family incomes (≥124% of FPL) were significantly less likely than persons with public health insurance to have unmet needs for Rx drugs.

Thus results show that there is a significant negative relationship between family income and the likelihood that families have a substantial burden of OOP Rx drug expenses or have difficulty purchasing Rx drugs. More importantly results also show that among low-income persons (0-124% of FPL) the percentage of the uninsured that pay a substantial percentage of family income on OOP Rx drug expenses, is not greater than the percentage of persons with

public or with private health insurance. Also, results show that most non-elderly persons who have a high OOP burden for the purchase for Rx drugs have health insurance. Efforts at health care reform in the US need to recognize the substantial exposure to OOP Rx expenses experienced by low-income families <u>even when they have health insurance</u> and to address the substantial burden of OOP Rx drug expenses on US families that <u>do have health insurance</u>.

MARKETING RESEARCH

ISSUES IN TECH-ATTRIBUTES IN NEW PRODUCT CONCEPT EVALUATION: DE-BIASING EFFECTS OF CHOICE BASED CONJOINT

Junhong Min, Michigan Technological University

M. Deniz Dalman, Ithaca College

Tae Eon "Ted" Lim, TNex

EXTENDED ABSTRACT

Many companies make substantial investments on R&D and marketing research to develop a new product. A key success factor of new product development is to create product differentiation and to provide customers with superior values greater than the competitors in the same industry (Porter, 1985). Companies often rely on tech-attributes to create meaningful differentiation against the competitors. The examples of the tech-attributes can be found in many areas including the optical disc technique differentiating the Blue-Ray player from the regular DVD player, the voice activation feature equipped in GPS and mobile phones, the induction technology applied to a variety of cooling appliances, and recently green technologies replacing existing products with the eco-friendly products.

However, if consumers have difficulty understanding the true value of tech-attributes, it may be difficult for marketing researchers to measure the effects of tech-attributes on product concept evaluation. Given this backdrop, the purpose of this research is two-fold; one is to explain how product differentiation can be made by tech-attributes and empirically examine that the product differentiation by tech-attributes can be vulnerable under certain conditions. The other purpose is to provide a possible solution- choice based conjoint analysis that makes consumers fairly evaluate the tech-attributes even though they have never experienced them before.

Results show that consumers evaluate tech-attribute less important in traditional survey method using compositional approach (i.e., how much important this tech-attribute is) than conjoint analysis using decompositional approach. In addition, we find that the amount of efforts made during the product concept evaluation play a moderator role in respondents' perceiving the value of tech-attributes. When respondents do not make sufficient efforts, the importance of tech-attribute is lower in traditional survey method than conjoint analysis. However, when respondents make sufficient efforts, the importance of tech-attribute is higher in

traditional survey method than conjoint analysis.

These findings should be carefully interpreted because this research contains several limitations. We empirically tested the de-biasing effect of conjoint analysis with only one tech-attribute. To generalize our argumentation, several different tech-attributes from different product categories should be investigated. Secondly, we did not discuss about the evaluation strategies that respondents may selectively apply to. Prior research shows that there are two types of thinking strategies-holistic thinking strategy and analytical strategy. It is expected that different types of thinking strategy used during the tech-attribute evaluation may cause different results. Lastly, we failed to include important manipulation checks (e.g., measuring degree of product familiarity and amount of efforts made during tech-attribute evaluation) in our experiments, which might potentially inflate measurement errors.

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TEACHING MARKETING RESEARCH USING PROJECTS: ALTERNATIVE APPROACHES

Vaidotas Lukosius, Tennessee State University

ABSTRACT

Professors teaching marketing research constantly receive lower than average course evaluation ratings. Research shows that marketing students are less inclined to utilize quantitative analysis tools and methods as compared to other business majors, less likely to posses relevant work experience (Liu 2010). Based on empirical findings it is argued that students should be involved in research projects that a) employ mix of qualitative and quantitative techniques, b) have direct and immediate business world implications. The author presents classification of marketing research projects and their impact on student learning of core marketing research concepts. In conclusion, results suggest that piecemeal approach with self-selected topics create high involvement learning environment

MARKETING EDUCATION--GREAT IDEAS AND TEACHING ASSIGNMENTS

INTEGRATING ROLE-PLAYS INTO A SALES COURSE: STEPS, MATERIALS AND CORRESPONDENCE

Michael W. Pass, Sam Houston State University

EXTENDED ABSTRACT

Role-playing is used extensively in industry to train sales representatives. This presentation covers an effective way to integrate student role-playing into a personal selling and sales management course. When preparing and delivering role-plays, students learn and apply course concepts so they achieve deeper learning of the selling process. A challenge for professors is determining the best way to develop and implement role-play assignments while also teaching sales management topics. This presentation addresses the challenge.

An overview of course structure is presented to show how personal selling issues and sales management topics are integrated into one course. Personal selling topics include the process undertaken when completing an initial sales call and it is based on the need-satisfaction selling method. This non-manipulative selling method is taught by comparing it to other sales methods and teaching students the ADAPT questioning system. As part of the sales process student also learn how to handle customer objections and different ways to close the sale.

Sales management topics integrated into the course include the role of a sales manager, how to structure as a sales force, leadership, motivation, compensation and similar topics. These are taught as students prepare for role-plays, which demonstrate their understanding of the need-satisfaction method of selling. This selling approach necessitates that they know the ADAPT questioning system, how to handle customer objections and ways to close a sale.

Many students have not been exposed to role-plays, as a learning activity, and they are not familiar with need-satisfaction selling so the steps taken to support students in the learning process are complex. The steps can be viewed as having a structure set by the instructor and a process undertaken when interacting with students. These two areas are covered during the presentation. Structurally, the role-play component of the course includes formation of teams, student selection of products to sell, workshops to cover the selling process, role-play worksheets and in-class role-play environment. With regard to process, the instructor's approaches to

setting the structure may vary. Suggestions are presented for how to support students so they feel well prepared for the role-play activities.

FACULTY SALARY STUDY

Sanjay S. Mehta, Sam Houston State University

EXTENDED ABSTRACT

Learning Objective: This assignment is designed for a Marketing Research Course. The primary purpose of this assignment is to get students familiar with doing research from secondary sources (i.e., finding it, evaluating it, and entering data). The secondary purpose of this assignment is to get students to learn simple random sampling techniques. The tertiary purpose is get students to use SPSS to conduct simple statistical analysis. The fourth purpose is to get students to be more engaged with their institution (many are surprised to see that this information is publically available).

Introduction: An article was published several years ago titled "Salary Growth Rates in Texas' Higher Education: The Growing Gap between Faculty Salaries and Administrators' Salaries." The article claimed that the gap is widening between faculty and administrators in Texas public institutions of higher education.

What I am asking students to do is conduct a cross-sectional study to determine if such a gap exists at their institution (SHSU). In order to conduct the study, they have to get a copy of the Annual Budget (or view it online). The Budget is "generally" located at the library (reference desk). Since many students need access to the budget at the same time, I have asked the librarian to scan the document into a pdf file. I give students specific instructions on how to access the budget online.

Instructions: We have approximately 700 faculty members here at SHSU and approximately 35 departments (with one administrator each). We have 5 Colleges with each college having multiple departments (e.g., COBA has 4 departments and 65 faculty members). See organizational chart (http://www.shsu.edu/~vaf_www/staff/) for additional details.

I want students to design a scientific study using sample statistics to determine if there is a significant difference in salaries (at a 0.05 level) between various groups. One way to randomly select a faculty member is to put all alphabets (A-Z) in a hat and randomly pick 2 (with replacement). The letter(s) picked at random will be used to determine the last name of the faculty member to be included in the sample. I want students to explain in maximum 2 pages (double space) how they did the sampling (random selection), data entry, data analysis, and what were their findings/conclusions. I ask them to include a cover sheet, the Excel printout (with data entered), and the SPSS output generated.

Entering the data (code book and template): Use a code of 1 for administrators and 2 for faculty in column "A" of the Excel salary template provided (i.e., posted on blackboard). Put down the exact name of the department in column "B". In column "C" put down the name of the professor/administrator that was selected randomly. In column "D" use a code of 1 for Professor, 2 for Associate Professor, 3 for Assistant Professor, 4 for Lecturer, and 5 for other. In

column "E" use codes for the 5 colleges (College of Arts and Science=1; College of Business Administration=2; College of Criminal Justice=3; College of Education=4; College of Humanities and Social Sciences=5), in column "F" please put the 2009-10 salary of the individual, and in column "G" put the 2010-11 "recommended" salary of the individual. Next, I give students instructions to find the student evaluations of each faculty member. In column "H" please enter the average student's evaluation score received by each faculty and administrator.

Caution: Think about the sampling technique carefully (sample size and process of selecting the individual). I want you to select all departments on campus. Determine the salary of the department head/chair (he/she is an administrator) and enter the department name in column "B", their name in column "C", etc. of the template. Then randomly select 2 faculty members from the same department and input their information (you will have to explain how random selection was done by your group). Input this data (e.g., rank, college, etc.) in the Excel template provided. Then open SPSS and import the Excel file into SPSS and answer the following set of hypotheses:

1. *Is there a significant difference between the mean faculty salary and the mean department chair salary at SHSU?*
2. *Is there a significant difference in salary across ranks (i.e., do professors earn significantly more/less than associate professors and assistant professors, etc.)?*
3. *Is there a significant difference in salary across the 5 colleges (i.e., do faculty members of one college earn more than faculty members of other colleges)?*
4. *What is the average raise received by faculty/chair at SHSU (i.e., difference between the mean of 2010 and 2011 for the sample). Is that number significantly different than zero?*
5. *Is there a relationship between the student's evaluation of the faculty member/chair and their 2010 salary?*
6. *Is there a relationship between the student's evaluation of the faculty member/chair and the annual raise the faculty members/chairs received in 2010?*
7. *Report anything interesting you found in the data.*

Time needed: I normally give students 2 weeks to complete the assignment. It takes students between 4-6 hours to complete the assignment. I ask students to work in teams of two.

Implementation: Having the budget and evaluations available on line is a "must". Students may need help in determining what statistical analysis to conduct to test each of the hypotheses. Sometimes a department chair may be listed as "to be announced". You may have to ask the students to ignore that department or include it with the projected salary listed and no evaluation scores.

CHOICES OF ONLINE VERSUS LECTURE COURSES: A PILOT STUDY

Sharon Thach, Tennessee State University

Vaidotas Lukosius, Tennessee State University

ABSTRACT

Distance education in the US has gained momentum with higher education institutions adding more courses to be delivered online. A number of factors have been shown to explain why students take either a regular or an online class. This study has identified four factors: demographics, attitudes toward classes, satisfaction, and learning outcomes as determinant in shaping student choices. Four-factor model is hypothesized with eleven propositions. Finally, a research plan with a survey instrument, data analysis and potential implications is presented.

INTRODUCTION

On-line courses, first offered in the 1990's, have grown to encompass entire degree programs. Distance education often is viewed as a necessary, but inferior, substitute for in-person lecture classes, although the permutations and varieties of distance formats are amazing. On-line courses open higher education to full-time workers, those in rural areas, people interested in degree completion or seeking additional certifications while doing other things while offering more feedback and time convenience than the old correspondence school or televised courses. Educational institutions view on-line courses as potentially less expensive alternatives to on-campus offerings and as a source of additional enrollment. Additionally, the emergence of large universities that are entirely on-line and whole degree programs offered on-line through regular universities exhibits strong growth.

> *"According to the 2008 report about Online Education in the United States by the Needham-based Sloan Consortium, more than 20 percent — 3.9 million — of all college students were taking at least one course online in the fall of 2007, and the numbers continue to grow. The number of students enrolled in online learning increased 12 percent over the previous year, and online enrollment growth far exceeded the 1.2 percent growth of the overall higher education student population, according to Sloan, an organization dedicated to integrating online education into mainstream higher education"* (Botelho 2009).

There is, however, much concern over student persistence, both in individual courses and for overall degree programs and the education al quality of on-line only instruction. A number of factors, such as academic and technical skills, motivation, time and support for study have been shown to act as barriers to online education (Muilenburg and Berge 2005). There has been publicity about completion rates and dropouts, although the comparisons to overall student patterns may be inaccurate as the populations enrolled in on-line courses tends to differ from the general, traditional student population (Beqiri, Chase, and Bishka 2010). Despite the interest in

comparing on-line students to traditional classroom students, not much attention has been directed to differences among the student populations within on-in classes. Persistence to completion and learning is a function of several factors: motivation, priorities and involvement. This research is directed at understanding more about differing student motivations for engaging in on-line learning, as well as other factors determining the choice and perception of on-line enrollment.

PREVIOUS RESEARCH

In the past 15 years, several streams of research regarding on-line education have emerged: technology issues, design of effective courses, demographics of student populations versus traditional education, and differences in learning. This study focuses on factors that determine student choices for on-line version of a course also offered during the same semester in the traditional format as well. Previous research into student motivation and performance in this alternative delivery system tends to concentrate on four issues:

a. demographic characteristics of enrolled students,
b. attitudes toward classes based on factors thought to promote engagement,
c. learning outcomes, and
d. satisfaction.

Student Demographic Characteristics

The earliest studies of student demographic differences in enrollment showed that on-line classes were more likely to attract non-traditional students. Not only were the students more likely to be older and working, they were also more likely to be non-degree students, more likely to have experience in the field of study, and more likely to have family responsibilities (Dutton and Dutton 2005; Dutton, Dutton, and Perry 2002; Tallent-Runnels et al. 2006). Pontes et al. (2010) reviewed research on student demographics for on-line enrollment, concluding that students who either enrolled in, or who preferred, on-line classes were those who had family responsibilities, worked more than 10 hours per week, lived some distance from the campus, and generally older than the traditional student population (Allen et al. 2002; Bernard et al. 2004).

Some research also indicates that even within the population of on-line students, different demographics exhibit different behavior with respect to the courses. Older students and working students were more likely to focus on the task, and less likely to look for social interaction from the course than traditional-aged students in the same on-line courses (Robinson and Hullinger 2008). Traditional students were more likely to remain enrolled when there were opportunities for social interaction and expressed more satisfaction with the courses. Of course, this also assumes that the format of traditional classes is conducive to social interaction and interaction with the instructor. Whether on-line courses are any less impersonal or thought-provoking than large section courses with low-accessibility faculty is an open question.

Proposition 1a. Non-traditional students are more likely to view on-line courses positively.

Proposition 1b. Traditional students are more likely to choose on-line versions of courses they view as low priority classes.
Proposition 1c. Non-traditional students are more likely to enroll in multiple on-line classes.
Proposition 1d. Non-traditional students are more likely to report satisfaction with previous on-line courses than traditional students are.

Student Attitudes

Surveys of student populations as a whole indicate that students prefer traditional classroom presentations to on-line only courses (Allen et al. 2002; Bernard et al. 2004), although use of discussion and other inter-active features in on-line classes may substantially alter student perceptions (Eom, Wen, and Ashill 2006). Dutton et al. (2002) found that students who preferred on-line classes were far less likely to value face-to-face contact with either the instructor or fellow students, did not find that regular attendance increased motivation to study, and were less likely to be auditory learners.

Students with previous experience in computing and on-line courses were more likely to indicated satisfaction with on-line courses. However, the last finding raises a complex issue. Students who were able to choose a mix of on-line and traditional courses were more satisfied with on-line education than those who were solely enrolled in on-line courses (Pontes et al. 2010). This suggests that something beyond general features of traditional vs. on-line and demographic situation may be at work in student preferences. Some of the possible factors affecting student preferences may include: familiarity with the subject (Beqiri et al. 2010), actual alternative course design (large lecture versus small section as in (Robinson and Hullinger 2008), and the desire to acquire an education with a mix of deliveries which reduce role stress but do not eliminate all features of traditional college education. The additional finding in Beqiri et al.(2010) that student perception of whether on-line courses are appropriate in determining their overall attitudes may be related to the particular courses taken previously. That experience, in turn, may underlie students' greater satisfaction with a blend of courses, rather than an either/or choice of delivery. The importance many students placed on instructor interaction as a reason for satisfaction with on-line courses may reflect class size and campus culture issues: instructor interaction and feedback, although assumed, is not necessarily a feature of an in-class format.

Proposition 2a: Students who are more familiar with the course content are more likely to choose an online class.
Proposition 2b: Students' past experience with online classes will determine the desire to take an online class in the future.

Outcomes and Satisfaction

Motivation itself – defined within this body of research as the desire to acquire a specific body of knowledge or to acquire a degree or certificate – also moderates student perceptions of on-line courses as well as satisfaction and outcomes (Franola 2001; LaRose and Whitten 2000). Students who show a high degree of motivation are more likely to finish the course, and more

likely to express satisfaction with on-line learning.

It is also the case, however, that many of the students who choose to enroll in on-line courses are students who, regardless of motivation, also are at high risk for non-completion due to family responsibilities, work, or disability. Nevertheless, when factoring in those situations that constitute the pool of at-risk students, student completion and performance rates for on-line classes are actually somewhat better than their persistence and performance in traditional classrooms (Pontes et al. 2010; Robinson and Hullinger 2008), although the overall completion rate for on-line students is substantially lower than for overall completion rates in traditional format classes.

It is reported that student performance is at least equal to traditional formats in comparisons of student learning (Eom et al. 2006). Although traditional students in most previous research indicate a preference for interaction and a belief that it improves their learning, actual comparisons show little difference. Certain features of course design made a difference in student satisfaction (Eom et al. 2006; Muilenburg and Berge 2005), but design mattered in terms of engagement and outcomes only in relationship to learning styles (Lou, Bernard, and Abrami 2006). A study of comparative student engagement, as defined by NSSE showed that online students exhibited generally higher levels of engagement; this was particularly true for high grade point students and those who reported high levels of satisfaction with their university experience in general (Robinson and Hullinger 2008).

Recognizing that motivation, technical skill, and risk factors have played prominent roles in studies of student completion, performance, and satisfaction, several screening surveys have been developed to allow students to assess the likelihood of success in on-line courses. (Hall 2008) reported that answers to questions about technical skill assessment and risk factors had little correlation with actual student performance once enrolled in an on-line course. A missing factor may be a determination of student motivation and engagement.

It may be that there are several different aspects of motivation not captured in previous studies. It is not clear why students choose the particular classes they do to take on-line or conversely in person when they were not doing so for reasons of family care or work. It has not been investigated whether the student comparison set is a small interactive traditional course or a large, impersonal lecture section. Even motivation itself is open: some students always want to perform at a high level; others will expend effort on courses they see as relevant to their goals or of personal interest and be satisfied to pass the others. Two factors affect persistence and performance: realistic previews of the time commitment required to successfully complete the course and continuous intervention support during the course (Franola 2001). Without such guidance, one may find that students with either low motivation for the specific course or those who tend to procrastinate will be more likely to enroll in an on-line course, but less likely to persist or do well.

Proposition 3a: Motivation will be higher for students taking an online class.
Proposition 3b. High grade point students will be more likely to choose to enroll
in on-line classes.
Proposition 3c. Low grade point students are more likely to enroll in on-line

classes by default.
Proposition 3d. Students with high procrastination are less likely to have chosen on-line classes.
Proposition 3e. Students with high procrastination are more likely to be traditional students.

MODEL

We have built a conceptual model with demographic characteristics, attitudes, learning outcomes, and satisfaction as antecedents to student choice of taking classes online. The model is shown in Figure 1.
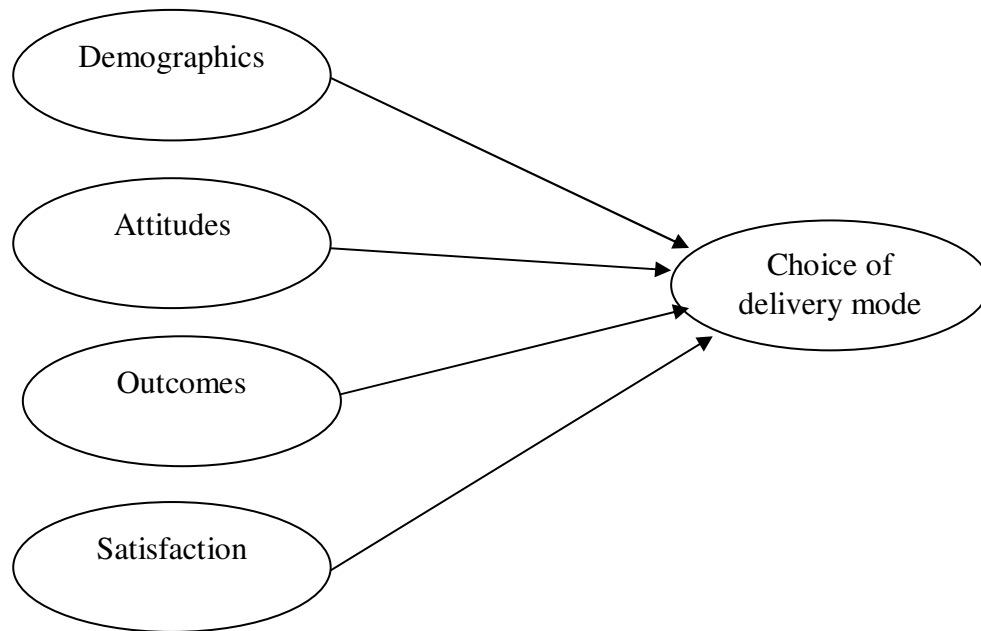
Figure 1. Conceptual Model

RESEARCH PLAN

Participants for the online part of this pilot study were junior and senior undergraduate business students enrolled in introductory-level marketing and management courses. Participants for the traditional in-class part of this study will be their peers enrolled for the same class but in different, non-online section. Students were asked to participate in the survey during the first five weeks of the semester and were offered extra credit for participation. Students who consented to take part in the study filled out an electronic online questionnaire. The need for a very flexible survey that allows use of dynamic questionnaire structure and the type of student population to be surveyed guided the choice of data collection method. Authors have utilized LimeSurvey 1.90+ version to construct and deliver the questionnaire.

SURVEY INSTRUMENT

To capture data on five propositions developed in this study, a survey instrument was administered to students taking junior level business courses. The survey included both new and existing scales taken from past research studies. Level of commitment and engagement were measured using five-point Likert type scale developed by the authors. Satisfaction with online classes was measured using a seven-item five-point Likert type scale (Oliver 1997). Procrastination was measured using the instrument developed by (Lay 1986). A simplified four item version of the technology readiness scale was administered (Parasuraman 2000). Additional questions that measure student performance, their expectations and motivations in choosing an online class were also included in the survey.

Two versions of the instrument will be created, one for online-only students and the other for in-class only students. There will be no significant changes in the instrument other than wording of questions related to online and traditional classes.

DATA ANALYSIS

Data analysis will be conducted using univariate and multivariate techniques. Group comparisons will be conducted using either t-tests or ANOVAs and probability modeling will be conducted using logistic regression.

IMPLICATIONS AND DISCUSSION

Implications of this study will be geared for academic teaching staff and for the administrators in higher education. In teaching environments, it is imperative to understand the nature and make-up of student body so that teaching methods are tailored to suit the intended audience. We hope that our research will help instructors to better understand characteristics, motivation and reasons which caused students to enroll in online class. Administration in higher education will also benefit from this study by knowing that how to foster online education programs by selectively marketing to traditional and non-traditional students.

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STUDENT TRACK

PARENTAL USE OF NUTRITION LABELS

Caitlyn A. Miller, Rome GA

Nancy D. Albers-Miller, Berry College

EXTENDED ABSTRACT

Nutrition labels are required on all packaged foods sold in the US. Nutrition labels were created to help people make healthier food choices (Drichoutis, Nayga and Lazaridis 2009). Research shows people who read nutrition labels are more likely to live healthy lives than people who do not (Chu et al 2010) and the nutrition labels have been required to help a consumer make well informed dietary choices (Drichoutis, Nayga, and Lazaridis 2009). Unfortunately, the US Department of Agriculture has concluded that our current nutrition labels have not significantly change the behavior of consumers (Chu et al 2010).

The US Nutritional Labeling and Educational Act (NLEA) mandates the nutritional content of all packaged foods be provided on a standardized label, but some have suggested that the current labeling laws should be strengthened (Chu et al 2010). One study shows that consumers misinterpret information given (Howlett, Burton, and Kozup 2008), this confusion is exacerbated because companies that make health claims on the package were less likely to be the most healthy option (Taylor and Albers-Miller 2006). US nutrition labels have been criticized for a lack of a standardized serving size. The lack of a standardized serving size allows food manufacturers to minimize the impact of undesirable ingredients (Albers-Miller and Miller 2010). One study concluded that consumers rarely consider what is listed as the "serving size" provide on the label (Bayar et al 2009). Furthermore, this lack of standardization makes it extremely difficult for consumers to make side-by-side comparisons of similar products and to draw appropriate conclusions about which food is the healthier alternative.

The FDA's most recent change in the label requirements has mandated that the nutrition labels contain information on the amount of trans fats in food (Howlett, Burton, and Kozup 2009). Research shows that foods high in trans fats are a contributing factor to heart disease (Filip et al 2010) and are associated with clogged arteries (Zelman 2010) and have been linked to atherosclerosis (Chen at el 2010). Trans fats have no known benefits (Howlett, Burton, and Kozup 2009). Despite the publicity of the problems associated with saturated fats, trans fat are even more problematic and more unhealthy (Zelman 2010, deRoos, Bots and Katan 2001). U.S. Dietary Guidelines simply recommend keeping trans-fats consumption as low as possible

(Zelman 2010). Under US labeling law, if the amount of trans fats in a serving is under 0.5 grams, it is not required to be reported on the nutrition label. This loophole, coupled with the lack of standardized serving sizes, allows manufacturers to hide trans fats by purposefully manipulating the serving size small enough to make the trans fats less than 0.5 grams per serving (Albers-Miller and Miller 2010).

While many consumers fail to use nutritional information or to use this information properly, some consumers are very dependent on the information on the labels. It is exceptionally important for consumers with heart disease and other health problems to be careful about what they eat (Howlett, Burton, and Kozup 2009). One study says that individuals with food-related health problems value nutrition labels (Loureiro, Gracia, and Nagya 2006). Researchers have reported that women are particularly concerned with their diet and health (Rozin, Bauer, and Catanese 2003), and are more likely to read the nutrition label on food than men are (Nagya 2000). Parent make food decisions for children and are directly responsible for the food related health of their children. Nutrition labels should be particularly important to parents.

The purpose of this study is to research the degree to which consumers and parents as consumers for their children uses and understand food labels. This study examines consumer habits with regard to use of nutritional information, tests nutritional knowledge and evaluates the degree to which the respondents could compare two similar food items and determine healthier alternatives. Additionally, this study examines whether mothers are more incline to read nutrition labels than fathers. This study also looks at the affect health issues have on how people look at nutrition and nutrition labels. Managerial and public policy implications are offered.

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EXTRACURRICULAR ACTIVITIES AND COLLEGE ADMISSIONS

Travis D. Miller, Rome GA

Nancy D. Albers-Miller, Berry College

EXTENDED ABSTRACT

Research has clearly shown that people who graduate from college have better career success and earn more than those who do not (Economist 2010). While only about 25 percent of colleges and universities in the US have a highly selective process (Bowen and Bok 1998), getting into the best school possible can have an impact on future opportunities and earning power (Economist 2010). Trends indicate that the applications are up at some of the best schools, which makes getting accepted even harder (Alberts 2010). Even if a student is not seeking admission into the most selective schools, preparing properly is still important to have opportunities for scholarships and admission in to selective degree programs.

By early high school, college bound students often find themselves thinking about the college application process. There is a wealth of information available. From books to Independent Educational Consultants, students have access to a great deal of advice.

Books, websites and consultants assisting students in preparing for the college application process almost always indicate the value of having the best grades possible and good standardized test scores. Many caution that even great grades and scores may not be enough. Beyond maintaining good grades and obtaining high scores, prospective college students are encouraged to prepare a well developed application with several key characteristics.

Additional proof of academic commitment and success, beyond a GPA and test scores, is often encouraged. Many have cautioned against "gaming the system" by taking easy classes to improve a GPA and increase a class rank (Nui and Tienda 2010). Others have reports on the questionable use of high school level transfer grades of difficult courses in an attempt to hide poor grades (Farran 2009). Most recommend that a student take appropriate college preparatory classes (eHow 2010), and to take the most challenging classes that the student can handle (Johnson 2010). Students should demonstrate engaged thinking (Cole 2009). Taking college level classes, completing AP courses and gaining AP credit are often recommended as a positive signal to admissions officials (eHow 2010, Johnson 2010, Klopfenstein and Thomas 2009, and Pinchin 2009).

Demonstrating leadership is also frequently recommended. Taking on leadership roles provides evidence of important skills (Johnson 2010). Leadership roles can be elected offices in a high school, but need not be. Leadership activities outside of school may be equally as valuable as in-school roles (eHow 2010, Griggs 2009, Kanu 2008). Spearheading projects in the local community sends a positive signal (Alberts 2010). Scouting has been recommended as good leadership training (Griggs 2009).

Beyond academics, high school students are encouraged to get involved, to develop talents and show off strengths (Cole 2009, eHow 2010 and Johnson 2010). Extracurricular activities and experiences outside of the classroom have been suggested as important (eHow 2010, Johnson 2010, Kingsbury 2008 and Kanu 2008). Evidence of volunteering is a positive characteristic (eHow 2010 and Johnson 2010). Participating in team sports and athletes has been reported as favorable (eHow 2010, Johnson 2010 and Kingsbury 2008). Gaining the rank of Eagle Scout or indicating progress toward Eagle Scout has also been cited (eHow 2010, Griggs 2009).

The recommendations are potentially overwhelming. Clearly an Eagle Scout with great grades, exceptional test scores, advanced placement credit, a solid record of leadership and volunteering, who served as captain on a high school team might make the best possible candidate, but reality dictates that people often make choices between activities. Overall, the quality of experience is more important than quantity (Kanu 2008). It would be helpful to understand how admissions decision makers evaluate candidates when they have some, but not all of the most positive traits.

This study uses a conjoint analysis to examine how admissions officials evaluate candidate characteristics. Respondents were asked to evaluate the desirability of a range of applicants with a variety of skills and experiences. The latent trade-off between characteristics was examined. Recommendations for high school students are provided.

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HOW COME THE NUMBER ONE COUNTRY IN THE WORLD AVOIDS THE NUMBER ONE SPORT IN THE WORLD?

Jorg Bergmann, Berry College

Nancy D. Albers-Miller, Berry College

EXTENDED ABSTRACT

Few would argue that soccer is the number one sport in the world. In Europe, South America and Africa, many would consider soccer to play an important role in the society. Within these markets, soccer expands yearly and attracts many spectators from all over the world.

In a comparative sense, the economic impact of soccer in the US has remained much smaller than other markets. For example, the Barclay's Premier League, the first professional league in England, attracts a world television audience which exceeds 1.8 billion viewers (Hughes 2007). Major League Soccer, in comparison, attracts an average of only 251,000 households (Collins 2006). The global impact of soccer exceeds $20 Billion (Hughes 2007). In 2008, the 20 Premiership teams in England shared a combined earnings of £2.7 billion (about $5.4 billion), in television revenues (Smith 2008). The television rights to air five years of Premier League soccer cost Sky Television £191 million (Hughes 2007). Internationally, sponsorships cost companies millions. For example, Schalke, a German team, receives €20 million per season from the Russia's state energy company Gazprom (Hughes2007).

Previous research has examined why people engage in leisure activities and why people choose to support specific teams and attend particular events. One study determined that there are ten major motivations for sports consumer to attend events: empathy, social interaction, family, team effort, team affiliation, achievement, entertainment, skill, drama, and escape (James and Ross 2004). Understanding how these motivations influence the selection of activities will provide insight into the decision process of sports fans in the context of soccer.

One study on American time use indicated that American adults spend an average of 5.18 hours on per day on leisure and sports, secondly only to the category "sleeping and personal care" (Hurst 2008). Seemingly, Americans spend significant time pursuing leisure activities, but proportionally spend much less time on soccer than people in other countries. In the US, soccer competes for attention with US favorites, including baseball, football and basketball (Szymanski 2005). Understanding how US sports enthusiasts compare soccer to baseball, football and basketball will provide extremely useful strategic guidance to individual promoting soccer in the US.

The purpose of this research is to examine consumer perceptions of soccer in a comparative context with their perceptions of baseball, football and basketball. Data for this study were collected using online surveys targeted to young adults who are active consumers of sports entertainment. Implications for sports marketing are provided.

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USING PRODUCT SALES TO GENERATE CHARITABLE CONTRIBUTIONS

Tiffany G. Chandler, Berry College

Nancy D. Albers-Miller, Berry College

EXTENDED ABSTRACT

Charitable giving is a topic that has been given little attention in academic research. The most carefully covered research question relates to why people give. One study indicated that people give because of a sense of "duty." This duty makes them feel the need to make philanthropic donations, and donations in turn provide some type of personal benefit (Ackerman 1982). A later study supported this finding by concluding that people give because it is the normative thing to do. A person's social conscience drives them to fall in line and do what is expected (Radley and Kennedy 1995). The conclusions from the previous research support two primary reasons: 1) a feeling of responsibility and 2) an emotional personal benefit from giving.

While previous research has been insightful into the reasoning behind why people do give, there have been few studies that carefully explore why individuals do not give and more specifically why people do not give to a specific cause or charity. It might be easy to conclude that the choice to not give is the absence of the motivations to give (e.g. there is a lack of sociality pressure to exhort a feeling of responsibility or a lack of personal benefit from the joy of giving). This study postulates that the reasons behind not giving are more complicated. In an economic reality of limited resources, people must make decisions in light of opportunity costs which must be evaluated. It has been reported that donors are making smaller contributions and giving to fewer causes (Fundraising Success Magazine 2009).While a person may be motivated to give, economic reality necessitates a trade off of choices, not only between other charitable possibilities, but also between meeting personal needs and desires. These choices are potentially even more complicated in the case when prospective donors are faced with the opportunity to make a charitable contribution as part of consumption of a needed product. It is important to consider not only the motivations that encourage giving, but also the process of evaluating the characteristics of the product of interest.

Consumers must not only evaluate the decision to donate through consumption compared to the decision to donate in a more traditional manner, but then also consider product attributes. Research has indicated that consumers considered quality and price of primary interest when considering such a contribution (Bhattacharya and Sen 2004, Ross, Patterson and Stutts 1992, Sharpio 1982). The convenience to the consumer in the purchase of a good also has an impact on purchase decision (Berry, Seiders, Grewal 2002, Kumar, Kalwani and Dada 1997). The consumption decision is complicated by two aspects of the donation: 1) how much of the purchase amount is actually supporting the charitable organization and 2) how directly does the donor feel associated with the contribution (e.g. gaining that emotional benefit of giving). Research has indicated that donors are more likely to give closer to home (Cui et al 2003).

The purpose of this study is to better understand how consumers' make these complex decisions of charitable contributions through consumption of a product. For the purposes of this study consumers were asked to consider a situation where they were considering make a charity contribution by way of the purchase of a pair of casual shoes. This is a realistic scenario because such an organization is in practice today.

This study used a conjoint analysis to examine the latent decision processes that consumers use in evaluation varying levels of quality, price, and convenience. Additionally, the conjoint profiles varied the level of contribution associated with the amount of product purchase. Finally, this study experimentally compared the decision-making in three locations. A control group of contributions to children in the United States is compared to two treatment groups (children in Argentina and children in Uganda). Implications for strategy in nonprofit organizations are provided.

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ADVERTISING

THE MOTIVATIONS OF ENDURING PRODUCT INVOLVEMENT

Kevin J. Cumiskey, Eastern Kentucky University

ABSTRACT

Enduring involvement (EI) has been studied vigorously in the consumer behavior literature. Extant research has operationalized EI as high-versus-low or present-versus-not present. However, it is believed that EI is a more complex construct that has multiple motivations. The author utilizes seven EI motivations proposed in earlier research and an additional motivation to identify the number of underlying factors of enduring product involvement. This research reports six motivations of EI for consumers across three product categories. Structural equation modeling was used to analyze the relationships of these six dimensions on overall enduring involvement. The results demonstrate significant findings for both advertising and marketing communication.

INTRODUCTION

Enduring involvement (EI) has been a widely applied concept within consumer behavior for a number of years. The EI construct has been applied to topics such as advertising effectiveness, opinion leadership, innovativeness, search activity, price sensitivity, and decision processes (Bloch, Commuri, and Arnold, (Working Paper)). Although there have been various definitions and conceptualizations in the involvement literature, researchers generally agree that EI reflects the level of ongoing interest in a product category and may vary widely from one individual to another (Bloch and Richins 1983; Celsi and Olson 1988; Higie and Feick 1989; Zaichkowsky 1985). Certain individuals will exhibit very little EI for a given product category while others will become highly-involved consumers, even to the point of becoming product enthusiasts who join clubs or subscribe to magazines and newsletters devoted to the product category.

The study of high-involvement consumers is important for several reasons. High EI consumers tend to spend freely on products related to their particular area of interest and are often more willing to welcome innovations (Bloch and Richins 1983; Csikszentmihalyi 1975; Feldman and Armstrong 1975; Bloch, Commuri, and Arnold (Working Paper)). For example, as Bloch, Commuri, and Arnold note, video equipment buffs were generally among the early

adopters of flat panel televisions despite their high costs, and clothing enthusiasts often drive the early acceptance of new fashions. High EI consumers tend to gather a large amount of product information and become important sources of information and advice for other consumers (Bloch, Sherrell and Ridgway 1986; Price and Feick 1984). In many cases, lower-involvement or less-informed consumers who are in the market for a product seek out these high-EI individuals to obtain product information in lieu of conducting an extensive search of their own (Bloch, Commuri, and Arnold (Working Paper). Personal experience indicates that the purchases of many types of products, such as automobiles, electronics, and sporting goods, are often preceded by consultation with a friend or acquaintance who is seen as a product category expert.

Coulter, Price, and Feick (2003) and Bloch, Commuri, and Arnold (Working Paper) have noted that although enduring involvement has been extensively researched, little attention has been given to its development. Researchers seem to recognize the importance of EI, but considerable insight is needed into *how* and *why* people become involved. Bloch, Commuri, and Arnold (Working Paper) addressed this gap in the literature by conducting a qualitative study of product enthusiasts that sought to identify the origins of EI (See also Bell, Arnold, Bloch, and Commuri (2006)). Through the use of autobiographical narratives, they identified seven types of high EI consumers that "appear to represent different endpoints in the evolution of enduring involvement with a product category" (Bloch, Commuri, and Arnold, pgs. 29-30). It should also be noted that Bell, Arnold, Bloch, and Commuri (2006) applied the EI typology to the behavior and performance of sales employees. These studies are an excellent first step towards gaining a deeper understanding of enduring involvement that goes beyond merely identifying whether or not a consumer is involved. One problem does exist, however, with the conceptualization of EI types. Because it is likely that a person would experience EI as a result of more than one dimension, classifying the underlying dimensions as types limits the true understanding of EI. Due to this reasoning the author proposes the underlying factors as motivations rather than types. One of the goals of the present research is to build on the results of Bloch, Commuri, and Arnold (Working Paper) and Bell, Arnold, Bloch, and Commuri (2006) by developing items that can quantitatively measure the various motivations of EI. In addition, the author aims to identify the various factors, or motivations, of high EI that emerge from the data to investigate whether the results support the seven EI categories from the typology proposed by Bloch, Commuri, and Arnold (Working Paper).

LITERATURE REVIEW
Involvement

Involvement is defined as a continuously-distributed individual difference variable reflecting the interest and excitement some product categories engender in consumers (Flynn and Goldsmith 1993). Involvement has been conceptualized as having two states: enduring involvement, which is a long-run general concern with the product category, and situational involvement (SI), which is the temporary state of involvement that often accompanies risky purchases. Richins, Bloch, and McQuarrie (1992) found that consumers exhibit a baseline level of product category interest (enduring involvement) that may be supplemented during purchase occasions (with situational involvement) if there is a certain amount of risk associated with the purchase.

High EI consumers derive pleasure from not only using the product category of interest, but also from product-related activities such as readings or discussions (Csikszentmihalyi 1975). For these individuals, the product category remains constantly in the foreground of consciousness (Dannefer 1981). The high EI consumer's attention is often involuntarily occupied by the product category, and he or she will experience product-related thoughts during both work and non-work hours (Dannefer 1981). Bloch and Richins (1983) note that while EI is not directly observable, it leads to important consumer behaviors such as ongoing product search and opinion leadership.

In the following section, the author will discuss the major motivations of influence that have been proposed to affect enduring involvement and relate these influences to the seven EI motivations proposed by Bloch, Commuri, and Arnold.

The Influences of Enduring Involvement

Endemic Product Influences. Bloch, Commuri, and Arnold (Working Paper) identified two general categories of EI influences that they label Endemic Product Influences (EPI) and Socialization and Social Influences (SSI). In the EPI category, "the reinforcement and reward derived from product-related activities are sufficiently strong to create and sustain an involvement in the product category" (Bloch, Commuri, and Arnold pg. 7). Their identification of specific EPI influences was based in part on Holbrook's (1999) typology of consumer values. One of the consumer values that Holbrook discussed is *play*, which focuses on the recreational usage of a product. If product usage provides strong hedonic benefits to the consumer, this may cause the consumer to continue using the product, ultimately leading to EI (Bloch, Commuri, and Arnold). The value of *play* as an influencer of EI is supported by the findings of Bryan (1979), who noted that consumer involvement with outdoor recreational activities comes from the rewards of solitude, escape, and ritual play that such activities provide. Similarly, Stebbins (1992) found that when an individual's initial experience with an activity is very pleasurable, involvement can form rather quickly. As Bloch, Commuri, and Arnold (Working Paper) suggest, the potential for playful product usage might also be a factor in determining which product categories are more likely to engender EI in consumers.

The importance of play as an influence of involvement is manifested in the *Explore* category of EI in Bloch, Commuri, and Arnold's typology (see Table 1 for an explanation of each EI motivation). Explorers demonstrate the value of play as they tend to enjoy tweaking the product and discovering dimensions of performance not yet unfolded by the manufacturer (Bloch, Commuri, and Arnold). Similarly, the value of play seems to instill EI in the *Hobby* involvement motivation as well, although the involvement of consumers in this category tends to fluctuate (Bloch, Commuri, and Arnold). Play also perhaps influences the formation of the *Ritual* motivation of EI, in which product-related "interactions are ritualistic and carry sacred meaning" (Bloch, Commuri, and Arnold pg. 52).

A second type of endemic influence identified by Bloch, Commuri, and Arnold comes from Holbrook's *excellence* category of value, in which the consumer values an object for its superior functionality or ability to accomplish some goal. Norman (2004) introduced a similar idea in his discussion of the behavioral benefits of product design when he posits that consumers

perceive value in objects that are particularly usable and functional. Based on these findings, Bloch, Commuri, and Arnold (Working Paper) suggest that EI can develop when excellent product performance provides benefits or rewards to the consumer. It is interesting to note, however, that in the EI typology proposed by Bloch, Commuri, and Arnold, there is no motivation of EI that is directly based on the superior performance or functionality of the product, indicating that either this type of involved consumer did not really exist in their sample or that this aspect of involvement was overlooked in the analysis of their results. It seems intuitive to the current author that superior functionality would likely lead to EI for some consumers, so a measure is included in the survey.

Another consumer value discussed by Holbrook (1999) is the *Aesthetic* category. In this category, consumer value is derived simply from the beauty or visual appearance of a product. Similarly, Norman (2004) suggested that consumers derive powerful emotional signals from aesthetic cues. Therefore, it seems, as Bloch, Commuri, and Arnold (Working Paper) suggest, that the design of a product may serve as an important source of product involvement. This motivational influence is captured in Bloch, Commuri, and Arnold's *Aesthetic* motivation of EI, in which the involvement is centered on the visual appearance or design of a product.

Another of Holbrook's consumer values is *status and esteem*. Within this category, consumer value comes from products that symbolize personal accomplishment and enhance self-esteem. Luxury goods, rare collectibles, and souvenirs of exotic travel are among the product categories in which enduring involvement may be based on status and esteem (Bloch, Commuri, and Arnold (Working Paper)). Researchers have also demonstrated that product involvement can result from the personal meaning derived from a product category. For example, scarce or unusual products have been shown to become involving because they define a unique self (Snyder and Fromkin 1980). Bloch, Commuri, and Arnold's *Status* involvement motivation, which centers on products and brands that are popular and "say something" about the consumer, is indicative of the influence that status and esteem can have on involvement.

Socialization and Social Influence. The second category of EI influence identified by Bloch, Commuri, and Richins is Socialization and Social Influence. This view is based on the idea that enduring involvement may be developed and maintained through reinforcement from family members and peers (Csikszentmihalyi 1981; Iso-Ahola, Jackson, and Dunn 1994). Stebbins (1992), for example, argued that involvement with leisure activities that develops early in life is often the result of socialization effects. Stebbins also discussed the role of parents in the early formation of involvement as the parents often make the product or activity available to the child and supply the resources that allow positive product-related experiences to occur. Parental approval is also identified by Stebbins as a major influence on the development of involvement.

In summary, parents facilitate the formation of EI by introducing their children to certain activities and products and offering positive reinforcement when the child responds by showing interest (Bloch, Commuri, and Arnold (Working Paper)). As a result, we often see that children become involved in the same product categories as one or both of their parents. This notion is supported by Dannefer's (1981) research on automobile enthusiasts. The study found that in approximately 13% of cases, an automobile enthusiast's father also exhibited high EI with cars. Parental influence has also been found as an influence on involvement in such categories as

fashion (Bloch 1993) and hunting (Bryan 1979). In fact, Bryan found that over 80% of hunters surveyed were first introduced to the activity by their parents when they were children. Similarly, researchers have also shown that parental influence affects the interests that children develop for pursuing certain careers (Holland 1985; Jodl et al. 2001). One interesting aspect of the parent-child relationship's influence on involvement that to our knowledge has not been explored in the involvement literature is the influence that children have on the formation of the parents' involvement with certain products or activities. This influence seems evident in the numerous parents around the United States who had very little interest in soccer (or other activities) until their child began playing, but then became highly-involved fans of the sport. Perhaps this two-way influence on involvement should be further investigated in subsequent studies.

Beyond the parental influence that affects involvement formation during childhood, various other social influences may contribute to the development of EI. For instance, studies suggest that both product preferences and recreational choices (and presumably EI) are influenced by group influence and pressures to conform (Childers and Rao 1992; Stokowski 1990). In Coulter et al.'s (2003) study of involvement with cosmetic products, for example, the authors found that economic and cultural changes in Central Europe led to higher involvement with cosmetics. Product involvement may also provide opportunities to socialize with others or make friends (Bloch, Commuri, and Arnold (Working Paper)). This motivation of involvement is evident in consumers who join various types of product-related organizations, such as book clubs, fan clubs, and wine tasting clubs (Bloch, Commuri, and Arnold (Working Paper)). As Bloch, Commuri, and Arnold explain, initial product involvement of this kind may only be a means of attaining social rewards and networking opportunities, but increased exposure to the product category along with social reinforcement may eventually lead to a deeper involvement with the product category itself.

The parental and social influences on EI seem to facilitate the development of both the *Nostalgia* and *Network* categories of EI from Bloch, Commuri, and Arnold's typology. Nostalgic involvement, characterized by a longing for product variants no longer readily available, is likely formed during childhood through product-related interactions with parents and family. The Networker, who uses the product category as a means of interacting with others, obviously is motivated by social aspects of the product category as well.

In summary, I have discussed enduring involvement and the motivational influences that facilitate its development. Next, I related each of the seven involvement motivations from Bloch, Commuri, and Arnold to the type of influence that likely contributes to the formation of each motivation. Table 1, reproduced from Bloch, Commuri, and Arnold (pg. 52), summarizes each of the seven proposed EI motivations.

The qualitative research conducted by Bloch, Commuri, and Arnold provides a good foundation for beginning to understand enduring involvement in a manner that extends beyond simply operationalizing the construct as present-versus-absent or high-versus-low. Thus, the present study attempts to further the understanding of the enduring involvement construct by identifying the principal factors that comprise EI and their influence on the construct.

It is expected that several of the EI motivations proposed by Bloch, Commuri, and Arnold to emerge from the data, as well as perhaps a functional aspect of product involvement that was not previously proposed. Once I have identified the principal components of EI, I posit that each of the components will be significant positive predictors of enduring involvement. See Figure 1 for the proposed model.

METHOD

Participants

Two-hundred twenty-three students at a Midwestern university participated in this study. Ten respondents were dropped from the analysis due to unusable data. The final sample consisted of one-hundred six females (49.8%) and one hundred one males (47.4%). Six respondents did not specify gender (2.8%). Respondents evaluated a product category on the various constructs as described next. In an attempt to measure the underlying motivations, respondents selected one of three product categories in which they felt most involved. These product categories were fashion, portable music players, and a university's athletics program.

Measures

The author developed a questionnaire to capture the respondents' evaluations on the following motivations: aesthetic, nostalgia, hobby, function, network, explore, ritual, status, and enduring involvement. Aesthetic was measured with five items from Bloch, Brunel, and Arnold's (2003) scale. Nostalgia was measured using five items from Holbrook's (1993) scale. The three items for hobby and three items for function were developed by the author for this study. The four items for network, five items for explore, and three items for ritual were developed for this study based upon findings from the qualitative research of Bloch, Commuri, and Arnold. The four items for status were based upon Richins' (1994) scale. Enduring involvement was measured using Zaichkowsky's (1994) scale. See Table 2 for items used in this study.

Analysis

The analysis was conducted using LISREL 8.8 (Jöreskog and Sörbom 2006). "Structural equation modeling is a method for representing, estimating, and testing a theoretical network of (mostly) linear relations between variables" (Rigdon 1994, p.251). Thus it is an appropriate tool to use in this analysis. I began with the two step approach suggested by Anderson and Gerbing (1988). A confirmatory factor analysis (CFA) was conducted on the nine variables proposed to measure the eight motivations (aesthetic, nostalgia, hobby, network, status, explore, ritual, and function) and the overall construct of EI. The path coefficients for all items onto the following variables were significant and meaningful: aesthetic, network, status, explore, function, and enduring involvement. Problem measures were found in the other motivations: nostalgia, hobby, and ritual. The results from each CFA can be seen in the attached output.

The basic measurement model (see Figure 1) consisted of nine latent variables (eight exogenous; one endogenous) and 42 indicators. The phi matrix was not positive definite, suggesting that the proposed model had problems. The measurement model did not give

acceptable model fit indices (χ^2 = 1734, df = 783; p < .00); comparative fit index (CFI) = .93; standardize root mean residual (SRMR) = .091; root mean square error of approximation (RMSEA) = .081. Generally acceptable fit indices include CFI > .96, SRMR <.08, and RMSEA < .06. The CFI and RMSEA indices are best for misspecifications at the measurement level, whereas SRMR is appropriate for structural misspecifications.

None of the exogenous variables demonstrated a significant relationship with the endogenous latent and many of the exogenous variables showed significant correlations with one another. After running multiple nested models by subtracting paths one at a time, one item in nostalgia that provided a negative relationship with the latent was dropped from the model. Both hobby and ritual were just identified latent variables with three indicators each and the path coefficients for hobby and ritual did not provide an adequate measure of each latent variable. Consequently, these latent variables were dropped from further analysis. The six emerging motivations were named based upon the items remaining for each construct. Those included are Network, Function, Aesthetic, Explore, Nostalgia, and Status. The proposed motivations of Hobby and Ritual did not hold.

The nested model had changes to the items that related to each factor. Network consisted of six items (ne1 – ne4, ss3, h2), four items for function (f1 – f3, d2), four items for aesthetic (a1, a3 – a5), three items for explore (e1, e2, e4) five items for nostalgia (no1, no2, no4, no5, h3), and two items for status (ss1, ss2). The changes were based upon further analysis of the factor loadings for the items and latent variables. In the nested model, all indicators had significant relationships with the corresponding latent variables (see the attached output), suggesting a better representation of the EI construct. The second model provided better, but still not sufficient, levels of fit (χ^2 = 1050, df = 506; p < .00); CFI = .94; SRMR = .083; RMSEA = .072. Although the fit indices were not acceptable, three exogenous latents did exhibit significant relationships with the endogenous latent variable. Network and function had positive relationships with enduring involvement and, unexpectedly, the nostalgia factor was negatively related to enduring involvement. Perhaps this result is due to the convenience sample chosen by the author or limitations with the product categories. To attempt to improve fit and provide a better representation of the model, it was necessary to conduct another analysis.

After paths were added and subtracted, the final model (see Figure 2) included the aforementioned latent variables with minor changes to the items. Network, function, aesthetic, and explore remained consistent with the nested model while nostalgia (h3 dropped) and status (ss4 added) changed. These changes were made based upon theoretical reasoning and intuition. The changes led to noticeable differences in both the significance of exogenous-on-endogenous variables and fit indices. Function and nostalgia remained significant predictors of EI while the path from network to EI dropped out. The χ^2 difference test between the nested model and the final model (i.e., $\Delta\chi^2$ = 8 on 0 df) suggests the final model is superior to the alternative nested model. The fit indices for the final model were acceptable (CFI = .95; SRMR = .079; RMSEA = .072). Results for the structural equation analyses are presented in Table 4. Problems with the items used in the data may be due to high correlations among status and network (0.86) as well as status and explore (0.84). The items for status should be reexamined to determine their appropriateness for enduring involvement.

DISCUSSION

Managerial Implications

The results of the current study indicate that six factors comprise the enduring involvement construct and that two of the factors, have significant relationships with overall product EI. These findings have important implications for both practitioners and researchers. From a marketing manager's perspective, the segmentation of consumers by the six factors of EI provides much more information than simply segmenting the market as high-versus-low EI or present-versus-not present EI. The value of identifying the actual motivation of involvement lies in the differences in behavior that is predicted from one motivation to another. For example, networkers are expected to enjoy using the product category in the presence of friends and family. Marketers can likely benefit from this knowledge when targeting networkers by emphasizing the camaraderie and social rewards that result from purchasing or using the product. Marketing communications aimed at this audience could feature the product category being enjoyed socially by friends and family and appeal to the relationships that result from the ownership of the product. Because of the social behaviors of networkers, marketers should identify these types of consumers as valuable early adopters. If a strong networker adopts a product, it is likely that he or she will spread positive word-of-mouth and attempt to get others involved with the product category as well.

Marketing communications targeting aesthetics should center on the visual aspects of the product category, or the design aspects that make one brand more visually appealing than its competitors. The results also indicate that for some consumers, the functional aspects of a product help to drive the development of EI. Therefore, superior products and functional attributes should be emphasized by marketers when targeting these consumers. The identification of the explore motivation of EI provides interesting opportunities for marketers. Explorers enjoy tweaking the product and attempting to improve its performance by using it in unique ways. Therefore, marketers can emphasize the possibilities that exist for playing around with the product and exploring its full potential. This strategy seems particularly appropriate for marketing products such as used cars or fashion accessories that allow consumers to improve the performance or explore various uses of the product category.

The nostalgic motivation of EI centers on a longing for products from the past. Marketers who wish to target these consumers should consider reintroducing old products that will specifically appeal to nostalgics, perhaps only on a limited time basis to keep the product from once again becoming modern and readily available. Nostalgics tend to have an appreciation for the way life was in the past, so designing advertisements that appeal to this value may also be an effective strategy for targeting these consumers.

Research Implications

This research provides an initial quantitative examination of motivations of enduring involvement. Five of the emerging factors confirmed prior qualitative research (networker, aesthetic, explorer, nostalgia, and status) although nostalgia was unexpectedly negatively related to overall enduring involvement. A new factor (function), which was predicted by the consumer values research of Holbrook (1999) but not by Bloch, Commuri, and

Arnold (Working Paper), also emerged from the data. Future research should confirm this new construct. Two posited constructs did not develop from the data. Perhaps the scale items for each did not correctly measure the construct or perhaps these involvement motivations are not generalizable across all product categories.

Further investigation is needed into why the constructs ritual and hobby did not take hold in the analysis. New scales may need to be developed to measure each construct within the context of product involvement. Also, this study did not cover all possible dimensions of enduring product involvement and the existence of other possible dimensions of enduring involvement should be further examined. Future researchers may consider using subjects from product enthusiast clubs to provide a more representative sample of the high enduring involvement consumer.

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APPENDIX
Table 1
Motivations of Enduring Involvement

EI Consumer Motivation	Description
Status	Active interest in the product category but such interest only translates into loyalty to popular brands.
Network	Use the product as a conduit to interacting with like-minded others.
Aesthetic	Preoccupied with the aesthetic slab of the product. Relies on other EI consumers to sort products on other parameters.
Explore	Primary focus on discovering dimensions of performance not yet unfolded by the manufacturer.
Hobby	Interest periodically fluctuates between dormancy and activity.
Nostalgia	Persistent longing for product variants no longer available. Often determined to recreate them.
Ritual	Canons and conventions are central to interactions with product. Such interactions are ritualistic and carry sacred meaning.

Table 2

Scale Items

Aesthetic

Owning XYZ-related products that have superior designs makes me feel good about myself.
I enjoy seeing displays of XYZ-related products that have superior designs.
A XYZ-related product's design is a source of pleasure for me.
Sometimes the way a XYZ-related product looks seems to reach out and grab me.
I have a pretty good idea of what makes one XYZ-related product look better than its competitors.

Nostalgia
XYZ is getting shoddier and shoddier.
They don't make XYZ-related products like they used to.
Compared to our parents' XYZs, we've got it good.
Compared to the classics, today's XYZ is mostly trash.
Today's new XYZ designers could learn from the old pros.

Hobby
I enjoy XYZ-related products when I have the time.
I enjoy reading and learning about XYZ.
My interest level in XYZ fluctuates over time.

Network
I enjoy talking to others about XYZ.
XYZ provides an opportunity to socialize with others.
I try to get other people interested in XYZ.
I would like it if more of my friends and family were interested in XYZ.

Status
My friends' opinions about XYZ are important to me.
The brands of XYZ I buy/wear say a lot about me as a person.
Other people are impressed by my interest in XYZ.
I try to keep up with the current popular XYZs and brands.

Explore
I tend to use XYZ-related products in unique ways.
I like to tweak XYZ-related products to get more out of them.
I am interested in improving the performance of XYZ-related products.
I am good at improving the performance of XYZ-related products.
I like to experiment with various types of XYZ-related product use.

Ritual
I recognize the nuances of XYZ that others do not.
I tend to follow the rules of XYZ.
I use XYZ-related products for their intended purpose.

Functional
I am interested in XYZ because it provides a function that is important to me.
XYZ-related products are useful for performing tasks in my life.
XYZ-related products are practical.

Enduring Involvement

Important	1	2	3	4	5	6	7	Unimportant
Boring	1	2	3	4	5	6	7	Interesting
Relevant	1	2	3	4	5	6	7	Irrelevant
Exciting	1	2	3	4	5	6	7	Unexciting
Means nothing	1	2	3	4	5	6	7	Means a lot to me
Appealing	1	2	3	4	5	6	7	Unappealing
Fascinating	1	2	3	4	5	6	7	Mundane
Worthless	1	2	3	4	5	6	7	Valuable
Involving	1	2	3	4	5	6	7	Uninvolving
Not needed	1	2	3	4	5	6	7	Needed

Table 3
Correlations of Final Model

Variable	1	2	3	4	5	6	7
1. Enduring Involvement	1.00						
2. Network	0.68	1.00					
3. Function	0.64	0.32	1.00				
4. Aesthetic	0.49	0.53	0.37	1.00			
5. Explore	0.42	0.57	0.36	0.64	1.00		
6. Nostalgia	-0.51	-0.14	-0.43	-0.10	0.05	1.00	
7. Status	0.58	0.86	0.37	0.71	0.84	0.05	1.00

[a] = significant at alpha =.05

Table 4
Results of Structural Equations Analyses

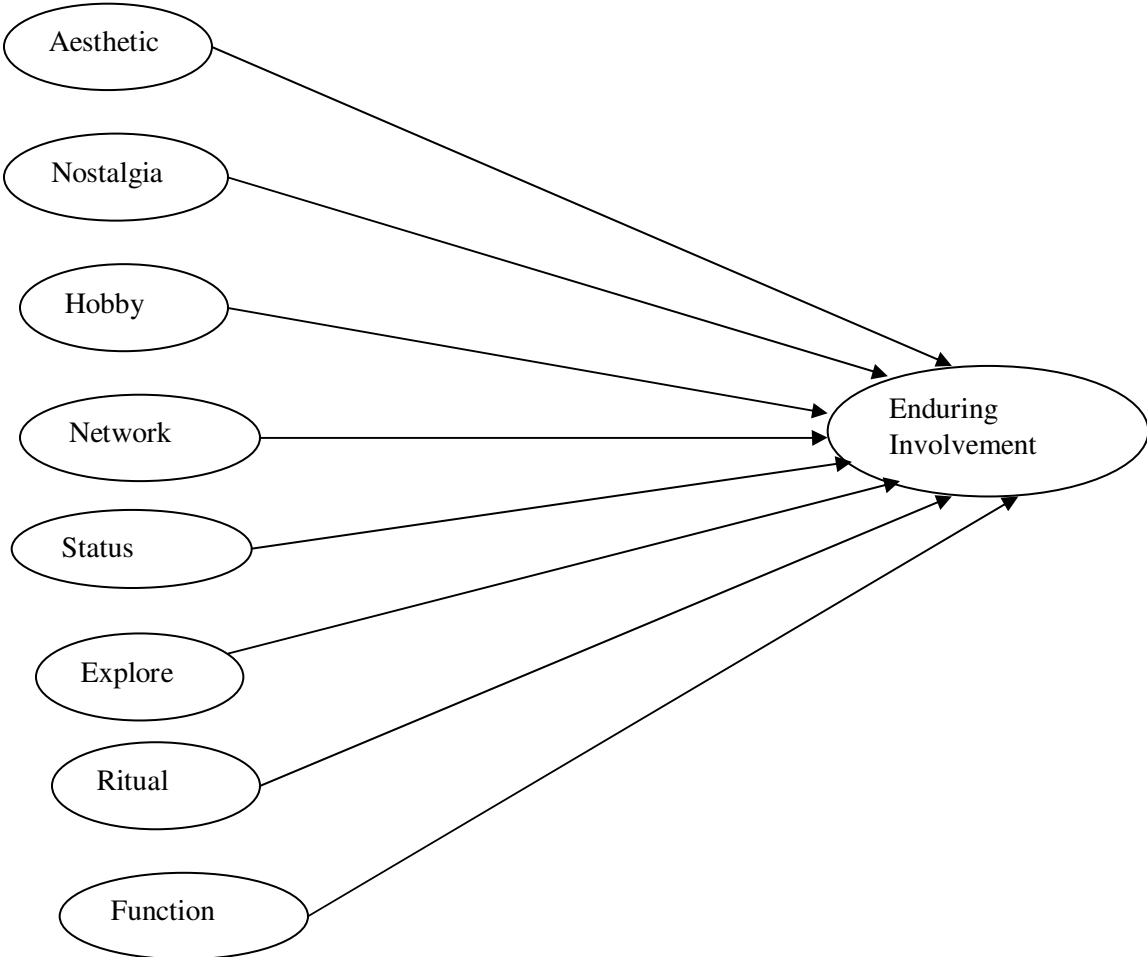| Structural Model Statistics	Conceptual Model Results		Final Model Results	
χ^2	1734.11		1042.41	
df	783		506	
CFI	.93		.95	
RMSEA	.081		.072	
SRMR	.091		.079	
Path	**Path Estimate**	**t-value**	**Path Estimate**	**t-value**
Network → EI	.51	1.12	.49	1.28
Function → EI	.53	.65	.34	3.77a
Aesthetic → EI	.16	.04	.09	0.61
Explore → EI	-.16	-.04	-.06	-0.22
Nostalgia → EI	-.85	-.52	-.28	-2.19a
Status → EI	.45	.46	.04	0.06
Hobby → EI	-.36	-.79		
Ritual → EI	-.28	-.45		

Figure 1: Basic Measurement Model
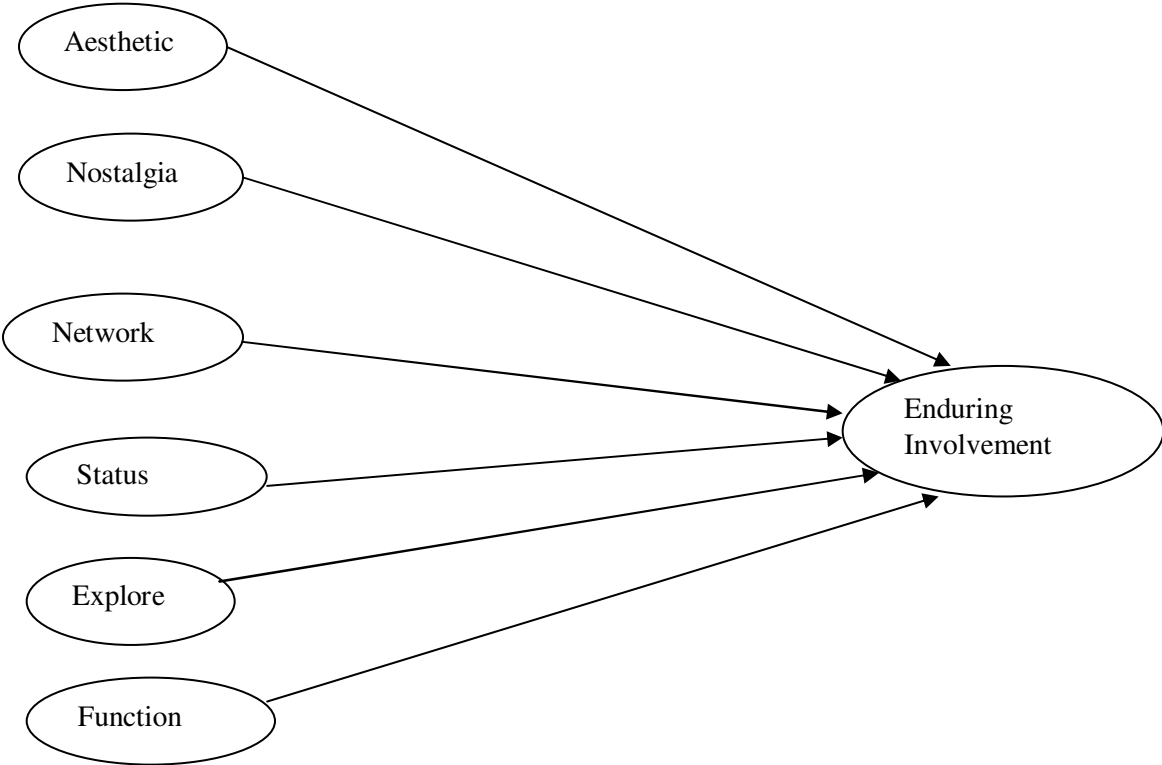
Figure 2: Final Nested Model

IDENTIFYING HIPUPS USING MARKET DEMOGRAPHICS AND SALES HISTORY DATA: SETTING ADVERTISING PRIORITIES

Kimball P. Marshall, Alcorn State University

Tatiana Verzilina, Alcorn State University

ABSTRACT

Advertising is expensive and small consumer good manufacturing companies face tight budgets. This paper explores a technique for identifying high potential, underpenetrated market segments (HiPUpS) and substantially over-penetrated market segments (SOpS) using store sales data for one year and demographic data matched to stores' market areas. The technique provides small consumer good manufacturers a cost effective way of re-allocating advertising dollars and identifying new markets for exposure. While much research as gone into developing planning models, many techniques are beyond the resources of small manufacturers. Jonker and Piersma (2002) reviewed a variety of ad planning models and note that first campaign goals must be set for a specific audience, a database of the target obtained and the target segmented, and a model chosen to forecast campaign outcomes. Statistical techniques range from nonlinear regression to Logit, Probit and Tobit models. Two drawbacks of this approach are that it requires extensive data on customers, and the probability nature of proposed models complicates planning. Similar problems beset other approaches. Reutterer et al. (2006) suggested an approach using data compression to derived prototypes for product categories, followed by constructing behaviorally persistent segments. Sriram and Kalwani (2007) addressed influences of sales promotions and advertising on brand equity and developed models for sales promotion and advertising budgets based on required levels of the brand equity. Naik et al. (2005) studied influences of advertising and promotion on brand equity to develop optimal resource allocations between advertising and promotion. Naik et al. (1998) developed a media planning model that demonstrated the superior effectiveness of pulsating strategies over continuous advertising. Lee and Kerbache (2005) developed an internet planning optimization model that revealed significant overspending. Other studies identified measures for marketing campaign effectiveness. Work by Rosset et al. (2001) suggest that "Lift" and "Response" rates can be used to assess campaign effectiveness. Gabriel et al. (2006) demonstrated the need for simple, practical approaches. Their study of more than 152 full-service and 72 creative advertising agencies in the UK revealed ignorance of advertising models. Under 50% of respondents did not use any of the advertising theories presented, 9 to 38% reported awareness of common models, 30% eschewed the use of advertising models. Reasons included that agencies choose in-house developed models to differentiate from rivals and to project a professional image, agencies hire employees without marketing, advertising and modeling backgrounds, and the complexity and time commitment involved in modeling even though over fifty percent expressed interest in theory and modeling methods.

We suggest a simple technique to aid advertising budgeting. This method does not answer all questions, but focuses on using store sales data from a single mass marketing vendor in a variety of markets for a specific product as the dependent variable, and United States

Census data for the communities in which the selling stores are located as the independent variables, to identify geographic market segments where advertising dollars might best be allocated. Using stepwise multiple regression with a large number of socio-economic and demographic variables from the United States Census (in this case 2006 data) and store size data from the vendor, a parsimonious model can be generated to predict sales levels by market for the product under consideration. Observation of residuals allows the advertising planner to identify HiPUpS and SOpS. If the residual is positive, then the actual sales exceed what would be expected on average, given the socio-demographic-economic characteristics of the store's market area (the geographic segment) and a SOpS is indicated. If negative, a HiPUpS is suggested. The planner might reduce advertising to SOpS and reallocate dollars to HiPUpS.

The technique is illustrated with data on unit sales for a health and beauty aid product for each of 500 randomly selected stores operated by a large, national, mass merchandiser obtained from the product's manufacturer. U. S. Census data for each store's market area were also provided. Over 25 variables were considered including a range of data on percentages of different age, income and household type groups by store area. In addition, store square footage was included as a control variable. Because several of the variables were percentages from the same base and therefore involved multicolinearity, forward stepwise regression was used with p=.05 thresholds. Seven variables were selected for the final model. Three involved household composition, one racial proportions, two educational patterns. The last was store square footage. As indicated by the R-square of .472, the selected variables provided a model of good fit for practical purposes. The selected variables were consistent with what the manufacturer reports for their customer base. The mean for the residuals was zero. Actual sales ranged from 34 to 356 units with a mean of 89.780. Residuals ranged from -231.518 to 316.997, indicating substantial sales opportunities among HiPUpS and potential lessons to be learned from SOpS. Considering the five highest HiPuPS outliers as examples, based on the technique described here, underselling ranged from 191 units to 231 units. In the five highest outlier SOpS market segments, residuals ranged from 270 to 317.

The benefits of the technique include simplicity and low costs. Basic multiple regression is available on current spreadsheet software programs such as Excel. However, as with any simple procedure, the technique presented here is limited to identifying HiPUpS and SOpS, and does not address other planning questions such as psychographic factors that underlie purchasing behavior and product choice, identification of advantageous media vehicles, or return on advertising investment. In addition, the regression model is not generalizable. It must be recalculated for each product or set of products and vendor. Also, the approach does not consider curvilinear relationships or instability risks due to potential multicolinearity. Therefore, the results must be carefully inspected and each advertising decision should be made on a market by market basis with a understanding of the nuances of each geographic segment.

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CONSUMER BEHAVIOR ATTITUDES, INVOLVEMENT, AND PERCEPTIONS

CONSUMER BEHAVIOR WITHIN THE TEEN SEGMENT: THE RELATIONSHIP BETWEEN FASHION INVOLVEMENT LEVEL AND LIFESTYLE ACTIVITIES

Anna A. Magie, Texas Woman's University

Deborah D. Young, Texas Woman's University

ABSTRACT

Teen consumers are a powerful part of the economy today and will continue to contribute significantly. As a result of the growing size and the spending power of this market segment, retailers are taking great notice of the lifestyle activities within this group. Research has been conducted about fashion involvement and shopping orientations, but little information has been obtained about fashion involvement and the relationship between lifestyle activities among teens. The researchers examined the relationships between fashion involvement level and lifestyle activities among teens. Results indicated significant relationships. Findings and implications are discussed.

INTRODUCTION

The teen segment, which is comprised of adolescents age 12 to 19, has been studied in fashion consumption research for several decades (Goldsmith, Flynn, and Moore 1996; Kwon and Workman 1996) because the behaviors of teen buyers affect the retail marketplace for years to come. Currently, the teen segment, with a population of approximately 34 million (Taylor and Cosenza 2002), spends an estimated $179 billion annually (Newspaper Association of America 2007), and that number is expected to increase to $208.7 billion by 2011 (Packaged Facts 2007). As a result, it is critical for retailers to gain a better understanding of this economically powerful group.

Lifestyle research for retailers has been used in previous studies of consumer behavior to provide information about the daily life of potential consumer segments (Darden and Ashton 1974; Moschis 1976; Reynolds and Darden 1972). Developing fuller profiles of the lifestyle activity preferences of consumers has allowed researchers to better understand shopping behaviors of consumers. For example, Kaiser's (1990) findings indicated that lifestyle

preferences are connected to interest in apparel, while other studies have suggested an importance of lifestyle activities in regards to the patronage behaviors of fashion consumers (King and Ring 1980). Therefore, to develop successful market strategies, it is essential for retailers to have a clear understanding of the lifestyle dimensions of the teen shopper to gain more insight into their consumer behavior process.

PURPOSE

Research regarding the fashion involvement levels, as well as the lifestyle activities, of teens is useful when analyzing this growing segment of the consumer market. Retailers agree that segmenting and developing an understanding of target groups are important to differentiating products and enhancing shopping propensity (Taylor and Cosenza 2002). Thus, it is essential for retailers to have a clear understanding of the fashion involvement levels and lifestyle preferences of teen shoppers in order to develop successful market strategies. Consequently, this study was conducted in order to examine the relationship between fashion involvement and lifestyle activities among teens in the U.S., ages 13 to 18.

METHODOLOGY

The research results reported here were partial results from a larger study of teen consumers. The population for the study was female and male consumers, aged 13 to 18, residing in the United States, who had access to the Internet. The sample group consisted of a random sample of teens living throughout the United States. Subjects were 3,600 random members of Zoomerang.com's 250,000 teen Internet users. This group was selected because of the researchers' ease of access to a broad group geographically and reduced issues with parental permission; surveying individuals under the age of 18 in person is problematic. Zoomerang.com placed the survey online, sent emails that allowed survey access, and captured responses. Before beginning the online survey, participants age 13 to 17 had to seek permission from parents to participate and had to acknowledge that fact at the beginning of the survey. Complete responses for 440 participants resulted in a response rate of 12.2%.

The questionnaire was developed for online administration and elicited demographic, fashion involvement, and lifestyle activities information. Demographic questions included inquiries about age, gender, educational status, employment status, personal monthly take-home pay from job during school year, primary source of monthly income, secondary source of monthly income, monthly income from parent or relatives, summer employment status, personal monthly take-home pay from job during summer, ethnic identification, total number of people living in household, zip code of current residence, and product category of most frequent spending.

For information about fashion involvement, the questionnaire obtained responses through five questions that comprise the Fashion Involvement Index (FII) (Tigert, Ring, and King 1976). The FII is composed of four 3-point questions that measured fashion innovativeness, fashion interpersonal communication, fashion interest, and fashion knowledgeability, and one 5-point question that measured fashion awareness. Fashion innovativeness was measured through the question *in general, would you say you buy apparel earlier in the season, about the same time,*

or later in the season than most other teens? Fashion interpersonal communication was measured through the question *would you say you give very little information, an average amount of information, or a great deal of information about apparel to your friends?* Fashion interest was measured through the question *in general, would you say you are less interested, about as interested, or more interested in apparel then most other teens?* Fashion knowledgeability was measured through the question *compared with most other teens, are you less likely, about as likely, or more likely to be asked for advice about new apparel trends?* Fashion awareness was measured through the question *which one of the statements below best describes your reaction to changing fashion apparel?* Consequently, participant scores could range from 5 to 17. For the current study, total fashion involvement was measured by a summation of the individual scores to each question. Higher scores indicated higher level of fashion involvement and lower scores indicated lower level of fashion involvement.

For information about lifestyle, participants were asked about their frequency of engaging in 24 different general lifestyle activities on a five-point scale ranging from never to more than once a week. Activities included *attending plays*, *visiting museums and exhibits*, *going to music concerts, traveling, hanging out with friends, exercising, watching sports, extracurricular activities*, *playing sports, watching TV shows, going to restaurants, renting movies for home use, going to the movies*, *going shopping*, *volunteer work, community meetings, church events*, *reading, working on hobbies, playing video games at home, playing cards or indoor games, hanging out with neighbors, spending time with family*, *and visiting relatives*. Of the 24 items, 22 were adopted from previous studies (Lemon, Bengston, and Peterson 1972; Pasarell 1995; Shim and Kotsiopulos 1993). The scale was modified for the study of teens to include extracurricular activities and playing at home video games because these are activities in which teens may be likely to participate. Resulting scores ranged from 24 to 120. Higher scores indicated that participants placed higher levels of importance on a variety of lifestyle activities, whereas lower scores indicated that participants placed little importance on a variety of lifestyle activities.

ANALYSIS AND RESULTS

Participants lived throughout the United States, and were both male (49.8%) and female (50.2%). The largest group of participants was age 17 (24.3%), but all participants were fairly evenly distributed from ages 13 to 18. Participants were primarily white, non-Hispanic (87.0%), and the largest percentage (34.1%) reported living with three other people at home. A majority was enrolled in high school (68.4%), did not work during the school year (74.1%), did not work during the summer months (53.0%), and listed parents as their primary source of monthly income (71.8%).

FASHION INVOLVEMENT

Total fashion involvement levels were determined by responses to the five FII questions. Individuals who had FII scores of 5 to 8 (47.5%) were classified as having low levels of fashion, while those who had scores of 9 to 13 (43.0%) were classified as having medium levels, and those who had scores of 14 to 17 (9.5%) were classified as having high levels of fashion involvement.

Lifestyle Activities

To determine frequency of participation in a variety of lifestyle activities, teens were asked about their participation in 24 general lifestyle activities more than once a week, once a week, twice a month, once a month, or never. The majority of teens reported *spending time with family* (78.0%), *watching TV shows* (75.2%), *hanging out with friends* (62.0), and *reading* (52.5%) more than once a week while a smaller percentage reported *playing home video games* (45.0%), *exercising* (42.3%), engaging in *extracurricular activities* (35.9%), *playing sports* (34.5%) and *working on hobbies* (27.0%) more than once a week. In contrast, there were a majority of teens that reported never attending *community meetings* (76.8%) or *attending plays* (60.7%) while a smaller percentage reported never *going to music concerts* (48.9%), engaging in *volunteer work* (40.2%), *hanging out with neighbors* (37.7%), attending *church events* (30.9%), or *watching sports events* (23.9%). In addition, the greatest percentage of teens reported *traveling* (45.9%), *visiting museums and exhibits* (42.0%), *going to the movies* (36.8%), *visiting relatives* (33.2%), and *playing cards and indoor games* (28.2%) once a month, and *going to restaurants* (30.0%) and *renting movies for home* (28.9%) twice a month. When asked about *going shopping*, 9.3% reported more than once a week, 27.7% reported once a week, 32.5% reported twice a month, 25.9% reported once a month, and only 4.5% reported never.

Fashion Involvement and Lifestyle Activities

Prior to testing, an exploratory factor analysis of the 24 lifestyle activities revealed seven categories described as *cultural*, *friends and sports*, *movies and entertainment*, *community*, *intellectual*, *games*, and *family*. *Cultural* included *attending music concerts, visiting museums and exhibits, attending plays,* or *traveling. Friends and sports* included *hanging out with friends, extracurricular activities, exercising, playing sports,* or *watching sports. Movies and entertainment* included *watching TV shows, going to the movies, renting movies for home use, going to restaurants,* or *going shopping. Community* included *volunteer work, community meetings,* or *church events. Intellectual* included teens *reading* or *working on hobbies. Games* included *playing cards, indoor games,* or *playing video games at home.* Finally, *family* included *hanging out with neighbors, spending time with family,* or *visiting relatives.* Thus, seven lifestyle scores were created for each participant as the mean of their answers on items that made up each factor and these scores were used in the multiple regression testing.

The seven lifestyle groups were used in correlational analysis. Pearson's product moment correlations between total fashion involvement and the lifestyle activity subscales showed that fashion involvement was significantly correlated to *movies and entertainment, cultural, friends and sports, family,* and *community* lifestyle activities, all *r*s, $p < .01$. These results indicated that increased fashion involvement scores were related to increased *movies and entertainment, cultural, friends and sports, family,* and *community* lifestyle activities. Total fashion involvement was negatively correlated to *games* lifestyle activity, $r(439) = -.128, p < .01$ indicating that increased fashion involvement scores were related to decreased *games* lifestyle activity. Total fashion involvement was not significantly correlated to the *intellectual* lifestyle activity subscale, $r(439) = .021, ns$ (See Table 1).

Table 1
Pearson's Product Moment Correlations Between Total Fashion Involvement And Lifestyle Activities

	Total Fashion Involvement
Movies and Entertainment	.360**
Cultural	.248**
Friends and Sports	.191**
Family	.152**
Community	.137**
Intellectual	.021
Games	-.128**

Note: ** $p < .01$.

CONCLUSIONS AND IMPLICATIONS

Teen consumers are a growing market with diverse characteristics and continually changing needs, therefore the lifestyle activities of teens are predicted to affect the retail marketplace for years to come. As a result of the growing size and the spending power of teen consumers, retailer must focus effort to determine what drives fashion involvement levels within this group. The young market has grown up with many shopping option, however, retailers that are most likely to maintain a competitive edge for the teen market are companies who prepare strategic plans that react to consumer demands and create direct market appeals that are tailored to fit niche markets according to lifestyle preferences.

Results of this study regarding fashion involvement level and lifestyle activity among teens is of significance because results revealed that teen consumers with higher levels of fashion involvement place a higher level of importance on *movies and entertainment, cultural, friends and sports, family,* and *community* lifestyle activities and over half (52.5%) of all teens indicated medium or high levels of fashion involvement. The strongest relationships occurred between fashion involvement and *movies and entertainment, cultural,* and *friends and sports* lifestyle activities. This was expected since teens are generally social in nature. Teens enjoy participating in activities that include interaction with others, such as spending time with friends and family,

going to movies or restaurants, shopping, playing sports, or attending cultural events and may exhibit personal expression through dress while participating varied lifestyle activities.

In the current study, 75.2% of teens reported watching TV more than once a week, while 62.7% of teens play video games at home at least once a week. The emergence of successful shows that are targeted to the teen markets on Disney Channel and Nickelodeon provide entertainment for teens that is accessible twenty-four hours a day. Advertisers may take advantage of this opportunity by promoting products on select networks that reach the teen consumer. The *movies and entertainment* lifestyle can be fulfilled by many shopping malls that already offer movies, restaurants, and shopping all within one location. Obviously, teens may enjoy a variety of lifestyle activities. When the *movie and entertainment* activities are combined with the *friends and sports* lifestyle activities, then satisfying results may occur for the teen consumer.

Consequently, results indicated that friends are important to the teen consumer, and the *friends and sports* lifestyle teens can be attracted by retailers through social media such as Facebook and websites, by networking through current teen shoppers, and by creating special shopping events that are geared toward "bringing a friend", or by offering special incentives to friends. Retailers such as Gap already offer special friends and family shopping days with additional discounts and have proven to be successful.

Additionally, since *cultural* activities were important to fashion involved teens, retailers must work to improve product lines that appeal to the teen consumer and their friends and family, while providing sources of information, including store displays, that are more creative, visually-stimulating and interactive to maintain the interest of the teen market while attracting new customers.

The highly fashion involved teen can participate in a combination of lifestyle activities, but can also express fashion interest and show a response to changing trends through the choices made when selecting a fashion retailer. For example, strong teen specialty stores, Urban Outfitters and PacSun have added "communities" to their websites that organize social media applications that allow shoppers to communicate with other teens via blogs, be notified of trends via postings, hear new music, send photos through Flickr, watch videos through YouTube, and share and receive information through applications such as Facebook and Twitter. Ultimately, these important social media tools allows shoppers to network with friends and family that have shared interests and lifestyles. Success of these "communities" indicates that social networking is important to the teen consumer. Therefore, additional teen retailers should take advantage of this emerging marketing opportunity through social media such as Facebook, Twitter, YouTube and websites. Ultimately, building a broader teen customer base through relationships with current teen shoppers and also through the creation of special shopping events that are geared toward bringing a friend or offering special incentives to friends are vital marketing tools for today. The lifestyle retailers successfully appeal to groups of teens with commonalities in preferred activities and shopping behaviors.

Even for the teen groups that did not exhibit significant relationships between fashion involvement and lifestyle activities, marketing opportunities exist. It is expected that teens that

prefer to engage in *games* or *intellectual* lifestyle activities stay at home more often and do not desire as much social connectedness as the other types of teens previously described and that fashion products are not significantly important. However, these teen groups still spend money on products at retail, most likely on items such as video games and books. Importantly, a recent study revealed that video game expenditures comprise 8% of the teen consumer's budget (Fitzgerald 2009), while 78% of teens age 12 to 17 report their favorite online activity is playing games (Jones and Fox 2009). Therefore, teens that exhibit lower levels of fashion involvement provide a strong customer group for non-apparel retailers such as Amazon, Barnes and Noble that supply both of these types of products and GameStop that focuses solely on gaming. Currently GameStop does a great job engaging gaming teens at www.gamestop.com and in their stores by offering a variety of benefits to customers such as a newsletter, an events listing, sweepstakes, a gaming network, a loyalty rewards program, exclusive product offerings, and early release times of new games.

Ultimately, teens are a key group who are driving the fashion market and want and need retail fashion formats that deliver. Many teen consumers, because they are social shoppers, often seek shopping experiences that are enjoyable and at which they can spend time with friends and family. As a result, while tends expect more interaction and entertainment from retail stores to enhance the social experience, fashion retailers, must work to improve product lines that appeal to the teen consumer and their friends and family, while including store displays that are more creative, visually-stimulating and interactive to maintain the interest of the teen market while attracting new customers.

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A TWO-COUNTRY STUDY OF QUALITY PERCEPTIONS, WAIT TIME, AND SERVICE OUTCOMES

Kishwar Joonas, Prairie View A&M University

Wen-Hung Wang, National Taiwan Ocean University

ABSTRACT

Patients are increasingly resentful of wait times at providers' offices. Research in the US shows that patient behavior and service outcomes are negatively impacted by wait time. Taiwan has not received much research attention, although it is an important center for global healthcare services. To bridge this gap, a study was conducted among 1105 patients, 905 in Taiwan, and 200 in U.S. Comparisons were made of service quality, service outcomes, and wait time. We discuss differences between the two countries, and present research and managerial implications.

INTRODUCTION

Time is a valuable commodity in today's world, and consumers faced with more time waiting on services are retaliating. Satisfaction and behavior are shaped by wait time, hence healthcare and other services stay competitive through faster service (Iversen and Luras 2002). Hinch et al (1955) conducted early studies on wait time; however, it still attracts a low level of research and managerial interest. Our research covers two countries, U.S. and Taiwan, where global quality requirements would hold.

CONCEPTUAL FRAMEWORK AND CONSTRUCTS

Numerous descriptive studies and limited cross-country studies characterize current research on wait time and its effects. Taiwan constitutes a vital economic partner for U.S. (U.S. Census 2010), as well a center for medical outsourcing (Marlowe and Sullivan 2007) and medical tourism (Scandlen 2007), which would constitute grounds to adhere to global quality requirements.

Practitioner perspectives are more common in research (e.g. Hsieh, Thomas, and Rotem 2005), whereas we believe research perspectives merit more attention. Studies cover healthcare service quality (e.g. Scandlen 2007), wait time and demographics as a quality determinant, (e.g. Hill and Joonas 2005), measurement (e.g. Otani and Harris 2004), and determinants of satisfaction and choice (e.g. MacStravic 1984). In a study conducted by Akinci and Sinai (2003), wait time was cited as a dissatisfaction factor in about 20% of patients. The patient decision-making process relating to dissatisfaction was mapped (Duck 1991), while there is more recent interest in long-term loyalty towards improving the provider's bottom-line (e.g. Evanschintzky and Wunderlich 2006).

Based on the above, the constructs of interest in the present study are patient perceptions

of service quality, service outcomes measured by provider ratings, likeability of the provider, overall satisfaction with the provider, recommending the provider, and repeat visits; wait time, and conative attitudes resulting from excessive wait time.

METHODOLOGY

Sample Description

A survey was conducted among random patients in one city each in U.S. and Taiwan. Sample members were approached while waiting for a service, and it was sought to cover a diverse group in terms of age and gender. Very few excused themselves from responding.

Table 1
Sample Characteristics

Demographic	Category	U.S. No.	%	China No.	%
Age	18-35 years	41	20.5	446	49.3
	36-50	63	31.5	262	29
	51-60	48	24	181	20
	61-70	26	13	3	.03
	71 and over	22	11	13	1.4
Gender	Male	83	41.5	439	48.51
	Female	117	58.5	466	51.49
Income	9,999 or less	8	4	175	19.34
	10,000-1999	17	8.5	286	31.60
	20,000-29,999	18	9	260	29.84
	30,000-39,999	64	32	106	11.71
	40-000- or more	93	46.5	68	7.51
Total		200	100.00	905	100.00

As seen in the above table, the U.S. sample is slanted more in favor of patients that are younger patients (over a fifth being 18-35 years), female (almost two-thirds), and more affluent (46.5% with income of $40,000 or more).

Measures

The survey selected was valid and reliable, and comprised four segments covering a recent experience with any medical provider. A modified seven-point scale from the SERVPERF (Cronin and Taylor 1994)based on Parasuraman (1988) measured five service quality factors. A semantic differential scale was used to measure service outcomes that included affect, repeat visits, recommending the provider, quality rating, and level of satisfaction. In addition, wait time

was measured through wait length, perception of acceptable wait time, and frequency of excessive wait necessary for action. Demographic information covered age, gender, and income. Constructs are available in Table 2.

Data Analysis

Data were analyzed using SPSS 19. Missing values were replaced by "trend at a point". Data were examined for integrity in terms of reliability, and being satisfied, we proceeded with further analysis. Samples sizes minimized effects of violations of the assumption of normality. We used t-Tests to examine group statistics and test for equality of means.

Table 2
t-Test Group Statistics and Test for Equality of Means*

Items	Country	N	Mean	Std. Deviation	Std. Error Mean		df	Sig. (2-tailed)
1. The doctor has up-to-date equipment.	US	200	5.865	1.2508	.0884	3.109	1103	.000
	Taiwan	905	4.565	1.2737	.0423			
2. The doctor's physical facilities are visually appealing.	US	200	5.765	1.4070	.0995	5.301	1103	.000
	Taiwan	905	4.252	1.2327	.0410			
3. The doctor's employees are well dressed and appear neat.	US	200	6.002	1.2547	.0887	1.504	1103	.000
	Taiwan	905	4.889	1.2351	.0411			
4. The appearance of the physical facilities of the doctor is in keeping with the type of services that he/she provides.	US	200	5.763	1.4421	.1020	0.002	1103	.000
	Taiwan	905	4.787	1.2019	.0400			
5. When the doctor promises to do something by a certain time, he/she does so.	US	200	5.515	1.6533	.1169	.569	1103	.000
	Taiwan	905	4.709	1.2901	.0429			

6. When you have problems, the doctor is sympathetic and reassuring.	US	200	5.920	1.3976	.0988	2.170	1103	.000
	Taiwan	905	4.558	1.4402	.0479			
7. The doctor is dependable.	US	200	6.067	1.3063	.0924	3.628	1103	.000
	Taiwan	905	4.658	1.3260	.0441			
8. The doctor provides services at the time it promised.	US	200	5.240	1.8546	.1311	.401	1103	.000
	Taiwan	905	4.633	1.3288	.0442			
9. The doctor keeps accurately records.	US	200	6.133	1.2544	.0887	2.047	1103	.000
	Taiwan	905	4.979	1.2196	.0405			
10. The doctor tells customers exactly when services will be performed.	US	200	5.839	1.4258	.1008	0.092	1103	.000
	Taiwan	905	4.756	1.3612	.0452			
11. You receive prompt service from the doctor's employees.	US	200	5.536	1.7096	.1209	.405	1103	.000
	Taiwan	905	4.531	1.2800	.0425			
12. Employees of the doctor are always willing to help customers.	US	200	5.640	1.5680	.1109	0.410	1103	.000
	Taiwan	905	4.572	1.2495	.0415			
13. Employees of the doctor respond to customer requests promptly.	US	200	5.505	1.6009	.1132	.013	1103	.000
	Taiwan	905	4.584	1.2344	.0410			
14. You can trust the employees of the doctor.	US	200	5.720	1.6014	.1132	1.016	1103	.000
	Taiwan	905	4.581	1.2542	.0417			

15. You feel safe in your transactions with the doctor's employees.	US	200	5.736	1.5766	.1115	0.690	1103	.000
	Taiwan	905	4.644	1.2406	.0412			
16. Employees of the doctor are polite.	US	200	5.859	1.4592	.1032	2.166	1103	.000
	Taiwan	905	4.626	1.2576	.0418			
17. Employees get adequate support from the doctor to do their jobs well.	US	200	5.800	1.4464	.1023	2.400	1103	.000
	Taiwan	905	4.615	1.1682	.0388			
18. The doctor gives you individual attention.	US	200	6.140	1.3034	.0922	9.072	1103	.000
	Taiwan	905	4.150	1.3423	.0446			
19. Employees of the doctor do not give you personal attention.	US	200	5.630	1.5282	.1081	3.219	1103	.000
	Taiwan	905	4.246	1.2946	.0430			
20. Employees of the doctor know what your needs are.	US	200	5.322	1.5440	.1092	0.213	1103	.000
	Taiwan	905	4.317	1.1869	.0395			
21. The doctor has your best interests at heart.	US	200	5.998	1.3875	.0981	1.458	1103	.000
	Taiwan	905	3.725	1.3480	.0448			
22. The doctor has operating hours convenient to all the customers.	US	200	5.663	1.4788	.1046	4.356	1103	.000
	Taiwan	905	4.142	1.3276	.0441			
23. I would describe my feelings toward the doctor as	US	200	6.218	1.2122	.0857	0.966	1103	.000
	Taiwan	905	4.423	1.0687	.0355			

24. My continued use of the doctor is	US	200	6.245	1.3909	.0984	7.932	1103	.000
	Taiwan	905	4.572	1.1459	.0381			
25. My recommending this doctor to my family, friends, and co-workers is	US	200	6.036	1.5107	.1068	6.164	1103	.000
	Taiwan	905	4.386	1.2570	.0418			
26. The overall quality of this doctor's services is	US	200	6.237	1.1055	.0782	9.585	1103	.000
	Taiwan	905	4.548	1.1032	.0367			
27. My overall feeling towards this doctor's services can be described as	US	200	6.115	1.2608	.0892	7.789	1103	.000
	Taiwan	905	4.515	1.1259	.0374			
28. How long do you usually have to wait at the doctor's office before the doctor sees you?	US	200	2.580	1.2695	.0898	.720	1103	.007
	Taiwan	905	2.335	1.1232	.0373			
29. What do you consider an acceptable amount of wait time?	US	200	1.698	.7429	.0525	2.170	1103	.030
	Taiwan	905	1.838	.8434	.0280			
30. How often would the wait time have to be "unacceptable" before you would consider taking some action?	US	200	1.98	.753	.053	.422	1103	.016
	Taiwan	905	1.85	.668	.022			
31. What action are you likely to take?	US	200	3.250	1.3441	.0950	.579	1103	.000
	Taiwan	905	2.858	1.4138	.0470			

*Equal variances assumed

RESULTS

Perceptions of Quality

On all 22 items relating to the five dimensions of service quality, average ratings are significantly higher in U.S. than Taiwan. The highest difference is seen in an Empathy item, "Your doctor has your best interests at heart" ($mean_{US}$ = 5.998, $mean_{Taiwan}$ = 3.725, p≤.001). A high level of difference is also seen in Tangibility ("The doctor's physical facilities are visually appealing"), and Reliability ("The doctor is dependable"). The least gap is seen in a Reliability item, "The doctor provides service at a time it is promised" ($mean_{US}$ = 5.24, $mean_{Taiwan}$ = 4.63, t=5.40, df=1103, p≤.001). The gap is also closed for items such as "When the doctor promises to do something by a certain time, he/she does so" (Reliability), and "You receive prompt service from the doctor's employees" (Responsiveness).

Service Outcomes

In addition, average ratings on all service outcomes are higher in U.S. than Taiwan. These include likeability ($mean_{US}$ =6.21, $mean_{Taiwan}$ =4.42, t=20.97, df=1103, p≤.001), overall quality rating ($mean_{US}$ =6.24, $mean_{Taiwan}$ =4.55, t=19.59, df=1103, p≤.001), overall satisfaction with provider ($mean_{US}$ =6.11, $mean_{Taiwan}$ =4.52, t=17.79, df=1103, p≤), recommending the provider ($mean_{US}$ =6.04, $mean_{Taiwan}$ =4.39, t=16.17, df=1103, p≤.001), and repeat visits ($mean_{US}$ =6.25, $mean_{Taiwan}$ =4.57, t=17.93, df=1103, p≤.001).

Wait time

American patients face longer waits before they are serviced (average wait $time_{US}$= 2.58, average wait $time_{Taiwan.}$=2.34) and the difference is significant (t=13.109, df= 1103, p≤.01). Also, in U.S., patients seem to react more strongly, when faced with frequent unacceptable waits (average $action_{U.S.}$ = 3.250, average $action_{Taiwan}$= 2.858, t=3.579, df=1103, p≤.001).

DISCUSSION AND IMPLICATIONS

Differences in Determinants of Service Quality

There is a high level of similarity in rating between the two countries for the Reliability item, "The doctor provides service at a time it is promised", with average rating being "Somewhat agree" for U.S., and "Neither agree nor disagree" for Taiwan. There is a high level of difference for the Empathy item, "Your doctor has your best interests at heart", with average US rating at "Quite strongly agree", and Taiwan rating at "Somewhat disagree". It is significant that U.S. patients are more liberal in rating than their Taiwan counterparts, on all 22 items relating to the five dimensions of service quality. This could also relate to cultural reasons, Taiwanese patients being understated or non-committal in theircommunications.

Differences in Service Outcomes

In addition, average ratings on all service outcomes are higher in U.S. than Taiwan. These

include likeability (US rating "Like", Taiwan rating "Neither like nor dislike", overall quality (US rating "Very good", Taiwan rating "Neither good nor poor"), overall satisfaction with provider (US rating "Very good", Taiwan rating "Neither good nor poor", recommending the provider (US rating "Quite highly likely", Taiwan rating "Neither likely nor unlikely"), and repeat visits (US rating "Quite highly likely", Taiwan rating "Neither likely nor unlikely"). These results too may be interpreted as a cultural difference, with US patients being more individualistic, and outspoken with their feelings, and Taiwan patients being cautious in their evaluation of providers, because of their collectivist culture(e.g. Hofstede 1980). In addition, patients in Taiwan may be circumspect in responding on account of power distance (e.g. Hofstede 1980).

Differences in Wait Time

In the US, average wait times are significantly longer wait, but are less patient, and feel a lower wait to be acceptable, thus having a sense of being faced with unacceptable wait. However, Taiwan patients have significantly lower wait,but are more patient, and have a higher acceptable wait, hence on there is a perception of facing lower unacceptable wait. It is possible that scheduling is more efficient in Taiwan than in U.S. However, patients in both countries feel that as few as two occurrences of unacceptable wait would warrant some action. U.S. patients would go to the extent of thinking about changing the doctor, while Taiwan patients would tend to not act beyond expressing dissatisfaction to the doctor.Here too, we see possible effects of cultural difference of long term orientation (e.g. Hofstede 1980).

Limitations

Restricting the study to small geographical areas within each country might limit the generalizability of results. In addition, there was no separation based on the specialization of the medical provider, and attitudes may vary with this factor. We did not examine situational factors such as distance between the location of the provider and the patient, frequency of visits, and severity of the patient's condition.

Implications

We believe there is a need to make an in-depth examination of the relationships between service quality, service outcomes, demographics, and wait time. In addition, it would be important to find out whether cultural factors have a bearing on the study variables. There writing on the wall is clear for practitioners- patients are not tolerant to unacceptable wait, and tend to take action when faced with this situation. Providers must necessarily address the issue of wait time, in order to achieve patient satisfaction, retain patients, and see their practice flourish (Evanschitzky and Wunderlich 2006).

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LOGISTICS AND SUPPLY CHAIN MANAGEMENT

A TIME SENSITIVE CAPACITY ALLOCATION PROBLEM WITH MULTIPLE PLAYERS AND A CENTRALIZED DECISION MAKER

Manoj Vanajakumari, Texas A&M University

ABSTRACT

In this research we study a system in which multiple manufacturers outsource a portion of their jobs to the third party contractors. We analyze the problem under three scenarios: (i) when the manufacturers are the dominant members (ii) when the 3P contractors are dominant, and (iii) when there is a centralized decision maker (CDM) who helps in the coordination of the system. We propose to evaluate whether it is possible for the CDM to coordinate the players and help them make combined decisions, and whether the coordination brings any benefits to the system.

INTRODUCTION

Organizations subcontract certain jobs to 3P manufacturers in order to minimize the delay cost and the production cost. Whether a job is outsourced or not is primarily defined by the time and the cost factors, in this regard the manufacturer consider: its own processing costs, tardiness costs if the job is delayed, the 3P capacity, and the cost of outsourcing the job. Decisions regarding finding which jobs to outsource and choosing the 3Ps to process the jobs, in this context, are referred to as the optimal allocation decisions. Sometimes, a centralized decision maker can make this optimizing decision much efficiently than in a system where there isn't one. However, the system configurations under which a centralized decision making is optimal need to be examined.

In this research we consider a multiple manufacturer scenario and certain jobs from each of these manufacturers are outsourced to 3P manufacturing firms (contractor from now on). Each contractor has a finite production period, in which the outsourced jobs from the manufacturers are processed. Each production period is further divided into windows and each window has its own booking costs. The booking costs of two windows of the same contractor or different contractor need not necessarily be the same. 3Ps offering differentiated rates for time windows are quite common in the market place. For example, Semiconductor Product Analysis and Design Enhancement (SPADE) center [HKUST, 2009] services equipments such as Focused Ion Beam, Emission Microscope, ESD Tester, Backside Preparation System, Laser Cutting System,

Probe Station, etc., of various semi-conductor companies. They follow a differentiated booking cost schedule. The company announces its availability of production windows three weeks in advance to allow the semiconductor companies to book the available time slots.

It may so happen that some of the window periods of the 3Ps may not be fully utilized as a result of inefficient scheduling due to lack of information visibility. The idle window periods create inefficiencies for the contractors. For the manufacturer the inefficiencies are created if their outsourced jobs are not processed in their preferred manufacturing window of a contractor. Hence in a decentralized system where each player tries to maximize its objective, conflict arises as these players (manufacturers and contractors) compete for the common resource (window period of contractor) {the result is higher system cost. Information sharing among the players is essential for coordinated decision making in supply chain. For example, Exostar [LLC, 2009] and Boeing together build a Business-to-Business supplier network hub for communication between Boeing and its suppliers on the 787 Dreamliner project. Here, different suppliers work on the design, production, assembly and testing of major components of the aircraft. The portal provided information on the component details and shop-floor information of the suppliers to the Boeing Company. This portal supports the two-way transfer of information among multiple partners. "**Outsourced Partner Network**" from E2Open Inc. [E2open, 2000] is another network based system that shares information and connects different players in the supply chain. The visibility gained by information sharing has resulted in reduced cycle time and overall cost.

Waypoint Global Inc. uses its own methodology to track APQP (Advance Product Quality Planning) [LLC, 2010] which is a framework of procedures and techniques used to develop products in automotive industry. The process planning, which includes both suppliers and manufacturers in the decision making process, is done through a single portal. It serves as a guide in the development process and also a standard way to share results between suppliers and automotive companies. Suppliers of automotive parts and services are required by the automotive Original Equipment Manufacturers to be ISO/TS 16949 certified. This allows strict guidelines to be followed by all the participating companies in the value chain. Also, "Supplier Process Management" module is used by organizations to communicate requirements to multiple suppliers, providing a single source of information and risk.

Cisco uses a single portal called **eHub**, providing central place for planning and task execution across a manufacturing supply chain [Grosvenor and Austin, 2001]. Cisco's eHub allows every contractor to see the necessary production information on the network and helps them to schedule their production operations [Aydinliyim and Vairaktarakis, 2010]. Cisco's network provides the capability for the manufacturers to outsource operations to multiple contractors. The production schedules of all parties involved are transparent to everyone because they are all connected to Cisco's information-sharing portal. Therefore, coordinated capacity and production planning opportunities exist within this framework [Aydinliyim and Vairaktarakis, 2010].

Currently the systems (reviewed above) serve as a platform where the players share information. We propose a system where the parties share the information and the CDM makes the optimal allocation decisions on behalf of the players which are equitable for the entire system. In a centralized environment, the centralized decision maker (CDM) can fairly allocate

the jobs to different windows ensuring a fairly optimal system. This is possible as the CDM has the necessary information from all the players at one central database. CDM allows more disciplined spend, shorter lead times for orders, less wasted inventory of raw materials and finished product, and more efficient document flow.

LITERATURE REVIEW

In a multi-agent scheduling problem, different players, each with its own set of jobs and objectives, compete for common resources. Usually there exists a conflict over resource allocation and utilization. Researchers adopt different solution methodologies for multi- agent scheduling problems. [Davis and Smith, 1983] introduced the concept of task decomposition method to arrive at a cooperative solution in a decentralized problem setting. [Walsh and Wellman, 2003] uses iterative market protocol to solve the task decomposition model. [Shao et al., 2007] use the market approach CONTRACT NET protocol to solve multi-agent framework scheduling to handle decentralized sup-ply chain problem in a flexible manufacturing cell. In their problem job agents and resource agents act as buyers and sellers. They introduce the bidding mechanism for dynamic scheduling consisting of multiple non-identical workstations.

Application of distributed problem solving methods in shop-floor organizations are introduced by [Tharumarajah and Bemelman, 1998]. The methodology reviews negotiations and behavior-based methods for scheduling and coordinating distributed entities within both hierarchical[1] and heterarchical [2] control structures. Distributed problem solving methods have been used to reduce the cost of procurement before, during and after the transaction.

Congestion games can be used to model coordination and pricing issues among players. It follows the cooperative game theory concept introduced by [Rosenthal, 1973]. Pricing issues in a decentralized factory environment are studied by [Papadimitriou, 2001]. [Walsh, 2001] study different mechanisms to obtain the equilibrium among players in the supply chain.

The study of cooperative sequencing in a single machine is done by [Calleja et al., 2004]. In their setting each player has multiple jobs to process. [Calleja et al., 2004] uses the same sequencing games introduced by [Curiel et al., 1989]. [Aydinliyim, 2007] uses cooperative sequencing games in a production planning setting, where the third-party capacity is modeled as non-contiguous manufacturing windows with limited capacity. They consider a multi-objective function which is the sum of the work-in-process (WIP) costs plus the booking costs of the manufacturing windows.

Various scheduling models have been proposed in the literature in the context of cooperative games. [Tijs et al., 1984] propose a permutation game model, a generalization of the assignment game of [Shapley and Shubik, 1969]. Interested readers may refer to cooperative scheduling models surveyed in [Borm et al., 2002] and [Curiel et al., 2002].It could be argued that the dominant players in supply chain may not cooperate with others when making decisions. [Bukchin and Hanany, 2007] evaluate the inefficiencies due to competition among decision makers. They show that the centralized solution need not necessarily be an equilibrium solution.

PROBLEM DESCRIPTION

Let m denote the index for the manufacturer. Each manufacturer has a set of jobs that need to be processed; denoted by (J_m). These job set can either be completely outsourced or part of it can be processed in-house. The processing time of the jth job of the manufacturer m is denoted by $P_{j,m}$ and its due date by $D_{j,m}$. There is a in-house production cost $W_{j,m}$ associated with each job for a particular manufacturer.

The contractor n has k windows periods, each of them can take one or more jobs to process. Each window period has booking cost $B_{n,k}$ associated with each contractor n and period k. The job processed in a window period is subjected to the precedence constraints and the time availability of the window period. Note that if specific window period cannot accommodate the job then it goes to the subsequent window period of the same or a different contractor. The booking costs of any contractor, n, follow the relationship $B_{n,k} \geq B_{n,k+1}$; $k = 1, 2, \ldots, k - 1$.

In the beginning of the problem horizon, the manufacturers identify a set of jobs that need to be outsourced. The initial optimal schedule of each manufacturer is obtained using the Earliest Due Date (EDD) method. Based on the initial optimal schedule, the manufacturers make the list of the jobs to be outsourced {the jobs that are late according to the EDD schedule. It is also observed that the job sequence ensures the precedence relationship. The processing time of each job is known in advance and is the same if processed by the contractors. All contractors are capable of processing any jobs from the manufacturers.

We assume that the first production window of all contractors open at the same time. The manufacturers consider the cost of producing the part at the contractor. If it is less than or equal to producing in-house, the job is a candidate for outsourcing. With the jobs that are candidates for in-house production, the manufacturer then applies the EDD rule to get the final list of jobs that are outsourced. The jobs are accommodated in the contractors' production window period based on the availability of the processing time. If a specific window period cannot accommodate the job then it goes to the subsequent window period of the same contractor.
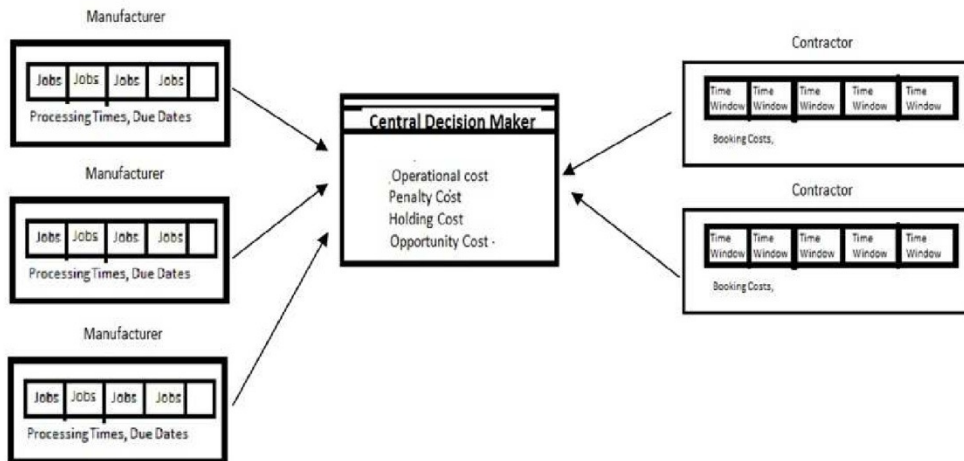

Figure 1: Central Decision Maker (CDM) Model

A centralized decision making environment is shown in figure 1. Here the CDM acts as the link between the manufacturers and the contractors. The decision maker has the following information about the manufacturers and contractors: $P_{m,j}$, $W_{j,m}$, $D_{m,j}$, $\sigma_{j,m}$, $B_{n,k}$.

CONCLUSION AND FUTURE WORK

Coordination in a multi-player environment needs to be studied. In today's business environment where the outsourcing of production is common, effectively managing the operations is imperative. Firms outsource jobs to multiple contractors. It is not uncommon to see the outsourcing operations being done in multiple tiers, i.e., suppliers outsourcing to their suppliers and so on. It requires coordination among different players for timely and cost effective completion of projects. Currently, platforms are available to share information across the supply chain. However, the need for a centralized decision maker which makes operational decisions on behalf of the players is emphasized.

To examine whether coordination is possible, the problem needs to be studied in three levels; each one being characterized by the members who are dominant. The level of dominance gives the member the power to impose its own agenda in the supply chain. Dominant member may optimize its system; however, the non-dominant member will have a sub-optimal system.

In the first problem, the manufacturers dominate. They schedule jobs based on minimizing the total in-house processing and delay cost. Manufacturers obtain initial optimal schedule based on Earliest Due Date (EDD) and outsource delayed jobs to contractors. Contractors have no choice but to complete the jobs assigned to them. This assignment may result in inefficient time windows.

In the second problem, contractors are the dominant players. Their priority would be to maximize the revenue by adopting a differentiated price (as described early) schedule for the time windows. The contractors' optimal scheduling ensures that there is less idle time on the manufacturing windows. Manufacturers on the other hand incur delays significantly increasing the total processing cost.

It is found that above models do not attain equilibrium state due to conflicting objectives of manufacturers and 3P contractors. In the third problem, coordination is ensured by the CDM. The players provide all the information to the CDM. CDM tries to equitably distribute the manufacturers' jobs among contractors to benefit the entire system resulting in system equilibrium. It may happen that the cost benefit of players improves from previous models resulting in reduction of overall system cost. This allows players to move towards equilibrium resulting in coordination.

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EFFICIENT LAYOUTS FOR MULTI-PICK OPERATIONS IN A WAREHOUSE

Arunachalam Narayanan, Texas A&M University

Ismail Capar, Texas A&M University

ABSTRACT

Order picking activities are the major cost component of a warehouse operation. In recent years, new designs such as flying-V and fishbone aisle designs have been developed for unit-load warehouses but none for multi-load operations. These new designs reduce the travel distance of a picker by approximately 10-20% in a unit-load warehouse. In this research we test the potential of a flying-V cross aisle design in a multi-pick operation of a healthcare distributor and document the likely savings.

INTRODUCTION

Multi pick operations are common in distribution environments, where a picker fills an order of multiple items in a trip around the warehouse storage aisles. The picking activity is the most time consuming operation and constitutes to 55-65% of the total operating costs of a typical warehouse (Peterson and Schmenner, 1999 and Berglund and Batta, 2010). In most distribution environments involving multi-load operations, the aisles are parallel and the pickers walk or drive along the aisles to pick products from the racks. The cross aisles, if present, are straight and are at right angles to the picking aisle (Figure 1)
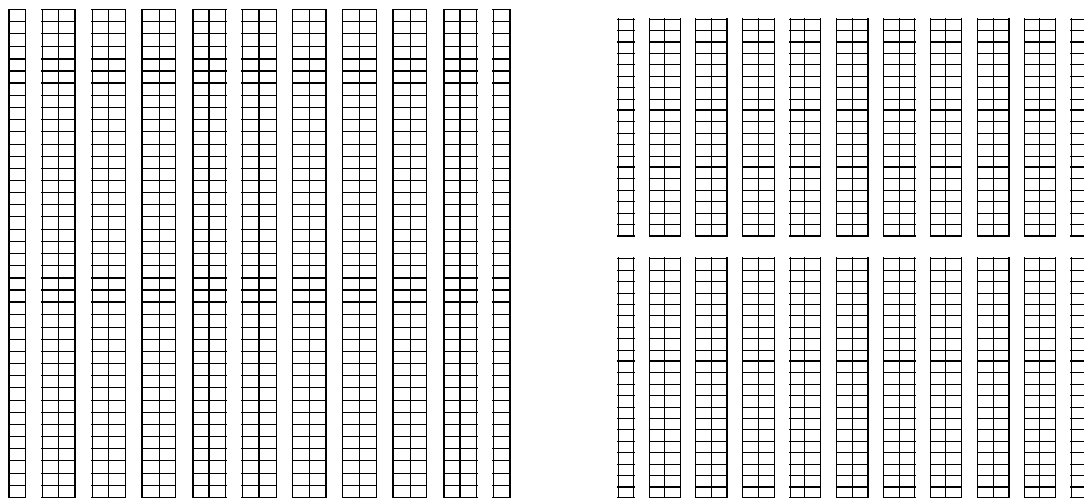

Figure 1. Traditional warehouse designs

The productivity in the warehouse can be significantly increased by reducing the time needed to pick an order. There are two ways to reduce the travel times, one is to have a good picking route and another is to change the layout of the warehouse. De Koster, Le-Duc and Roodbergen (2007) provide a good survey of the work in this area. Heuristics for warehouses with no cross aisles are defined and compared by De Koster and Poort (1998). Their optimal algorithm is shown to more effective than the traditional S-shaped heuristic. Roodbergen and De Koster (2001) compare routing heuristics for warehouses with cross aisles. They compare the S-shape, largest gap, aisle by aisle, combined and combined+ routing heuristics. Their combined+ heuristic is determined to be best suited for multi-pick warehouses with random storage policies.

The other way to increase the picking efficiency is to change the layout of the warehouse. Roodbergen and Vis (2006) provide an analytical formula to determine the optimal shape (number of aisles, length of aisle and pick/drop locations) for warehouses with no cross aisles and random storage policy, assuming either an S-shaped or largest gap routing heuristic. Traditionally the cross aisles intersect the storage aisles at right angles, but Gue and Meller (2009) show the arranging aisles in new ways reduce the cost of travel in unit-load warehouses. In unit-load warehouses the items are stored and retrieved in pallet quantities and in each pick/drop tour is only for one item. They use diagonal cross aisles to reduce the expected travel time. Their work is based on White (1972), which proposed that Euclidean efficiencies can be achieved by using such radial aisles. The two new warehouse design developed were the flying-V (Figure 2) and fishbone aisles. The flying-V design reduces the travel distance by 8-12% and fishbone cross aisle designs reduce the travel distance by more than 20% in unit-load warehouses. Pohl, Meller and Gue (2007) evaluate the use of these two new designs in a dual-command warehouse. In a dual-command warehouse the pickers store an item at one location and retrieve another from a different location before returning to the pick/drop location. They find the fishbone design to be more effective than the flying V design and reduce the travel time by 10-15% in a dual command operation (Pohl, Meller and Gue, 2009b). Still the flying-V designs have practical application because of the similarity to the traditional warehouse designs (Gue and Meller, 2009). In this research we test the potential of this design in a multi-pick warehouse.
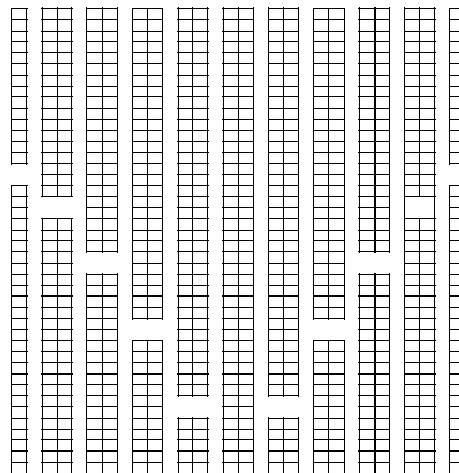

Figure 2. Warehouse with a Flying-V cross aisle

In the next section we describe an experimental design to evaluate the benefits of a horizontal cross aisle in multi-load warehouses, followed by the results and research already conducted in that area. We then describe the case study of a warehouse layout redesign at a healthcare distributor and document the savings of a flying V shaped design in a multi-pick operation. Finally we conclude with directions for future research.

EXPERIMENTAL DESIGN

To estimate the benefits of a horizontal cross aisle in a multi pick warehouse, we conduct a simulation experiment. For this simulation we assume the following parameters to be representative of the type of warehouse. The width of the aisles (both vertical and cross) is set at 4 ft, the width of the pick location (center to center distance between two products) is set at 5 ft, the width of the racks is set at 3ft and the end aisles gaps on all four sides of the rectangular warehouse are set at 5 ft. The horizontal cross aisle is located at the middle of the warehouse. We consider four levels for the number of aisles: {5, 10, 15, 20}. The length of aisle is varied by increasing the number of items/pick locations. We consider seven levels for the number of items in an aisle: {5, 10, 15, 20, 25, 30, 40}. The pick list factor includes pick list sizes varying from 1 to 10 (increments of one) and 15. We consider a full factorial design by varying the number of picks in an order, followed by the number and length of aisles. This results in 308 unique combinations. We generate five random problems with 100 random pick lists for each combination, resulting in 1540 test cases and 154,000 unique pick list situations. We consider this replication size to be sufficient to guarantee a non biased result in this simulation. For each test case, we estimate the total travel distance in a standard warehouse and a warehouse with a horizontal cross aisle at the center. The start and end of the order pick trip i.e. the pick/drop (P/D) location is assumed to be the bottom center of the warehouse. The travel distance in an order is calculated by solving a traveling salesman problem (TSP) involving all the picks in the order list. This avoids the bias of any routing algorithm. Moreover Ratliff and Rosenthal (1983) showed that picking orders in a rectangular warehouse is a solvable case of the TSP.

RESULTS

Figures 3, 4, 5 summarize the results of the effect of single cross aisle at the middle for a multi-pick warehouse operation. As expected the standard design is much better than a horizontal cross aisle design in a single pick operation because of the presence of the additional aisle. The additional aisle makes the warehouse longer by 4 ft. The improvement begins to taper off as the number of picks increases. The improvement is between 19-20% for 7-10 picks in an order.
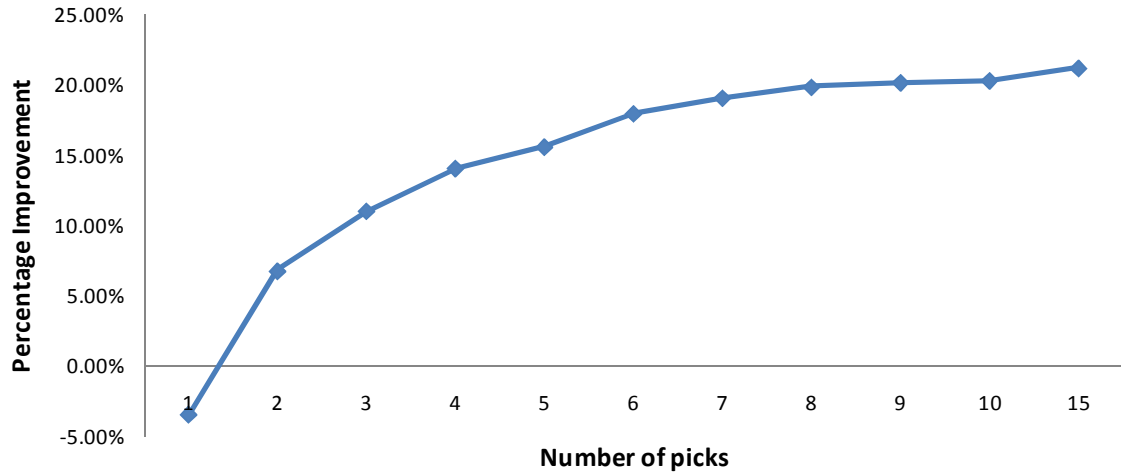
Figure 3. Improvement of a single cross aisle design over standard warehouse by number of picks in an order

Cross aisles are very effective in longer warehouses and the picking efficiency increases as the length of warehouse increase. We do not see a drastic change in the improvement of picking efficiency over the standard design with respect to the number of aisles. Thus we clearly see that the presence of a horizontal cross aisle in a multi-pick warehouse reduces the expected distance traveled by an employee when there is more than one pick in the order.

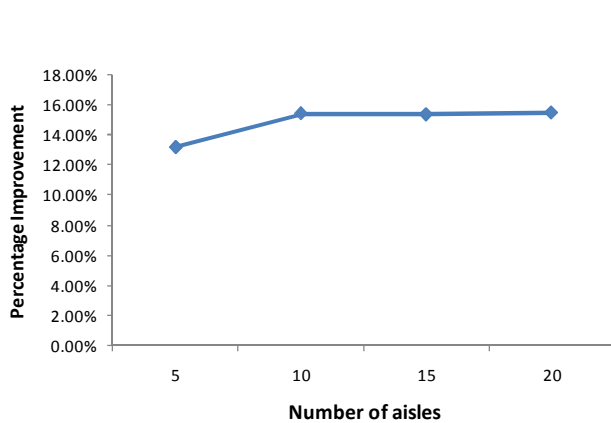Figure 4. Improvement of a single cross aisle design over standard warehouse by number of aisles in a warehouse
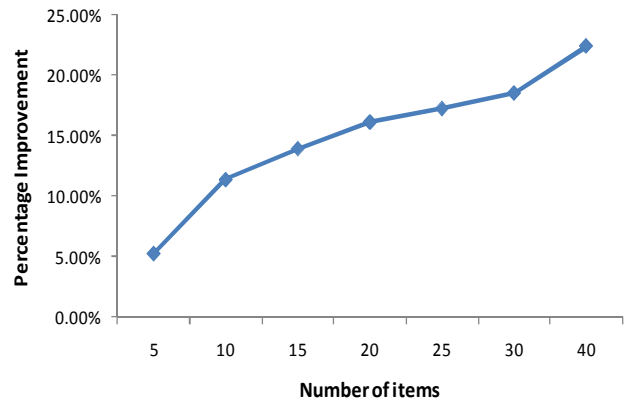

Figure 5. Improvement of a single cross aisle design over standard warehouse by number of items/ length of aisles in a warehouse

Pohl, Meller and Gue (2009a) show that optimal placement of a horizontal cross aisle in a dual command warehouse is not in the middle, but above it. Roodbergen, Sharp and Vis (2008)

provide an optimal warehouse design for a multi-pick warehouse with multiple horizontal cross aisles. They provide the warehouse design based on the number of picks, number of aisles and cross aisles, length of the warehouse and width of the aisles. They assume the resulting warehouse has evenly spaced cross aisles with random storage policy. Berglund and Batta (2010) extend this work for warehouses in which the products are stored based on their volume. They consider three volume based storage policies based on Petersen and Schmenner's (1999) design, namely, diagonal, across aisle and within aisle storage policies. Moreover in Berglund and Batta (2010), the resulting warehouse can have unevenly spaced horizontal cross aisles based on the storage policies. Their policy is based on the principle that a cross aisle will provide a greater benefit when it is closer to those locations where the most picks are made. While Roodbergen et al. (2008) and Berguland and Batta (2010) worked on horizontal cross aisles, none have extended the V-shaped and fishbone aisle designs for multi-pick warehouses. In this paper we show the potential of a V-shaped warehouse design in a multi pick warehouse using a case study.

CASE STUDY

We evaluated the potential of a V-shaped aisle in a section of a warehouse of a leading healthcare distributor in US. Figure 6 shows the layout of the section, which has 11 vertical aisles (204-214), with 8 racks of item (B-J) in each aisle separated by a single horizontal cross aisle (between the third and fourth rack). There is also a horizontal rack of items in the front closer to the printer location, which serves as the P/D location. The items are stored based on a volume-based policy, with the high movers being placed closer to the P/D location as depicted in figures 7 and 8. During a shift of 8 hours, a worker in the section would pick approximately 1200 orders. The average number of items (SKUs) per order is about 2.5. The pickers in the warehouse are routed through a simple alpha-numeric order. Figure 9 illustrates a picking route for an order with 8 items in the current layout. The picking path is determined by sorting the items based on their aisle numbers and rack locations.
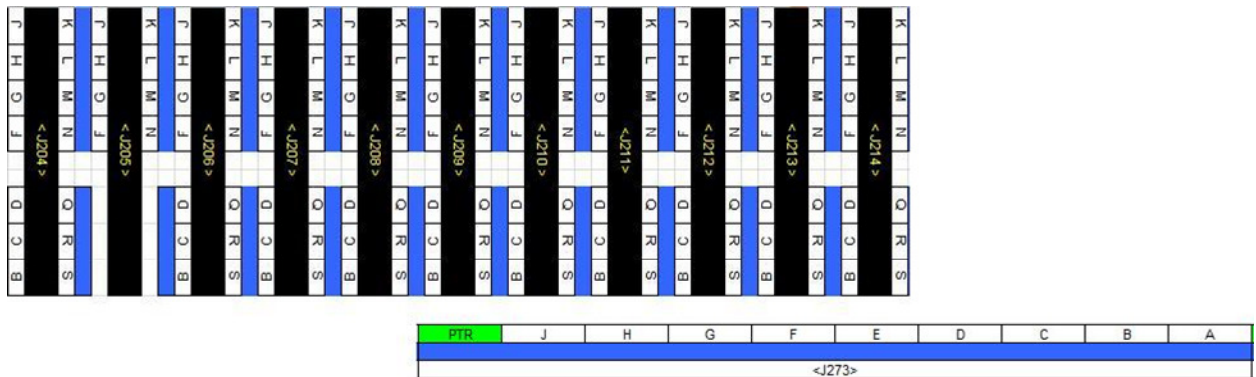
Figure 6. Current warehouse layout
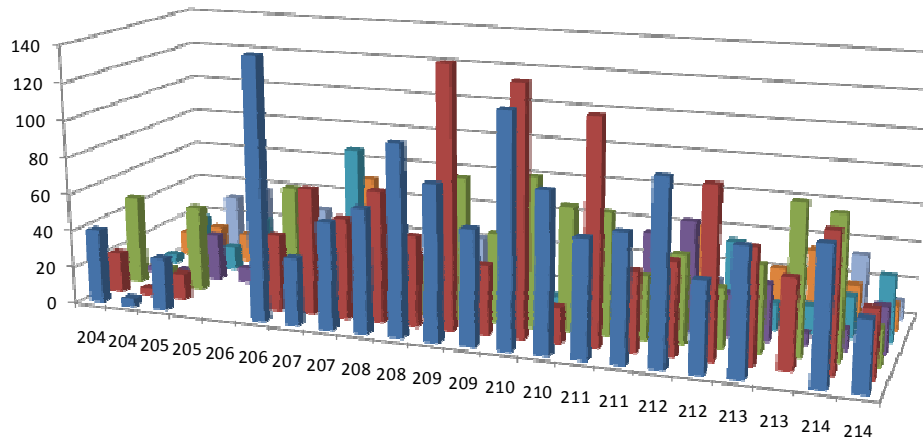
Figure 7. Demand (Number of units) distribution by aisle and racks for a 3-day period
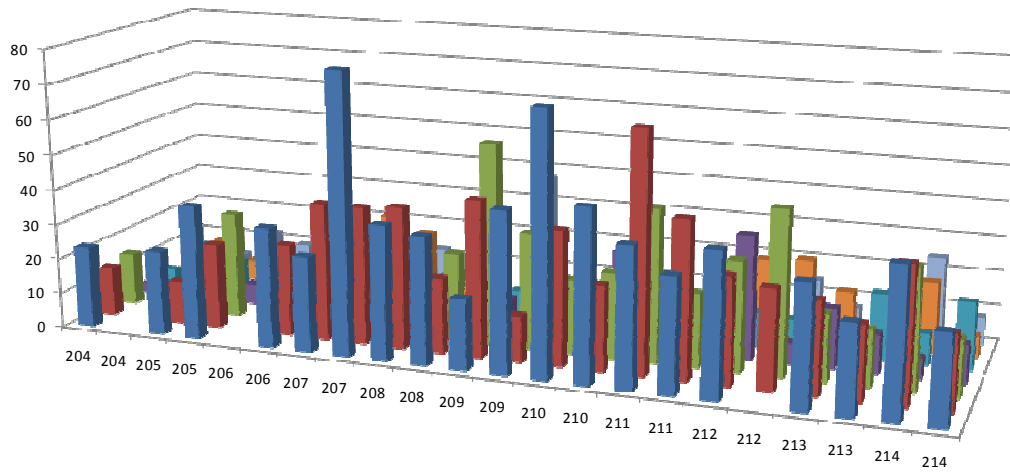
Figure 8. Demand (Number of picks) distribution by aisle and racks for a 3 day-period
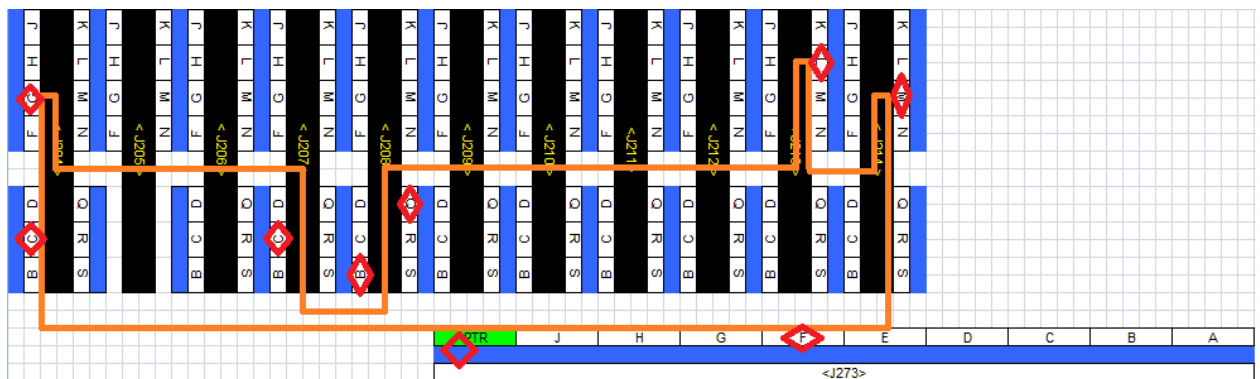
Figure 9. Path for picking the order of 8 items in the current layout: PTR → 204C→204G→ 207C→ 208B→ 208Q→ 213L→ 214M→ 273F→ PTR

We designed a flying V cross aisle for the same section (shown in figure 10) and estimated the improvement in picking efficiency by simulating the picking routes for a 3-day period. The 3 –day period had 3800 orders with 8630 picks, the overall improvement in picking

time is about 3.08%. To avoid any bias, we simulated the picking environment over a quarter. The quarterly period had 86,580 orders and 156,700 picks and we computed an increase in efficiency of 2.8% over the design shown in Figure 6. This is a significant improvement for the already efficient healthcare distributor. In healthcare distribution the profit margins are very low (about 1-2%) and a 3% improvement in warehouse picking efficiency would add a considerable cost savings to its bottom line.
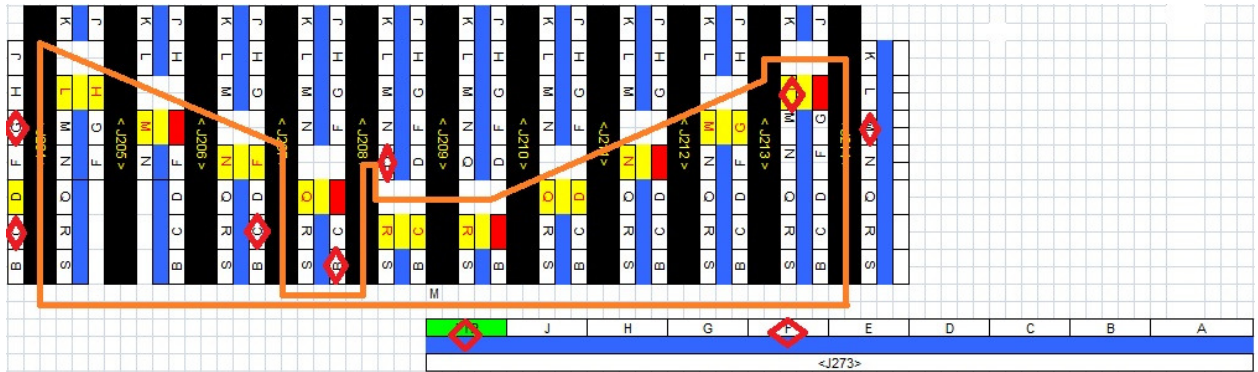
Figure 10. Path for picking the order of 8 items in the proposed layout: PTR → 204C→204G→ 207C→ 208B→ 208Q→ 213L→ 214M→ 273F→ PTR, a 9.08% improvement in picking efficiency.

CONCLUSION AND FUTURE RESEARCH

It is evident from the case study that flying V-shaped design has the potential of improving the efficiency of picking operations in a multi-load warehouses. There is a need to determine the optimal flying V-shaped design for a warehouse with a pre determined number of aisles, items, picks and storage policy. Other efficient unit-load layouts like fishbone and floating aisle designs should be developed for multi-pick warehouses. Since the cost of adjusting the position of cross aisle is not prohibitive, because of the adjustable racks, the logistics companies would greatly benefit from efficient warehouse layouts. Additional extensions include modeling warehouses with multiple P/D locations.

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CREATING BRIDGES BETWEEN INDUSTRY AND ACADEMIC COMMUNITIES

Regena Scott, University of Houston – Downtown

EXTENDED ABSTRACT

There is nothing new about the development of collaborative relationships between industry and academia. Considering the fact that industry recruits graduates from colleges and universities to fill their employment rolls, these collaborations represent a relatively natural relationship fit. Since World War II, the United States government has taken an active role in encouraging academic and industrial institutions to build working relationships as a means of promoting and advancing sustainable innovation (NSF, 2009). Over the years the industry-academia relationship trend has expanded in number and the scope of relationship expectations. Today's partnerships include development of industry specific customized courses (Marshal, 2000), student internships, collaborative innovation and incubation centers (Sarvay, 2011), student internships, real-world project experience for students and research opportunities for faculty. In addition, colleges and universities are recognizing the potential of these reltionshops and program funding opportunities. Working together with industry partners, academic knowledge centers help to provide a robust and prolonged competitive environment.

Academic researchers and industry leaders are discovering the breath of possible advantages resulting in the development of collaborative partnerships. The significance of bridging the gap between industry and academic communities has an effect that extends beyond this relationship to impact regional economic development.

> *"Partnerships between universities and corporations can provide further opportunities for regional economic development, with each partner contributing its individual strengths to achieve a collective outcome. Forging such alliances can be a challenge, however, and organizations across the country are working to develop programs that can make these relationships more effective (Wizemann, 2010).*

The growing need for partnership between industry and academia was underscored during a round-table discussion on general and workforce education need in the regional. Business leaders from the maritime, shipping, transportation, logistics and distribution industries, participating in this discussion provided meaning insight regarding the knowledge and experiences necessary for students to enter the workforce prepared to make an immediate positive impact on economic strength of regional industry.

The importance and growth of industry-academic partnerships is not solely beneficial these collaborative. Regional government is emerging as a third party in these partnerships. Etzkowitz (2005) describes the emergence of the industry-academia-government as a "triple helix" endeavor reaching beyond the effect on curriculum and workforce education to include

regional economic development issues. The ability to coordinate initiatives benefiting these entities increases the influence and intensifies the outcome in a way that enhances the extended regional community. Bridging industry-academic-government relationships present students, faculty, industry leaders and local government with an opportunity to work together discovering knowledge, addressing issues and ideas, and identifying solutions that have a direct impact on the regional economy.

Generating interest in establishing active relationships is most often an action taken in the academic community. Getting started requires a well planned and concentrated assault focused on the goal of crafting a successful relationship. Time, organizational commitment and energy are only pieces of the activities essential to industry and academic partnerships. Conducting roundtables, forming advisory committees, arranging student-industry events and career fairs are just a few possible ways to begin meaningful relationships. Identifying education and training need that support dominant regional industries, discovering project that promote learning and engagement opportunities for the students, and unearthing opportunities to enhance the experience of students with firsthand familiarity with industry are all giant steps in bridging the gap between industry and academia.

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MARKETING METRICS

MARKETING DASHBOARDS: A PICTURE IS WORTH A THOUSAND METRICS

Pj Forrest, Alcorn State University

EXTENDED ABSTRACT

Marketing Dashboards are highly vivid visual representations of a select few, but crucial, marketing metrics. Their purpose is to display Marketing Metrics in a highly informative way which allows marketing managers to instantly get an accurate picture of business operations, and to quickly absorb information needed to make better and more timely marketing decisions. It is not enough to use Marketing Metrics to measure what we can – it is necessary to measure the right things and to display them in an efficient and effective way. Marketing Dashboards have the ability to allow marketing managers to see patterns which otherwise would be missed.

In the case of Dashboards – less is more. Displaying only a few critical metrics, Dashboards make good use of not only charts and graphs but colors and shapes. The overall effect of the Marketing Dashboard is to instantly give the marketing manager a picture, a clear and intuitive picture, of the current state of the business. The Dashboards are also useful for providing information to Board Members, CEO's, suppliers and distributors, or anyone associated with the organization who cannot or will not take the time to wade through pages of complicated metrics. Marketing Dashboards also protect the marketing manager from information overload.

As too many metrics on a Dashboard complicates the picture and obscures information, tabbed Dashboards are suggested when many aspects of a problem need to be presented. Overly complicated Marketing Dashboards, or one's that contain unnecessary decorative embellishments tend to obscure information. Future Dashboards are predicted to be interactive, with the marketing manager being able to drop and drag to create the exact Dashboard needed at the moment. To be successful in the business world our students not only need to understand how to calculate marketing metrics, but how to create and use a Marketing Dashboard so that the marketing metrics result in better marketing decisions.

PRACTICAL MEASUREMENT CHALLENGES IN THE DEVELOPMENT OF A SUSTAINABILITY INDEX FOR THE FINANCIAL SERVICES INDUSTRY

David M. Gilfoil, Ph.D., DeSales University

Robert T. Brill, Ph.D.; Moravian College

EXTENDED ABSTRACT

Within organizations, training specialists are often concerned about the return on investment in their training system efforts and targeted outcomes. Since these systems are housed within the context of the organization, it is a common best practice to carefully monitor the long term accountability for such training initiatives. Often government agencies and grant foundations make similar investments in human capitol and workforce development, among other initiatives. Unlike in-house training programs, the accountability for the grant-supported efforts is often confined to ensuring the input programs occur and possibly some short term benefits. Given substantive investment that is sometimes made, a longer term goal of sustained impact is warranted, but necessitates a framework that can both guide and monitor such long range impact. This paper attempts to provide such a framework and report on some preliminary results in which the measurement index was developed and employed.

Within the context of a Wall Street West (WSW) grant, a Northeast Pennsylvania research team set out to measure the long term economic impact of other WSW grantees' efforts to improve the financial services sector in the same PA region. While there is much discussion in the literature about sustainability, there is relatively little work on the measurement of economic sustainability – and even less within the confines of the financial services industry. This paper is about the development, and application of a measure of economic sustainability - a Sustainability Index. Moreover, it is about the practical challenges and issues the researchers faced along the way.

Researchers set out to address three major challenges for successful measurement: (a) develop a definition of sustainability accompanied by valid and reliable factors that serve as predictive indicators impacting sustainability (b) employ a measure strategy of sustainability that allows for reliable assessment of concrete evidence of the identified sustainability factors, and (c) determine a proper weighting scheme for properly acknowledging and quantifying the relative importance of each factor.

The first major challenge was not only to identify factors related to sustainability, but to tailor them to the financial service sector. The current framework reported here, provides a model that can generalize to most industries and grant contexts at the factor level; but also possesses some specificity within the questions to enhance its diagnostics of the particular sustainability challenge at hand. In this way, at the factor level, the framework can be easily adapted to other contexts. The 12 factors generated are:

1. *Collaboration & Partnerships*
2. *Long Term Vision & Planning*
3. *Risk Awareness & Mitigation*
4. *Infrastructure / Resource Support*
5. *Community Buy-In & Involvement*
6. *Work Standards & Training*
7. *Marketing & Publicity*
8. *Adaptable/ Replicable/Scalable*
9. *Program/Funding Renewal*
10. *New Degrees or Certification Programs*
11. *Job / Wage Impact*
12. *Link to Positive Economic Outcomes*

In some cases, multiple questions (23 total) contributed data to each factor.

The second major challenge was to create more specific indicators to hone the precision and accuracy of each five point scale rating provided by grant evaluators for each question. The behaviorally anchored rating scale (BARS) methodology seemed most appropriately suited for this purpose. The idea was to convert each sustainability "question" into a range of important sustainable "behaviors" be readily identified and potentially valued within an "evidence range" conceptualized within the five point rating scheme. In the case of grant programs "behaviors" extended to program outcomes and other types of evidence specific to each factor.

Table 1: AHP Derived Factor Weights.

Sustainability factor	Weighting
Collaboration & Partnerships	.07878
Long Term Vision & Planning	.05034
Risk Awareness & Mitigation	.02294
Infrastructure/Resource Support	.15032
Community Buy – In/Involvement	.03035
Work Standards & Training	.06106
Marketing & Publicity	.03489
Adaptable/Replicable/Scalable	.05078
Program/Funding Renewal	.15971
New Degrees or Certif. Programs	.04174
Job/Wage Impact	.16751
Link to Economic Outcomes	.15151

Prior to implementing the Sustainability Index, one additional step was required. Since it is highly unlikely that all of the 12 sustainability factors are of equal importance in evaluating sustainability of economic development efforts, a mechanism was needed to solicit inputs from sustainability "experts" about relative factor importance, and to translate those inputs into a weighted Sustainability Index.   The Analytic Hierarchy Process (AHP) is a mechanism well suited for the task, as it is a theory of measurement through pairwise comparisons of variables or

dimensions and relies on the judgments of experts to determine the relative importance of each variable / dimension. Five subject matter experts provided the rigorous comparison data to determine the resulting factor weights presented below in Table 1.

AN INDIVIDUALIZED CASE APPROACH TO TEACHING PRACTICAL CONCEPTS IN THE SALES MANAGEMENT CLASSROOM

John W. Barnes, State University of New York Institute of Technology

ABSTRACT

The author presents the short, individualized, focused case as a pedagogical tool to be used in sales management courses. The method is generally compared to more commonly-used approaches, such as the comprehensive case (e.g., Harvard Case) method and the computerized in-basket, while it is not presented as a substitute for such approaches, but rather an alternative approach that may be used. The method is then exemplified, using input from student teams.

INTRODUCTION

A number of approaches have been advocated for the teaching of management concepts, particularly those of a quantitative nature, in business school courses. Popular approaches have included the analysis of key marketing metrices (Farris, et al. 2010), the use of spreadsheet analysis to illustrate marketing concepts such as pricing (Marshall and Pearson 2007), the in-basket technique (Stearns, Greenlee, and Crespy 2003; Pearson, Barnes, and Onken 2006; Stevens 1996), and, of course, the nearly omnipresent analysis of case studies.

All of these approaches, and other methods, such as simulations, have been used as a part of the pedagogy of sales management (Cravens 1995; Sirgy 1998). Another popular approach has of course been the use of sales management cases, particularly those in which companies facing significant sales managerial issues are involved, calling for students to collect and marshal the case material in such a way that they may then present possible solutions to the firms involved (Futrell 2010).

Presented here is an individualized case approach to the teaching of basic concepts of sales management, employed by the author in the teaching of a sales management course at a mid-sized state university in the Northeastern United States. This approach involves the use of a case in which sales management concepts are in play, and then the application of basic quantitative methods to aid in determining the most appropriate actions to be followed by the sales force. The cases used here are short and highly focused. The intent is not to duplicate the success of the teaching of comprehensive cases, a method made very popular by the Harvard Business School. Rather, students are encouraged to use their own creativity in the application of simple quantitative techniques (such as breakeven analysis, sensitivity analysis, and simple income statement analysis) to attempt to solve problems in the area of sales management.

The author will not attempt to review the case study literature, which has already been reviewed numerous times. The method used by the author differs from this approach in that cases used are short, and call for the application of particular sales management analytical techniques, rather than seeking an overall strategic solution to a (usually) multifaceted marketing

management problem, a method popular in the instruction of marketing management courses.

Other methodologies could be employed for the same purpose, of course, such as the computerized in-basket approach (Pearson, Barnes, and Onken 2006). In this approach, a traditional training in-basket exercise (e.g., Stevens 1996) is extended by instructing subjects to rank-order the in-basket situations and then to develop and defend their strategies for handling them. This approach is then augmented by the addition of an expert (generally a high-ranking manager or executive with a firm) who provides insights and additional analysis. While the in-basket approach can be quite successful, its reliance is primarily on the creativity of the respondents and expert-validation.

The short-case method employed in this paper simply does not pursue the same lofty goal – that of conquering the ambiguity associated with the management of the "daily life" of a manager or executive. The goal of the exercise presented in this paper is to solve problems of a purely sales management nature, making this exercise (in the opinion of the author) highly useful for its purpose, where its application in a broader-reaching marketing management course, would likely be rather limited.

THE SHORT SALES MANAGEMENT CASE EXERCISE

Using this method, a short (2-3 page) case, dealing with sales management issues, is presented to a team of students (usually 4-5 in number). Students are first asked to list those assumptions regarding the case that they have made after reading it. These assumptions then form the basis of their analysis of the case situation (students are reminded that there are generally not perfectly "right" or "wrong" answers to many case problems).

The students are then asked to develop questions, based on their assumptions. As will be seen in subsequent examples, these questions often hint at or suggest the type of metrics often encountered in sales force and channel management (Farris, et al. 2010). For example, topics relevant to the push marketing of sales – or, determination of sales force adequacy issues such as appropriate sales workload, effectiveness, and compensation emerge from these student-generated questions (Farris, et al. 2010). The list of questions is subsequently revised and (frequently) shortened or given greater specificity. Examples of such questions might include:

1. What role does personal selling play in this industry? (for example, pure "selling" may be less important than servicing the customer franchise before and after the sale).
2. Who, precisely, owns the customer franchise in the case (e.g., does the company own its own sales force, or do agents represent various companies?)
3. What are the pros and cons of a company using its own sales force as opposed to hiring independent agents? (economic conditions in the case will, of course, impact this decision).
4. What are the economic pros and cons of adding additional sales representatives (if this is perceived to be needed) as opposed to using sales agents?
5. How can sales be forecasted based on test market data? (depending, of course, on data presented or inferred from the case)

Student teams in the Sales Management class generated questions, such as those above, and subsequently developed the answers as well. In some cases, the student teams arrived at their particular solutions in what appeared to be an intuitive fashion, while in other cases, the answers seem to have evolved from a sort of "group-think" resulting from brainstorming sessions within each student group. The author was quite impressed and pleasantly surprised by the level of quantitative thinking displayed within some of the student groups. Again, the author emphasizes that he, in no way, prompted student answers or attempted to influence what type of analysis was used.

STUDENT SOLUTIONS TO GENERATED QUESTIONS ABOUT THE CASES: AN EXAMPLE

In the following example, student teams in the Sales Management course read a short, focused case concerned with the personal computer industry. In this case, one firm was about to merge with the other, with a number of resulting implications for the firm's sales force. As per the method described above, a student team read the case, and then generated a list of assumptions. Based on those assumptions, a series of questions were then developed and the student team generated answers (based on a good deal of in-group discussion and brainstorming) to the questions.

The author monitored this process, and viewed the team's discussions of the case online. This was done to help ensure that the list of assumptions generated from the case was substantive, and that the questions generated from the list were meaningful questions, with implications that should be of interest to sales management. Each of the six questions resulting from the assumptions are given below, with the student-generated answers.

Question 1: What role does personal selling play in this industry?

The nature of what is meant by "personal selling," in the sense of the industry represented, is a factor to many in the student groups. In the personal computer industry (the industry of a particular case), servicing of the customer franchise, both before and after the sale, may assume a greater significance to the success of the sales venture than the "selling process" (Weitz, Casteleberry, and Tanner 2005) itself. In particular, students noted that salesperson skills in obtaining customer commitment was generally less important in the minds of many potential customers of this product than the level of pre- and post-sale service provided by the agent or representative.

Question 2: Who, precisely, owns the customer franchise in the case?

The first concern is the nature of the relationship between the sales representative and his/her client. Is this relationship best enhanced when salespeople are owned by the company or when they represent different companies? Considerable discussion is generated here – "owned" sales representatives may sense an obligation to clients served by their employers, where that obligation may be diminished when the salespeople are agents hired by different firms.

Question 3: What are the pros and cons of the company using its own sales force as opposed to hiring independent agents?

In one case, involving the merger of two firms in the personal computer industry, one of the firms ("Firm A") traditionally relied on its own sales force, while the other ("Firm B") contracted independent sales agents. When asked whether "Firm B" should give its product line to "Firm A" to sell, students responded with the following advantages and disadvantages:

Advantages

Giving its product line to a company-owned sales force may generate a greater "push" of its products, especially since Firm A's sales force already has a learning curve advantage from having sold that way for so long.

Firm A has always used its own representatives anyway, so there are certain organizational culture advantages and efficiencies to letting them sell the line.

This move would be good for Firm A's sales force, in that they would be selling B's lines along with those they already sell, increasing compensation and profitability overall.

If Firm A compensates its salespeople at a lower rate than an independent agent would receive, then Firm A would receive a greater return on each sales dollar.

This move would allow for greater control and direction over total selling efforts.

Disadvantages

Would more sales representatives be needed as a result of the move? What impact would this have on number of calls, service time per call, etc.?

Would sales be slowed, or maybe even lost, if the customer franchise is the property of a sales agent rather than the firm?

Would sales territories need to be restructured as a result of adding new sales representatives?

What about knowledge of the products and the "business," and presenting and displaying the products in a knowledgeable manner?

Would there be an effect on the sale of existing products for Firm A, given the additional product line for which they are now responsible? (this assumes that new sales representatives would not be added).

Question 4: What would be the effect on sales if Firm B's product line is given to Firm A, without adding to the existing sales force? (This questions addresses the workload and sales force effectiveness metrics discussed by Farris, et al. 2010).

In the case, Firm A employs 15 sales representatives, who make 12 calls per week, with an average call time of 2 ½ hours. The students assumed that the remaining "sales time" was used for various activities in support of sales, such as travel and administration. Based on these numbers (assuming a 50-week year), Firm A's sales force makes 9,000 calls per year (15 x 12 x 50). Case information indicated that Firm A serviced 1,200 retail accounts, so the call frequency per account was 7.5 (9,000 calls/year / 1200 accounts). In addition, the total time available for selling for the entire force per year was 1,875 hours: (1,200 accounts x 7.5 calls per year x 2.5 hours per call) / 12 sales representatives.

According to the case, management at Firm A wishes to increase the call rate from 7.5 calls per account per year to 10 calls per account per year. Students determined that the effect of

this increase in the call rate would be to reduce the average time per sales call to just under two hours: 1,875 hours per call for 12 sales people / 1,200 accounts at 10 calls per week = 1.875 hours per call. This means that if call activity is increased from 7 calls to 10 calls per week, even less time per call would be available to Firm A to sell its own products! The implication drawn by students is that, while Firm B's line does not seem to be affected in terms of time by being given to Firm A's sales force, then A's line is bound to be given less time and attention. And, as the case notes that Firm A's line carries a 10 percent higher gross margin than B's line and has a much larger sales volume.

Question 5: Should additional sales representatives be added as opposed to using sales agents?

Here, the students assume that Firm B should be given at least 30 minutes per Firm A's overall 2 ½ hours per sales call. At 7.5 calls per account, additional sales representatives would be needed: 1,200 accounts x 7.5 calls x 3 hours / 1,875 hours = 14.4 salespeople. Or, to accommodate the time given to Firm B, three additional sales representatives would have to be hired (since we can't hire 2.4 sales reps). If the number of calls were pushed to 10 (as in Question 4), even more would have to be hired: 1,200 x 10 x 3 / 1,875 = 19.2, or 20 salespeople, an increase of 8 sales representatives.

The students assumed the sales reps earned about $80,000 per year, meaning that hiring three additional reps would entail a personnel cost of $240,000, while hiring 8 additional reps would cost an extra $640,000! Can the firms afford that? On the other hand, the selling agents hired by Firm A receive a 5 percent commission on sales. At $5 million in sales, this amounts to a cost of $250,000 (Compare the students' solution to the metrics of workload and sales effectiveness discussed by Farris, et al. 2010, pp. 182-183).

Question 6: Should Firm A give its product line to its sales force?

The students note that there are several conditions that must be considered in answering this question:

Would doing so adversely affect trade relations? Firm A's sales force, and new sales representatives that might be hired (see Question 5) may not be able to service Firm B's product line in the short run. Further, if it is decided to use agents, then a possibility of lost sales emerges; this would be compounded further if the agents represented competing product lines.

Would doing so adversely affect Firm A's own product line? As findings from the earlier questions implies, to sell Firm B's lines, the sales force would be faced with a difficult choice: (1) decreasing the time per call given to A's line or (2) increase the size of its own sales force. The students strongly felt that decreasing the time spent on the sales accounts would be an unsound decision, given the higher sales volume and margins of A's line. Increasing the size of the sales force entails a number of problems – including higher personnel costs and other economic concerns, as well as the operational dilemma of having to restructure sales territories.

Would doing so adversely affect Firm B's product line? As the students pointed out, we

can't know the level of expertise and ability to sell of Firm A's force, so can A's salespeople become knowledgeable enough, with the ability to display, and, if necessary teach retail salespeople? Although we don't know the answer, there is certainly considerable doubt, in the short run at any rate.

CONCLUSION AND LIMITATIONS

While this individualized application of the case method differs from more comprehensive approaches, such as the Harvard Case Method, the author believes that it is an effective tool for not only teaching the basic concepts of sales management, but through its focus and specificity, allows students to (in the words of one student) "focus like a laser beam" on the sales management problem at hand. By requiring students to generate their own list of assumptions upon reading a case, and then to generate meaningful questions from that list, and develop the answers to these questions within the confines of online student discussion, the author believes that important sales management concepts and tools are learned and effectively retained.

Of course, a great deal remains to be done with this method. A direct comparison between this method and such approaches as the computerized in-basket technique lay outside the confines of this paper. Certainly, the in-basket approach (for example), will by its nature be more time-intensive, and features the advantage of "experts" who rate and assess activities along with the students. This approach also differs from the use of broader-based comprehensive case analysis, which, although having the advantage of breadth and scope of coverage, may lack the focus and specificity of the approach presented here.

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STAKEHOLDER METRICS AND MBA PROGRAM QUALITY

Sue Y. McGorry, DeSales University

Dave Gilfoil, DeSales University

EXTENDED ABSTRACT

INTRODUCTION

The 2006 Spellings Commission Report was the catalyst for post-secondary business school assessment in this country. The report specifically criticized colleges for graduating a workforce without the skills and knowledge indicated by employers as necessary. The Report further argued that higher education did not demonstrate accountability mechanisms that would ensure successful education of college students (Kelley, 2006). The Spelling Commission recommended that institutions demonstrate learning outcomes by devising new accountability measures that allow comparisons of student performance. This would include evidence-based processes such as developing standardized tests and compiling and sharing more data on both "inputs" and "outcomes," including total student costs and college completion rates.

Assessment has become increasingly important as a result of the involvement of critical external stakeholders such as government officials and accrediting agencies (Bagamery, Lasik, & Nixon, 2005). Many institutions now have committees or employees who are responsible for planning, designing, and administering outcomes assessment and for integrating the assessment results into a continuous improvement process.

RESULTS AND FUTURE RESEARCH

The measures presented in this case study indicate that students overall are pleased with the delivery of the MBA program. There are several other measures in place at the home institution to complete the assessment process. Students also complete online course evaluations each semester. These results are indicative of course and faculty quality by discipline. Additionally, the curriculum and instructors are reviewed on a regular basis by a curriculum oversight committee. This results in monthly statistical reports detailing syllabi and exam review, classroom observation, course GPA and course quality and teacher effectiveness. Finally, data is collected via a "capstone" course where students integrate all program knowledge in semester-long team projects. There are no employee metrics yet in place, but they are part of the long term assessment strategy for the program.

Currently, an exit graduate survey is conducted with students at the end of the program. This instrument addresses issues relative to facilities and technology, faculty effectiveness, course options and availability, and overall program effectiveness. A few issues exclusive to the home institution are first, the large number of adjunct faculty and the fact the degree is offered online in addition to its traditional format. This may impact students' evaluation of the program.

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ASSURANCE OF LEARNING

ASSURANCE OF LEARNING: THE ROLE OF ASSURANCE OF LEARNING IN ACCREDITATION

Linda A Hayes, University of Houston - Victoria

Nancy D. Albers-Miller, Berry College

EXTENDED ABSTRACT

Few would argue that assessment is a fundamental part of the process for gaining and maintaining accreditation for academic programs today. The wide variety of accreditation granting organizations have a ranging focus from discipline specific to institution wide (e.g. AACSB, SACS, NEASC, etc.). While assessment expectations vary in specifics from one accrediting body to another, there are many similarities. Over the past couple of decades, accreditation expectations have generally shifted from teaching to learning. Accrediting bodies have embraced mission driven goals. As a result, most are completely aware that simply documenting a list of mandated topics with content mapping of course coverage has been replaced with an expectation to assess educational outcomes, to demonstrate assurance of learning, to strategically close the loop and to provide evidence of continuous improvement.

Fortunately, these efforts have proven to be beneficial to academic programs. The results have been used to encourage and implement appropriate curriculum modifications (Kelley, Tong and Choi 2010). Overall, assessment has been used to make needed changes and to guide program improvements (Christensen, Judd and Nichols 2010).

Even though this approach to assessment is the "new normal," many still struggle with effective and efficient implementation. Some programs have not made the progress they have hoped and implementation lags (Christensen, Judd and Nichols 2010 and Evans 2010). Others face the difficulties of the concepts of continuous improvement (Lawrence, Reed and Locander 2010). The realities of implementation have proven to be expensive and represent a substantial allocation of both financial and human resources (Kelley, Tong and Choi 2010). Faculty members struggle with balancing appropriate involvement in the assessment process with the demands of teaching, research and traditional service assignments.

A great deal of the current literature on assessment and assurance of learning has begun to focus on methods. Many researchers are reporting on the development of useful and

appropriate assessment of assurance of learning tools (Evans 2010, Gardiner, Corbitt and Adams 2010, Lawrence, Reed and Locander 2010, and Pragman, Bowyer and Flannery 2010). Many are exploring the use of embedded assessment measures in exams and classroom assignments (Kelley, Tong and Choi 2010).

The purpose of this project is to explain how to go from learning goals to course embedded measures. This paper provides detailed examples of the use of rubrics and other methods as embedded course measures for the purposes of assessing and documenting assurance of learning at both the MBA and undergraduate level. Appropriate implementation for both AACSB and SACS is covered. The entire process from the development of learning goals to data collection is examined. The development of rubrics and methods and the selection of appropriate courses for measurement are also discussed.

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LOGISTICS AND SUPPLY CHAIN MANAGEMENT: EMERGING AREAS IN SCM

A STRUCTURED APPROACH TO MARKET ASSESSMENT FOR A FASTENER MANUFACTURING COMPANY IN MEXICO

Malini Natarajarathinam, Texas A&M University

Bimal Nepal, Texas A&M University

Eric Salazar, Texas A&M University

ABSTRACT

This paper presents a methodology for a market assessment of a fastener manufacturing company considering locating a new business in a country with an emerging market. This paper first introduces a high level market potential evaluation for the industry subject to study. Then, a sales potential is estimated for the firm interested in this new venture. Finally, a return of investment (ROI) is constructed based on the sales potential estimation and a predetermined period of time. A case study presenting a fastener manufacturer targeting the Mexican market is utilized to exhibit the application of the proposed methodology.

INTRODUCTION

In an increasingly complex financial environment, new and established firms are seeking to maintain and grow their businesses. In order to successfully achieve sustainable growth, these firms must evaluate their current status and carefully analyze new market opportunities. These new opportunities have presented themselves in countries such as Brazil, Mexico, Russia, India and China. In recent years, these countries have increasingly opened themselves up to more foreign investment. Firms have strong incentives to invest in these emerging global markets, including lower costs of capital, better terms, and access to an important customer base (Claessens and Schmukler, 2007). Despite the apparent benefits of investing in new markets, a poor analysis of the market climate can significantly increase the risks involved in a new venture and result in failure.

Diverse formulations such as economic, statistical, econometric and marketing models have attempted to address the market assessment research. Previous literature in market assessment is presented by Harris (1954), Krugman (1992), Fujita and Venables (1999). In these

studies, market potential and market assessment are evaluated in terms of potential revenues. However, fundamental assumptions in economic theory and mathematical complexity significantly vary across these formulations. The assessment of markets is an important task because it defines the risk and potential outcomes of entering into new markets. Therefore, the quality and completeness of the assessment is critical. The correct assessment of new markets defines the future of millions of dollars in investments, as well as the future financial performance of the firm. How will the firm's decision makers assess the market opportunities based on the political and economic costs, risks, and rewards?

In the past, econometric practitioners such as Krugman (1992), Head and Mayer (2004), Hanson (2005), and Amiti and Cameron (2007), have presented fundamental theories in the market assessment research from an economic standpoint. However, a high degree of complexity and difficult statistical derivations complicates this type of assessment. An alternative perspective is suggested in applied economics (Wolfe, 2006). In addition, other approaches such as market assessment through indexing suggest the analysis of markets through the utilization of country data and the direct comparison of countries in terms of their market potential (GlobalEdge™, 2009). Despite the apparent ease of use, the applied economics and market assessment through indexing approaches mentioned tend to have too basic, or relaxed assumptions which may lack important micro and macroeconomic concepts.

In order to deal with limitations of the existing market assessment models, a market assessment methodology using a multi-stage approach is proposed. Three main components are considered in this model. First, an overall economic market assessment is performed in order to calculate the total market potential of the industry. The second phase is a sales potential analysis in order to evaluate the achievable percentage (for the firm) of the total market potential. This sales potential analysis is based on the percentage of the market the firm is able to capture. Finally, the market potential assessment utilizes a return of investment (ROI) analysis, in order to clearly depict the financial effectiveness of the potential venture.

A fastener manufacturing case study is presented in order to show the application of the market assessment. This case consists of a market assessment performed by a United States based fastener manufacturing company. The target market for their studies is the Mexican fastener market and the period for which the investment will be analyzed is 10 years.

The remainder of the paper is organized as follows: section 2 presents the methodology, the case study is described in section 3, where sections 3.1. and 3.2. correspond to data collection and data analysis, and the conclusion is mentioned in section 4.

METHODOLOGY

Phase I – Market potential assessment:

The evaluation of geographical markets can be done in many different ways. However, important aspects must be defined as indicators or measurements of the markets. In this model five categories are identified as indicators of a given geographic markets. Table 1 show the categories utilized in this model, their factors or measurements, and their considerations. The considerations are presented in terms of how these factors affect market potential.

The categories described were identified from the literature reviewed (GlobalEdge, 2009; Euromoney, 2010; Wolfe, 2006) and refined by discussions with industry executives. Finally, the importance of these categories will vary depending on the case. Therefore, different weights should be assigned to these categories on a case by case basis.

Table 1. Market Potential Assessment Factors

Category	Factors (measurement)	Considerations
Market Size	1) 10 Largest industries that utilizes the potential offered product or service provided that the firm, as an input for the services or operations.	Maximum market potential
Economic Freedom	1) Economic Freedom Index 2) Political Freedom Index	Decreases maximum market potential
Political Risk Rating	1) Government Stability 2) Regulation/Regulatory environment 3) Non-payment of loans/trade-related finance 4) Non-repatriation of capital 5) Corruption Perception	Decreases the maximum market potential
Economic Performance Rating	1) Bank Stability/Risk 2) Monetary/Currency Stability 3) Budget Deficit/Surplus 4) Unemployment	Decreases maximum market potential
Market Growth Rate	1) Real GDP Growth Rate (%) 2) Average Annual Growth Rate of Primary Energy Use in the last five years (%)	Average factors by which market potential increases every year
Commercial Infrastructure	1) Pave Road Density (km per million people) 2) Internet User (per 100 habitants) 3) Mobile telephone subscriptions (per 100 habitants)	Decrease the maximum market potential

Phase II – Sales potential evaluation:

Once the overall economic market situation of the region studied is evaluated, the future performance of the firm within the studied market has to be measured. A realistic assessment of the potential market share of the company in the new market is key to the forecasting of the potential revenues that could be achieved by the company. In the best case scenario, the company has many resources and low or null competition, achieving the majority of the market share and market potential. However, that is usually not the case. A methodical study of the constraints and the macro and micro factors that influence the specific situation of the firm are necessary. The macro factors are defined as those affecting all the firms in the specific market. Micro factors are described as factors specific to the firm itself. Table 2 and 3 shows the macro and micro factors considered in this model.

Table 2. Macro factors utilized in the consideration of the firm's performance.

Macro factors
1) Number of companies in the area that consume the product
2) Per capita wealth growth (Real GDP growth (%)
3) Country economic incentives
4) Advertisement intensity in population
5) Protection from counterfeiting
6) Number of major population centers
7) Local import, legislation and trends
8) Private opportunities: supply policies of companies that consume the product
9) Market share from established companies of the same industry
10) Market experience with new foreign companies

Table 3. Micro factors utilized for the sales potential assessment.

Micro factors
1) Brand name/value
2) Quality of distributors in the region or country
3) Degree of innovation of the product
4) Reduction in delivery time
5) Price of the product & price elasticity
6) Product quality
7) Word of mouth
8) Product line width & depth
9) Product standardization vs. product adaptation
10) Quality/degree of in house market research and market sensing
11) Quality/degree of information system & management
12) Degree of customer retention & expansion

These factors were identified from previous literature (Synodinos, 1989; Day, 1994; Vignali, 2001; Luo, 2002; Hansen and Christensen, 2005; Samoilenko and Osei-Bryson, 2008; Lee and Wilhelm, 2010).

Phase III – ROI Calculations:

ROI is one of the most frequently used forms of expressing the profitability of a venture or a firm. ROI reflects the percentage of returns in terms of the investments or cost utilized to generate those revenues. In Eq. 1 we can observe the formulation of ROI.

$$ROI = \frac{\mathrm{Re}\,venue - Expenses}{Assets} \tag{1}$$

ROI can be employed as the decision factor for future investments, as well as entry into

specific geographic locations and markets. Different scenarios utilizing ROI are going to be considered in order to understand what the different possibilities that can be achieved are. Eq. 2 presents the ROI for a company at a specific point in time.

$$ROI_A = \frac{\mathrm{Re}\,venue_{current} - Expenses_{current}}{Assets_{current}} \tag{2}$$

In a different scenario, since we are looking to impact the shareholder's return of the firm, one of the possible decisions is to reduce the expenses. Scenario B in Eq. 3, presents the ROI implications of locating a company in a geographical location were lower cost can be achieved. Johnson and Sawaya (2010) further discuss this topic.

$$ROI_B = \frac{\mathrm{Re}\,venue_{current} - Expenses \downarrow}{Assets \downarrow} \tag{3}$$

However, the most optimal scenario proposed in this methodology of assessment of new geographic markets is presented in Eq. 4. Scenario C, presents the case in which revenues are increased by sales potential of the firm, while a reduction in costs and assets is achieved.

$$ROI_C = \frac{\mathrm{Re}\,venue \uparrow - Expenses \downarrow}{Assets \downarrow} \tag{4}$$

Scenario C demonstrates that the best possible theoretical ROI is the one achieved when a company locates themselves in a market where they can lower their current costs, while at the same time increase their revenue by targeting the local market.

CASE STUDY

The fastener manufacturing industry was selected for this case study since it is a broad industry in which other industrial, manufacturing, and retailing industries find a certain degree of correlation and similitude. The fastener market has an average revenue of 20 billion (estimate) for the 2006 – 2009 period, with approximately 3,100 establishments and 105,000 employments per year dedicated to this industry, during the period 2006 – 2010.

The major components of the fastener market are the precision and common fastening products, which can be treated as commoditized products.

In this case study, we utilized the fastener industry definition according to the North American Industry Classification System (NAICS) with code 332722. NAICS describes this code as "Manufacturing of metal bolts, nuts, screws, rivets, and other industrial fasteners."

Data Collection

The data utilized in this case study vary according to the phase of the assessment. For the market potential assessment, the data is composed of macro-economic data. The sales potential phase refers to macro-economic and micro-economic data. Lastly, in the return of investment

phase, the data utilized is directly gathered from the two previous phases.

For this case study, the United States is chosen to be the industry benchmark due to the reliability and availability of the secondary data. A necessary assumption in order to compare directly the Mexican and United States markets is that fasteners are assumed to be a commoditized product, so the markets are expected to behave similarly. The United States fastener manufacturing industry has ranged closely from 18 to 20 billion USD in revenue from the years 2006 to 2009 (IBIS World, 2010). In comparison, the Mexican market is expected to be approximately 1/10th of the United States fastener industry size (Parker, 2009).

The market potential assessment data is composed from country-wide economic indicators. For the market size category, IBIS world (2010) report on the Mexican fastener industry was referred for this factor. Economic freedom by Heritage Foundation (2010) is used as proxy for economic and political freedom indicator. Market growth rate and commercial infrastructure are measured by real GPD growth (%) and average annual growth rate of primary energy use. These growth rates can be found separately in the country's statistic annuals and census reports (World Bank, 2010; U.S. Energy Information Administration, 2010).

Compared to the market potential data gathering discussed before, the sales potential assessment data gathering presents a different scenario. In this case, the data and information is composed of internal data of the firm itself and the firm's current strategic and market position compared to other firms in the industry. Therefore, some of the factors will be publicly available, while other aspects will have to be estimated. The majority of the factors from the macro perspective such as country economic incentives, number of major population centers, as well as market share from private companies are found in different industry reports. However the micro factors, for example brand/name value, price product and price elasticity, product quality and word of mouth are factors that have to be objectively analyzed and assessed within the company. An effective way to compile the micro factors is through the utilization of SWOT analysis among other self-position assessments.

In the third phase of the case study, the return of investment is calculated with the data provided from the sales potential assessment. The calculated sales potential revenue range is assumed to be the potential revenue that the firm will incur if a successful market entry and establishment is achieved.

Data Analysis

As we have mentioned earlier, the market potential analysis of an industry describes the maximum amount of revenue that can be created by all the participants. The United States fastener industry is estimated to have $1.82 Billion USD in revenues. However, as described in the methodology of the case, this maximum amount is reduced by the other factors of the market potential assessment. Since the indices selected for economic freedom index, political freedom index, and country risk rating provide different scales, they have been normalized to a maximum score of 10 points, with scores of 6.8, 7.2, and 5.5, respectively. For the real GDP growth and average annual growth rate of primary energy we find a growth of 2.5%, and 4.3%, respectively. In order to apply this data a weighted average approach is utilized. In our case study we

assigned, a maximum reduction of 10% for economic freedom, 20% for country risk, and 10% for commercial infrastructure. This indicates that the maximum market potential of 1.82B USD should not be reduced more than 40% due to this other factors affecting it.

The case of the sales potential phase differs from the market potential due to the fact that it contains micro and macro factors. In order to successfully describe the case study, a series of assumptions have been made. Some of the most important assumptions included for the sales potential phase, state that firm F will locate in city M, which accounts for 35% of the market of fasteners in Mexico. Likewise, it is taken into consideration that seven large cities are present in a radius of less than 500 miles. In the same fashion, it is assumed that the company will not be participating in any type of special or free trade zones (SEZz) or (FTZs). In addition, fasteners are assumed to be a commoditized product were the level of counterfeiting is assumed to be negligible. Finally, based on exports and imports trade analysis it has been assumed that at least 40% of Mexico's fasteners are imported since the production is lower than the demand.

In contrast to the macro factors mentioned, the micro factors present a set of assumptions that are more internal to the company or firm. Some of the micro factors considered are that the company is ISO 9001 accredited. Likewise, the product quality and price is competitive with more than 80% of the products that are currently consumed in Mexico. The firm plans to maintain and even reduce their prices and increase their quality due to a significant investment in their current processes and operations. At this point in time they are currently finishing the integration of their business management and enterprise resource planning (ERP) system SAP® software. Furthermore, one of the most important aspects in this category is the company's client and customer management and culture. Firm F, is able to maintain around 80% of their customers, a very important factor especially in the market introduction phase.

In the last phase of the assessment, were the ROI calculations are performed for the medium size fastener company in Mexico, a gradual market penetration approach is assumed. By gradual market penetration, we refer to the fact that the market share of the firm will grow by 5% during the first four years of the period, and its market share will stabilize at 20% for the following 6 years. In addition, the estimation of the cost has been done by gathering the data about the cost of sales, salaries and wages, taxes paid, rent, operational expenses, and interest expenses for similar companies in the United States.

Therefore, under the assumption that we have a gradual market share growth with a steady state reach of 20% total market share, a revenue of $3,060 M USD is estimated for a 10 year period. Furthermore, for the estimation of the costs involved in this case study, financial reports of related industries in the United States were utilized. Steel investment foundries and steel foundries, with NAICS codes of 3324 and 3325, respectively, were used for the estimation of the costs of the fastener industry. Utilizing data from years 2006 to 2009, operational expenses in the range of 60 million USD were estimated (Bizminer, 2010). Furthermore, initial costs in the magnitude of 200 M were expected for the construction of the manufacturing facility, relocation costs, and installation of the equipment, among others. The estimated initial costs and operation costs aggregate to 800 M during a 10 year period. For simplicity in this case study, it will be assumed that assets are equivalent to the expenses.

Eq. 5 shows the firms return of investment with a steady state market share of 20%, after 4 years of steady growth in the fastener industry in Mexico.

$$ROI_A = \frac{3,060\ M - 800\ M}{800\ M} \cdot 100 = 28.3\%\ or\ 28.3\%\ annualized \tag{5}$$

A second scenario in which the steady state market share of 30% is achieved after the 6th year is evaluated. The possible revenue under these circumstances is expected to be $4,050 M USD. However, the costs are assumed to go up from 800M to 850M, during the 10 year period.

Eq. 6 presents the scenario B, where a higher market share is achieved.

$$ROI_B = \frac{4,050\ M - 850\ M}{850\ M} \cdot 100 = 376.5\%\ or\ 37.6\%\ annualized \tag{6}$$

Utilizing the results presented in Eq. 5 and 6, the implementation of a range of +10%, and -5% over the calculated ROI will be utilized as an upper and lower boundary. The utilization of such range will account for further variation not considered in the model.

DISCUSSION AND CONCLUSION

The multi-stage approach for the assessment of a firm's desired new market presents itself as a practical and comprehensive approach for an intuitive assessment of markets. The approach utilized macro level data to evaluate the economic situation of a country based on secondary data available to the public. Furthermore, the idea of a new company sharing a market with established competitors is captured by sales potential which utilizes micro and macro level data to assess the percentage of the participation of the new company in the established market. Lastly, in the return on investment (ROI) calculation, a simple ROI approach is utilized; although, when more detailed information about the future cash flows of the company are forecasted a more detailed ROI calculation can be implemented. The case study presented shows that significant opportunities can be estimated or forecasted, allowing the firm to increase their confidence their possible future revenues. One of the limitations of this model is that uses secondary data for the macro and micro factors; however, mathematical models can be used to enhance precision and accuracy. Additionally, a formal risk analysis to enhance the utility of the current model can be performed.

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GULF'S OIL SPILL EFFECTS ON THE ENVIRONMENT AND THE SUPPLY CHAIN

Sorraya Khiewnavawongsa, Purdue University

ABSTRACT

Recent accident at the Gulf of Mexico caused a major problem to business, people, government, and environment. On April 20, 2010, there was an explosion and fire on the Deepwater Horizon, a BP-licensed Transocean drilling rig, in the Gulf of Mexico. It was one of the largest accident oil spills in the U.S. history. Eleven people out of 126 workers on site were killed. The estimated cost for BP was dramatically increased from $3-6 Billion in June to $40 Billion in November. This is not a final number. Some people have estimated the cost can be up to $50 Billion. However, this incident did not impact only on BP and the petroleum industry, but the government and other businesses did get effects also. This study collected facts, the outcomes, and influences of the explosion and fire at the Deepwater Horizon oil rig in several businesses such as the petroleum, food, and tourism industries, and other aspects such as the environment, US economy, and local businesses as well.

INTRODUCTION

The Deepwater Horizon was an oil drilling rig owned by Transocean, the world's largest offshore drilling contractor. BP, the world's third biggest publicly traded energy company, has leased Deepwater Horizon from Transocean since March 2008. This rig was one of the BP's Macondo project in the Gulf of Mexizo. It was located approximately 42 miles out of Louisiana offshore. It was measured at greater than 35,000 feet depth.

Several sources claimed that Deepwater Horizon oil spill might be the largest accidental oil spill in the U.S. history such as Robertson & Krauss (2010), Bowman (2010), Wei (2010), and Anonymous (2010). Compared to a previous incident in Alaska in 1989, the *Exxon Valdez*, BP case is much worse in scales and effects. Only 257,000 barrels of oil was spilled and it covered approximately 1,300 miles of Alaskan shoreline (Exxon Valdez Oil Spill Trustee Council, NA). Also, the Exxon Valdez spilled oil on the surface of the water while the BP oil did from the bottom of the ocean. Some scientists estimated that 80% of the spilled oil is still underwater, which cannot be removed easily without interfering living wildlife and habitats (Nijhuis, 2010).

AFTER THE ACCIDENT

Deepwater Horizon was sunk on April 22, 2010, two days after the explosion and fire. The sinking of the oil rig left oil over the ocean surface for 1 mile width by 5 miles length (Resnick-Anult & Klimasinska, 2010). Crude oil had been leaked continuously. An initial estimation of leaking was made by BP and the U.S Coast Guard on April 25, just five days after the incident. It was estimated that 1,000 barrels of crude oil was leaked each day. However, this

number has been increasing. Only three days later, a revised estimation was five times higher or 5,000 barrels per day (Seba & Krasny, 2010). Estimations from other sources were much higher, between 20,000 – 25,000 barrels per day. Furthermore, after BP released a 30-second video of the broken pipe, there are much higher estimations from several sources such as the Lamont-Doherty Earth Observatory, UC Berkley, and Purdue University. Bowman (2010) estimated that the oil spills can be up to 50,000 – 70,000 barrels per day while Scheyder (2010) estimated at 100,000 barrels per day. There have been several attempts to clean-up. The first clean-up was made on April 25. The next three attempts were made in May. However, all these attempts all failed. Figure 1 shows the forecast location for oil as of June 9, 2010 (From CBS News, 2010)
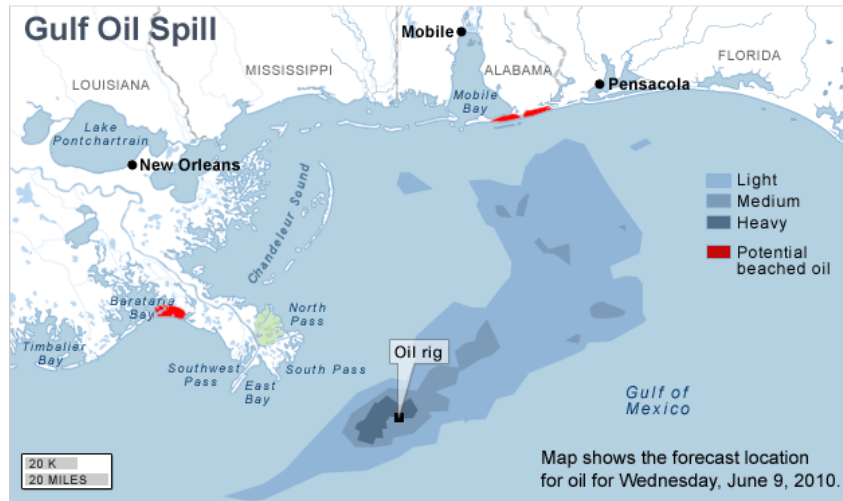
Figure 1. The forecast location for oil as of June 9, 2010

According to Wei (2010), BP released a 582-page emergency plan on June 30, 2009. Fifty two pages were specific on the Deepwater Horizon oil rig. This plan did not contain specific plans to deal with an accident of this scale. According to the plan, the highest spill was only 250,000 barrels while this accident was estimated at 20,000 barrels per day at minimum or 600,000 barrels per month. Also, this plan was full of errors. An emergency contact for wildlife expert was passed away in 2005, 4 years prior to the plan had been approved. Contact information of several Texas A&M University marine life specialists was wrong (CBS, 2010).

U.S. government issued the first moratorium in May, which temporarily halted the drilling in water deeper than 500 feet. Dun & Bradstreet estimated that 16,850 businesses in the five Gulf states could be affected by the moratorium. The majority of those businesses affected by were small businesses (as cited in Schmit, 2010). However, the moratorium had been lifted in October because new safety standard will make a disastrous oil spill much less likely (Jackson, 2010).

COST IMPACT

The Deepwater Horizon oil spill is one of the largest accident ever happened. It killed 11 people onboard and leaving the operation crippled. Many related and non-related industries to the petroleum industry got effects from it. Starting with the oil rig owner, Transocean, although

the cost to build this rig was $365 million (Resnick-Anult & Klimasinska, 2010) and it would be mostly covered by insurance, it would cost Transocean to build a new rig approximately $600 million (Reddall, 2010). Furthermore, several existing customers of Transocean are trying to terminate contracts and negotiate for lower rates. The after impact cost for Transocean was estimated at $2.1 billion (Schmit, 2010).

For the oil rig operator, BP, the estimated cost due to this explosion has continuously increasing since April 20, 2010. An initial cost for BP was $3-6 Billion in June and it had been increased to $40 Billion in November, and it might end up at $50 Billion. As of September 29, 2010, BP had spent $11 billion in spill-related costs (McCullough, 2010). However, not only direct costs of damage, but did BP need to worry about indirect costs also. People started concerning about BP's safety and ethics. This will lead to BP's reputation and cause the company priceless loss. BP's share price had been dropped since the explosion, from $60.48 on April 20, 2010 to the lowest at $27.02 on June 25, 2010 or more than $100 billion in value. Although the price was increased to $35 - $45 per share for the rest of 2010, it was opposite to BP's competitors' share price such as Chevron and Exxon Mobil, as well as Energy industry.

The accident also affected the petroleum industry. The National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling was expected to recommend extensive changes to industry practices and regulation, and Deepwater drilling licenses was likely become much harder to obtain (McCullough, 2010). ACC president and CEO Cal Dooley said "*The BP spill will have a negative impact on the ability to enact comprehensive energy legislation that includes expanded access to domestic oil and natural gas*" (as cited in Sissell, 2010)

ECONOMY IMPACT

The oil spill's immediate damage was to the Gulf States from Louisiana to Florida. However, it expanded to the rest of country. Fishermen in the affected areas went 100-200 more miles to catch seafood. The National Oceanic and Atmospheric Administration (NOAA) reported that 32.5% of the Gulf fishery was closed due to the contamination concern from the BP oil spill (Stapleton, 2010).

For food industry, since Louisiana is well known as the fishery industry, the seafood market get effect from the incident. There were several reports that seafood prices were higher due to less supply especially the Gulf States. A gallon of oysters has risen to $49 from $36 (Bull, 2010). Gulf seafood prices have risen 20% to 25% and that has kept sales down by 10% (Harper, 2010). Also, several reports showed drop in local sales of seafood and restaurant such as Bull (2010). Not only increasing price affects consumers from buying seafood, but does consumers' perception also. Restaurant owners and consumers in Gulf States were concerned about the safety of the food. Some suppliers and retailers had to order seafood products from unaffected areas. They also tested products to make sure that they are undamaged from the oil spill (Harper, 2010).

Local job market also got direct from the accident. Twenty four out of 33 deepwaer rigs in the Gulf were idled by the government due to safety. Two months after the accident, U.S. government released the moratorium on deepwater drilling in June 2010, which delayed the oil

drilling production from the deepwater rigs. This impacted not only oil drilling companies, but also other businesses in the supply chain such as shipbuilders, repair shops, and supply boats to service the rigs. Bowman (2010) said the proposed federal six-month moratorium on deepwater drilling would *"cripple Louisiana's economy and leave thousands of families without income, particularly in coastal Louisiana, where one in three jobs is related to the oil and natural gas industry."* The oil and gas industries supported approximately 15.4% of the state's household earnings and support 320,000 jobs. Louisiana's Department of Economic Development estimated that the moratorium on deepwater drilling will cost 3,000 to 6,000 jobs within weeks and up to 10,000 jobs within a few months. Schmit (2010) also estimated the cost of not drilling: 11,000 jobs lost in Louisiana in six months, $8 million to $17 million a day for companies owning drilling rigs, $1 million a day for supply-boat revenue, and 4% of 2011 deep-water Gulf production in six months. Table 1 shows the potential lost economic activity from the six-month moratorium (Mason, J. R., 2010).

Table 1.The potential lost economic activity from the moratorium (Mason, J. R., 2010)

	Total GOM	Total U.S.	Spillover Effects
Output ($ Mil)	-$2,110	-$2,769	-$659
Employment (Jobs)	-8,169	-12,046	-3,877
Wages ($ Mil)	-$487	-$707	-$219
State & Local Tax Revenues ($ Mil)	-$98	N/A	N/A
Federal Tax Revenues ($ Mil)	N/A	-$219	N/A

ENVIRONMENTAL IMPACT

Environmental impact from the oil spill is one of a few areas that were most concerned and got attention from people and government. Crude oil could enter the Gulf Coast in many ways. It could disturb environment, biology, coastal communities, and marine ecosystems. There are several news and articles focusing on this issue, especially with wildlife and human habitat in local areas. Marine organisms such as fishes, seabirds, marine mammals, and plants, around the Gulf of Mexico shoreline got impacts from the danger of the oil slick on the surface of the Gulf of Mexico. As well as living organisms, landfills got an impact from the accident. According to Nijhuis (2010), Southern Louisiana had lost about a football field's worth of land each and every half-hour.

Bowman (2010) also pointed out impacts of the oil spill on marine life. Marine organisms were susceptible to Polycyclic aromatic hydrocarbons (PAHs), toxic found in both the spilled oil and substances using as a cleaning agent. PAHs have the potential of causing damage to DNA and internal organs, causing cancer, and killing marine organisms. Another threat is from consuming the oil, which causes gastrointestinal inflammation, diarrhea, and digestive system. Marine mammal, such as sea turtles and whales, need to breath near the surface of the water. The oil slick can cause them the damage to their respiratory system.

Several articles reports presented several ways to clean up the coil and minimize the oil slick such as Nijhuis (2010) and Bowman (2010). Chemical dispersants were applied to the oil slick. Oil droplets would be separated from the slick and degraded faster. However, there were concerns about the impacts of using Corexit as a causal agent since it is toxic to human and

marine organisms. Some scientists had used the bioremediation methods. Appropriate fertilizers and, sometimes, bacterial reinforcements were added to stimulate the oil microorganism. Some other methods included using shovel to remove oil from the surface.

SUMMARY

The oil spill at the BP's Deepwater Horizon rig was one of the biggest news in 2010. Although it was happed in the Gulf of Mexico, people in the United States and around the world got impacts from this accident. Costs related to the oil spill from this accident were initially underestimated at 5,000 barrels per day. This number had been increasing. Some sources claimed that the amount of oil leaking could be about 100,000 barrels per day. From several sources, it was estimated that the cost of this accident to BP was more than $50 billion to pay off the damages and recover from the loss. Not only BP, Transocean, and petroleum industry, but did other industries get either direct or indirect effects from the oil spill also. Due to the accident, U.S, government released the moratorium which temporarily halted all deepwater rigs from drilling oil in Gulf Mexico. Both spilled oil and the moratorium had great effects on the petroleum industry, local and nation economy, and environmental system. There had been several attempts from BP, U.S. government, and other organizations to alleviate the loss from the oil spill such as cleaning up the oil slick from the ocean surface, rescuing marine mammals, removing oil from the land. Although, a few people are still interested in the impacts of this accident, it will take a long time to recover everything back to normal.

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EXTENDING THE TRADITIONAL BEER GAME FOR ENHANCED LEARNING AND DEEPER ENGAGEMENT WITH THE SUPPLY CHAIN

Jonathan Davis, University of Houston – Downtown

EXTENDED ABSTRACT

There is no shortage of instructive examples for extending and modifying the seminal Beer Game to teach specific topics of supply chain management. While the Beer Game was developed in the 1960s at MIT to teach the harsh realities of the bullwhip effect (Senge, 1990) as founded and evangelized by J. M. Forrester (1958), supply chain management educators have demonstrated the format's modified ability to teach service management (Anderson, 2000), strategy (Li Zhou, et. al., 2008), complex interaction (Reyes, 2007), and overall systems thinking (Goodwin, et. al., 1994). Other approaches to modernizing and extending the Beer Game have been less adventurous epistemologically yet more advanced technologically (Goodman, et. al., 1993). Many such strong attempts have been made to bring the Beer Game into the realm of student learning through computer interaction. What these efforts have in common is that they each attempt to improve the Beer Game so that it teaches its primary lesson more effectively, or teaches a single new lesson using a similar format to the originally intended bullwhip effect lesson.

This research proposes to use the essential Beer Game idea and format to teach a series of distinct—yet related—lessons to supply chain management students in the format of a semester-long course. The Beer Game idea is one that includes every important facet of a typical supply chain structure, so this study will increase the robustness with which the game models these facets, then use the improved result as the underpinning for an entire supply chain management course. This course will be divided into game-driven lessons that are taught and experientially illustrated as the game is played by the students under the direction of the instructor. As such, each lesson will introduce complexity to the game that takes aim at the particular topic at hand, while varying only slightly from the primary Beer Game mechanic.

As a trivial example, the first day of class will open with a game board available to the students that contains only one element: the manufacturer. The manufacturer is chosen because most instructors teach (and most students understand) the perspective of the manufacturer first, even before they truly understand their own perspectives as individual customers participating in a supply chain. A version of the Beer Game is then played which includes only the receipt of demand and the placement of raw materials purchases to the (unseen) vendor. The near-comic isolation of the manufacturer during this first run-through will only become obvious in hindsight as the students are exposed to the next several "versions" of the game, which interactively introduce the existence of a specific customer and a specific supplier, as dictated in the original game. Eventually, all original elements of the game become visible, and the game can be played as originally intended. At this point the topic of the bullwhip effect is taught and become clear to the students, but in arriving to this point, the students will have (slowly) covered many other foundational ideas, such as warehousing, inbound and outbound logistics, purchasing and order placement, information systems, supplier integration, and inventory management. The depth to

which these topics are covered is controlled by the degree of control the instructor places into the growing "Beer Game," if indeed it can still be labeled thusly. For example, the instructor might create multiple options for outbound logistics with different attributes that, in their complexity, offer the possibility of strong improvements. Before moving on to the next "level" of the game, the students must come to understand the basics of outbound logistics and make a set of decisions that will govern how the game ultimately unfolds. Similarly, at some point in the game the instructor will give the student the opportunity to "see" the underlying inventory game mechanic and, with a set of constraints and control points, re-define the way inventory is handled, with important consequences for the game output.

Once the Beer Game is revealed in full complexity, decisions made in the past by the students may be abstracted away into a set game mechanic that can be re-evaluated at key points within the curriculum. Consider saying, "Given what we now know about service levels versus inventory, should we re-examine our previously created policies?" Further interest is added to the game by allowing wholesale changes to the game structure. "How would you redesign the game to behave like you now know a modern supply chain should?" This will typically include removing obsolete information delays and barriers, creating an integrated supply chain planning consortium, and attempting to maximize supply chain throughput (and profitability) system-wide, while tackling practical concerns about cost and benefit sharing across supply chain partners.

To conclude, the evidence indicates that a game format like the Beer Game is an effective platform for learning and that the Beer Game, specifically, is an effective tool for learning the particular lessons of the bullwhip effect. We can further capitalize on these strengths by generalizing the Beer Game and allowing students to wade in to its intricacies and manipulate them for the sake of knowledge.

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STUDENT PAPERS

CHECKLISTS AND MEDICAL MISTAKE PROOFING

Megan Moffatt, Berry College

Nancy D. Albers-Miller, Berry College

EXTENDED ABSTRACT

Potentially conservatively reported, preventable medical mistakes have been blamed for the death of 100,000 people in the United States each year (Kalb 2010). Researchers have reported that medical errors are a significant concern for hospitals (Grout and Toussaint 2010). Some researchers have concluded that health care in the US is fundamentally unsafe (Kalb 2010). There is a great deal of value in reducing medical errors. Controlling medical mistakes not only saves lives, but also reduces patient suffering and represents significant cost reductions (Grout and Toussaint 2010).

Manufacturing mistake proofing processes have been applied to the field of medicine. Mistake proofing refers to determining potential points of failure (Blake 2003) and implementing processes or design feature to prevent mistakes (Grout 2007). Developing redundancy in design helps to mistake proof (Blake 2003). Effective implementation needs a process that uncovers and discloses mistakes even if no one got hurt (hfm 2010, Kalb 2010). Efforts to control errors and mistake proof in a medical environment have not been universally accepted. Some have suggested that members of the medical community are accustomed to a great deal of autonomy. There has been a recommendation for the institution of medicine to evolve because the culture and arrogance have made it difficult to make appropriate changes (Kalb 2010) .

One procedure that has recently received a great deal of attention in the area of medical mistake proofing is the use of checklists. Both Harvard's Dr. Atul Gawande and Johns Hopkins's Dr. Peter Pronovost recommend the use of checklists (Gawande 2009 and Pronovost 2010). Evidence supports that checklist have been effectively implemented to reduce errors (Grout 2007). Checklists are based on evidence based practices, which are proven to be the most effective methods (Sanford 2010). Checklist help to insure accuracy and to reduce variation which is helpful in increasing patient safety, reducing errors and decreasing costs (Health and Hospital Networks 2007 and Sanford 2010). Additionally, checklists have been shown to decrease infections and save lives (Kalb 2010).

A primary concern is a lack of adequate enforcement of checklist. Nurses and administrators have expressed a reluctance to report noncompliance by doctors (Kalb 2010). Obviously, a policy of zero tolerance is important to successful implementation.

The purpose of this study was to examine the perceptions of doctors, nurses and administrators regarding the use of checklists and a proposed use of a mandatory electronic checklist program. The proposed program consists of software with electronic checklists integrated with other hospital systems that necessitate participation in the checklist program to use equipment, deliver treatment and medicine.

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FORCED CONSUMPTION AND FREEDOM OF CHOICE: AN INTERNATIONAL STUDY OF THE EFFECTS OF COLLEGE MEAL PLANS ON CONSUMER BEHAVIOR

Laura Turbyfill, Berry College

Nancy D. Albers-Miller, Berry College

EXTENDED ABSTRACT

Cultural theorists often report high levels of individualism and a high need for freedom in the US culture. The founding documents of the country declare a right to freedom (Markus and Schwartz 2010). Evidence suggests that Americans have come to expect the freedom to make their own choices (Schwartz et al 2010, Desmeules 2002). On the other hand, cultural research has long supported the understanding that the need for and/or the anticipated right to individual decision making and freedom are not universally salient across cultures. Some researchers have suggested that too much freedom may be detrimental. Desmeules (2002) suggested that a "tyranny of freedom" occurs when someone has been given too many options and the person is overburdened to evaluate them. It has been suggested that people might be better off with having fewer options (Schwartz et al 2010, Dhar and Simonson 2003). Other theorists have concluded that the number of options, and how well those options align with expectation, is associated with satisfaction (Nowlis, Kahn and Dhar 2002). Researchers have reported that consumers having a choice forced upon them, rather than having an opportunity to select between options, may experience decreased satisfaction (Margrave and Albers-Miller 2006a, Margrave and Albers-Miller 2006b, Dhar and Simonson 2003). It might be concluded that there is a middle ground consisting of some optimum set of options to make a consumer satisfied and evoke a positive attitude toward the product and service (Priester et al 2004, Desmeules 2002). It is not unreasonable to conclude that the optimum number of choices might not be the same across cultures.

Unfortunately, little research has been conducted examining the impact of having no option at all. In most consumption settings, a consumer at least has the choice to opt out entirely. The little research that has examined choice in a true forced acceptance environment has suggested that the consumer dissatisfaction negatively impacts product and service evaluation (Margrave and Albers-Miller 2006a, Margrave and Albers-Miller 2006b). When a choice is forced upon someone that expects to have a choice, evidence suggests that their expectations will not be met. Failed expectations might result in dissatisfaction, poor attitudes and lower perceptions of quality (Bitner 1990).

What remains unclear from the previous research is the degree to which cultural expectations influence the condition of no choice. Cultural research has indicated that some cultures have a high tolerance for difference in power and an acceptance of decisions being dictated from high levels of authority down to lower levels of authority (Hofstede 1997).

The purpose of this study is to examine the practice of mandatory meal plans on college and university campuses in an international context. Some colleges and universities require all

attending students to purchase a meal plan for meals consumed on campus. The number of options and the condition of forced choice vary across colleges and universities and nations. This study provides insight into the influence that culture plays in satisfaction, consumer attitudes and perceptions of quality. Implications are provided.

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THE UNFILTERED FACE OF SOCIETY: A CONTENT ANALYSIS OF INAPPROPRIATE CONTENT ON FACEBOOK

Megan Uebersax, Berry College

Nancy D. Albers-Miller, Berry College

EXTENDED ABSTRACT

As of July 2010, Facebook announced that the popular social networking site had reached 500 million members (NY Times 2010), which as Time Magazine points out, means it would be the third largest country by population if it were granted terra firma (Fletcher 2010). Founded only six years previously by Mark Zuckerburg, a sophomore at Harvard University (NY Times 2010), it was originally intended for use by college students, but has since grown to access for anyone over 13 years of age (Fletcher 2010). The main purpose of Facebook is to create social connections between people from the past and present, and develop future relationships by meeting people with similar interests.

Research conducted with over 200 undergraduates at a university found that 93.2 percent belonged to a social networking site, and 92 percent log into their account at least once a day (Gangadharbatla 2008). The advancements of this social network have led to the ability to share content with almost anyone, join groups with others that share interests, and relay messages back and forth between members. Users share more than 25 billion pieces of information on Facebook each month. They have been adding photos (perhaps the most intimate information Facebook collects) at a rate of nearly 1 billion unique images a week (Fletcher 2010).

Anecdotal evidence has indicated that inappropriate content on Facebook has led to dismissal of employees, corporate data leaks, and in extreme cases, assaults and murders. It is not difficult to find cases of financial, emotional and physical harm which has been linked to careless, reckless or insensitive social media postings. One previous researcher indicated that as much as 25 percent of the posts on Facebook are about employers, underage illegal behavior, and activity that could be deemed as offensive (Peluchette and Karl 2010). "Disgruntled employees, who once may have avenged themselves on their employees by destroying a handful of paper files or raiding the supply closet now pose a far wider threat" (Morris 2001). A Facebook user can find more than 500 groups and more than 500 events that contain the search term "sex" using a basic Facebook search. These range from tame topics to groups that indicate sexual practices. Similar results are yielded when searching for drugs, alcohol, and porn (Brandenburg 2008).

Since the term "inappropriate" can be defined in a variety of ways by individuals, for the purposes of this study, inappropriate content on Facebook has been defined broadly and includes a wide range of content which might be viewed by others as unsuitable or questionable. In this study, content (pictures, video and text) which mentioned, disclosed or displayed sexual acts and/or sexualized behavior, personal or corporate financial information, socially offensive and derogatory comments about groups of individuals, derogatory comments about a person with decision authority over the poster, alcohol use, drug use, non-work-related posts made during

normal business hours and illegal behavior were all included.

> *Content analysis of the posting to the walls of a larger number of Facebook users across a wide range of ages were used to generate the data for this study. The wall content included in the study was selected randomly from a large number of available posters within groups of age ranges. Quotas were used to insure that the content analyzed in this study was diverse across age ranges. Facebook wall information was captured electronically. In this study we used standardized coding forms and provided detailed training of coders. Differences between sexes and age ranges have been explored. Managerial and public policy implications are provided.*

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INTERNATIONAL MARKETING

HOW DOES NATIONAL CULTURE INFLUENCE TIME AND PLACE UTILITY? DIFFERENCES BASED ON THE HOFSTEDE'S FRAMEWORK

Ruth Chatelain-Jardón, Texas A&M University – Kingsville

Barbara R. Oates, Texas A&M University – Kingsville

ABSTRACT

This study is an attempt to understand how national culture would affect the Supply Chain Management (SCM) / Logistics Management (LM) in regard to performance, the creation of time and place utility, and hence the value-added for the customer. Hofstede's (2001) original dimensions are employed to suggest differences between the United States and Mexico regarding the integrative nature of Logistics Management. Four propositions are developed and insights of the importance of culture on SCM/LM are provided.

INTRODUCTION

The marketing concept "…as a business philosophy, guides firms to look for customer satisfaction at a profit in a coordinated manner" (Min & Mentzer, 2000, p. 3), since "for most customers, time is increasingly scarce [and]… they are more willing to pay to save time and effort"; this business philosophy emphasizes the organizational challenge of delivering "goods and services when and where the consumer wants them" (Day & Montgomery, 1999, p.8). In order to satisfy these customers' time- and place- needs, it may be considered as fundamental the responsibility that Logistics Management (LM) carries regarding customer satisfaction, considering that the two main value-added roles of LM are time and place utility (Coyle et al., 1996). However, since "…cultural analysis cannot be separated from individual mental process" (Singh et al., 2004; Singh, 2004), the way to satisfy individuals from one culture may differ from the way of satisfying individuals from another culture. Moreover, the way of doing business – and hence, performing Supply Chain Management (SCM) activities- may differ from one culture to another. However, not enough attention has been paid to the impact of culture on Supply Chain Management; for example: Hausman & Haytko (2003) work studies how the management of the supply chain varies between Mexico and U.S.; however, they focus on governmental and employee related issues and not merely in culture. Clinton & Calantone (1996) focus on

investigating "…the cross-cultural applicability of logistics measures" (p. 98). Kaufmann & Carter (2002) perform a cross-national study to identify differences between countries, but they focus on price motives. Canen & Canen (2001) highlight the importance of multiculturalism on logistics. Aquilon (1997) identify characteristics (based on Hofstede's dimensions) of suppliers based on their origin. Shore & Venkatachalam (2003) utilize just one of Hofstede's dimensions in their study to evaluate the information sharing capabilities. Thus, the purpose of the present study is to bridge that gap by suggesting how national culture would affect the SCM/LM in regard to performance, the creation of time and place utility, and hence the value-added for the customer. The countries considered for this study are U.S. and Mexico, and their cultural differences are established on the scores given by Hofstede (2001) rankings.

THEORETICAL FRAMEWORK

SUPPLY CHAIN MANAGEMENT

As stated by Lambert et al. (1998), "[o]ne of the most significant paradigm shifts of modern business management is that individual businesses no longer compete as solely autonomous entities, but rather as supply chains" (p. 1). However, regardless of "… the popularity of the term Supply Chain Management, both in academia and practice, there remains considerable confusion as to its meaning" (Mentzer et al., 2001, p.2). Although Supply Chain Management as a concept "…is relative new in the literature, appearing first in 1982" (Cooper et al., 1997); the term Supply Chain Management has been overused and misused frequently. Actually, "[t]here is a great deal of confusion regarding exactly what supply chain management involves" (Lambert, 2001, p.1). The source of confusion may be located in the fact that "[t]he supply chain concept originated in the logistics literature, and logistics has continued to have a significant impact on the SCM concept" (Mentzer et al., 2001, p.16; Min & Mentzer, 2000); just to provide an idea of how interrelated these two terms are, in 2004, the Council of Logistics Management (CLM) –an association whose current mission is "[t]o lead the evolving Supply Chain Management profession by developing, advancing, and disseminating Supply Chain knowledge and research" ("Purpose", 2005, p. 1)- decided to change its name to Council of Supply Chain Management Professionals (CSCMP) in order "to meet the changing needs of [its] members …[who] now have an expanded and more critical role within …[the] company than … ten or even five years ago…" ("Welcome", 2005, p. 1). Another source of confusion may be the high similarity between the current definition of Supply Chain Management provided by the CSCMP and the old definition of Logistics provided by the same association. An additional source of confusion "is probably due to the fact that logistics is a functional silo within companies and is also a bigger concept that deals with the management of material and information flows across the supply chain. This is similar to the confusion over marketing as a concept and marketing as a functional area" (Lambert et al., 1998, p. 2).

Nowadays, "[t]he understanding of SCM has been reconceptualized from integrating logistics across the supply chain to the current understanding of integrating and managing key business processes across the supply chain" (Lambert, 2001, p.4). The Global Supply Chain Forum, "a group of non-competing firms and a team of academic researchers" (Lambert, 2001, p.3) whose mission is "is to provide the opportunity for leading practitioners and academics to pursue the critical issues related to achieving excellence in Supply Chain Management" ("The",

2005, p. 1), defines the Supply Chain Management as "the integration of key business processes from end user through original suppliers, that provides products, services, and information that add value for customers and other stakeholders" ("The", 2005, p. 1). Concerning this study, the above SCM definition will be utilized. Furthermore, the SCM extent is functional and organizational. On one hand, "[t]he functional scope of SCM refers to which traditional business functions are included or excluded in the implementation and the process of SCM" (Mentzer et al., 2001, p.16). On the other hand, "[t]he organizational scope of SCM concerns what kinds of inter-firm relationships are relevant to the participating firms in the implementation and the process of SCM" (Mentzer et al., 2001, p.16).

Due to the complexity of studying SCM as a whole, the functional scope will be accentuated, and the focus of this study will be on Logistics Management (LM) in order to emphasize the time and place utility.

LOGISTICS MANAGEMENT

Supply Chain Management as a concept "started in the logistics literature, and logistics has continued to have a significant impact on the concept" (Min & Mentzer, 2000, p. 1); on the other hand, SCM "… may also be an influential ingredient in the field of marketing theory, since there is a close interrelationship between marketing activities and logistics activities in marketing channels" (Svensson, 2002b, p. 734). Actually, in the functional school of marketing, one of the classical schools, at the beginning of the twentieth century, "…marketing and logistics were originally treated as belonging to each other" (Svensson, 2002, p. 427). Logistics would be considered as the fourth P (place) of the marketing mix, as Biggs et al., (1998) stated in the following:

The marketing concept implies that the logistics activity, along with other marketing mix variables, should be adjusted to customer demand, thus creating customer satisfaction and, in turn, generating revenues, while tacitly assuming complete flexibility of order production. (pp. 26-27)

There is a strong interdependence between marketing and logistics; as a matter of fact, for both marketing and logistics, their main driver is the customer service and/or satisfaction. Even Svensson (2002) states "…that logistics is the other half of marketing" (p. 429). Nevertheless, even though "[t]he link between marketing and logistics has been acknowledged for almost a century" (Svensson, 2002b, p. 734), "marketing is often regarded as an independent research discipline in relation to logistics" (Svensson, 2002, p. 427); however, this separation is not recommended based on the synergy loss due to the isolation. Svensson (2002) argues that Supply Chain Management "…contributes to the re-integration of marketing issues in the field of logistics theory and practice" (p. 426).

Regarding Logistics, this concept "…began to appear in the business-related literature in the 1960s…" (Coyle et al., 2003, p.38); Logistics "…as a concept and a practice has evolved over the years and is a discipline that is now practiced in different ways and contexts; in fact, logistics means different things to different people" (Russell, 2000, p. 2). As said by Coyle et al. (2003) "Logistics is misunderstood and often overlooked with the excitement surrounding supply

chain management…" (p.32). However, the definition that may be considered as the most fundamental one, is "…the classical definition: getting the right product, to the right customer, in the right quantity, in the right condition, at the right place, at the right time, and at the right cost" (Russell, 2000, p.2); it is better known as the "seven Rs of Logistics" (Coyle et al., 2003, p.39). For the purposes of this study, the LM definition provided by the CSCMP will be utilized. The CSCMP defines Logistics Management as "that part of Supply Chain Management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements" ("Supply", 2005, p. 1). Logistics provides the physical means of delivering inbound resources and outbound goods through the performance of the logistical activities; thus, logistics has an important role in the business environment (Mentzer et al., 2004).

It is imperative to stress that the customer is a fundamental part of the Logistics Management and Supply Chain Management definitions; actually, the customer may be considered as the driver of SCM and LM; hence, their objective would be customer satisfaction. Since the reason-of-being of any organization is the customer and consequently meeting their needs is the core objective of the organization, there is creation of customer value through the fulfillment of the customer service requirements (Fawcett & Fawcett, 1995). Actually, Ohmae (1988) suggests that creating customer value is the heart of the organization's strategy. "Customer value can usefully be defined in terms of economic utilities, the creation of which is synonymous with value addition. Four basic economic utilities are form, place, time and possession utilities" (Fawcett & Fawcett, 1995, p. 3).

Form utility is created when a set of inputs from their existing level of desirability is converted or transformed to a higher level of desirability (Fawcett & Fawcett, 1995). Coyle et al. (2003) assert, "[f]orm utility refers to the value added to goods through a manufacturing, production, or assembly process" (p. 40). Obviously, generally this utility is mainly assigned to the production function. "Place utility has to do with where the product or service is delivered" (Woods, 1996, p.71); place utility is created by extending the physical boundaries of the market area (Coyle et al., 2003). This is based on the fact that "…a product [tangible or intangible] has real value only if the customer can buy it; that is, if it is where the customer needs it…" (Fawcett & Fawcett, 1995, p. 3). This utility is provided by Logistics through the movements of "goods from production surplus to pints where demand exist" (Coyle et al., 2003, p. 40). As suggested by Woods (1996), "[t]ime utility has to do with delivering your offerings to customers when they want them, not when you are willing to deliver them" (p.71); thus, goods (tangible or intangible) must be available not only where the customer needs or wants them, but also when they demand them. Fawcett & Fawcett (1995) assert that   "[t]he provision of place and time utilities is the primary responsibility of logistics" (pp. 3-4). Possession utility is mainly created through the promotion of products or goods (Coyle et al., 2003). In other words, possession utility refers to "[t]he dissemination of information to create both an awareness of a product and a desire to purchase or 'possess' the product…" (Fawcett & Fawcett, 1995, p. 4). Obviously, generally this utility is mainly assigned to the marketing function. Therefore, the value-added activities of logistics, manufacturing and marketing play key roles in the provision of the four basic utilities, whose creation is synonymous with value addition for the customer.

Since "[g]oods [tangible or intangible] represent little value for purchasers until placed in a temporal and spatial context which will provide (customers) the opportunity to enjoy the physical and physiological attributes related to possession" (Mentzer et al., 1989, p. 53), the physical distribution of the goods is indeed necessary. Furthermore, customer value (i.e. time and place utility) is created through the performance of logistical activities. Some of the activities that may be considered as logistical activities are transportation, warehousing, order fulfillment, information management, light assembly, inventory management, and strategic distribution consultation (Mentzer et al., 2004, p. 620). Additionally, Coyle et al. (2003) also listed the following activities as part of Logistics: Traffic and Transportation, Warehousing and Storage, Industrial Packaging, Materials Handling, Inventory Control, Order Fulfillment, Demand Forecasting, Production Planning, Purchasing, Customer Service, Plant and Warehouse site location, Return goods handling, Parts and Service support, and Salvage and scrap disposal.

NATIONAL CULTURE

Narula (1988) defines culture as "interpretative procedures, myths, stories, typifications, and an array of artifacts that make up the conceptual ideology of a society. These procedures are cultural resources. Thus culture includes language, religion, ideas, values, ways of doing and making things, and artifacts themselves" (p.196). Therefore, cultural adaptation is indispensable based on the fact that culture is a lens through which the individuals view the world (Singh et al., 2004). Since cultural issues impact the market and the consumer behavior, cultural adaptation represents a fundamental factor for the marketing success. Thus, if the companies want to be successful, the right marketing mix must be created to meet the consumer's values and culture (Tian & Emery, 2002). However, culture is not measurable by itself; in consequence, the cultural models proposed until now, use proxies that account for the term itself. Additionally to not measurable, culture is not homogeneous among all the members of a society; thus, other terms (measurable ones) are used as boundaries to restrict the group or society that may be represented by the proxy (e.g. organization, nation, etc.). For this study, the proxy for culture to be utilized is national cultures.

Hofstede's dimensional model would be considered as one of the most extensively used cultural models as well as, maybe the most criticized one (e.g. Sivakumar & Nakata, 1999; Fang, 2003; Lowe, 2001; Tayeb, 1994; Fiske, 2002; Yeh & Lawrence, 1995; McSweeney, 2002). Even though the limitations of Hofstede's dimensional work have been recognized, "...this model is the one that has been most extensively applied and validated in a variety of cultural context and management research . . ." (Singh et al., 2003, p.65). Additionally, it has been used, replicated, tested and supported expansively, showing a higher degree of validity (Yoo & Donthu, 1998) and legitimacy compared with other culture-based models. Thus, Hofstede's (2001) dimensions constitute the framework for this study. However, it is important to emphasize that since not all the countries were included in the long-term versus short-term orientation dimension, exclusively the four original dimensions will be included in this study.

The countries selected for this study are the United States and Mexico; the former was chosen due to the "...significant growth in supply chain activities in manufacturing and other industries…" (Bandyopadhyay, 2004, p. 67), and the latter based on the fact that, within the American continent, Mexico is the second biggest trade partner of the U.S. ("Industry", 2005, p.

5). Furthermore, these two countries are utilized not only based on their geographical proximity and their cultural distance as shown by the Hofstede's (2001) dimensional rankings but also because one of the author of this paper has some knowledge on the culture of both countries.

PROPOSITIONS

Since "…cultural analysis cannot be separated from individual mental process" (Singh et al., 2004, p. 72; Singh, 2004, p. 96), cultural adaptation is indispensable; this may be attributed to the fact that culture is a lens through which the individuals view the world; moreover, cognitive structures, perceptual categorization, quality perception, and information processing vary cross-culturally (Singh et al., 2004). Thus, the way to satisfy individuals from one culture may differ from the way of satisfying individuals from another culture. Moreover, the way of doing business and hence, performing Logistics Management activities may differ from one culture to another. Logistics Management is "that part of Supply Chain Management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements" ("Supply", 2005, p.1). Therefore, logistics is an *integrating* function that besides coordinating and optimizing all logistics activities, also integrates logistics activities with other functions such as marketing, sales manufacturing, finance and information technology ("Supply", 2005, p. 1). It is important to emphasize the fact that Logistics Management, in its *integrative nature,* suggests the creation of non-intended (but necessary) outcomes as synergy, cooperation and good relations (notice that they may be considered as antecedents as well) in order to satisfy the customer in a more efficient and effective way. The focus of the following propositions (Figure 1) is based on the *integrative nature* of Logistics Management.
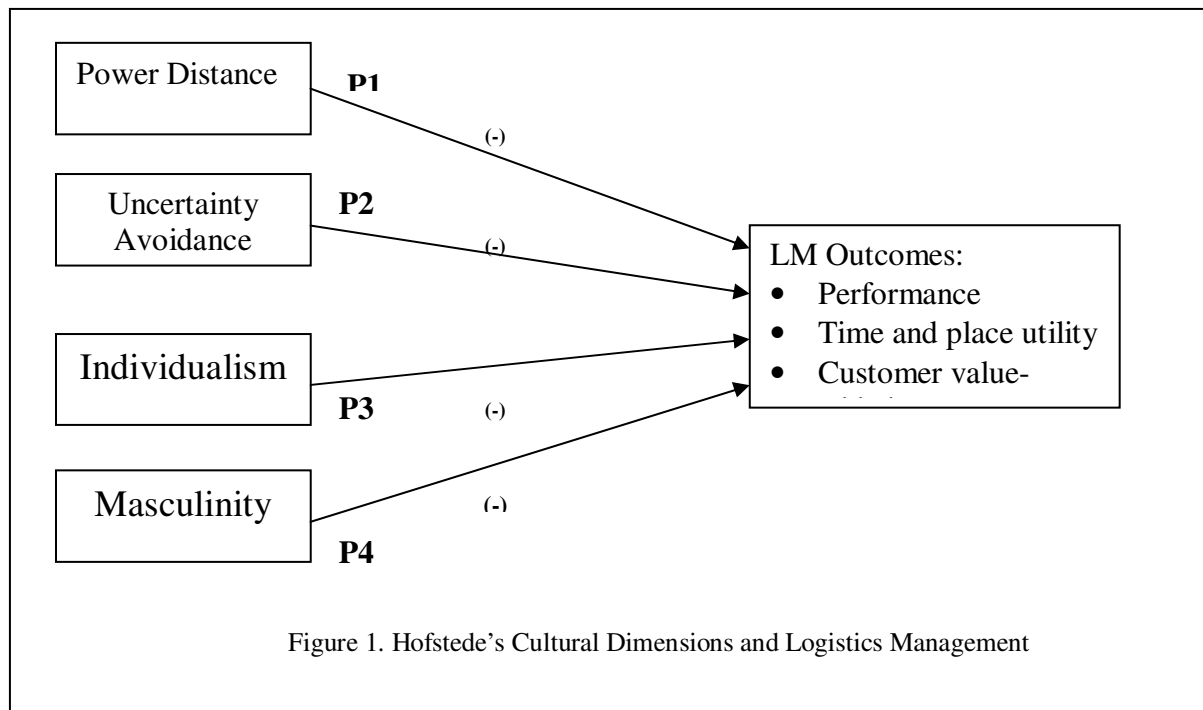

Figure 1. Hofstede's Cultural Dimensions and Logistics Management

POWER DISTANCE

According to Hofstede (2001), this dimension deals with how human inequality is handled differently in different societies; additionally, this "[i]nequality can occur in areas such as prestige, wealth, and power; different societies put different weights on status consistency among these areas" (p. 79). In fact, this dimension represents the 'vertical' relationship between people (Dustdar & Hofstede, 1999), and it relates to the willingness of the culture to accept a difference of power over the members of the culture (Zahir et al. 2002). As per Vishwanath (2003), this dimension affects the level of centralization of control and decision-making and also the status of the negotiators. High power distance cultures will accept the difference of power distribution among its members whereas a low power distance culture will attempt for an equal distribution of power (Zahir et al. 2002). Societies with high power distance have "…norms, values and beliefs such as: inequality is fundamentally good; most people are dependent on a leader; the powerful are entitled to privileges; the powerful should not hide their power, and there should be a hierarchy of power" (Davis & Ruhe, 2003, p. 278). Furthermore, "[o]rganizational superiors are treated as somewhat inaccessible, unreproachable, and entitled to their organizational power" (p. 278).

In the country Power Distance Index, the United States (40) scored lower than Mexico (81) (Hofstede, 2001, p. 500), placing the U.S. as a low power distance country. Considering that within a low power distance culture there is more access to information, more direct communication, less centralization of power (Aquilon, 1997). It is an environment where equalitarian relationships prevail (Doney et al., 1998), creating a more relaxed environment; thus, more participation in the decision-making process (and hence better decisions) is expected. To combine the need of information accessibility that Logistics demands in order to integrate and coordinate functions and activities for customer satisfaction, the following is proposed:

P1: A low power distance country, compared with a high power distance country, would:

a) perform better the logistical activities
b) create higher time- and place- utility
c) increase the customer value-added

UNCERTAINTY AVOIDANCE

Regarding this dimension, Hofstede (2001) states, "[u]ncertainty about future is a basic fact of human life with which we try to cope through the domains of technology, law, and religion" (p. 145). This dimension deals with the degree of uncertainty and ambiguity that the members of a culture are willing to tolerate (Singh et al., 2003). However, "[u]ncertainty avoidance should not be confused with risk avoidance" (Hofstede, 2001, p. 145). Davis & Ruhe (2003) state that this dimension "refers to the extent to which people in a society feel threatened by ambiguous situations and, therefore, try to avoid ambiguous situations by providing greater certainty and predictability" (p. 278). As per Vishwanath (2003), this dimension affects the tolerance/intolerance for ambiguity and also the need for structure in the process. In organizations, uncertainty avoidance takes the form of technology, rules, and rituals (Hofstede, 2001). A high uncertainty avoidance culture will use strict rules and codes of behavior in order to

reduce the uncertainty whereas a low uncertainty avoidance culture will have a less controlled (Zahir et al., 2002) and less structured approach.

In the country Uncertainty Avoidance Index, the United States (46) scored lower than Mexico (82) (Hofstede, 2001, p. 500), placing the U.S. as a low uncertainty avoidance country. Considering that within a low uncertainty avoidance culture, less control (Zahir et al., 2002), more open communication and less anxiety (Aquilon, 1997) prevails; hence, more adaptability and better decision (more communication, may lead to more information that may lead to better decisions) are accomplished. To combine it with the fact that Logistics Management should be flexible in order to adapt to the environmental circumstances and to the customer needs in order to satisfy their needs the following is proposed:

P2: A low uncertainty avoidance country, compared with a high uncertainty avoidance country, would:
  a) perform better the logistical activities
  b) create higher time- and place- utility
  c) increase the customer value-added

INDIVIDUALISM VS. COLLECTIVISM

According to Hofstede (2001), this dimension "…describes the relationship between the individual and the collectivity that prevails in a given society. It is reflected in the way people live together…and it has many implications for values and behaviors" (p. 209). Actually this dimension represents the 'horizontal' relationship between people (Dustdar & Hofstede, 1999). As per Vishwanath (2003), this dimension affects the need for steady relationship between differing negotiators. Collectivist cultures are formed of members who have close relationships among themselves and who feel a social obligation to do so (Zahir et al. 2002) and to look for the group's interest; they also tend to be more tolerant because they do not want to break the harmony (Tsikriktsis, 2002). On the other hand, individualistic cultures are conformed of more independent members whose responsibility is to look after their individual interests (Zahir et al. 2002); actually, individualism "…refers to the tendency of people to look after themselves and their immediate family only and neglect the needs of society" (Davis & Ruhe, 2003, p. 279).

In the country Individualism Index, the United States (91) scored higher than Mexico (30) (Hofstede, 2001, p. 500), placing the U.S. as a more individualist country. Since within a collectivist culture relationships are stronger (Griffith et al., 2000), it is most likely to share sensitive information (Shore & Venkatachalam, 2003); thus, partner commonality in terms of objectives and value is emphasized (Lars-Gunnar, 2003). To combine it with the integrative nature of Logistics, where strong relationships and information sharing is required as well as customer satisfaction as a common objective, the following is proposed:

P3: A more collectivist country, compared with a more individualist country, would:

  a) perform better the logistical activities
  b) create higher time- and place- utility
  c) increase the customer value-added

MASCULINITY VS. FEMININITY

Regarding this dimension, Hofstede (2001) suggests that "… almost universally women attach more importance to social goals such as relationships, helping others, and the physical environment, and men attach more importance to ego goals such as careers and money" (p. 279). Essentially, this dimension represents the 'gender-related' relationship between people, and it may be also named competitiveness versus cooperativeness (Dustdar & Hofstede, 1999). As per Vishwanath (2003), this dimension "…affects the need for ego-boosting behavior and the sympathy for the strong on the part of negotiators…"(p. 581). As stated by Davis & Ruhe (2003), "[m]asculine societies tend to prefer 'tough' values such as assertiveness, materialism, and lack of concern for others [whereas] ... Feminine (low in masculinity) societies place importance on 'tender' values such as personal relationships, care for others, quality of life and service, so that societal needs could dominate over productivity" (p. 279). In masculine cultures, there are stereotypical sex, age, work task, role and mastery distinctions, meanwhile in feminine culture there is fuzziness of gender roles, leading to greater degrees of cooperation, exchange, and support among members (Stafford et al., 2004).

In the country Masculinity Index, the United States (62) scored lower than Mexico (69) (Hofstede, 2001, p. 500), placing the U.S. as a more feminine country, it takes into account that "[m]asculinity/femininity is about ego enhancement versus relationship enhancement" (Hofstede, 2001, p. 293). Overall, "Logistics Management is an integrating function, which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions including marketing, sales manufacturing, finance and information technology" ("Supply", 2005, p. 1); since good relationships, cooperation, and synergy (accomplished when the supply chain members cooperate and work together), may be counted as key elements for the optimal performance of Logistics Management, the following is proposed:

P4: A more feminine country compared with a more masculine country, would:

a) perform better the logistical activities
b) create higher time- and place- utility
c) increase the customer value-added

LIMITATIONS

This study is an attempt to explain the impact of national culture over LM; however, since Mexico and the U.S. have differences not only in their linguistics and culture but also in their economics and development, some deviations may arise. The statements proposed in this study are tentative and future research is required for them to be supported. It is important to stress the fact that the cultural differences in which this study is based on are construct; thus "[c]ultural differences according to…[dimensions] are statistical rather than absolute" (Hofstede, 2001, p.288). Because of the fact that "…culture is not limited to or explained completely by any number of dimensions[,] Dimensions are constructs that are created to reduce and understand the vast dynamics of cultural variability. Hence, it is not possible to completely eliminate all the extraneous variables that could potentially influence culture." (Vishwanath, 2003, p. 595); thus, the propositions of this study could be contaminated. Even though "cross-cultural research

always runs the risk of imposing ethnocentric assumptions…" (Davies & Fitchett, 2004, p. 316), in this specific case, the ethnocentric bias may be considered weak because of the familiarity with both cultures.

CONCLUSIONS

The present study is an attempt to understand how national culture would affect the Supply Chain Management (SCM) / Logistics Management (LM) in regard to performance, the creation of time and place utility, and hence the value-added for the customer. Hofstede's (2001) original dimensions are employed to suggest differences between the United States and Mexico regarding the *integrative nature* of Logistics Management. Four propositions were developed depending on the type of culture that each one of the countries was categorized in. This study provides insight of how important culture could be in the performance of SCM/LM; essentially, as stated by Canen & Canen (2001) "…cultural differences seems to be one of the most relevant factors in the success or in the failure of companies in a globalised setting" (p 145). Hence, "[i]n the business world, logistics without that [cultural] awareness is bound to lag behind" (Canen & Canen, 2001, p.152).

FUTURE RESEARCH

Future research is necessary in the following areas:

- To test the proposed differences in performances based on cultural differences.
- To include economical, social and political factors, when testing the proposed differences in performances due to national culture differences.
- To measure the performance differential based on differences in national culture.

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IS EUROPE STILL ONE? AN ECONOMIC AND CULTURAL SEGMENTATION OF EUROPE

Türkan Dursun, West Texas A&M University

Ceyhan Kilic, West Texas A&M University

EXTENDED ABSTRACT

The regional integration in Europe has very important and immediate implications for international marketing. Since the European Union (EU) is the most critical, the largest, the most promising single market in the world, and a very important economic partner for the U.S., the enlarging EU creates several questions for U.S. manufacturers and exporters: Is Europe one? Can the EU and the other European countries be viewed as parts of one unique market according to major dimensions, such as economical and cultural? If it is a homogenous market, this gives an opportunity for international marketers to standardize their offerings and marketing strategy across the European countries. On the contrary, if it is heterogeneous, we expect several different segments to exist in the EU and each segment requires a customized marketing approach which can be costly and more problematic for marketers. The purpose of our study is to investigate whether the European Union and some other critical Non-European Union countries posses a unique market structure in terms of the state of economic development and the state of national culture, and if not, to identify possible segments in Europe and formulate an appropriate marketing strategy for each segment.

There are three approaches to segmenting markets: A single-variable approach, a multiple-variable approach, and an inter-market segmentation approach. A multiple-variable approach was employed by utilizing economic and cultural variables as segmentation bases in this study. Hofstede's four dimensions of culture which correspond to cross-cultural differences in people's belief and value systems and behavioral patterns around the globe were utilized. The four dimensions that Hofstede developed are individualism versus collectivism, power distance, uncertainty avoidance, and masculinity versus femininity. The purchasing power parity was used as an economic variable.

The research sample covers 32 member and candidate European Union countries. The other European countries are not included in the study due to their lack of data on the four cultural dimensions and/or the selected economic variable. The scores on the four cultural dimensions for most of the selected countries were obtained from Hofstede's official website (2010). The purchasing power parity index was utilized as a proxy for the measurement of the state of economic development. The purchasing power parity data for each country was obtained from European Commission's Eurostat website (2010). A set of cluster analyses were conducted on the selected segmentation bases and five distinct country clusters or segments were obtained.

According to the cluster results, there are five distinctive groups of countries in the sample. The clusters were identified easily with respect to cultural and economic factors. The Cluster 1 countries include Austria, Germany, Ireland, Italy, Latvia, Switzerland, and United

Kingdom. The Cluster 1 countries are characterized by high economical development. In this group, uncertainty avoidance is high, future expectations are not quite clear; power distance is low, the degree of hierarchical relations between workers and management is not much; highly individualistic, entrepreneurship is developed; and masculinity is very high.

The Cluster 2 countries are Belgium, Cyprus, Czech Republic, Estonia, France, Greece, Hungary, Lithuania, Malta, Poland, Portugal, Slovenia, and Spain. The Cluster 2 countries are characterized as economically less developed; uncertainty avoidance is very high, future expectations are not clear; power distance is high, the degree of hierarchical relations between workers and management is higher than that in the Cluster 1 countries; mostly individualistic and less masculine. Women usually are working with men together in the work environment.

The Cluster 3 countries are Bulgaria, Croatia, Macedonia, Romania, Slovakia, and Turkey. The Cluster 3 countries are economically at the lowest level compared to the other clusters. Uncertainty avoidance is high, future expectations are not clear; power distance is very high, the degree of hierarchical relations between workers and management is higher than those in the other clusters; low in individualism and masculinity. These countries are more collectivistic. Entrepreneurship in these countries is not very well developed.

The Cluster 4 countries comprehend Denmark, Finland, Netherlands, Norway, and Sweden. The Cluster 4 countries are economically as advanced as the Cluster 1 countries. They are generally low in uncertainty avoidance, future expectations are clear for these cultures. They have low power distance. They are characterized by high individualism and the lowest level of masculinity within the European Union.

Cluster 5 has only Luxembourg in it. This country is economically advanced and characterized by high purchasing power. Culturally, it is more similar to the Cluster 1 countries.

Overall, the countries in Clusters 1, 4, and 5 are generally economically more developed than those of Clusters 2 and 3. These countries represent "developed" markets and the remaining countries represent "developing" markets.

Some important marketing implications based on the differences between the five clusters or segments were discussed. Since cultural variables affect the purchase decision-making process of the consumer and economic variables influence intention and power of the consumer to buy, the differences among these clusters are critical to note for international marketers in order to develop right marketing mix strategies. Future research suggestions were also provided.

TOWARD OBJECTIVE EVALUATION OF THE MARKET ENTRY DECISION: AN APPLICATION OF DATA ENVELOPMENT WINDOW ANALYSIS

Gary H. Chao, Kutztown University

Maxwell K. Hsu, University of Wisconsin-Whitewater

David A. Haas, Kutztown University

EXTENDED ABSTRACT

Both experienced and novice international business practitioners may need to examine secondary country ranking reports on a regular basis. Most of these reports focus on certain socio-economic variables (e.g., GDP per capita, unemployment rate, interest rate) and compute country rankings with a weighted averaging method, which does not distinguish between likely causes (i.e., inputs) and consequences (i.e., outputs). To fill this gap, the present study attempts to evaluate country efficiency by applying the data envelopment analysis in a longitudinal manner. Specifically, this study demonstrates how to evaluate the efficiency of 22 countries using the publicly accessible globalEDGE data over eight years (i.e., year 2002 to 2009).

The country efficiency indices are calculated through data envelopment window analysis (DEWA) with various window sizes for each country examined in the present study. The empirical findings show that China has been the best performer among the 22 countries regardless the window size. In addition, countries are categorized into three groups: the "consistent performers" group, the "sliding performers" group, and the "improving performers" group. This segmentation scheme may facilitate business practitioners when they develop the global expansion strategy.

SUPPLY CHAIN SUPPLY CHAIN COMPETITIVENESS

MANUFACTURING FLEXIBILITY AS A FIRM-SPECIFIC DYNAMIC CAPABILITY

Stefan Genchev, University of Central Oklahoma

Geoff Willis, University of Central Oklahoma

ABSTRACT

This paper addresses the important concept of flexibility in the context of the manufacturing firm. We theorize that there is a gap in the efforts to directly connect environmental uncertainty and the flexibility of the firm. To address this gap, we propose a new definition of manufacturing flexibility.

INTRODUCTION

Previous research related to defining manufacturing flexibility tends to focus on one of two ends of the flexibility spectrum. One, the firm itself and its reaction to changing environmental conditions, and two, investigating the supply-chain collective efforts as the only way for the companies to achieve flexibility in their operations.

We acknowledge the value of these two approaches for improving our understanding of the flexibility construct, but argue that, in fact, projecting the manufacturing firm's flexibility as its specific dynamic capability can unify them. We ascribe to the notion of flexibility as a dynamic capability both internal to the firm and external, i.e., encompassing the firm's interaction with supply chain members. As an internal capability, flexibility enables the company to act independently to reduce uncertainties in the market. As an external capability, flexibility provides a different set of managerial levers for participation in a supply chain. This duality has the potential to turn into a strong, differentiated competitive advantage.

This paper is organized as follows: First, a literature review related to the dimensions of environmental uncertainty and manufacturing flexibility is provided. Second, we introduce a theoretical framework to provide the linkage between environmental uncertainties and manufacturing flexibility with respect to the ways manufacturing firms strive to mitigate the effects of these uncertainties, both internally and externally. The final element in the framework is manufacturing flexibility as a dynamic capability; we theorize that manufacturing flexibility is

firm specific and can only become a dynamic capability if it addresses the environmental uncertainties outside the immediate reach of company management. Finally, guidance is provided and some managerial implications are discussed.

LITERATURE REVIEW AND THEORETICAL CONCEPTUALIZATION

OVERVIEW

The ever-increasing complexity of customer requirements along time and product differentiation defines the competitive landscape in which all the members of the supply chain must operate (Daugherty and Pittman 1995). The firm that provides the final link between the customer and the product gains increased leverage against the uncertainties of time and customer-demands. Thus, the final member of the supply chain may capitalize on this advantage financially, by squeezing lower margins from the manufacturers and distributors, and operationally, by more accurately defining and forecasting the needs of the market (Bowersox et al. 2003).

Traditionally, manufacturers have not been accustomed to this "secondary" role in the process of providing value to the customers. Manufacturers have taken the lead regarding new product development and introduction and expansion of product lines in terms of breadth and depth of offerings (Johnson et al. 2003). Callahan (1979) notes that manufacturers also have been adept at accommodating new technologies and manufacturing processes, and responding to social, institutional, and regulatory environmental changes. The vital role of retailers in providing the final link between the product and its acquisition by the customer is undeniable (Bowersox et al. 2002). However, there is a strong potential for manufacturing companies to reorganize their business processes and activities in order to regain their strategic leadership role in the supply chain by "directly adding customer value in real time" (Vastag, Kasarda, Boone 1994, p. 76). The ability of manufacturing companies to accommodate ever-changing technology within a highly dynamic environment must be filtered through the prism of flexibility into better overall performance. This improved performance may manifest itself as enhanced product offerings, differentiated capabilities, and leading edge competitive strategies (Lynch, et. al. 2000). The current paper argues that flexibility for manufacturing companies could also be viewed as a dynamic capability providing a similar competitive edge.

MANUFACTURING FLEXIBILITY

Rather than defining flexibility only as a reaction to changing environmental conditions (Carlsson 1989), we consider flexibility as a firm-specific dynamic capability that is built upon the interaction between 1) individual firms' manufacturing flexibility capabilities, and 2) their ability to be flexible in the broader context of their relations with other firms, within alliances (Young-Ybarra and Wiersema 1999) and within the supply chain as a whole (Van der Vorst and Beulens 2002). This dual focus is critical in defining the construct and will increase understanding of the importance of manufacturing flexibility in enhancing the firm performance (Aaker and Makarenhas 1984).

Company-specific manufacturing flexibility

Manufacturing companies are currently faced with an unprecedented "…complexity and enlargement of their competitive field" (Johnson et al. 2003, p.1) combined with ever increasing customer requirements for enhanced and differentiated product offerings. In responding to these mounting pressures, the manufacturing firm management must ensure their organizations can adapt to environmental change, "…while maintaining optimal productivity and seamless scalability [an] appropriate mix of real options that can provide the necessary flexibility volume flexibility, variety flexibility, process flexibility and material-handling flexibility" (D'Souza 2002, p.1).A typical example of such flexible manufacturing system (FMS) includes sharing components and production processes across a platform of products, which in turn enables a firm to efficiently develop differentiated products and increase the flexibility and responsiveness of their manufacturing processes (Robertson and Ulrich 1998). Upton (1997) summarizes that, from an intracompany perspective, "manufacturing flexibility is the ability to produce large variation on key product characteristics." Although a split point can be theorized between component and system flexibility, the aggregate level of manufacturing flexibility can be viewed as purely output oriented as judged by the products it makes (Hill 1985). In dynamic environments, organizational efficiency is defined in terms of a firm's speed to react to market signals to deliver value for the customer product offering (Achrol 1997).

The emphasis on efficiency is appropriate, since flexibility is not a means to an end in itself, but rather a strategic, market-focused position that results in improved competitiveness and a superior value proposition to the customer (Johnson, et al. 2003). A manufacturing company may build up stocks of resources, components and systems in an effort to reduce the impact of uncertainty in the environment. The build-up of components does not improve their flexibility, per se; rather it helps cover a lack of flexibility in manufacturing systems. The broader perspective, exploiting synergies and learning throughout all interactions with supply chain members, is clearer the superior approach (Hyland, Soosay,and Sloan 2003**).**

Intercompany Manufacturing Flexibility

In many instances, manufacturing companies do not deal directly with the end user. This fact underscores the essential dual role of building flexibility within the company but also in its relations with other companies. In order to enjoy a competitive advantage and to realize least-cost scheduled distribution, it is necessary to have a high degree of manufacturing flexibility (Bowersox, Carter, and Monczka 1985).

Whether the relationships between manufacturer and supplier or manufacturer and retailer are determined by information technology alliances (Young-Ybarra and Wiersma 1999), or whether these relationships encompass flexibilities that directly impact the shared responsibility of two or more functions along the supply chain (Vickery, Calantone, and Droge 1999), they all strongly contribute to building manufacturing flexibility. The connecting thread among these studies is this; being flexible as a single manufacturing company will not necessarily translate into sustained competitive advantage. If properly utilized, the unique resources of the firm (Barney 1991) can provide the necessary structure and measurement systems related to flexibility. However, these resources will not translate into a firm-specific

dynamic capability until all of the uncertainties within the entire supply chain are addressed, not simply those affecting the manufacturer. The manufacturing company itself must develop flexibility in responding to environmental uncertainties and it should also accommodate their partners' flexibility mechanisms in order to achieve a high level of uncertainty reduction for the entire system (Walker 1997). Focusing narrowly on the coping mechanism of its internal operations may be beneficial in the short-run. In the long run, a manufacturing company with such focus forgoes its flexibility (Wright et al. 1991).

Organizations are open systems affected by their environment or context therefore creating flexible organizational structures and processes is important (Germain 1989). A substantial reduction in the environmental uncertainties is possible only if these structures are aligned with the entire supply chain (Rich and Hines 1997).

ENVIRONMENTAL UNCERTAINTY

A common theme underlying the environmental uncertainty/manufacturing flexibility literature is the importance of flexibility in addressing ever increasing competitive pressures and constantly changing customer product requirements (Pagell et al. 2000). This relationship has been investigated theoretically in the literature and a positive, though not linear, correlation has been theorized (De Meyer et al. 1989; Gerwin 1993; Swamidass and Newell 1987; and Johnson et al. 2003). . At the same time, empirical validation of the significance of the relationship between these constructs is missing (Pagell and Krause 1999). There have been attempts to address this somewhat unexpected result by adding more variables in modeling the relationship (Newman et al. 1993).

Still, even these authors admit that without providing a clear understanding of the antecedents to both manufacturing flexibility and environmental uncertainty, attempts to link these two constructs will fall short. While it is true that manufacturing flexibility is justified by environmental uncertainty, this still does not mean that we have the sufficient conditions to define flexibility. In other words, higher environmental uncertainty does not *cause* higher flexibility; it instead *calls for* higher flexibility. Only through the way manufacturing companies react to these uncertainties by changing their internal structures, processes, product offerings, and managerial practices in combination with interactions with other companies within the supply-chain, can we address the question of flexibility. These factors will have the defining effect on the relationship between manufacturing flexibility and environmental uncertainty.

For example, the contemporary shift in manufacturing from the Fordism mass production paradigm towards lean production systems can be characterized as a deliberate progression (Burgess 1994). This paradigm shift was realized in a time span similar to the strategic manufacturing move towards increased speed to market in delivering the final product to the customer, creating a unique source of competitive advantage (Daugherty and Pittman 1995). Many factors provide a valid explanation of the above mentioned phenomena, like inadequate resource allocation in response to the environmental shift (Cheng and Kesner 1997), or the role that lean manufacturing plays as a potential cure for all diverse manufacturing ills (Goldman and Nagel 1993). Overall, the interaction process between environmental pressures and manufacturers' response took a long time to fully develop.

Other changes in the environment are more abrupt. Events like 9/11, the conflict in Iraq, and the financial market meltdown are changes that took a relatively short time to occur and impact the success of manufacturers' strategies. High levels of uncertainty in the environment are the name of the game; how companies tackle similar environmental uncertainties without having the ability to directly reduce their number is the other side of the uncertainty coin.

Consequently, environmental uncertainty can be situated on a continuum from abrupt changes, which could take place overnight, to slow and stepwise processes that take years to materialize, portraying changes as continuous processes and not just detached episodes (Pettigrew, Woodman, and Cameron 2001). The problem with this characterization is that it does not fully address another important split point. This point of divergence lies between environmental conditions that directly affect the company and environmental conditions that are outside the control area of the company yet still impact its flexibility.

This gap leads us to another perspective on environmental uncertainty, complementing the timing dimension adopted for the current paper. The problem with defining environmental uncertainty is the inherent difficulty in measuring this construct objectively. The main research issue can be summarized as a trade-off between generalizability and accuracy in the conceptual disagreement of whether a single dimension, like timing, can represent such a multidimensional construct (Sharfman and Dean 1991). Regardless, this paper agrees with the view of Boyd, Dess, and Rahseed (1993) that whether objective (archival), perceptual, or combinatory measures are used is not an issue of superiority, but rather an issue of fit between the research objective of a study and the theoretically appropriate measure. Having in mind that the current study aims at presenting a more general theoretical model relating uncertainty and manufacturing flexibility, environmental uncertainty will be viewed as a perceptual construct. Environmental variability will be defined in terms of the difference between the *anticipated* performance results by the management of the firm and its *actual* performance over a planning time horizon.

Similar perceptions of the uncertainties in the environment are the driving force behind organizing and budgeting for all the operational and strategic activities of the firm. Performance results are not strictly limited within the firm's domain; they also include agreed-upon performance measures with different supply chain partners and within alliances that pertain to the activities of the supply chain as a whole. Reducing uncertainty by accumulating firm-specific flexible capabilities is not enough. Additional shared resources among firms are needed in order to reconcile the superior flexibility of the manufacturing firm with a substantial reduction between planned, perceived, and actual performance. A similar notion is supported in the dynamic capability view of the firm.

FIRM-SPECIFIC DYNAMIC CAPABILITIES

The Resource Based View of the company is an influential theoretical framework developed as a complement to the traditional Industrial Economic perspective (Porter 1985). Instead of focusing on the alignment of industry-specific conditions with the firm's competitive positioning and strengths within this industry (Barney 1991; Porter 1985), the Resource Based View investigates the firm itself as a collection of unique skills and capabilities that enable a firms' evolution and maximize strategic growth alternatives (Barney 1991; Wernerfelt 1984).

Comparatively little work has been done, though, to address the influence of the different levels of environmental uncertainty on the development of idiosyncratic resources and skills (Lei, Hitt and Bettis 1996). Following the logic of the proposed framework,, the emphasis of the Resource Based View will be investigated through its contemporary developments in the concept of dynamic capabilities and how they are accumulated mirroring the environmental uncertainty. We adopt the the definition of dynamic capabilities as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" Teece, Pisano and Shuen (1997). (For a full review on dynamic capabilities see Eisenhardt and Martin 2000).We acknowledges the fact that dynamic capabilities can be an outcome of the flexibility process, but at the same time, we investigate the other possible loop, linking this construct with improved flexibility as the dependent variable through experiencing different strategic options. This logic implies that the process of dynamic capability creation has to be explained in an alternative fashion, without focusing explicitly on firm-specific manufacturing flexibility. In this model, the alternative is the resource-integrative perspective on dynamic capabilities (Eisenhardt and Martin 2000). More specifically, dynamic capabilities are viewed as the product of intersecting flows, e.g., capabilities and knowledge, and stocks, e.g., capital and equipment, of resources (Dierickx and Cool 1989) dependent on the level of uncertainty in the environment in order to connect uncertainty with flexibility. Thus, a higher level of uncertainty is theorized to support the flows of resources, in the absence of developed "strategic factor markets" (Barney 1986) and a lower level – in accumulating critical resources from that market, stocks (Dierickx and Cool 1989). A necessary clarification has to be made with regards to resource flows in this paper. Due to high level of environmental uncertainty, it is not possible to establish well-functioning "strategic factor markets" (Barney 1986) and consequently the company cannot attach a specific value to the ever-changing resources, and readily implement them as dynamic capabilities. Interaction with stocks (Dierickx and Cool 1989) of strategic resources is needed in order to outline the specificity of the model, connecting uncertainty with manufacturing flexibility. The process of creating dynamic capabilities relative to environmental uncertainty is summarized in the following theoretical model:

THEORETICAL MODEL

The notion that in their efforts to reduce the uncertainties in the environment, companies accumulate substantial stocks of resources aimed at increasing their flexibility is acknowledged in the theoretical model of this paper (Figure 1). However, accumulating similar resources by itself cannot define whether the manufacturing firm is flexible. In this model, flexibility is viewed as an interaction point between company-specific stocks of resources and leveraged flows of resources accessed through the firm involvement in a supply chain. Only a similar interaction will provide us with a more concise understanding of the manufacturing flexibility construct. Measuring this interaction effect becomes feasible by projecting the difference between perceived and actual firm performance through scalable resource allocations.

Consequently, we can define manufacturing flexibility as a unique dynamic capability of the company built upon internal stocks and external (to the company) flows of resources allocated to reduce uncertainties in the environment. This definition is the focal point of this paper.

Propositions

The theoretical model illustrates the four propositions associated with our notion of manufacturing flexibility as a dynamic capability.

Proposition 1 is represented by the path from Environmental Uncertainty towards the Flows of Resources construct. This path is essential to demonstrate the moderating effect of resource flows, i.e., these resource flows hold the potential to temper the effect of environmental uncertainty on manufacturing flexibility. The firm's appetite for resource flows is whetted by environmental uncertainty. Consider the extreme case of a firm operating in a vacuum; the complete lack of uncertainty dictates that manufacturing flexibility be minimized. Any effort expended to create flexibility would be lost as opportunity cost; with nothing to react to, there is no benefit to possessing reactive capacity and capability. The presence of environmental uncertainty primes the pump for the flow of resources, which in turn operates on the manufacturing flexibility construct.

Proposition 2 is represented by the path from Environmental Uncertainty to the Stocks of Resources construct. Similar to the path indicated in proposition 1, this path illustrates a moderation effect of stocks of resources on manufacturing flexibility. The argument for moderation proceeds much as proposition 1; the absence of environmental uncertainty negates any need for manufacturing flexibility, and stocks of resources at the firm's disposal become superfluous. The presence of environmental uncertainty also triggers the need for stocks of resources, which in turn positively influence manufacturing flexibility.

Proposition 3 is represented by the path from Flows of Resources to Manufacturing Flexibility as a Dynamic Capability. These flows of resources have a net positive effect on manufacturing flexibility. Their necessity is dictated by the level of environmental uncertainty. The need for flexibility as a dynamic capability, spurred by environmental uncertainty, makes the firm more open to resource flows. Without this uncertainty, potential flows may be ignored, or examined and discarded as viable entities merely because the return on investment does not exist.

Proposition 4 is represented by the path from Stocks of Resources to Manufacturing Flexibility as a Dynamic Capability. Stocks of resources attenuate the impact that environmental uncertainty has on the firm by increasing the manufacturing flexibility. Under the resource based view of the firm, stocks in all forms contribute to organizational success. In the context of this analysis, should the market-focused position dictate the need for flexibility, then stocks of resources will help an organization achieve market success by enhancing manufacturing flexibility.

MANAGERIAL IMPLICATIONS AND FUTURE RESEARCH

The frustration of manufacturing companies' managers in their attempts to single out the effects of their investments in building up operational and strategic flexibility is understandable. A lack of concrete measurements results in undermining the firm's ability to reduce environmental uncertainties both within its organization and in conjunction with other firms in a

boundary-spanning business and social networks (Liebeskind et al., 1996). Providing the necessary flows of resources toward building systems responsive to environmental changes is yet another benefit to be considered when justification is needed for a greater involvement in the supply chain by the manufacturing companies.
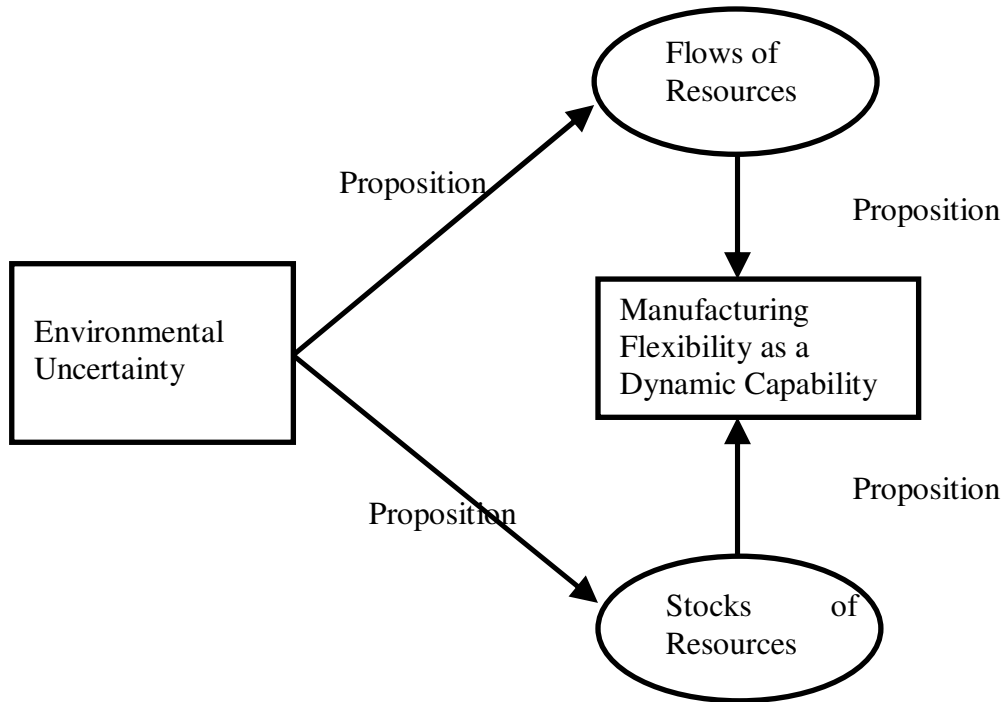

Figure 1: Theoretical Model

In connection with the measurement issues discussed, an interesting avenue for future research will be the accommodation of different rates of technology adoption between manufacturing firms and their partners. Such a differentiation has the potential to secure the significance of the interaction effect between stocks and flows of resources, resulting in building flexibility as a dynamic capability, by providing a common platform for comparison. Moreover, both academics and managers now recognize the critical role technology can play in the ability of manufacturing companies to react flexibly to environmental change in order to customize their product offerings (Peppers and Rogers, 1997).

As with every conceptual study, this paper lacks the empirical justification for its main proposition. Another shortcoming of this analysis is the focus strictly on manufacturing companies. While some justification for selecting manufacturers was provided, the question remains whether a similar definition of flexibility will be generalizable across different companies, and across services as well as product-oriented organizations. This is the reason why

an extensive theoretical justification is applied, describing the building blocks of the model and the reason why future empirical work is warranted.

CONCLUSION

This paper is aimed at filling the gap in the literature addressing the relationship between environmental uncertainty and improved manufacturing flexibility. The proposed model is defined as consisting of two incremental steps – building stocks and flows of resources pertaining to developing manufacturing flexibility as a dynamic capability. While each of these steps has already been addressed in the literature, there is no unifying perspective connecting such influential research streams as the Resource Based View and Dynamic Capabilities on one hand and Flexibility and Environmental Uncertainty on the other. The relationship between environmental uncertainty and improved organizational flexibility is the perfect setting for this unification.

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FACTORS AND INFLUENCES WHICH AFFECT CONSUMER ADOPTION OF ELECTRIC VEHICLES

Dustin Barrett, Texas A&M University

ABSTRACT

The steps taken by industries to facilitate widespread adoption of electric vehicles (EVs) will largely depend on the needs and expectations of the consumers. Previous research has identified some issues that are important to potential customers when considering the purchase of these vehicles. This paper explains that factors can be categorized as preferential, functional, and financial, and how each of these types of influences can affect the decision-making process. Survey data shows how concerns over fuel economy, lack of information regarding technology, "range anxiety", driving habits, environmental consciousness, and financial barriers can all have a large effect on EV adoption.

INTRODUCTION

The development of electric vehicles (EVs) is one of the most promising areas of technology in the transportation industry today. This type of vehicle is being refined and transferred from small-scale and industrial use into a viable option for widespread adoption as personal vehicles. EVs have the potential to revolutionize the transportation industry and provide drivers with an environmentally friendly, cost-effective alternative to conventional vehicles which currently dominate the global market. However, these vehicles are only recently coming out of the development stage and being put made available to consumers [1]. With any new technology, there are significant barriers to overcome in order to access a successful market. Financial, informational, and preferential impediments are always difficulties which must be overcome, but are especially impactful the electronic vehicle industry. These barriers are compounded by the fact that EVs require a highly technical infrastructure that is not yet in place, namely the availability of publicly accessible battery recharging/switching stations. Lack of infrastructure, in turn, affects another very influential factor of technology adoption, functional value [2]. Without assurance that embracing the new technology will be accompanied by proper charging resources, consumers will not adopt. Understanding the process and influences of consumer decision-making is a valuable endeavor. If the deterrents to consumer acceptance can be identified and accommodated, it will give validity to the efforts of industries to push forward with implementing the technical infrastructure necessary to facilitate extensive EV utilization. Through previous research and survey data, several major factors which determine whether or not a consumer is willing to purchase an EV have been identified [2]. Broadly, factors can be divided into three groups: (i) preferential factors, which are associated merely with an individual's tastes, values, and personal opinions, (ii) functional factors, which indicate an individual's requirements and expectations of a vehicle's performance and features, and (iii) financial factors, which dictate a consumer's ability to financially afford to purchase and maintain an EV.

RESEARCH METHOD

A questionnaire of approximately 55 questions was developed to gather data identifying the preferences and requirements of potential EV consumers. The types of questions presented included multiple-choice, open-ended, and relative ranking. The survey was pretested using a sample of 90 undergraduate students from Texas A&M University. Due to likely overall similarities in financial situations and transportation requirements of the respondents, the statistics presented in this paper are not necessarily representative of the total population, but the feedback is useful for further development of the questionnaire, as well as preliminary analysis of influential factors. 96% of the respondents were between the ages of 18 and 24, 82% of which were male and 18% female. All respondents indicated their yearly income as below $30,000, and 97% of them currently own vehicles which run on gasoline. 59% of the students live in houses while 31% live in apartments, while only approximately 10% own their residence. Over 93% of respondents estimate they drive their vehicle less than 25 miles per day. This is consistent with past data from the Bureau of Transportation Statistics [3], which has indicated over 75% of Americans commute less than 40 miles per day. Respondents were asked to indicate during which activities and how far they drove their personal vehicles daily.

Activity	Frequency	Distance		
		<5 miles	5 – 15 miles	15 – 30 miles
Commuting to work	71%	44%	34%	2%
Traveling to school	56%	49%	22%	1%
Personal/Recreational Activities	99%	36%	44%	14%

In the remainder of this paper, we will provide more details on the factors considered, specific results from the survey pretest, and trends observed in the data, as well as implications for future research and technology promotion.

ANALYSIS

As mentioned previously, the first factor that influences consumer decision-making processes is the preferential factors present in individuals. Decisions can be reached based on personal values, opinions, obligations, responsibilities, and social norms. Determinants addressed in the survey include vehicle aspects such as cab design, environmental impacts, and propensity for early technology adoption. The majority of respondents specified that they were looking for a sedan- or SUV-style EV which could carry 4-5 passengers. Only 3% expressed that they would want a vehicle with a 2-passenger capacity. This could have implications against the popularity and commercial success of small coupe-style vehicles such as the Tesla Roadster. In addition, 78% indicated they would want their vehicle to resemble traditional internal combustion engine (ICE) vehicle body styles, as opposed to only 11% desiring a "futuristic or easily distinguishable" body design, and the remaining 11% indicated they did not have a strong opinion either way. One marketing strategy that is frequently employed when promoting EVs is their diminished impact on the environment [6]. Respondents were asked to rate the importance of various environmental issues to them on a scale from 1 to 7, with 1 being unconcerned and 7 being extremely concerned. While this data shows that overall, environmental repercussions of

automobiles were of some importance to respondents, it was not an extremely influential factor.

Environmental Issue	Average Rating
Noise pollution	3.68
Operations associated with producing fuel (mining, drilling, refining, etc.)	4.31
Waste production	4.53
Fuel emissions	4.64
Overall impact on the environment	4.89
Total Average	*4.41*

The next set of criteria which was evaluated was the functional needs of consumers. These factors include such issues as vehicle performance, charging requirements, and maintenance/repair. The foremost issues indicated by respondents were range capability and top speed. With an importance rating of 4.8 (using the same scale as above), 83% of respondents expressed that they would not be satisfied with a top speed of less than 70mph from an EV. Similarly, almost 86% indicated they would require at least a 200 mile range per battery charge, and gave range capability an extremely high average importance rating of 6.4. This "range anxiety" has been observed before [4], and shows that drivers are most concerned with being able to travel long distances without worry of becoming stranded or the inconvenience of stopping to charge too frequently. The range capability of a vehicle on a given charge can only be controlled to a certain extent with current battery technology, but developing a system of recharging locations such that stopping to charge is quick and convenient will help ameliorate this large barrier to adoption. Another aspect that can be overlooked when addressing these functional impediments is the education level of the public concerning electric vehicles, and the amount of reliable information available to the consumers. A staggering 89% of students indicated they were unaware of the maintenance costs and requirements of EVs.

Finally, the economic and financial effects on consumer adoption were assessed. Retail costs of EVs are, not surprisingly, higher than similarly designed ICE vehicles. Although there are cost savings to be experienced in the long run, MSRPs ranging from $32,000 to over $100,000 will not allow consumers in financially stressed situations to cover the up-front costs of EVs. For some, the fuel cost savings will be enough incentive to warrant the higher price tag. The figure below shows the approximate cost-per-mile of various models of EVs as well as ICE vehicles.

Interestingly, almost 94% of respondents indicated that fuel cost savings affected their consideration of alternative-fuel-powered vehicles, as opposed to only 45% and 36% indicating their decision would be affected by environmental impacts and attraction to new technology, respectively. One study showed that the rising gasoline prices between 2000 and 2006 alone prompted approximately 27% of hybrid vehicle purchases [5]. In addition to retail price and cost of recharging, long-term maintenance costs must also be considered. The drive train on EVs is much less complicated and requires less maintenance than ICE vehicles. The major repair cost is replacement of the battery, which can be between $8,000 and $12,000 every 7–10 years. Other areas of cost savings that have proven effective are government and dealership incentives such as

cash rebates, reduction or elimination of sales tax, income tax credits, and reduced finance rates. While decision making is highly dependent on preferential and functional factors, consumers will not be able to make a vehicle purchase if it is not financially viable, regardless of their importance.

Vehicle Energy Cost-per-Mile
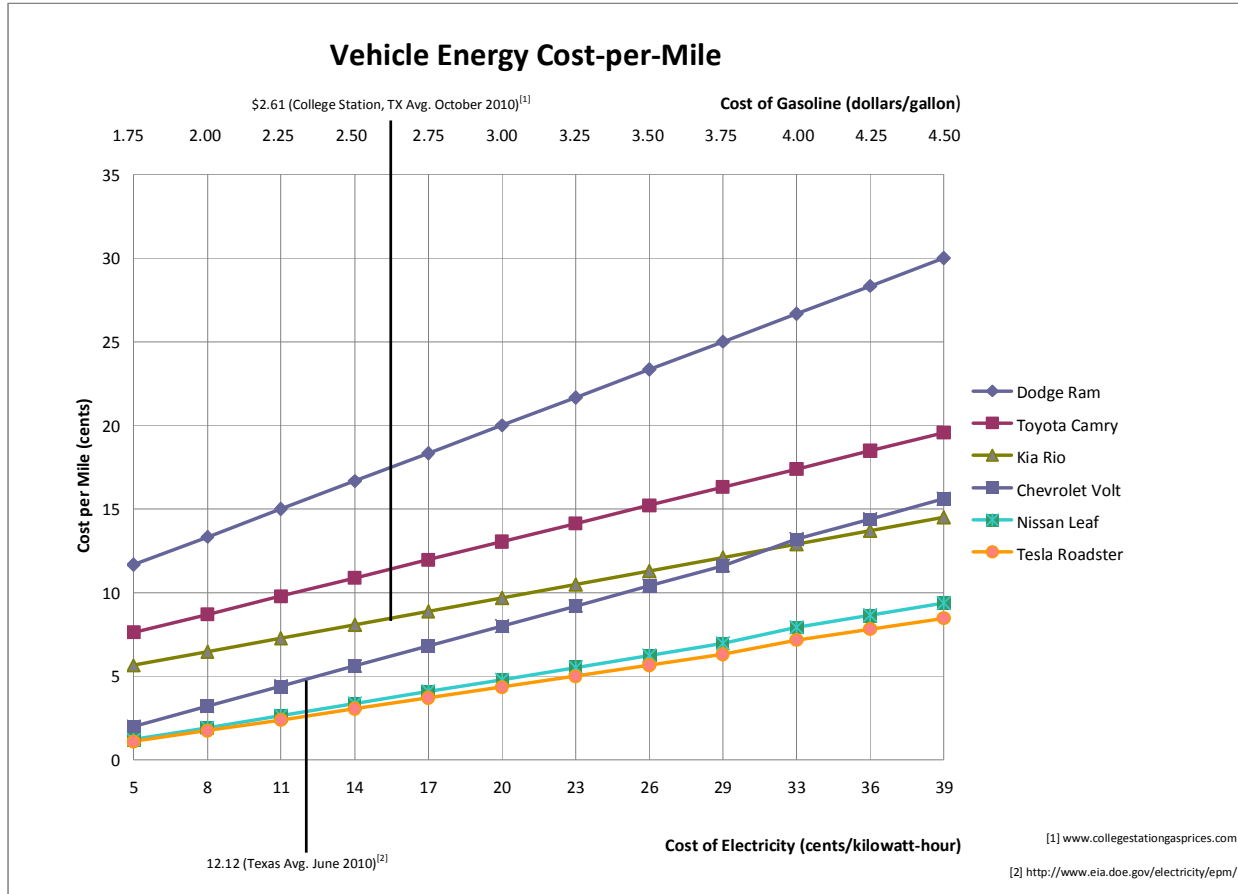
CONCLUSIONS

The results from the survey pretest confirm previous findings as well indicate potential areas for future research. Catering to consumers' expectations as well as ameliorating their concerns will prime the market for widespread adoption. Extensive programs to alleviate the financial demands of the young technology are already in place [5], but advancements in battery technology and optimization of the supply chain must occur to reduce costs. Keeping a finger on the pulse of consumers' wants with respect to design and style will keep the technology attractive. The largest, and most difficult, hurdle to overcome is the implementation of recharging infrastructure. Over 94% of respondents in this survey said they would not be willing to travel any further than 5 miles to recharge their EV. Until consumers are assured their decision to purchase is pragmatic and is not outweighed by any functional inconvenience, the market will not flourish.

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INVENTORY SRATIFICATION STRATEGIES FOR COMBINED COMPONENT/ FINISHED GOOD INVENTORY

William J Sawaya III, Texas A&M University

Sri Satya Kanaka Nagendra Jayanty, Texas A&M University

ABSTRACT

Inventory often represents a substantial capital investment for distributors and manufacturers. The failure to strategically set inventory policy and strategies can prove very costly for companies as the excess inventories can be very costly and drain cash resources, conversely inventory shortages can adversely impact customer satisfaction and undermine the ability of an organization to meet its customer requirements. Classifying inventory through inventory stratification programs provides a powerful method for organizations to evaluate the consequences of their current inventory strategy, or lack of strategy. It also aids organizations as they plan for ways to increase the return of their inventory investment as they set inventory strategies for the future. This paper summarizes some of the key stratification methods in the literature and outlines the method which has been successfully used by the Texas A&M Supply Chain Systems Laboratory in the Industrial Distribution program to aid organizations in the inventory stratification process. In some cases, the classification might not be straightforward. An example from an industrial distributor with some manufacturing capability is highlighted where there are certain SKUs which are both sold directly, as well as serve as components for manufacturing processes which produce new SKUs. Potential strategies for handling these SKUs are presented as possible solutions for these items.

INTRODUCTION

In many distribution organizations, inventory may represent the single largest capital investment. In a manufacturing setting, the inventory investment may also be substantial. As organizations recognize the significant investment they are making in their inventories, they are beginning to recognize that they should be managed accordingly to maximize the return of this investment. Inventory stratification strategies aid organizations in approaching their inventory strategically. Stratification is a tacit acknowledgement that not all inventory is equal in terms of its demand patterns, storage requirements, and contribution to an organizations' revenue and profit. ABC classification of the Stock Keeping Units (SKUs) or inventory items in an organization helps in understanding the inventory movement and other factors which describe the way in which the organization and its customers are utilizing the inventory and in looking at returns on their inventory investment. Proper inventory stratification plans coupled with coherent inventory strategies have the potential to both decrease costs, and increase customer service and profits.

LITERATURE REVIEW

The main purpose of an inventory stratification or ABC classification or analysis by any

organizations is for to provide an aid in their inventory management. It is widely implemented in organizations around the world. It is often based on the Pareto analysis. The Pareto principle with respect to inventory management is that a large portion of the total dollar volume of sales is often accounted for by a small number of inventory items (Nahmias 2009). In literature, the total dollar volume of sales is also called as demand value (Teunter, Babai et al. 2010).

Many production/inventory systems have thousands of SKUs which make it computationally infeasible to develop SKU-specific inventory control policies and strategies (Ernst and Cohen 1990). Earlier, to develop certain inventory control methods, the SKUs are classified based on a particular criteria; demand value. However, since the late 80s, researchers have worked on multiple criteria based ABC classification (Bana e Costa 1986; Flores and Whybark 1987; Cohen and Ernst 1988; Ernst and Cohen 1990; Flores, Olson et al. 1992; Partovi and Burton 1993).

Though demand value is the most commonly used criteria in the classification of SKUs, sometimes there may be other criteria that represent important considerations for management (Flores and Whybark 1987). In literature, there are several criteria considered by researchers in ABC classification of inventory items: hits, inventory cost, lead time, commonality, durability, reparability, certainty of supply, rate of obsolescence, impact of a stock out item, criticality of the item, substitutability, demand distribution, order size requirement and so on (Flores and Whybark 1987; Partovi and Burton 1993; Ramanathan 2006; Jamshidi 2008). Flores and Whybark says that some of these criteria may even weigh more heavily than demand value in the management of the item/SKU – much like the proverbial cobbler's nail (Flores and Whybark 1987). Criticality has been a major non-cost criterion that was identified as important in the inventory management among lead time, availability, substitutability and criticality. Many managers feel that criticality captures the management's feelings, however, it is a challenge to distinguish degrees of criticality in practice (Flores and Whybark 1987). Based on the approaches used by Flores and Whyback to consider criticality in the classification of the SKUs, they showed that both low demand value and high demand value items can have high criticality. The classification based on the input given by mangers considering criticality as the criterion is significantly different from that of the traditional classification based on demand value. Thus other criteria, non-cost criterion in this case, are important in inventory management than demand value alone.

Some organizations manage production/inventory systems at a very large scale. It is not computationally feasible to develop inventory policies and strategies for each and every item (Ernst and Cohen 1990). Ernst and Cohen (1990) developed a methodology for defining groups to support strategic planning for the operations functions in the inventory management. These groups take into consideration all product characteristics which have significant impact on operations management. The clustering procedure for production/inventory systems is called Operations Related Groups (ORGs). They argue that the traditional ABC classification may provide unacceptable performance when evaluated with respect to cost and service measures in complex inventory environments. The ABC groups typically exhibit poor discrimination with respect to operational attributes other than demand value and demand volume (Ernst and Cohen 1990). A case analysis on automobile spare parts was studied using the ORG procedure. After careful selection of variable considering management's recommendations, a final data matrix of

2502 rows (items) and 40 columns (variables) were used in the analysis. Factor analysis was used to reduce the variables to 15. Ernst and Cohen (1990) claim that ORG procedure gives weight to both statistical criteria and operational performance of group based generic control policies. The main advantage of this procedure is that it can handle any combination of item and attribute information considering management's interests over a large number of SKUs.

Another multiple criteria model for classifying inventory items is based on Saaty's Analytic Hierarchy Process (AHP) (Partovi and Burton 1993). Though Flores approach is a step forward in multi-criteria ABC analysis, the limitations pointed out by Partovi and Burton (1993) are: there is no obvious way to extend the procedure to more than two criteria and the weights of different criteria are assumed to be equal. They argue that the ORG model by Ernst and Cohen (1990) has drawbacks such as requirement of substantial data, use of factor analysis, clustering procedures which might be impractical in typical stockroom environments and the decision makers might lack familiarity with statistical procedures necessary to implement the ORG.

The basic steps in using AHP are: description of a complex decision problem as a hierarchy; Pair-wise comparisons to estimate relative weight of various elements at each level of hierarchy; and the integration of these weights to develop an overall evaluation of decision alternatives (Partovi and Burton 1993). One of the limitations of this method is that only a maximum of seven pairwise comparisons can be considered. A case analysis considering the AHP classification was performed on a large pharmaceutical company's inventory data. Using a series of simulation experiments, they show how the proposed model can improve inventory control in this company. It can be concluded that AHP classification method increases the ordering cost marginally, but substantially reduces downtime and average inventory investment (Partovi and Burton 1993).

Another method that aims at optimizing the inventory investment is the system approach to control inventory opposed to the simpler item approach (Thonemann, Brown et al. 2002). This approach ensures that a demand-weighted average fill rate is achieved at low inventory investment by assigning low fill rates to parts with high costs and high fill rates to parts with low costs. The system approach may be superior approach to the traditional ABC approach; however, it is more complex, time consuming, costly and requires highly skilled labor. So an easy to use model that approximates the benefit of a systems approach to spare parts inventory management is presented by Thonemann et al. The benefit of the system approach is measured relative to a common item approach and is defined to be the percent reduction in required inventory investment for a given demand-weighted average fill rate (Thonemann, Brown et al. 2002).

Ramakrishnan Ramanathan (2004) proposed a simple classification scheme using weighed linear optimization using an example. He supports the idea that several other criteria are to be considered apart from the demand value in the ABC classification of inventory items. His method considers N inventory items considering J criteria. A weighted additive function is used to aggregate the performance of an inventory item in terms of different criteria to a single inventory score. The linear programming formulation considered by (Ramanathan 2006) is as follows:

$$\text{Max} \quad \sum_{j=1}^{J} Vmj \, Ymj$$

$$\sum_{j=1}^{J} VmjYnj \leq 1, \quad n = 1,2,\dots,N$$

$$Vmj \geq 0, \qquad\qquad\qquad j = 1,\ 2\dots\ J$$

This model when solved gives the optimal inventory score for the mth item. This is a model similar to linear programming models used in data envelopment analysis (Charnes, Cooper et al. 1978). An output maximizing multiplier DEA model with many outputs and a constant input will reduce to the above model.

Zhou and Fan (2007) suggests a note on the multi-criteria ABC inventory classification using weighted linear optimization that was suggested by Ramanathan (2006).They suggest an extension to Ramanathan's model incorporating some balancing features for multi-criteria ABC inventory classification. They claim that the proposed model could be viewed as a more reasonable and encompassing index since it uses two sets of weights that are most favorable and least favorable for each item (Zhou and Fan 2007). Similar to Ramanathan (2006)'s model, is the simple classifier for multiple criteria ABC analysis by Ean Lung Ng (2006). He says that the model is similar to the DEA model considered by Ramanathan, however, the weights in this model are endogenous (Ng 2007). Ng (2007) compares the rankings of the items based on the proposed model, DEA like model and the traditional ABC model. It can be clearly observed that the ranks of many items vary in each of the method. It is claimed that this is a model that is easy to understand by inventory managers.

Jamshidi and Jain (2008) propose a multi-criteria ABC inventory classification using exponential smoothing weights. Exponential smoothing weight assignment is used when decision maker would like to assign different weight or values to the criteria. They believe that multiple criteria are to be considered in the ABC classification of inventory items. The weight for each criterion is based on simple exponential smoothing weight assignments. With inclusion of weight for each criteria and normalizing the data a score is obtained for each item and the classification is done based on the normalized score (Jamshidi and Jain 2008). They consider the three criteria; annual dollar usage, number of hits and average per hit in their classification. This is another model that is easy to understand and implement by the inventory mangers.

Teunter et. al. (2010) proposes an ABC classification considering service levels and inventory costs. The criteria considered in this model are demand value and demand volume. Service levels constitute arguably the most important performance measures (Teunter, Babai et al. 2010). There has been mixed results from the literature in determining the basis of assigning service levels. The reason for this mixed bag of results is the traditional criteria of demand value and demand volume for ABC classifications have not been developed from an inventory cost perspective (Teunter, Babai et al. 2010). This paper proposes an alternative criterion based on the objective to minimize total inventory cost whilst achieving a certain required average fill rate (over all SKUs). The most common way to define the service level is as the fraction of demand that is satisfied directly from stock on hand; the fill rate (Teunter, Babai et al. 2010). The important advantage of this model is that it takes criticality into account.

INVENTORY STRATIFICATION AT THE SUPPLY CHAIN SYSTEMS LAB, TEXAS A&M UNIVERSITY

Texas A&M's Supply Chain Systems Laboratory (SCSL) is the nation's premier distribution focused research lab. SCSL provides state-of-the-art distribution and supply chain research solutions to the industry. The lab works with the distribution industry and provides solutions to the supply chain problems – including strategic, tactical as well as operational problems. The research associates have many years of experience partnering with the distribution industry to help companies solve difficult problems. These partnerships have resulted in millions of dollars of cost savings, inventory reductions, and margin improvements (http://supplychain.tamu.edu/).

Inventory stratification at SCSL is performed considering multiple criteria rather than considering revenue/demand value alone. Years of experience have shown that other criteria that represent velocity, profitability, stock-out costs, risks and so on are just as important, if not more important. SCSL generally performs inventory stratification based on the three basic criteria – Revenue, Velocity (hits) and Profitability (Gross Margin Return on Inventory Investment or GMROII).

Contribution to profit – annual usage times gross margin – might be a better measure than dollar volume to use in ranking the items (Fuerst 1981). Gross margin return on inventory investment percentage is calculated as the percentage of Gross Margin (in dollars) of the Average Inventory Value (in dollars). The inventory items are ranked on the basis of the three basic criteria; sales, hits and GMROII. Once the rankings are obtained, it is important to understand the significance of these individual ranks and to figure out the weights to have a final rank for the SKUs. These weights tend to be case specific and can be adapted by individuals who are familiar with the particular context or industry setting where the stratification is being performed. In this way, if hits or sales volume are deemed to be more important that GMROII, then the weights can be adjusted accordingly. There may also be cases where GMROII might not even be possible, such as in work with hospitals and other not for profits where inventory distribution is view largely as a supporting role to the primary mission and the revenue is not generated directly from the inventory. The flexibility of the system, and the relative ease of implementation has resulted in significant savings for a variety of organizations who have followed the procedures. This illustrates that any stratification strategy might need to be adapted to suit the needs of the organizations doing the stratification based on their individual business. One interesting problem is that of SKUs which can be both components within internal manufacturing processes and also sold as goods.

CASE ANALYSIS

Data from one of the projects that the Supply Chain Systems Lab at Texas A&M University handled can be illustrative of the methodology and the particular problem of hybrid component and stock inventory. The company considered has relatively low number of SKUs in comparison with the average size of firms that approach SCSL. In this case, 410 SKUs were ranked on the basis of the three basic criteria; sales, hits and GMROII. To calculate the sales ranking for each of the SKUs, the total sales dollar amount for each SKU over a period of 24

months is considered and is ranked in the traditional ABC classification method. Similarly, hits of each SKUs are calculated and were ranked in the same fashion. As the gross margin and average inventory data for each SKU is available, calculating GMROII using the formula mentioned above is trivial. Ranks are given to the SKUs using the slabs for GMROII generally used by the SCSL. Once ranks are available with respect to the three criteria for the 410 SKUs, the final rank is based on weighting for each of the criterion.

Once the final ranks are obtained, the manager should take care that the 'A' items are supported well enough to get a high fill rate. The 'C' and 'D' items should either be drop-shipped from a supplier (if possible), or they should be moved to a central hub. If possible, 'D' items should not be carried at all – these are items that sell very little, have very little profitability and will not affect financials in any significant way if they are not stocked. Inventory stratification results in improvements in ROI as well as revenue by focusing on the best items while reducing the investment on the slow movers.

COMPONENT/ASSEMBLED SKU ISSUES

Given that there is very low revenue for SKUs which are predominantly used as component parts of other manufactured products, using the GMROII becomes very problematic for both the rankings in general using Pareto rules, as well as for the individual SKUs in question. The component parts do not contribute to the revenue but are utilized in manufacturing parent items which generate the revenue. So, sales (in dollars) do not actually reflect the volume of a component SKU utilized in generating that revenue.

Therefore, once items are identified that are clearly component parts, it makes sense to simple apply the inventory ranking of the final assembly to the individual component. What is interesting is the case where a component of this type may be using for more than one final assembly. In this case, it is clear that the components classification should be similar to the those of the final assembly, or perhaps an item of even greater criticality givens its impact on multiple assemblies. The other interesting case is when the item is both sold directly to customers as well as used as a component for assembled products. In this case, the item is at least as critical as the assembled product, but it also possible to do a classification for that proportion of the demand which is sold directly. One way of handling this, is to do volume based stratification based upon the combined hits and volume, and a smaller weighting on the GMROII. If an organization were to use activity based costing, it might be possible to come up with GMROII directly for component inventories. However, this is not the case in the organization in question.

The component parts do not contribute to the revenue but are utilized in manufacturing parent items which generate the revenue. So, sales (in dollars) do not actually reflect the volume of a component SKU utilized in generating that revenue. Ongoing research is comparing the efficacy of these various strategies handling this specific inventory issue.

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DEVISING HANDS-ON TRAINING MATERIALS FOR DISTANCE EDUCATION

Alyssa R. McGee, Purdue University

ABSTRACT

As the rise of distance education is increasing it is important to create relevant and effective course content. IT 332 (Production, Inventory and Warehouse Management), a course which has been traditionally taught in a face-to-face format since 2006, will be offered via the distance format during the spring semester of 2011. In order to utilize the hands-on components this course has customarily had, the course content has been revisited. This study will describe the methodology used to create hands-on based laboratory activities which will be utilized in distance education.

INTRODUCTION

Distance learning, that is, learning done via avenues other than the traditional classroom setting, is prevalently used in schools and colleges throughout the country. The emergence of distance education has significantly increased over the last decade. It is argued that distance learning is the fastest growing educational method in the world (Brown, 1994). "Almost 3.5 million students were taking at least one online course during the fall 2006 term; a nearly 10 percent increase over the number reported the previous year" (Allen, 2007). The growth rate of distance learning during this time frame exceeded the annual education growth rate of 1.5 percent by nearly 7 times (Allen, 2007).

The goal in distance education is to provide as much if not more information as provided in a traditional face-to-face setting. It is often debated whether or not courses are able to be effectively converted to an operative distance education format. Various technologies have been implemented in order to facilitate distance education. Currently there are a minute amount of hands-on labs offered via the distance education format. Classes which have labs and are offered via distance education often omit the lab portion of the class. This drawback puts both the student and instructor at a disadvantage.

Students who are inadequately prepared are unable to compete with their peers in the job market. Teachers who omit the lab portion of a class can also be deemed less technologically capable as their counterparts who are involved in teaching traditional hands-on classes.

In the spring semester of 2011, IT 332 (*Purchasing, Inventory & Warehouse Management*), a course at Purdue University will be offered via the distance education format. This course has been traditionally taught in a face-to-face setting since 2006. In order to determine if this course can be as beneficial as its traditional counterpart, relevant course materials must be created and evaluated. The success of students learning materials through technology is dependent upon the creation of relevant and effective course content.

The purpose of this project is to create course content for a hands-on based lab which can be completed at home. In order to create a beneficial learning experience, content will be created to mimic real world scenarios. Specifically, lab simulations will be created to imitate procedures that would occur in industry. Lab kits will also be created, enabling students to conduct simulations. This study will serve as a baseline in determining if other hands-on based labs in the College of Technology at Purdue University can efficiently be converted to the distance education format.

METHODOLOGY

Students enrolled in IT 332 (Purchasing, Inventory and Warehouse Management) both on campus and statewide will obtain the necessary tools to become familiar with essential elements of the supply chain. The ASSURE model of instructional design will serve as the methodology used to create effective course content. This model was selected because it is reputable in teaching environments which incorporate aspects of technology. The ASSURE model is a recommended instructional design method for the classroom setting and is often used by teachers who are working alone on the design and delivery of content (Gustafon, 1998). The steps taken to create content for this project include:

1. Analyze the learner characteristics
2. State the Objectives
3. Select Media and Materials
4. Utilize Materials
5. Require Learner Participation
6. Evaluate and Review

Analyze the learner characteristics

The most critical factor in creating learning content is to analyze the learner. The needs and traits of the target audience must be explored before the design of content can begin (Heinich, 1996).

The students enrolled in this course vary between sophomores and seniors within the college of technology at Purdue University. Due to the prerequisite course of IT 230 (Industrial Supply Chain Management) students should have a basic knowledge of factors which comprise a supply chain. In order to assess the students current level of knowledge relating to major subject areas in the course (supply chain management, inventory management and production planning) a pre-test will be given to assess their current level of knowledge.

Common demographic characteristics of students who will take this course include students between the ages of 19-24. The majority of students will be Caucasian males. The degree objectives of most students enrolled within this course will be Industrial Technology (IT) and Industrial Distribution (ID) or an Industrial Technology / Industrial Distribution dual degree.

Although students have an interest in industrial technology, the content of this course may not be of a particular interest to them as it is a requirement. In order to verify the demographics of students enrolled in this course, a brief pretest will be developed to capture

learner demographics.

State the objectives

The objectives state goals that students are expected to obtain from each individual lesson. Objectives are the focus of student learning. Stating the objectives in the design phase will ensure learning content is geared towards them. Informing students of the objectives will keep them engaged in learning and focused on the desired outcomes. According to Heinich the following factors should be considered when determining the objectives:
- Audience (who are your students?)
- Behavior to be demonstrated
- Conditions under which the behavior will be observed
- Degree to which the learner skills are to be mastered (Heinich, 1996)

Select media and materials

Media selection is important to supplement the form of instruction that has been chosen. The following concerns were addressed when determining what materials would be used to administer learning:
- Students must have access to media used
- Media selection should aid in achieving the desired objectives
- Media selection must be engaging
- The learning styles of the students must be met in media selection

In order to ensure students are aware of how to use the selected media a course readiness quiz will be administered. From this students will have the option of completing exercises which will provide clarity on software they need further understanding on.

For this course, students should have access to a working computer with internet access. Microsoft office applications, adobe connect and blackboard will be used to facilitate the transfer of information to students. This software has been successfully used for other courses within the educational setting. In order to conduct hands-on training activities a lab pack will be created for the course. A lab pack is a kit that contains contents that enable students to conduct hands-on simulations from home. The combination of both training tools will help meet the learning objectives.

Utilize materials

Once the materials are selected, the course lesson plan will be created. Blackboard will be used as a tool to communicate information to students. Microsoft PowerPoint will be used to display content and Adobe Connect will be used to verbalize lectures and activities to the students. In addition to using electronic media, lab kits will be implemented for students to conduct simulations.

Require learner participation

Learners must be actively engaged in course materials to be successful in this course.

Activities designed for this project will encourage student participation in content. Lab activities will be designed with a pragmatic hands-on approach. Due to this course being taught in distance education format student participation will be individualized.

Evaluate and review

Evaluation is an important step in instructional design. An effective evaluation should determine if the objectives were met and address potential areas of improvement. In order to ensure the lessons created for this project are effective, formative and summative evaluation will be used.

Formative evaluation refers to evaluation which takes place before learning materials are released to the end users (students). Summative evaluation refers to evaluating the material after the lesson has taken place. A useful analogy used for differentiating between formative and summative evaluation was given by Robert Stake who used a chef cooking soup as an example. "When a cook tastes the soup it is formative evaluation and when the guest tastes the soup it is summative" (Stake, 1976).

Formative evaluation methods used include a pilot test of the learning materials designed for this project. Feedback will be gauge student attitudes and progress towards the desired learning objectives. Instructors who have experience in instructional design and in teaching supply chain related courses will also review the material to ensure it is efficient in meeting the required objectives. After the formative evaluation is conducted the lesson will be revised before being given to the students enrolled in IT 332.

Summative evaluation methods will be utilized upon the completion of course activities. Summative methods used will include a student response survey, instructor notes of observation as well as a statistical analysis.

EXPECTED RESULTS

This project will create hands-on laboratory exercises that students will be able to conduct from home. Activities created will be related to inventory management, production planning, scheduling and supply chain management. Upon implementation of the activities, qualitative methods will be used to measure results of students who are enrolled in the distance course as well as the on-campus course which is taught via a face-to face setting. It is expected that results of corresponding activities will not have a statistical significance between on-campus and distance students. The study will be completed and results will be given at the 2011 IDEAS conference.

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