Table of Contents
MUSTANG JOURNAL OF MANAGEMENT & MARKETING
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Title . . . . . 1
Table of Contents . . . . . 2
Welcome from the Editor . . . . . 3
Advisory Editors . . . . . 5-6
Announcement for Mustang Dallas Conference . . . . . 8
Announcements for Mustang Journals . . . . . 9-13
Best Paper Award Winners . . . . . 14-16

Kenneth Jones, Doyle Lucas, Sharon Johnson, and James Phillips . . . 18
Going Home: Why is regular Remote Work Reeling?

Said Ghezal . . . . . 45
Performance Impacts of Information Assurance Strategic Alignment in the Context of Small Business

Richard Monahan . . . . . 70
Brand Equity Valuation for Prospective Candidates in the 2016 U.S. Presidential Race

David Rink. . . . . . 79
Impact of Customers’ Birth Order upon the Personal Selling Process

J.R. Smith, Kimberly Dean-Dorsey, Alisa Mosley, and Joann White. . . 96
A Broader Perspective of Emotional Labor and its Impact on Licensed Funeral Directors

Fahil Alsaaty . . . . . 116
Cluster Distribution Pattern of Biotechnology Establishments in the United States

Lawrence Silver. . . . . . 127
Application of the Sports Mental Toughness Questionnaire (SMTQ) to the Prediction of Entrepreneurial Success: A Proposal

Sang-Heui Lee, Jay van Wyk, and Anil Lal . . . . . 137
Institutions, FDI, Trade and GDP: a Path Analysis

Jinglin Li, Trinity Vannoy, and Ismail Civelek . . . . . 152
Just-In-Time Management in Healthcare Operations
Welcome from the Editor


All articles that appear in this volume of the *Mustang Journal of Management & Marketing* have been recommended for publication by the Reviewers/Advisory Editors, using a double, blind peer review process. Personal thanks are extended to the Reviewers/Advisory Editors for all their hard work and dedication to the *Journal*. Without their work, the publication of this Journal would be impossible.

This is my second year as Editor-in-Chief, and I wish to express my sincere thanks and appreciation for all the support, encouragement, assistance and advice throughout this year. The publishing of the journal is an intense educational experience which I continue to enjoy.

Congratulations to all our authors. I extend a hearty invitation to submit your manuscripts for future issues of Mustang Journals!

Please also consider joining us at one of our friendly conferences. Our next conference is in October, 2015 in Dallas! I hope to see you then.

Perwaiz Ismaili
Editor in Chief
*International Journal of Social Science Research*
Our Advisory Editors

Mustang Journals could not exist without the hard work and timely effort of our peer reviewers. Mustang Journals is seeking scholars willing to volunteer. Mustang Journals recognizes the importance of the peer review process in shaping the reputation and credibility of the journal and the individual papers. Reviewers will be expected to review no more than three papers a year. If you would like to become a peer reviewer, please contact us at MustangJournals@aol.com

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Bernard McNeal, Bowie State
Revisiting the Financial Vulnerability of Nonprofit Business Leagues Post-2007 Recession

Craig Randall, Florida Gulf Coast University
Exploration/Exploitation during Development: Linking CEO Behavior & Poor Outcomes in SME’s

Bree Morrison & Ranjna Patel, Bethune-Cookman University
Rethinking the Brain: An Applied Emotional Intelligence Model using expanded choice sets for improved decision making

Nashville, Fall 2014 Conference:

Wilburn Lane, Christopher Manner, Union University
Who Tends to Forward Viral Advertising Videos? The Effect of Demographics, Social Media Use, and Personality on the Intent to Forward Viral Video Ads

Hui “Harry” Xia, University of St. Joseph (Macao)
Coping with Emerging and Advanced Market Risks

Richard Monahan, American Public University
Brand Equity Valuation for Prospective Candidates in the 2016 U.S. Presidential Race
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Thomas Krueger, Texas A&M University - Kingsville
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Shawn Schooley, Auburn University

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Yue Yuan, University of Chicago

Examining Stock Returns through Anomalous Volume: 1966-2009

Distinguished Paper Awards

Oklahoma City, Fall, 2012 Conference:

Kusum Singh, LeMoyne-Owen College

Paper: Distance to the Border: The Impact of Own and Neighboring States’ Sales Tax Rates on County Retail Activity

Daniel Adrian Doss, Russ Henley & David McElreath, University of West Alabama


Ralph Bourret & Dana Roark, Northwest Oklahoma State University

Paper: Are Routine Retiring CEOs More Closely Monitored in their Last Year?
GOING HOME: WHY IS REGULAR REMOTE WORK REELING?

Dr. Kenneth E. Jones, Jr. *
Assistant Professor of Management/Supply-Chain Management
Northeastern State University-Tahlequah

Dr. Doyle J. Lucas
Professor of Management
Anderson University
Falls School of Business

Dr. Sharon Johnson
Charleston Southern University

Dr. James I. Phillips
Professor of Management
Northeastern State University-Tahlequah

ABSTRACT

This work summarizes the results of an ongoing study of the impact of the awareness of Workforce Performance Management Systems (WPMS) availability on the willingness of business professionals to engage in remote work environments. The relation of this work to the decline of regular/full-time remote work will be developed, and suggestions for further study will be provided as it relates to the results of this study. This study is unique in the fact that it provides a comparison of the WPMS solution to the eight elements of successful remote work, and it is limited in its scope to full-time or regular remote work possibilities and problems.

INTRODUCTION

Nilles (1975) and Toffler (1980) suggested the viability and potential for remote work (telecommuting and “electronic cottages”), and Toffler (1980) even prophesied that the 70% application of remote would be the standard at the end of the Twentieth Century. Yet, this did not happen. Although Nilles nor Toffler had a clear vision of the impact of the Internet and personal computing that took hold on a worldwide basis in the last twenty years, full-time remote work has not met the prophesied potential nor is it growing at a promising rate.

TELEWORK STATISTICS UPDATED

In fact, the aggregate growth has slowed down, annually from 2005-2006 compared to 2011-2012 by 22.4%, and this growth (across the board) was from very part time (once or twice per
(Provided by Latest Telework Statistics, 2013)

In essence, the tools are available and the knowledge workforce is abundant. What is holding regular/full-time remote work implementation to a standstill or to a decline may be at the heart of future studies (Latest Telework Statistics, 2013). Westfall (1997a and 1997b) questioned the praise and potential of remote work environments by noting the additional work and utility of management and the economics of how savings would be realized in remote work environments (1998). Staples (2001a and 2001b) further suggested that the knowledge work environment required the same level of employee involvement in goal setting and management support whether employees were working in the office or from remote environments.

**LITERATURE REVIEW**

The literature has shown the need for the eight elements of successful remote work to maintain a successful remote work environment: Communication/Technology, Trust/Control
System, Consistency, Input, Rules Defined, Evaluation, Feedback/Motivation, and Succession/Support. The availability of WPMS solutions have been suggested as a means of implementing these eight elements into the work environment. Note Table 2, below, aligning the literature with the eight elements:

**Table 2**

<table>
<thead>
<tr>
<th>Element of Successful Remote Work</th>
<th>Literature Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust/Control System</td>
<td>Chen &amp; Nath, 2005; Cooper &amp; Kurland, 2002; Crandall &amp; Gao, 2005; Dimitrova, 2003; Golden &amp; Veiga, 2005; Flexible Working, 2002; Azmi &amp; Khan, 2004; Bailey &amp; Kurland, 2002; Clear &amp; Dickson, 2005; Mobility and Mistrust, 2004; Staples and Ratnasingham, 1998; Mayer, Davis, and Schoorman, 1995; Schoorman, et al, 2007</td>
</tr>
<tr>
<td>Input</td>
<td>Davenport &amp; Pearlson, 1998; Staples, 2001b; Hoang et al, 2008, McNall et al, 2010</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Staples, 2001b; Davenport &amp; Pearlson, 1998; Staples, 2001b; McNall et al, 2010;</td>
</tr>
</tbody>
</table>

(Created by the author from previous research on this topic.)

Since WPMS systems can be provided via ASP (Application Software Provider) technology, online and self-contained, without having to buy or store software on the firm’s systems; the WPMS solution could be manipulated from anywhere, requiring only Internet access. The question was asked: Can the Availability of Workforce Performance Management Systems Positively Affect the Decision to Engage in Remote Work Environments?
REVIEW OF THE METHODOLOGY

To answer this question a study was designed for working professionals to evaluate their current workplace and estimate their willingness to work in a full-time/regular telecommuting environment (if offered) with their current employer (Pre-Information Survey). A survey site was advertised and opened to online access. Anyone officially invited or coincidentally aware of the survey web site could have participated by going to the secured web link attached to the survey instrument. Data of the participants that completed the pre and post/training surveys were tabulated. This was due to the nature of the necessity of the Paired-Sample t Test (or the Wilcoxon Signed-Ranks Test which was eventually used in light of data distribution problems), which requires a matching number of responses to analyze data effectively.

To enhance the possibility of management-level participants, M.B.A. programs (representing Northwest Arkansas and Central Indiana) from two private universities were enlisted to invite students or alumni to the survey site. One Northeast Oklahoma university was encouraged to invite their undergraduate students, graduate students, and faculty from the Business College. This grouping of graduate, undergraduate and faculty provided a potential population size of 1,472. This sample population of working professionals, then, was provided information about an actual WPMS solution as it related to the eight elements of successful remote work in the form of eight training components. This Training phase was immediately followed by a survey requesting a reconsideration of the current workplace by the sample population in which they were asked to hypothesize upon the implementation of WPMS into the current workplace (Post-Information Survey).

A goal of the survey solicitation process was to acquire at least 100 management responses to the survey instrument. Of the 1,472 individuals that were invited, 217 completed responses, providing a 14.74% response rate. Of the 217 participants that completed the survey, 112 reported that they were management-level personnel at their respective firms.

The change in the 7-point Likert scale of willingness to consider remote work between the Pre-Information Survey and the Post-Information Survey was evaluated for statistical significance. The null hypothesis (below) was stated that there would be no relationship between the means of the two survey scores. The alternative hypothesis (below) was stated so that the Post-Information Survey would reveal a statistically significant increase in the willingness to engage in remote work after the availability of WPMS was provided in the Training phase. Note the Null and Alternative Hypotheses below:

\[ H_{10}: \text{Workforce performance management solutions have no relationship to the willingness to engage in remote work.} \]
\[ \text{Pre-information } \mu = \text{Post-information } \mu \]
\[ H_{1A}: \text{Workforce performance management solutions are perceived as positively affecting the willingness to engage in remote work.} \]
\[ \text{Pre-information } \mu < \text{Post-information } \mu \]

The Instrument

The survey presented to the 217 respondents (emphasizing Question 1-Q1, Information, and Training 1-T1--Pre-Survey, Post-Survey and Training modules), is contained in Appendix 1 at the end of this work. All eight elements of successful remote work were emphasized and
equated with the solution provided by Workforce Performance Management Systems, accordingly.

**SUMMARY OF THE NON-PARAMETRIC ANALYSIS**

Due to a left skew in the distribution (see Illustration 1 on page 11) of the data, the data was squared and cubed to no avail. After a Kolmogorov-Smirnov Test was applied it was determined the data would have to be analyzed via non-parametric means. The Wilcoxon Signed Ranks Test was utilized and determined to be the best fit for this data for its power probability.

The research revealed (notice Table 3, below) that the sample population surveyed showed, with a 95% degree of confidence, that there was only one statistically significant change, in the form of a decrease (Q1 T1)—not a supposed increase—in the willingness of the participants to engage in full-time remote work environments. All other elements showed no significant increase or decrease in willingness to engage in remote work. Each of the eight elements were tested via the sixteen questions (eight Pre-Information and eight Post-Information) of the survey instrument. The only significant difference was noted on the first element (Q1 T1), and the Communication/Technology element actually showed a significant decrease in the mean Post-Information Survey responses. Note the chart below from the analysis:
Table 3 Wilcoxon Signed Ranks Test

### Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
<th>25th</th>
<th>50th (Median)</th>
<th>75th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comm Tech Q1</td>
<td>217</td>
<td>5.63</td>
<td>1.457</td>
<td>1</td>
<td>7</td>
<td>5.00</td>
<td>6.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Comm Tech T1</td>
<td>217</td>
<td>5.38</td>
<td>1.409</td>
<td>1</td>
<td>7</td>
<td>5.00</td>
<td>6.00</td>
<td>7.00</td>
</tr>
</tbody>
</table>

### Ranks

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comm Tech T1 - Comm Tech Q1</td>
<td>70</td>
<td>53.48</td>
<td>3743.50</td>
</tr>
<tr>
<td>Negative Ranks</td>
<td>35</td>
<td>52.04</td>
<td>1821.50</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>35</td>
<td>52.04</td>
<td>1821.50</td>
</tr>
<tr>
<td>Ties</td>
<td>112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>217</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Comm Tech T1 < Comm Tech Q1
b. Comm Tech T1 > Comm Tech Q1
c. Comm Tech T1 = Comm Tech Q1

### Test Statistics

<table>
<thead>
<tr>
<th></th>
<th>Comm Tech T1 - Comm Tech Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-3.229*</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.001</td>
</tr>
</tbody>
</table>

a. Based on positive ranks.
b. Wilcoxon Signed Ranks Test

**WILCOXON SIGNED RANKS TEST PROCESS**

The SPSS software output for the Wilcoxon Signed Ranks (WSR) test contains two tables—the Descriptive Table and the Ranks Table (Table 3). The Descriptive Table contains all statistics that are required to calculate the Wilcoxon Signed Ranks tests. The sample size and the sum of ranks are included with the mean rank, which helps with the interpretation of the data.

The Wilcoxon Sign test (though not as powerful as the WSR) answers the question of the difference between the first survey and the training survey, and whether the difference is
significant from zero. In addition, this test provides evidence of the probability of whether the observed difference in mean ranks can also be found in the general population. This is the information contained in the Test Statistics Table of the WSR, which contains the z-value and significance test or p-value (Table 3). Please, note that this table is an actual result of the data for the first element of the data analysis (Q1 T1) comparing the first question (Q1 Communication/Technology) and the ninth question (and the first training component—T1 Communication/Technology).

**EXPLANATION OF RESULTS**

The results from the Descriptives Table (Table 3) illustrate the differences between the two surveys answered by each participant and how their answers to the Post-Education Survey or Training Question differ from the Pre-Education Survey. The Quartiles, Mean, and Median comparison displays the common answers (scores) from the two surveys provided by the same participant for Q1 T1. The Q1 mean (pre survey) is 5.63, while the T1 mean (post survey) is lower at 5.38. The Percentiles on this element are identical at all quartiles at 5.00 (25th Quartile), 6.00 (Median), and 7.00 (75th Quartile).

According to the Ranks Test section of Table 3 there are 112 tied ranks, 70 negative ranks, and 35 positive ranks out of 217 responses. This is an indicator that the responses are rather close. The table also shows the average number of negative and positive ranks and the sum of positive and negative ranks. Below the table are footnotes that denote how the positive and negative ranks relate.

**DISCUSSION OF FINDINGS**

With the lack of significance (in seven of eight elements) of willingness to engage, the elements will be separated and evaluated as to the pre and post survey results. The primary focus will be on the first element, Communication/Technology, and the statistically significant decrease in willingness to engage demonstrated in the Post-Information Survey.

Two issues are considered in the literature that might explain such a negative response to Communication/Technology. First, the implementation of a technology solution that requires extra work for both management and employees has been considered a potential detriment to remote work engagement (Westfall, 1997b; Schoorman et al, 2007). Westfall (1997b) actually challenged those considering the promotion of telecommuting to consider the impact of the necessary additional work for those involved in maintaining the remote environment. Second, the employees asked to perform as distant workers could consider the use of this Communication/Technology invasive (Adam & Crossan, 2001; Chen & Nath, 2005). Compared to presence-based management (e.g. If the employee is here, he/she must be working) a control/system that requires daily/weekly analysis of an employee’s performance, which is updated and constantly compared to the goals determined by both the employee and the supervisor for advancement, the performance-based model could be very time-demanding. All feedback/motivation is applied to helping the firm achieve corporate performance levels and develops ongoing succession/support for the employee’s career goals.

As Staples (2001a) discovered, the same interaction between management and employee that is needed for successful remote work, is just as effective (and necessary) for the non-remote
working counterpart. The time and effort required to implement and maintain this level of interaction is often an increase in the time and effort provided or available to the employee/management team. With rather high Pre-Information Survey scores within the sample population, the current workplace may be seen as statistically acceptable by this sample to engage in remote work. If the communication/technology solution (WPMS) is added it may well be considered an overload on the current control system by both management and employee level participants. Notice the Scatter Plots in Illustration 1 below:

Illustration 1

Detrended Normal Q-Q Plot of Comm Tech Q1

Detrended Normal Q-Q Plot of Comm Tech T1
The second element through the seventh element tested (Trust/Control System, Consistency, Input, Rules Defined, Evaluation, Feedback/Motivation) showed no significant increase or decrease between the Pre-Information and Post-Information Surveys. Again, the mean differences between these six elements, as surveyed, showed a decrease, except with element five (Rules Defined). This element showed a mean difference increase of 0.01 (5.36 to 5.37), far from significant. Likely, the same issue of seeing the implementation of WPMS solutions, to an already high Pre-Information Survey score, as an additional process to the existing system. This reflects on what is expected of management and employee in the current system and what makes successful remote work environments. This status quo satisfaction, assumed from the high Pre-Information Survey scores, does not evaluate the effectiveness of the current systems in place within the many firms represented by the sample population. Yet, from the self-evaluations of previous studies, the performance efficiency of many firms are suspect (Malachowski, 2005). The positive impact of flexibility in current work environments (of some top performing companies) to retain a valued workforce could reflect a need for something better than the status quo (Jossi, 2007; Conlin, 2006; Kanuka, et al, 2008). Perhaps, a look at current management literature, which specialized in developing agile working environments, would help in understanding the issues facing industry as regular remote work declines.

**CURRENT STUDY AND PREVIOUS RESEARCH-CORPORATE AGILITY**

In their book, *Corporate Agility*, Grantham, Williamson, and Ware (2007) noted eight suggested barriers to remote work. Though not a study of the popularity or decline on the remote work environment, their main reasoning for the shift out of the office was the corporate real estate (CRE) savings (2007). The barriers suggested by these writers are offered in respect to the general difficulty to change from the office to the out-of-office environment. Table 4 is this author’s alignment of the eight barriers to remote work with the elements of successful remote work suggested in the literature used in this study.
Table 4
Created by the author from *Corporate Agility* by Grantham, Williamson, & Ware (2007)

<table>
<thead>
<tr>
<th>Barriers to Remote Work</th>
<th>Elements to Successful Remote Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grantham, Williamson, and Ware (2007)</td>
<td>(Current Study)</td>
</tr>
<tr>
<td>Human Intertia to Externally Imposed Change</td>
<td>Rules Defined and Consistency (Environment)</td>
</tr>
<tr>
<td>Organizational Inertia</td>
<td><em>(See Environmental Elements, Table 5.2)</em></td>
</tr>
<tr>
<td>Management Habits and Industrial Age Thinking</td>
<td>Feedback/Motivation</td>
</tr>
<tr>
<td>Fear on the Part of Middle Managers</td>
<td>Support/Succession</td>
</tr>
<tr>
<td>Fear on the Part of Frontline Workers</td>
<td>Input</td>
</tr>
<tr>
<td>Uncertainty About Communications and Relationships in a Distributed Environment</td>
<td>Communication (Technology) and Evaluation (Presence)</td>
</tr>
<tr>
<td>CEO Edifice Complex</td>
<td><em>(See Environmental Elements, Table 5.2)</em></td>
</tr>
<tr>
<td>Plain Old Complexity—Distributed Work is a Truly Big Change</td>
<td>Control System is Trusted</td>
</tr>
</tbody>
</table>
The first barrier offered is the Human Intertia to Externally Imposed Change which relates well to the elements of Rules Defined and Consistency. Employees and management have a propensity to avoid or combat change unless the environment of change is supported by well-defined rules that are consistently applied and supported. Management and employees are to follow the same rules as it applies to their roles within the organization.

The second barrier offered by Grantham, Williamson, and Ware (2007) is Organizational Inertia, or the difficulty or unwillingness of the organization to change. Unlike the first barrier this unwillingness to move does not relate to the eight elements of remote work. This barrier will be discussed in more detail, below.

From Table 4 we note the third barrier suggested by Grantham, Williamson, and Ware (2007) is Management Habits and Industrial Age Thinking. This often-unconscious mindset of management to view employees as untrustworthy or unwilling to perform without direct management intervention is the primary focus of the Feedback/Motivation element of the eight elements of successful remote work (Westfall, 1997, Davenport & Pearlson, 1998). Employee and management dialogue and follow up are components of a successful telecommuting experience--and non-remote work experience as well (Staples, 2001b).

The fourth barrier Grantham, Williamson, and Ware (2007) highlight is the Fear on the Part of Middle Managers (Table 4). Perhaps, the greatest fear of those confronted with the remote work option is the failure of the firm to support and promote the remote worker as readily as those in non-remote work environments (Staples, 1998; Staples, Hulland, and Higgins, 1998; Davenport & Pearlson, 1998; Fritz, Narasimhan, and Rhee, 1998). The middle manager with a vision to reach higher levels of management within a firm, therefore, would not seek a telecommuting opportunity unless the eighth element of successful remote work (Support/Succession) was effectively controlled (Staples, 2001b).

Grantham, Williamson, and Ware (2007) suggest Fear on the Part of Frontline Workers (Table 4) as the fifth barrier to remote work. Input from employees is a key element to successful remote work environments, especially when this is a relatively new undertaking by the firm (Messmer, 2006).

The sixth barrier Grantham, Williamson, and Ware (2007) provide is the Uncertainty About Communications and Relationships in a Distributed Environment (Table 4). Communication/Technology and Evaluation are two elements of successful remote work that contribute to offset this suggested barrier to regular telecommuting. The communication must allow access to employee performance and allow ongoing evaluations to provide effective performance appraisal in a timely manner (Staples, 2001b; McNall et al, 2010).

The seventh barrier offered by Grantham, Williamson, and Ware (2007)—CEO Edifice Complex (Table 4)—has no element of successful remote work in the literature to offset it. The phenomenon of top management to desire employees to gather and/or work in the proximity of the leader’s office, though, is well documented and will be discussed below.

The final barrier to remote work shared by Grantham, Williamson, and Ware (2007) is the Plain Old Complexity—Distributed Work is a Truly Big Change (Table 4). Distributed work must be maintained in a dynamic control system, in which all levels of employment can trust if
employees, management, and the remote work environment are to be sustained (Caudron, 1992; Christensen, 1992; Guimaraes & Dallow, 1999; Harrington & Ruppel, 1999; Staples, 2001b). The Trust/Control System as an element of successful remote work suggests a trust in the system more than the probability of trust among the people within the work environment, must be evident (Schoorma, et all, 2007).

A further analysis of barriers two and seven is needed, thus this author has created Table 5 as an illustration of these items, which have no immediate relationship to the eight elements of successful remote work. Below, a discussion of five points to consider in relation to Organizational Inertia and three points to consider for the Edifice Complex is offered.

**Table 5**

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Structural Issues of Remote Work Not Explained by the Eight Elements or Affected by WPMS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Further Literature Review</td>
</tr>
<tr>
<td>Organizational Inertia</td>
<td>1- Resistance to change—stay with the proven strategy (Grantham, Ware, &amp; Williamson, 2007; Collins, 2001)</td>
</tr>
<tr>
<td></td>
<td>2- How little management has really changed since the early industrial age (Hamel &amp; Breen, 2007)</td>
</tr>
<tr>
<td></td>
<td>3- Organizational Readiness and Situational Leadership (Hersey, Blanchard, &amp; Johnson, 1996; Fernandez &amp; Vecchio, 1997)</td>
</tr>
<tr>
<td></td>
<td>4- Organized to withstand and overcome change (Grantham, Ware, &amp; Williamson, 2007)</td>
</tr>
<tr>
<td></td>
<td>5- Change Process - Lewin model of change (Hersey, Blanchard, &amp; Johnson, 1996)</td>
</tr>
<tr>
<td>CEO Edifice Complex</td>
<td>1- Salary.com Study related to false security of Presence (Malachowski, 2005)</td>
</tr>
<tr>
<td></td>
<td>2- Bethlehem Steel vs. Nucor (Collins, 2001)</td>
</tr>
<tr>
<td></td>
<td>3- “Under one roof” (Hamel &amp; Breen, 2007)</td>
</tr>
</tbody>
</table>
First, Grantham, Willimason, and Ware (2007) note that Organizational Inertia is not all bad, since organizations are rewarded for sticking to strategic goals. This is reiterated by Jim Collins (2001) in his “flywheel” parable. Collins states that companies that left mediocrity for greatness focused on one strategic view and maintained it. The longer the steadfastness in keeping the same strategy, the more momentum the organization acquired. As the “flywheel” keeps moving, the easier it is to maintain the strategy. Second, Gary Hamel and Bill Breen (2007) shares their concern for management who has held the same, basic management practices from the turn of the Twentieth Century, and the management practices that were somewhat successful for large manufacturing facilities may be completely ineffective with knowledge workers. Third, in relation to change in management/employee relationships and environmental needs, the readiness of the organization to change and the type of leadership deployed needs to be related. If remote work (or non-remote work) is to be successful within an organization, the application of the correct leadership style must be deployed when the organization is ready. The readiness process for organizations is defined and suggested in detail by Hersey, Blanchard, & Johnson (1996) and applied in Fernandez & Vecchio (1997). The primary relevance of situational leadership theory and corporate readiness for the purposes of discussing remote work is the strong correlation of leadership impact and employee performance in relation to corporate readiness. The ability of employees and management to change and grow seem to be strongly correlated with the readiness of both parties to deal with affects of the changes in question. Fourth, Grantham, Williamson, and Ware (2007) suggest that organizations are created to withstand change on a corporate level. In fact, the structure of most organizational leadership is focused on maintaining best practices, which can make innovation and change seem more of an obstacle than a positive force, especially when telecommuting is involved (Perez, et al, 2003). Finally, corporate inertia and change is the focus of Kurt Lewin’s Change Theory described by Hersey, Blanchard, & Johnson (1996) as a three stage approach of “unfreezing” (developing the mindset for the need to change), “unfrozen” (readiness to change or move to a “new state”), and “refreezing” (making change permanent). In telecommuting environments the changes have failed to reach this final permanent change event, as can be seen by the recent decline from earlier increases in regular remote work (Latest Telework Statistics, 2013).

CEO Edifice Complex is quite a common experience. The individual at the typical office environment with the most prestigious office and support facilities is the executive leadership (Table 5). This has led to serious waste and loss of competitive capacity through the “presence-based management philosophy.” This “presence-based management philosophy” was proven to be in error with Malachowski’s survey released through Salary.com (2005), showing the literally billions of dollars that are wasted as employees self-reported they were at the office, on the Internet, but not working for their employer an average of 2.09 hours per day. Also, Jim Collins (2001) noted the millions of dollars wasted when Bethlehem Steel changed structural design of their corporate offices (already under construction) in the 1980’s to provide two Vice-Presidents with window office views. Hamel and Breen (2007) suggested that the concern of much current management practice is tied to maintaining operations “under one roof”, as if the knowledge work environment could be managed in the same manner as a manufacturing facility.

RECOMMENDATIONS FOR FUTURE APPLICATION

From this research, the implementation of a trust/control system (especially as it relates to communication in the form of technology) offers no positive impact to enhance willingness to
engage in remote work. In fact, the communication/technology factor fared significantly negative. Perhaps, the maintenance of the required feedback and control mechanisms should be expected to encourage a greater negative reaction than the positive impact of enhanced trust in the trust/control system (Schoorman, et al., 2007; Mayer, Davis, & Schoorman, 1995). As has been proven by the very best companies who implemented paradigmic changes, technology is only a tool that must be utilized within the confines of the firm’s core competency (Collins, 2001). Yet, if a trust/control system of communication/technology is not the key to managing a remote work environment, the following might be considered issues for those in the practice of managing remote and non-remote work environments, which have been shown to require similar systems of performance standards and communication (Staples, 2001a).

With the continued growth of Internet capability, the growth of the company and its decentralized operations can proceed without geographic limitations—e.g. transnational industry types. The ecological and economical implications of remote/mobile work could be profound in the area of global competitive advantage for American companies and American remote workers.

The value of what might seem to work in remote trust/control environments, being the same as what works in non-remote environments, could encourage business schools to produce graduates that can manage by results. Also, this research could encourage business schools to focus on the teaching of interpersonal skills in leadership training, enhancing the need for future managers to learn the art of managing people, not just money, time, or promotion (Quelch, 2005).

SUGGESTIONS FOR ADDITIONAL RESEARCH

These humble suggestions are an outgrowth of the information gathered from researching the literature for this project and the primary data that was acquired from the survey process. Some suggested hypotheses are offered for those that may assume to further the application of trust/control systems of performance standards for remote and non-remote work environments.

Though the pre/post data was not significant, based on the eight elements of remote work, some interesting comparisons may be made in the future between the demographic groups gathered from the Pre-Information Surveys. Note some of the raw data from the information volunteered by the participants in Examples 1-3 below:
Example 1: Gender

<table>
<thead>
<tr>
<th>Gender?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male 46.3%</td>
</tr>
</tbody>
</table>

Response Breakdown:
- 53.7% Female
- 46.3% Male

Example 2: Age

<table>
<thead>
<tr>
<th>Your age at your last birthday?</th>
</tr>
</thead>
<tbody>
<tr>
<td>55+ 6.9%</td>
</tr>
<tr>
<td>18-24 15.1%</td>
</tr>
<tr>
<td>25-34 26.1%</td>
</tr>
<tr>
<td>35-54 51.8%</td>
</tr>
</tbody>
</table>

Response Breakdown:
- 51.8% 35-54
- 26.1% 25-34
- 15.1% 18-24
- 6.9% 55+
Example 3: Education Level

For example, there is a rather large disparity between the initial interest (pre-survey Likert scores) of men and women (women being much higher), the youngest and the oldest age groups (surprisingly, the oldest is higher), the education levels of those with a bachelors and all other education levels (bachelors being much higher), those with job time of 4-7 years and all other groups (4-7 years of employment is higher), and employees and management (employees being higher).

Suggested research questions:

1) Is there a relationship between age and initial interest in remote work?
2) Is there a relationship between gender and initial interest in remote work environments?
3) Is there a relationship between job time and initial interest in remote work environments?
4) Is there a relationship between education level and initial interest in remote work environments?
5) Is there a relationship between corporate position and the initial interest in remote work?

Change is a large process of moving to the remote work environment. Change and how it is implemented requires communication processes that are in line corporate values and culture. Innovative changes are essential to successful regular remote work relocation.

Suggested research question: Though a trust/control system is perceived to be enhanced by systematic feedback and control processes, is the process of changing the way we do business and the communications that make full-time remote work possible necessary or desirable?
CONCLUSION

Though the cost savings and employee loyalty related to the implementation of remote work have driven new interest in this work model, the telecommuting programs that are full-time in application are declining. This research has shown no significant increase in the willingness to engage in remote work after the availability of Workforce Performance Management Systems (WPMS) was shown to be available and simulating the eight elements of successful remote work.

The performance-based environment that is necessary to the eight elements of successful remote work (Trust/Control System, Consistency, Input, Rules Defined, Evaluation, Feedback/Motivation) seems to have no unique effectiveness to remote work environments over non-remote applications. The systems that support performance-based work, whether remote or not, are implemented by people, and the technology must be seen as a tool that aids the individuals managing the system.
REFERENCES


“Getting There: The business benefits of workforce performance management” (2005). White Paper from Knowledge Infusion, Inc. (September) at:


APPENDIX 1

Survey Instrument and Link

WPMS and Remote Work Environments


Industry Type: The industry in which you are engaged or in which you have a history of engagement?
( ) Accounting / Finance / Banking ( ) Administration / Clerical / Reception
( ) Advertisement / PR ( ) Architecture / Design ( ) Arts/Leisure / Entertainment
( ) Beauty / Fashion ( ) Buying / Purchasing ( ) Construction ( ) Consulting
( ) Customer Service ( ) Distribution ( ) Education ( ) Health Care (Physical & Mental)
( ) Human resources management ( ) Management (Senior / Corporate) ( ) News / Information
( ) Operations / Logistics ( ) Planning (Meeting, Events, etc.) ( ) Production ( ) Real Estate
( ) Research ( ) Restaurant / Food service ( ) Sales / Marketing
( ) Science / Technology / Programming ( ) Social service ( ) Student ( ) Other
( ) N/A - Unemployed / Retired / Homemaker

Length of job time at your current position or industry type (See #1)?
( ) Less than 1 year ( ) 1-3 years ( ) 4-7 years ( ) Longer than 7 years ( ) N/A

Gender?
( ) Male ( ) Female

Your age at your last birthday?
( ) under 18 ( ) 18-24 ( ) 25-34 ( ) 35-54 ( ) 55+

What is your education level? (Check the highest level of completion.)
( ) 12th grade or less ( ) Graduated high school or equivalent ( ) Some college, no degree
( ) Associate degree ( ) Bachelor's degree ( ) Post-graduate degree

From what country do you work? (Select the most correct answer, please.)
( ) United States ( ) Europe ( ) Asia ( ) Middle East ( ) China ( ) India ( ) Japan
( ) Korea ( ) Russia ( ) Viet Nam ( ) Other

Are you a remote worker or teleworker (employed for a company and allowed to work outside the office on a regular basis—more than 20 hrs/week)?
( ) Yes ( ) No
If working remotely, how many days per month do you work out of the office?
( ) 1-3 days per month ( ) 4-7 days per month ( ) 8-12 days per month ( ) More than 12 days per month ( ) N/A

What is your current Position? Employee or Management
( ) Employee ( ) Management

Likert Scale explanation: Willingness to consider a remote work environment on a regular basis.

1.) Based on the ability to communicate with peers and supervisors from any location, in the current work environment, how would you rank your willingness to work remotely or allow offsite work to take place, regularly?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

2.) Based on the current work environment’s ability to create and maintain control mechanisms to encourage personnel to maintain and adjust to agreed performance goals, how would you rank your willingness to work (or allow work) outside of the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

3.) Based on the current work environment’s ability to offer sure and focused feedback between employees and management, how would you rank your willingness to work (or allow work) out of the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

4.) Based on the freedom of employee’s to choose their schedule and set goals of productivity within the current work environment, how would you rank your willingness to work (or allow work) out of the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

5.) Based on your current work environment’s ability to articulate and implement agreed work performance measurement, how would you rank your willingness to work (or allow work) in a distributed (out of the office) environment on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

6.) Based on the level of management awareness of personnel work habits/ethic within the current work environment, how would you rank your willingness to work remotely or allow work to be done offsite on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested
7.) Based on the current work environment’s ability to offer regular evaluations of an employee’s work, based on agreed performance measurements, how would you rank your willingness to work outside (or allow work to be done outside) the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

8.) Based on the current work environment’s ability to manage employee promotion/succession within the company, based on agreed performance standards, how would you rank your willingness to work (or allow work to be done) outside the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

9.) Training #1: Based on the importance of communication in a remote work environment…
> Workforce Performance Management Systems (WPMS) provide a software solution to communicate personnel performance.
> WPMS provides a technology-driven (web-based) communication tool for all parties involved in measurement, maintenance, and reporting of workforce performance.

Question: If this functionality of WPMS were applied to your current workplace, how would you rate your willingness to work remotely or allow your direct reports to work out of the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

10.) Training #2: Based on the awareness that people will trust in a control system before trusting another person…
> Workforce Performance Management Systems provide tools that require, track, report, and adjust to the agreed performance control expectations.
> Agreed measurements and outcomes are aligned with corporate goals and shared with all operative parties, as maintained and determined by management.
> Performance is consistently tracked by management and reported to all parties.

Question: If this functionality of WPMS were applied to the current workplace how would you rank your willingness to work remotely, or allow work to take place out of the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

11.) Training #3: Based on the importance of the desired performance goals of the workforce being tied to the corporate mission…
> Workforce Performance Management Systems allow for direct access to pre-
programmed performance standards (web-based) developed by management and related to corporate mission standards.
> WPMS provide access and comparison to performance standards to allow for inner-organizational and cross-organizational goal alignment.

Question: If this functionality of WPMS were applied to the current workplace how would you rank your willingness to work remotely or allow work to take place out of the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

12.) Training #4: Based on the importance of input from all parties in the performance management process...
> Workforce Performance Management Systems collect input from employees and management in preparing performance standards.
> WPMS electronically stores and applies collected input to desired performance measurements.
> Employee/Management input is automatically viewed when analyzing individual performance.

Question: If this functionality of WPMS were applied to your current work environment, how would you rank your willingness to work remotely or allow work to take place out of the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

13.) Training #5: Based on the requirement that performance measurements in a workplace must clearly be defined and understood by all operative parties...
> Workforce Performance Management Systems provide electronic goals-based competency models for measuring performance in relation to defined goals.
> Once compared to competency models, WPMS tools can provide a summary review to all parties involved.

Question: If this functionality of WPMS were applied to the current workplace how would you rank your willingness to work remotely or allow work to take place out of the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

14.) Training #6: Based on the awareness that assessment of the performance of employees and management must be tied to key success criteria to provide effective feedback...
> Workforce Performance Management Systems electronically provide detailed guidance through the evaluation process.
> Self analysis and management review compare performance to the developed standards, then shares the analysis with all operative parties.
Legal scanning of all reviews is available through the WPMS to help avoid legal and ethical issues in the evaluation/feedback process.

Question: If this functionality of WPMS were applied to your current work environment, how would you rate your willingness to work out of the office (or allow work to take place out of the office) on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

15.) Training #7: Based on the awareness that employee/management feedback is essential to create positive/negative reinforcement of existing performance standards...
> By providing electronic feedback and motivation tools Workforce Performance Management Systems encourage behavioral change by advising personnel of current performance and quantifying that performance when compared to agreed expectations.
> 360-degree reviews can be automatically populated to analyze employee/management performance and key compensation decisions to performance achievement.
> Gap analysis from supervisor input provides clear view of areas of improvement and the time constraints involved.

Question: If this functionality of WPMS were applied to the current workplace, how would you rank your willingness to work remotely or allow work out of the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing

16.) Training #8: Based on the need for support from all successive levels of management in an effort to groom internal candidates for promotion...
> Succession forecasting is available by electronically comparing/analyzing candidate performance with position-skill requisites.
> Individuals can be selected and ranked according to programmed key position success skills they have demonstrated.
> Succession modeling can allow management and employees to design success programs for valid promotion candidates.
> Compensation increases can be directly linked to performance standards.
> External candidates can be entered and compared to internal position performance-success indicators.

Question: If this functionality of WPMS were applied to the current workplace how would you rank your willingness to work remotely or allow work out of the office on a regular basis?
( ) 1. Most Unwilling ( ) 2. Unwilling ( ) 3. Disinterested ( ) 4. Indifferent ( ) 5. Interested ( ) 6. Willing ( ) 7. Most Willing
PERFORMANCE IMPACTS OF INFORMATION ASSURANCE STRATEGIC ALIGNMENT IN THE CONTEXT OF SMALL BUSINESS

Said Ghezal
Western Kentucky University

ABSTRACT
Information assurance, as an emerging functional area, has come to play a strategic role by providing, enterprise-wide, a reliable, safe, and efficient access to information. Aligning information assurance strategy and business strategy has, therefore, become a strategic imperative. This study empirically addressed this alignment concern by exploring ways of measuring the concept of fit between business and information assurance strategies and by investigating the effects of this alignment on business performance. Both research hypotheses were empirically supported by the study’s data, thereby verifying the theoretical proposition of performance impacts of information assurance strategic alignment and testing the concept of fit in favor of the moderation approach.

INTRODUCTION AND BACKGROUND
In an information-intensive economy, formulating and implementing strategies for cyberspace and related technologies is, with no doubt, deemed critical for organizational survival. Strategy and strategic management scholars seem to agree that the study of strategy is concerned with both content and course of actions, and the way these actions are adopted and implemented (Chaffee, 1985). The same view suggested that organizational “goals and the means of achieving them are results of strategic decisions” (Chaffee, 1985: 90). Thus, the goal of providing all departments and functions across an organization with a reliable, safe, and efficient access to information, and the means to achieve that goal should be the result of a strategy developed for managing organizational information. It, also, has been argued that functional strategies should be aligned with the overall corporate strategy for superior organizational outcomes (Henderson and Venkatraman, 1991). It is, therefore, implicitly suggested that successful information assurance (IA) programs, developed to managing organizational information and its structures, are contingent to alignment between both information assurance and corporate strategies; an issue that has yet to gain the interest of corporate boards and executive teams in terms of strategic importance (Ezingeard, McFadzean, & Birchall, 2007; Kovacich, 2001; von Solms, 2001). From an academic standpoint, there is also insufficient research that has explicitly addressed the issue suggesting a great need for empirical studies (Ezingeard et al., 2007). This study addressed this gap by empirically investigating the nature and importance of information assurance strategic alignment. Consequently, in an attempt to initiate a debate on measuring information assurance strategic fit, the concept of alignment is approached according to the perspectives of matching and moderation as defined by Venkatraman (1989).
Ezingeard et al. (2007) posited that protecting information assets is as crucial a task as that of protecting physical assets. They suggest that information assets play a key role in organizational success and, therefore, command a strategic approach that needs to be aligned with corporate strategy. Their work on information assurance also identified a lack of alignment between IA policies and corporate strategy; hence, the urgent concern to attend to this issue.

Information assurance draws its strategic nature from being concerned primarily with a strategic asset; that is, organizational information. Kaplan and Norton (2007) defined information as an organizational asset, which, when effectively exploited, provides organizations with opportunities to transform themselves. Another view suggested that information, as a resource, is capable of providing organizations with competitive advantage, provided that it is reliable and accurate (Kearns & Lederer, 2003). The assurance, therefore, of the reliability and accuracy of organizational information has come to be critical as this intangible asset has become a strategic imperative. According to Dutta and McCrohan (2002), the value chain of today’s firm is information-intensive and suggests that a successful value-creation activity is contingent upon an effective processing of information.

Information assurance is basically a new discipline that is concerned with managing an organization’s information assets (Birchall, Ezingeard, McFadzean, & Howlin, 2004; Ezingeard et al., 2007). A strategy for information assurance is a set of programs and policies designed to enable a firm’s strategy and support corporate objectives (Birchall et al., 2004). This supporting function is enabled by aligning the two strategies: business and information assurance strategies (Ezingeard et al., 2007). Studies show, however, that the issue of alignment between a firm’s and information assurance strategies has just emerged, in both academic and practitioners’ circles, and needs a significant effort of research as well as an immediate practitioners’ commitment (Ezingeard et al., 2007; Kovacich, 2001; von Solms, 2001).

The extant literature does not empirically address the alignment concept of information assurance as a potential enhancer of business performance, although recent studies (e.g., Amio, 2009: 94) found that information security, as an organizational activity (often information security and information assurance are used interchangeably), “as being a means for facilitating the attainment of strategic business goals.” Siponen and Oinas-Kukkonen (2007) also stated that studies on information assurance, as an organizational function, have focused on the technical aspects of the activity and neglected the managerial ones.

In addition, most of the literature on information systems strategy has focused on the concept of alignment at a macro level (Slaughter, Levine, Ramesh, Pries-Heje, & Baskerville, 2006). But information systems have come to play a critical role in organizational operations suggesting that time was ripe to examining alignment at a micro level. Also, information assurance is considered as an organizational function that is closely involved with business operations from the standpoint of “a business enabler” (Birchall et al., 2004, p. 7) as compared to the traditional preventive measures associated with information security strategies. Consequently, alignment, as a management powerful tool, is a very relevant topic that addresses one aspect of this literature gap that is the management dilemma of information assurance.

From a strategic standpoint, Birchall et al. (2004) suggested that information assurance has the potential to make value-adding contributions to a firm by shifting decision-makers’ thinking from security to assurance to, ultimately, competitive advantage. According to this view, a value-adding contribution is achievable by adopting programs that support corporate objectives. Therefore, aligning IA strategy with a firm’s strategy becomes a strategic necessity. This proposition is salient in the definition of IA strategy as stated by Birchall et al. (2004, P.1):
an information assurance strategy determines how the reliability, accuracy, security and availability of a company’s information assets should be managed to provide maximum benefit to the organization, in alignment with corporate objectives and strategy.

Prior research examined the alignment between a firm’s strategy and strategies for different functional areas such as: alignment of manufacturing with strategy and organizational learning (Chenhall, 2005), information technology alignment (Cragg et al., 2002), strategic information systems alignment (Chan & Huff, 1993), and marketing activities alignment (Ruekert, Walker Jr., & Roering, 1985), among other studies. Some studies even investigated the alignment between two different functions of an organization; for example, Weir, Kochhar, LeBeau, and Edgeley (2000) examined the alignment between manufacturing and marketing strategies. Porter (1996) stated that the essence of strategy is fitting organizational activities together; in Porter’s words, “strategy is creating fit among a company’s activities” (Porter, 1996, p.75). This stream of research suggests that a preliminary work on information assurance (from a management dilemma standpoint) in this direction was timely and relevant. The contribution of this study is twofold: an empirical investigation of the impacts on performance of IA alignment, and an empirical exploration of the form and nature of IA strategic fit.

RESEARCH QUESTIONS

First, the study attempted to answer its primary Research Question (RQ1), which reads:  
*RQ1: Is there a performance difference between small business organizations with aligned business and information assurance strategies and those non-aligned?*

The study also attempted to answer a subsequent Research Question (RQ2):  
*RQ2: what perspective of fit captures more effectively the concept of information assurance strategic alignment?*

The primary Research Question (RQ1) guided the study in determining performance differences, if any, between aligned and non-aligned firms; whereas, RQ2 guided the explorative nature of the study’s effort in investigating which model of alignment is more appropriate for information assurance. RQ2 was addressed by testing the concept of fit, as recommended by prior works on the concept of strategic alignment (Prescott, 1986; Venkatraman, 1989a), according to two different perspectives: the moderation and matching perspectives.
One main hypothesis (H1) tested the research model. H1 draws its support from the selected literature reviewed in the introduction and background.

H1: there a difference in performance between firms with aligned business and information assurance strategies and those non-aligned.

Because several studies (e.g., Hoffman, Cullen, Carter, and Hofacker, 1992; Chan et al., 1997; Chan and Huff, 1993; Cragg et al., 2002) have found strong support for the moderation perspective of strategic fit, RQ2 was addressed by testing Hypothesis2 stated as follows.

H2: the concept of information assurance strategic alignment is better captured by adopting the moderation perspective of strategic fit.

LITERATURE REVIEW

THE STRATEGIC IMPORTANCE OF INFORMATION ASSURANCE
Information as an organizational asset. In order to appreciate the importance of information assurance as an organizational function of strategic nature, it is equally important to appreciate information as an organizational asset which entails a strategic approach for its management. Kaplan and Norton (2007) argued that information is an intangible asset capable of providing organizations with opportunities to constantly and competitively transform their operations to sustain their business. Organizations need, in this view, to acquire a set of intangible assets that is necessary for growth. Information is one important intangible asset that, the authors suggested, can be more decisive than some physical assets. Information has also been defined, based on the resource perspective of the firm, as a valuable resource and, therefore, capable of providing firms with competitive advantage when accurate and reliable (Kearns & Lederer, 2003). The information intensity of the value chain, in this view, is a factor influencing the process of knowledge sharing, which is believed to affect organizational outcomes. Previously, Ward (1988) recommended that information should be managed as any other organizational resource or asset.

Information has also been studied as a source of value itself (Glazer, 1993). Glazer (1993, p. 99) suggested that firms that successfully integrated technology in their business processes did so by approaching the management of information as a key construct. He identified information as “a carrier of value”; hence, an important strategic asset through which strategic alignment is implemented. Glazer also suggested that organizations that are poised to survive and grow are those that can value and measure their information resources. Similarly, scholars have argued that the new economy is an information economy and that all businesses are, in fact, information businesses (Earl, 2003). The new economy, as a result, has been termed “cyber economy” or “wired economy” (Dutta & McCrohan, 2002, p. 67), an economy based on “information-intensive organizations” (Glazer, 1993, p. 99), “the network economy” or “networked economy” (Shapiro & Varian, 1999, p. 2; Colwill, Todd, Fielder, & Natanson, 2001, p. 107), “information-driven and information-dependent environment” (Kovacich, 2001, p. 302), and an economy characterized by “an information revolution” (Porter & Millar, 1985, p. 149). Protecting what is referred to as information assets, therefore, becomes a top priority (Austin & Darby, 2003).

From a strategic standpoint, Porter and Millar (1985) considered, two decades ago, information as a source of competitive advantage as it, they argued, provides firms with new business opportunities by enabling new strategic plots. Companies, the authors add, build their competitive advantage on a set of interdependent activities that form the value chain; and every value activity uses and produces information. Similarly, Amit and Schoemaker (1993, p. 35) suggested that firm’s capabilities are information-based; that is, they “are based on developing, carrying, and exchanging information through the firm’s human capital.” In another study, Brynjolfsson (1994) suggested that no value can be created without access to the firm’s bundle of assets, including information in all its forms as it is treated, by the author, explicitly as an organizational asset.

Porter and Millar (1985) stated that, in essence, information links the value activities, that are internal to a company, with each other, and to its suppliers’ value activities introducing thereby a concept that highlights the role of information in competition: the notion of “value chain”. Businesses compete by undertaking a set of activities that they combine in a unique way (Porter, 1985; Porter, 1996) to create value. These activities are interdependent and form what is defined as “the value chain”. The value chain of today’s firm is information-intensive (Dutta & McCrohan, 2002) and, therefore, the value creation process relies on an effective processing of information. In this role, information enables companies to create competitive advantage by
optimizing these links (Porter & Millard, 1985). Information, also, has been identified as a source of competitive advantage as opposed to the tools or the technology that process it (Keng, 2003); that is, the way it is analyzed, used, and translated into knowledge then course of actions. Hence, the need for accurate information that is free of any form of distortion.

This growing role of organizational information in competition has broadened the scope of the activities and responsibilities designed to provide all departments and functions across an organization with an adequate program for managing information. Companies and institutions have addressed the needs of this growing role by designing and implementing programs of information assurance. As an organizational function emerging in a form of a new discipline in its infant stage, information assurance intends to be a comprehensive program designed to respond to managing the growing complexity and importance of organizational information. Information assurance concept is primarily concerned with protecting the information systems as well as attending to the content of the information itself (Ezingeard et al., 2007). According to Kovacich (2001), privacy and liability concerns command from organizations an effective information assurance program. The author highly recommends that alignment between IA policies and business objectives be realized as it enhances a firm’s competitiveness. On another hand, the lack of alignment jeopardizes a firm’s competitive position (Ezingeard et al., 2007; Kovacich, 2001).

Information assurance. The reviewed research stream makes the case that information is an organizational asset of strategic nature. Developing a strategy for managing organizational information is, therefore, a de facto exercise. Strategies for information assurance are expected to attend to the needs and address the competing interests of the different stakeholders served by an organization. This role entails a holistic approach of an information assurance strategy (Kovacich, 2001); that is, a comprehensive strategy designed to support the firm’s objectives defined, usually, as compromising and balancing the interests and needs of all stakeholders. In other words, an effective IA strategy is one that is well-aligned with the overall corporate strategy (Ezingeard et al., 2007).

Given that information assurance (IA), information security, and information systems security have been used interchangeably (Ezingeard, McFadzean, & Birchall, 2005; Ezingeard et al., 2007; Geoghegan, 2008; McKnight, 2002), it is important to note that the security of the information and the information systems are just critical components of an information assurance program. Information assurance is a more comprehensive concept and encompasses all other concepts whether they are information specific or information systems related (Geoghegan, 2008). McKnight (2002) defined IA as a combination of products, procedures, and policies used together to assure a timely, accurate, and safe flow of information among all parties concerned. Ezingeard et al. (2007, p. 98) defined it as “the reliability, accuracy, security and availability of a company’s information assets”, whereas Colwill et al. (2001, p. 109) gave the concept a broader sense by adopting a customer’s point of view. They defined IA as a program implemented with the objective of providing customers with enough confidence in “the security of the systems, products, and processes.

According to Ezingeard et al. (2007) there is no universal definition of IA; however, a widely accepted one (Korotka, Yin, & Basu, 2005) is that outlined by the National Information Systems Security (INFOSEC, 2000, p. 29) Glossary, which states that information assurance is:

- information operations that (IO) protect and defend information and information
systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation. This includes providing for restoration of information systems by incorporating protection, detection, and reaction capabilities.

The provided definitions of information assurance (Geoghegan, 2008; Ezingeard et al., 2007; McKnight, 2002; Colwill et al., 2001; and Korotka, Yin, & Basu, 2005), although slightly different, indicate the complex nature (Korotka et al., 2005) of IA as an organizational functional area. Information assurance policies are not concerned only with defensive measures but also with business continuity (Ezingeard et al., 2007; Kovacich, 2001). A closer look into these definitions, specifically INFOSEC’s one, leads to the identification of the following elements of IA: information operations, information and information systems, and protection and defensive measures (Korotka et al., 2005).

Information operations are the different actions taken for the purpose of defending information and information systems. Information and information systems are the objects of the defense measures; they constitute the infrastructure, the personnel, and the organizational structure deployed for the processing of information (INFOSEC, 2000). Finally, the protection and defensive measures are designed to ensure the attributes of IA, namely, confidentiality, integrity, availability, authentication, and non-repudiation (Ezingeard et al., 2007; Korotka et al., 2005).

Confidentiality ensures secure access to information by authorized personnel on the basis of a need to know. Integrity is concerned with the soundness of both data and systems; that is, their perfect condition. Availability is about access; in other words, availability means a timely delivery of a desirable form of information when it is required by reliable and accurate means. Authentication is an attribute which ensures the validity of the transmission, the message, and those involved in the process. Non-repudiation is another attribute that provides a proof of service; that is, a proof that transactions were performed such that senders and recipients cannot deny having participated in the transaction (Ezingeard et al., 2007; Korotka et al., 2005; McKnight, 2002; INFOSEC, 2000).

THE CONCEPT OF STRATEGIC ALIGNMENT

The interest in strategic alignment stems from the proposition that fit between strategy and its context has positive implications on business performance (Venkatraman & Prescott, 1990). This proposition has engendered a plethora of studies that focused on different facets of this concept of strategic fit or strategic alignment (Chan & Reich, 2007a). The concept of fit has also served organization theory as theorists of this discipline extensively used contingency models that are based on the suggestion that structure and context must fit if an organization is to be successful (Drazin & Ven, 1985).

For the last two decades, the topic of strategic alignment has been identified as a top concern by practitioners and as an important subject within the information systems (IS) research discipline (Chan & Reich, 2007b; Reich & Benbasat, 1996). Gottschalk (2000), in a study of IS key issues, identified linkage between IS and business strategies as a top issue of the 21st century. Similarly, Lai (2001) found that aligning IS to be an important concern for international affiliates of multinational corporations. The literature dedicated to strategic alignment indicates the importance of (Reich & Benbasat, 1996), the difficulty to define and measure (Ezingeard et al., 2007; Venkatraman & Camillus, 1984), and the elusiveness and difficulty to achieve (Baets, 1992; J. Luftman & Brier, 1999; B. Campbell, Kay, & Avison, 2005) alignment suggesting that
the scholars’ community has yet to agree on an encompassing definition of the alignment concept. Nonetheless, the terms fit, alignment, linkage, integration, fusion, harmony, congruence, co-variation, and bridge have been used interchangeably (Chan & Reich, 2007b). Alignment has also been identified as a multidimensional concept (strategic/intellectual, structural, social, and cultural) (Chan & Reich, 2007b). In this study the focus was on its strategic dimension given its possible influence on performance (e.g., Baets, 1992; Cragg et al., 2002).

Henderson and Venkatraman (1991) defined strategic alignment as a process concerned with strategic fit and functional integration. These two dimensions identify the need of a firm to make strategic choices in terms of external market position and the set of activities that ensure the realization of these choices. According to the authors, firm performance is affected by the degree of consistency of these choices: external market position and internal structure. Similarly, the authors suggested that strategic fit or alignment is critical for functional areas. This implies that IA, as part of the functional domain, strongly commands to be strategically fit. In addition, strategic fit is defined as a process of continuous change and adaptation to any adjustments or strategic responses that a firm undertakes as a result of changes in its environment (Henderson & Venkatraman, 1993). This flexible nature of the concept of strategic fit allows, in the case of IA policies, to adapt, for example, to new threats in the cyberspace and respond to the complex and changing needs of preventing and/or promoting access to information within organizations.

The concept of fit had been identified as a central theme in the strategy literature (Venkatraman & Camillus, 1984). Grounded in the contingency theory (Drazin & Ven, 1985 and Van De Ven & Drazin, 1985), the concept served as a basis for strategy formulation (Hoffer, 1975). Fit also played a central role in strategic management as early works on corporate strategy emphasized the concept of matching or aligning organizational capabilities with environmental conditions (Venkatraman & Camillus, 1984); particularly, the work of Miller (1981) wherein the author argued that a firm’s success depends on the way it is organized as a whole. This same view developed to what was referred to as “the configuration school” (Miller, 1981, p. 3) and suggested that the contingent nature of organizational theory can be illustrated by four critical variables: environment (including technology), structure, leadership, and strategy, which determine the configuration of an organization. The interaction of these variables results in common gestalts (Miller, 1987a), a perspective that served as a basis for the development of one of the models for exploring and measuring strategic fit.

Venkatraman and Camillus (1984) argued that the concept of fit is relevant to strategic management for the following reasons. First, conceptualizations of the strategy construct have long emphasized the imperative of matching organizational resources and capabilities with opportunities presented to a firm by its environment. Second, strategic management draws from related disciplines, such as industrial organization and economics, whose theories are heavily based on the concept of fit; therefore, strategy development has embraced fit as a very relevant and important concept. Third, many studies concerned with strategy formulation were conducted based on contingency theory; that is, studying the effects of contingencies on the strategy-formation process. Fourth, the concept of strategic fit needed to be clearly defined as it relates to strategy before any attempt of using it as a standard for strategy implementation.

For Venkatraman and Camillus (1984), conceptualizing fit as it relates to strategic management would suggest examining the concept from several perspectives; an endeavor that the authors considered difficult to undertake. However, they proposed a conceptual scheme as
an attempt to contrast what was considered, then, the major schools of thought on strategic management. Their proposed scheme was based on two dimensions: the conceptualization of fit in strategic management and the domain of fit.

The conceptualization of fit, a focus on the content, is described as fitting elements of the system together, including strategy, for a desirable outcome. Whereas, the domain of fit is concerned with elements taken into consideration during strategy formulation-implementation as a result of an organization-environment analysis; thus, aligning internal, external, and integrated elements is what constitutes the domain of fit.

Then since the environment, as a critical variable including technology (Miller, 1987a), which links, for example, organizations with the cyberspace, suggest that IA which is primarily concerned with information and information systems, is an integral and important component of a crucial variable that shapes the configuration of an organization. The cyberspace has also been argued to potentially provide, through effective use of the Internet technology, competitive advantage (Evans & Smith, 2004). This important role of the environment and the cyberspace makes of developing and implementing an IA program that is designed to allow for a secure and efficient linkage of a firm’s IS with its environment a strategic endeavor in itself. Hence, the business necessity of aligning IA strategy with business strategy for a flexible, reliable, and efficient exploitation of the opportunities offered by an information-intensive environment.

The abundant literature on strategic alignment indicates the importance it has gained, as a theory of management, from both researchers and practitioners. Most studies have demonstrated that alignment enhances organizational outcomes (Chan et al., 1997; Cragg et al., 2002; Kang, Park, & Yang, 2008) and, therefore, it is worthwhile extending and improving the conceptualization of this concept as it relates to different functions or domains of an organization.

Measuring strategic alignment. Measuring alignment is important for both practitioners and academics. Practitioners are interested in measures that facilitate and improve management; whereas, academics are interested in valid and reliable measures for conducting rigorous studies (Chan and Reich, 2007b).

Venkatraman (1989a) defined a framework identifying six different approaches to conceptualizing fit; namely, fit as moderation, fit as mediation, fit as matching, fit as gestalts, fit as profile deviation, and fit as covariation. The framework classifies the six perspectives using two dimensions: the degree of specificity of the functional form of fit and the adoption of either a criterion or criterion-free specification. The following expands on the moderation and matching perspectives: the two approaches adopted for this study.

Fit as moderation. According to the moderation perspective, the interaction between two variables predicts a third variable. That is, the effect of a predictor variable on a criterion variable depends on the moderator variable. For this study, the predictor is the corporate strategy, the criterion is the firm’s performance, and the moderator is the IA strategy. Seen from a moderation perspective, fit between the moderator (IA strategy) and the predictor (corporate strategy) is the main factor impacting the criterion variable (performance). Figure 2 represents a schematic illustration of this perspective. The relationship or hypothesis based on the moderation perspective is stated as follows. The interaction between a firm’s strategy and its information assurance strategy affects its performance. Correlations of different sub-samples and/or analysis of variance are recommended as appropriate testing techniques for fit as moderation.
Fit as Matching. While the previously defined perspective is specified by making reference to a criterion variable from which the concept of fit derives its meaning, fit as a matching is a criterion-free perspective. Fit, according to this perspective, is “a theoretically defined match between two related variables” (Venkatraman, 1989a: 430). Venkatraman (1989a) suggested, however, that a theoretical proposition of fit as matching can also be tested for examination of its effect on performance. Adopting this conceptualization for this study is basically looking for a match between a firm’s strategic orientation or strategy and its information assurance strategy. Fit is considered to be realized, according to the matching perspective, when both strategies (IA strategy and firm’s strategy) match. Therefore, a proposition for statistical testing can be stated as follows: the match between a firm’s strategy and its IA strategy improves performance. Deviation score analysis, residual analysis, and analysis of variance (ANOVA) are the statistical techniques recommended as suitable for testing fit as a matching perspective. In Figure 3, Quadrant 1 and Quadrant 2 represent the high performance domain which corresponds, respectively, to a low-low and high-high matching between information assurance strategy (y-axis) and business strategy (x-axis). Low-low and high-high refer to low and high scores of the measured information assurance strategy and business strategy components.
Because the study’s primary interest in the alignment of information assurance strategy was in how it affects a firm’s performance, the dependent variable was the organizational performance. The firm’s strategy and the IA strategy served as the two measured independent variables of the study while alignment between both strategies (business and IA), as a second order construct, was computed as a derived independent variable. The variable alignment was determined by multiplying the components’ scores of business and IA strategies for the moderation perspective, and by computing the absolute values of the difference between business strategy and IA strategy scores for the matching perspective.

A web-based self-administered survey served as the main tool for data collection. The questionnaire contained items measuring the three constructs and general demographics. The survey’s items used a five-point Likert-like scale anchored at 1 = strongly disagree and 5 = strongly agree. The survey was divided in four parts: Part I probed participants on general demographic data, Part II measured business strategy, Part III measured information assurance strategy, and Part IV measured organizational performance.

Reducing nonresponse was approached, as recommended by Fowler (2002), with similar strategies to those adopted for mail surveys. Repeating contacts, using more than one mode to invite respondents to participate, and offering different modes of responding were strategies suggested to maximize response rates. This study followed up with nonrespondents after one week (Schonlau, Fricker, & Elliott, 2002) from the first e-mail invitation by sending them an e-mail reminder. After three weeks form the first e-mail, a postal mail survey was sent to nonrespondents with a choice of responding by mail or taking the web-based survey.
Sample. The survey targeted a sample of 1000 U.S small business executives, one hundred of which were first contacted for a pilot study deemed necessary for instrument refinement, and 900 served for data collection for the full study. Respondents were sourced from an independent sampling firm, which compiled and provided a random list of executives’ emails and other contact information. The business size, as a sampling criterion, was determined, according to the Small Business Administration guidelines, by a maximum of 500 employees. The number of employees determined the business size such that businesses employing between 100 and 500 employees were included in the study. The upper limit is in line with the guidelines of the Small Business Administration, while the lower limit was set to ensure adequate level of IT sophistication and some form of formal information assurance policies.

Small businesses provide researchers with a twofold advantage. First, they are more favorable to survey participation and they offer an acceptable level of reliability and comparability of data with sufficient variations regarding the business size, and allow for collection of reliable data as executives of this type of firms are well-informed of the details of their business and related IT strategies (Oh & Pinsonneault, 2007). Second, their business context provides timely and relevant research opportunities related to information assurance. For example, in a recent Symantec funded web-based research (Rubicon Consulting, 2008), small and medium-sized businesses (SMB) expressed high levels of awareness and raised big concerns about information assurance, particularly the protection of business data.

INSTRUMENTATION/MEASURES

The research model shown in Figure 1 indicates that the study’s research proposition required the measuring of business strategy, information assurance strategy, information assurance alignment, and business performance. These variables were operationalized on the research instrument as follows.

Business strategy. This study adopted a nine-item instrument developed and used by Cragg et al. (2002) in the context of small businesses. The instrument measures business strategy on nine dimensions, namely, quality service, quality products, production efficiency, new market, new products, product diversification, product differentiation, intensive marketing, and pricing/cost reduction.

Information assurance strategy. Following Chan et al. (1997) and Cragg et al. (2002), this study adopted “a paralleling” approach in developing a new instrument that measures IA strategy. The paralleling approach ensured that the items in the instrument designed to measure IA strategy mirrored the same items used to measure business strategy. IA strategy items were designed to assess the degree of support that IA strategy provides for the business strategy and the role IA strategy plays to facilitate the realization of business objectives.

IA strategy was measured, therefore, similarly to business strategy, with nine items. Precisely, for each individual business strategy (item on the BS instrument) questionnaire item, a parallel IA strategy item was created to assess the extent to which IA policies support that particular business strategy. For example, for the particular business strategy item:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neutral</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

We attempt to be ahead of our competitors by introducing new products
the parallel item measuring IA strategy was:
Our IA policies enable us to introduce new products

Field-testing. Given that the items measuring information assurance strategy are newly-developed for this study, the scale was field-tested for face validity, clarity, readability, and deliverability. The field test used a survey content validation form and an expert panel.

The panel members were chosen for their expertise in the subject, their scholarly work in the field of information technology, and their industry experience. Ten participants were invited to evaluate the instrument. The survey content validation form and survey instrument were delivered to and returned by respondents via email. Four responses with usable comments were received after two weeks from delivery. Participants suggested slight changes in the wording of few items and changes were introduced as a result. Participants also concluded that the survey’s questions and survey address the study’s objectives and have face validity.

Information assurance alignment. This study viewed information assurance alignment as the fit between business strategy and information assurance strategy. Fit was modeled according to the matching and moderation approaches. As a derived variable, the computation of IA alignment for both approaches relied on the correspondence of business and IA strategies components (the nine items on each instrument).

Business performance. Business performance was the study’s dependent variable and was assessed based on measures of growth and profitability dimensions. It was operationalized using Venkatraman’s (1989b) instrument, which was validated and used in the context of small businesses (Bergeron et al., 2001; Bergeron et al., 2004; Raymond, Pare, & Bergeron, 1995). Firms’ CEOs were asked to rate, on a five-point Likert-type scale, how their firms performed relative to their competition during the last two years on two dimensions: growth and profitability.

SURVEY RESULTS

The survey generated an 8% return or response rate. 67.6% of the respondents were CEOs, 21% general managers, and 11% identified themselves as owners of their respective businesses. Participating organizations, although falling under the small business classification, had revenues from the low $10 to $19 million to more than $100 million. Participants also covered a wide range of industries: 14% manufacturing, 20% retailing, 18% finance and insurance, 8% healthcare, 7% wholesale distribution, and 18% identified themselves under other industries. Most participating organizations employed 100 to 500 employees (80.3%), 18.3% had more than 500 employees, and 4.2% employed less than 100 employees.

VALIDITY AND RELIABILITY OF THE MEASURES

The study’s measures were evaluated based on the results of a factor analysis (principal component analysis: PCA) and Cronbach’s alpha coefficient (.70 and higher was retained as an indication of acceptable adequacy) (Hinkin, 2005). The decision of the number of factors was based on Kaiser’s rule of eigenvalues greater than one with a varimax orthogonal rotation.

Face validity was assessed by means of soliciting expert opinion inputs (Trochim, 2006) (see also the field test section); content validity sought support through an analysis of the standardized factor loadings (.55 and higher) (Kearns & Lederer, 2003); and predictive validity was assessed by means of correlation analysis (Trochim, 2006).
**Business strategy measure.** Table 1 reports the results of the PCA on the business strategy instrument showing that all items loaded very well on two factors with loads greater than .55. The scale is multidimensional and was approached as such for its reliability analysis, according to the recommendations of Norušis (2008) and Ch Yu (2001) for a multidimensional scale; that is, computing a separate Cronbach’s alpha for each sub-measure and/or dimension. Table 2 reports Cronbach’s alpha values for both subscales.

Business strategy subscale 1 contains the items: pricing strategy leadership (BS1), quality products strategy (BS2), differentiation strategy (BS3), and quality customer service strategy (BS7). However, the component BS1 was dropped for an improved Cronbach’s alpha of 0.80. Dropping BS1, which measures pricing strategy leadership, does not seem to affect the full measuring construct as the component efficiency strategy may just measure the ability of a business to sustain a pricing strategy leadership (the two components seem to be redundant).

Business strategy subscale 2 contains five items: innovation strategy (BS4), diversification strategy (BS5), efficiency strategy (BS6), intensive marketing strategy (BS8), and market expansion strategy (BS9). This sub-measure showed an acceptable Cronbach’s alpha of 0.775; but the coefficient (alpha) was improved to a value of .80 by eliminating BS4 (innovation strategy), as suggested by additional data analysis, namely, the values of individual KMO, the communality, the squared multiple correlation, and a very weak value of inter-item correlations involving BS4.

Table 1. Rotated Component Matrix a (PCA on the BS Scale)

<table>
<thead>
<tr>
<th>Strategy Component</th>
<th>Component 1</th>
<th>Component 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricing strategy leadership (BS1)</td>
<td>-.872</td>
<td></td>
</tr>
<tr>
<td>Quality products strategy (BS2)</td>
<td>.897</td>
<td></td>
</tr>
<tr>
<td>Differentiation strategy (BS3)</td>
<td>.869</td>
<td></td>
</tr>
<tr>
<td>Innovation strategy (BS4)</td>
<td>.555</td>
<td>.661</td>
</tr>
<tr>
<td>Diversification strategy (BS5)</td>
<td></td>
<td>.694</td>
</tr>
<tr>
<td>Efficiency strategy (BS6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality customer service strategy (BS7)</td>
<td>.697</td>
<td></td>
</tr>
<tr>
<td>Intensive marketing strategy (BS8)</td>
<td></td>
<td>.729</td>
</tr>
<tr>
<td>Market expansion strategy (BS9)</td>
<td></td>
<td>.777</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Table 2. Reliability Statistics (BS Subscales 1 and 2)

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscale 1</td>
<td>.808</td>
<td>.810</td>
</tr>
<tr>
<td>Subscale 2</td>
<td>.808</td>
<td>.820</td>
</tr>
</tbody>
</table>

**Information assurance strategy instrument.** The factor and reliability analyses on the instrument were conducted on the corresponding seven items of information assurance strategy.
measuring their support to the retained seven items of business strategy. Similar to the business strategy scale, the items loaded on two factors (table 3). The cut-off loading criterion retained was 0.55 for content validity concerns as was the case for business strategy scale.

The reliability of the information assurance measure was evaluated by analyzing the two subscales as identified by the factor analysis. Subscale1 included IAS2, IAS3, and IAS7 and had a low Cronbach’s alpha value (α = 0.533: see table 4). However, for studies of exploratory nature, values of alpha in the low 0.60s can be accepted as a cut-off criterion. Garson (2010) stated that a value of the coefficient alpha of 0.60 is common in exploratory research, while Schmidt (1996, p. 350) suggested that “even relatively low (e.g., 0.50) levels of criterion reliability do not seriously attenuate validity coefficients.” And since this study’s purpose was to address a topic that is in its infancy, an exploratory nature can reasonably be attributed to it. Thus, a Cronbach’s alpha of 0.53 for one of the instrument’s subscales was considered as theoretically useful. Subscale2 contains IAS5, IAS6, IAS8, and IAS9. The value of Cronbach’s alpha calculated for this subscale is 0.731 (table 4) indicating an acceptable internal consistency.

### Table 3. Rotated Component Matrix* (IA Scale)

<table>
<thead>
<tr>
<th>Information Assurance Strategy Component</th>
<th>Component 1</th>
<th>Component 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA support for quality offerings (IAS2)</td>
<td>.803</td>
<td></td>
</tr>
<tr>
<td>IA support for differentiation (IAS3)</td>
<td></td>
<td>.755</td>
</tr>
<tr>
<td>IA support for diversification (IAS5)</td>
<td>.677</td>
<td></td>
</tr>
<tr>
<td>IA support for efficiency (IAS6)</td>
<td>.719</td>
<td></td>
</tr>
<tr>
<td>IA support for quality customer service (IAS7)</td>
<td></td>
<td>.591</td>
</tr>
<tr>
<td>IA support for intensive marketing (IAS8)</td>
<td>.690</td>
<td></td>
</tr>
<tr>
<td>IA support for market expansion (IAS9)</td>
<td>.835</td>
<td></td>
</tr>
</tbody>
</table>


### Table 4. Reliability statistics (IA subscales 1 and 2)

<table>
<thead>
<tr>
<th></th>
<th>Cronbach's Alpha</th>
<th>Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscale1</td>
<td>.533</td>
<td>.529</td>
<td>3</td>
</tr>
<tr>
<td>Subscale2</td>
<td>.731</td>
<td>.735</td>
<td>4</td>
</tr>
</tbody>
</table>

*Business performance instrument.* The business performance components loaded very well on a single factor and exhibited an excellent Cronbach’s alpha value indicating that the scale is unidimensional and internally consistent (see tables 5 and 6).
Table 5. Component Matrix (BP Scale)

<table>
<thead>
<tr>
<th>Component</th>
<th>Component 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with return on sales (BP1)</td>
<td>.861</td>
</tr>
<tr>
<td>Sales growth (BP2)</td>
<td>.812</td>
</tr>
<tr>
<td>Market share gain (BP3)</td>
<td>.811</td>
</tr>
<tr>
<td>Satisfaction with sales growth (BP4)</td>
<td>.800</td>
</tr>
<tr>
<td>Financial liquidity (BP5)</td>
<td>.756</td>
</tr>
<tr>
<td>Net profit position (BP6)</td>
<td>.752</td>
</tr>
<tr>
<td>Satisfaction with ROI (BP7)</td>
<td>.724</td>
</tr>
<tr>
<td>ROI position (BP8)</td>
<td>.704</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
1 component extracted.

Table 6. Reliability Statistics (BP Scale)

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.902</td>
<td>.907</td>
<td>8</td>
</tr>
</tbody>
</table>

NON-RESPONSE BIAS ANALYSIS

An independent-samples $t$-test analyzed the non-response bias. The test was performed on two equal groups of respondents identified as early and late respondents. Respondents were divided such that the last 50% of the participants (Lindner, Murphy, and Briers, 2001) were considered as the late respondents. The two groups were compared on their responses to the Likert-like scale questions. The result ($p$-value = 0.18), reported on table 7, indicates that the findings can be generalized to the target population and non-response bias cannot be considered as a threat to external validity as the null hypothesis that the early and late respondents have the same mean (no non-response bias) cannot be rejected.

Table 7. Independent $t$-Test: Non-Response Bias Analysis

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of variances</th>
<th>$t$ test for equality of means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$F$</td>
<td>$p$-value</td>
</tr>
<tr>
<td>Overall Business Strategy</td>
<td>Equal variances assumed</td>
<td>1.827</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>-1.340</td>
</tr>
</tbody>
</table>

DATA ANALYSIS

For the moderation perspective, fit was analyzed by evaluating the variation of both direction and strength of the relation between the predictor variable (business strategy) and the criterion variable (performance) across different levels of the moderator variable (information assurance). The calculation of the correlation between IA alignment and performance for three sub-samples
(firms with relatively high, medium, and low alignment) served, therefore, as the basis for
analysis of fit as moderation (Bergeron et al., 2001). IA alignment was calculated as the
interaction (product) between BS (business strategy) and IAS (information assurance strategy)
components (Chan et al., 1997; Cragg et al., 2002; Raymond et al., 1995) and summed as an
aggregate alignment score for each participating firm. A highly aligned firm is, therefore, a firm
with a high rating on both strategies of business and information assurance. Firms were then
divided on approximately three equal groups based on the scores of the total alignment, which
identified companies with high, medium, and low alignment. An ANOVA test compared the
mean performance scores for the three groups at a retained 95% confidence level testing thereby
Hypothesis1 (H1). For the matching perspective, the deviation scores for each strategy
component were computed as the absolute difference between the business strategy item and the
Corresponding information assurance strategy item (BS and IAS). The closer the value of this
score to zero, the better or the higher is the alignment. Conversely, a high deviation score
indicates a high misalignment. Similar to the moderation approach, an aggregate alignment
score was calculated for all participating firms and an ANOVA test checked for performance
differences between the three groups identified with high, medium, and low alignment.

An analysis of variance was deemed appropriate for this analysis because of the following
reason. The study’s objective is to identify the difference in performance results among aligned
and non-aligned firms (e.g. firms with high, medium, and low alignment). This study did not
intend to establish any relationship among the study’s variables.

Table 8. One-Way ANOVA: Overall Business Performance with Moderation Aggregate Alignment

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3.365</td>
<td>2</td>
<td>1.682</td>
<td>7.250</td>
<td>.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>15.780</td>
<td>68</td>
<td>.232</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19.144</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the p-value reported on table 8, it is unlikely that the overall business
performance is the same for all companies across all levels of information assurance alignment
(p-value is much smaller than the study’s alpha level—α=0.05). The study’s data, therefore,
support the study’s hypothesis H1 for a conceptualization of fit as moderation (the data, however
did not support H1 when fit was conceptualized as matching). Further, a multiple comparison
procedure (a post hoc test) reported on table 9 showed that the only statistically significant
difference was found between the group of highly aligned companies and the group identified by
a low alignment level.

Table 9. Post Hoc Test (Bonferroni Multiple Comparison). Dependent Variable: Overall Business Performance

<table>
<thead>
<tr>
<th>(I) Moderation Aggregate Alignment</th>
<th>(J) Moderation Aggregate Alignment</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Alignment</td>
<td>Medium Alignment</td>
<td>0.31587</td>
<td>0.13918</td>
<td>0.079</td>
</tr>
<tr>
<td>Low Alignment</td>
<td></td>
<td>.53804</td>
<td>0.14205</td>
<td>0.001</td>
</tr>
<tr>
<td>Medium Alignment</td>
<td>High Alignment</td>
<td>-0.31587</td>
<td>0.13918</td>
<td>0.079</td>
</tr>
<tr>
<td>Low Alignment</td>
<td>High Alignment</td>
<td>.22217</td>
<td>0.13918</td>
<td>0.345</td>
</tr>
<tr>
<td>Low Alignment</td>
<td>Medium Alignment</td>
<td>-.53804*</td>
<td>0.14205</td>
<td>0.001</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the 0.05 level
Testing Hypothesis 2 (H2: the concept of information assurance strategic alignment is better captured by adopting the moderation perspective of strategic fit) implied seeking and describing the strength of the relationship between information assurance strategic alignment and performance. Thus, correlations between information assurance alignment and performance were tested for statistical significance (Swanson & Holton, 2005; Cragg et al., 2002) for both the moderation and matching perspectives. The correlation values determined which model was best supported by the data.

Significant correlation coefficients values were found associated with the moderation perspective (MoAlg). These coefficients are pinpointed with double asterisks on both tables 10 and 11, which report correlations values between the alignment score and a business performance component and the alignment score and the overall business performance, respectively. The study’s data, therefore, support the study’s Hypothesis H2 (there was no support for the matching perspective (MaAlg)—insignificant correlation values).

Table 10. Correlation Coefficients for IA Alignment with Business Performance Components

<table>
<thead>
<tr>
<th></th>
<th>BP1</th>
<th>BP2</th>
<th>BP3</th>
<th>BP4</th>
<th>BP5</th>
<th>BP6</th>
<th>BP7</th>
<th>BP8</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BP2</td>
<td>.614**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BP3</td>
<td>.793**</td>
<td>.607**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BP4</td>
<td>.395**</td>
<td>.580**</td>
<td>.426**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BP5</td>
<td>.561**</td>
<td>.466**</td>
<td>.516**</td>
<td>.438**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BP6</td>
<td>.483**</td>
<td>.440**</td>
<td>.448**</td>
<td>.507**</td>
<td>.562**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BP7</td>
<td>.539**</td>
<td>.753**</td>
<td>.545**</td>
<td>.750**</td>
<td>.630*</td>
<td>.586**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>BP8</td>
<td>.639**</td>
<td>.482**</td>
<td>.682**</td>
<td>.432**</td>
<td>.522**</td>
<td>.410**</td>
<td>.537**</td>
<td>1</td>
</tr>
<tr>
<td>MoAlg</td>
<td>.483**</td>
<td>.389**</td>
<td>.438**</td>
<td>.397**</td>
<td>.467**</td>
<td>.385**</td>
<td>.440**</td>
<td>.364**</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.002</td>
</tr>
<tr>
<td>MaAlg</td>
<td>.073</td>
<td>.096</td>
<td>.045</td>
<td>.134</td>
<td>.160</td>
<td>.051</td>
<td>.172</td>
<td>.196</td>
</tr>
<tr>
<td></td>
<td>.547</td>
<td>.426</td>
<td>.706</td>
<td>.265</td>
<td>.182</td>
<td>.672</td>
<td>.152</td>
<td>.101</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
Table 11. Correlation Coefficients for IA Alignment and the Overall Business Performance

<table>
<thead>
<tr>
<th></th>
<th>Moderation Aggregate Alignment</th>
<th>Matching Aggregate Alignment</th>
<th>Overall Business Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderation Aggregate Alignment Score</td>
<td>1</td>
<td>-.064</td>
<td>.537**</td>
</tr>
<tr>
<td></td>
<td>.597</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>71</td>
<td>71</td>
<td>71</td>
</tr>
<tr>
<td>Matching Aggregate Alignment Score</td>
<td>-.064</td>
<td>1</td>
<td>.145</td>
</tr>
<tr>
<td></td>
<td>.597</td>
<td>226</td>
<td>226</td>
</tr>
<tr>
<td></td>
<td>71</td>
<td>71</td>
<td>71</td>
</tr>
<tr>
<td>Overall Business Performance</td>
<td>.537**</td>
<td>.145</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>.226</td>
<td>.226</td>
</tr>
<tr>
<td></td>
<td>71</td>
<td>71</td>
<td>71</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

DISCUSSION, LIMITATIONS, AND IMPLICATION

The main objective of this study was to empirically investigate the existence of a probable difference in performance between firms with aligned business and information assurance strategies and those with no alignment in the context of small businesses. A second objective was to explore ways of measuring information assurance strategic alignment and what analytical approach would better capture this concept.

The study’s data supported both research hypotheses. The theoretical proposition that there is a performance difference between aligned and non-aligned firms was empirically verified for the concept of strategic alignment conceptualized according to the moderation perspective; an analytical approach that was also found to capture better the concept of information assurance strategic fit. The study’s data, however, had no support for the matching perspective.

Descriptive statistics showed that participants emphasized strategies for quality customer service and business efficiencies; respectively with mean ratings of 4.42 and 4.07 on a 5-point Likert-like scale. This finding may be explained by the difficult economic conjuncture (i.e., great recession) that has affected negatively business organizations in general and the small business in particular. On the one hand, small business managers have adopted strategies for cutting down on business costs and improving the efficiency of their operations; and on the other hand, they focused their efforts on retaining and/or luring a customer base characterized by an eroded consumer confidence. Similarly, respondents claimed support of their information assurance strategies to customer service business strategy, innovation strategy, and efficiency with respective mean ratings of 4.31, 3.85, and 3.49. Additional analysis on the alignment variable also allowed for preliminary conclusions on the nature of information assurance strategic alignment. According to the moderation perspective, the most aligned strategies were the quality customer service and business efficiency strategies; a result that confirms both findings from testing the research hypotheses (the moderation perspective captures better the concept of strategic fit) and findings from the descriptive statistics performed on both the measured variables of business strategy and information assurance strategy. Descriptive statistics performed on the alignment variable as a matching perspective generated ambiguous results with regards to the claimed emphasized business strategies. Respondents also claimed satisfaction with sales growth and return on sales: a finding that may be interpreted as a consequence of the recent signs of economic recovery and the decisions of business managers to adopt lean strategies for more efficiency. The data also showed that respondents covered a large
array of economic sectors including important industries such as manufacturing, finance and insurance, healthcare sector, wholesale distribution, retailing, and other branches of the economy. This study’s findings, however, are limited to the small business environment and data were collected from a single informant. The study is also limited by its low response rate; a result that was expected given the sensitivity of the topic.

For practitioners, the study empirically confirmed the proposition that information assurance strategic alignment has the potential of enhancing business performance. A full understanding of the consequences of this finding would encourage industry leaders to push the agenda of information assurance to the board room and include the topic as pertinent to the overall corporate strategy formulation. Practitioners then need to find out how to achieve information assurance strategic alignment; a topic that can be of interest to academics. Practitioners need also to be able to measure the success of their information assurance strategy so that they can bring about adjustment to their policies for further improvements.

For academics information assurance as an organizational function is in its infant stage and presents a new land to explore. This study attempted to initiate a scholarly debate on this newly-emerging discipline. Subsequent research can emphasize the difference between information assurance, as a set of comprehensive policies that encompasses information security, and the rigid security measures that traditional information security entails. Academics can bring to light the role that information assurance can play as a business enabler and generalize this approach across organizations of different types and sizes.

CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

The study contributed interesting insights to the knowledge base on information assurance and it extended our understanding of the alignment concept. The study empirically supported both research hypotheses. Firms identified with high alignment performed better than their counterparts identified with low alignment, and the moderation perspective was found to capture better the concept of strategic alignment as it relates to information assurance. And since the findings are limited to the small business sector, it is clear that additional research, replication, interpretation, and understanding of the topic of strategic alignment as it pertains to information assurance are needed. Specifically, researchers are encouraged to investigate the impact of information assurance alignment in the context of large organizations; to explore and test the concept of information assurance strategic fit according to different analytical approaches; to investigate decision-makers’ awareness on the role of information assurance and its difference from information security; to identify a set of managerial metrics that enable practitioners to measure the success of their information assurance policies, act upon underlying success factors and be able to introduce adjustments.

REFERENCES


**AUTHOR**

Said Ghezal is an Assistant Professor at Western Kentucky University. He can be contacted at Western Kentucky University, 1901 College Heights Blvd., Bowling Green, KY 42101. Email: said.ghezal@wku.edu
BRAND EQUITY VALUATION FOR PROSPECTIVE CANDIDATES IN THE 2016 U.S. PRESIDENTIAL RACE

Dr. Richard J. Monahan
Adjunct Professor
American Public University

In this study, a multidimensional brand equity construct was employed to compare the brand equity strength of four potential candidates for the U.S. presidency in 2016 (i.e., Hillary Clinton, Joseph Biden, Chris Christie, and Paul Ryan) among registered voters of all three parties. Whether these candidates will actually run for president, at this point, is speculation. The level of candidate brand equity was significantly related to respondents’ future voting intentions. Party bias resulted in significant differences in brand equity valuation, mainly due to differences in perceived quality and candidate loyalty ratings.

KEYWORDS brand equity, campaign strategy, candidate brands, candidate marketing, candidate valuation, political branding

INTRODUCTION

Brands are powerful symbols that provide meaning to consumers, which influences their purchase intentions (McCracken, 1993). Brand strength, in terms of political candidate and political parties, has been considered in marketing for many years (Luntz, 1988). Brand equity is the intangible value added to a product, such as Tide laundry detergent simply by the brand name itself, (Aaker, 1991, 1996; Keller, 1993). Strong brands act to increase trust and loyalty, decrease the possibility of switching to competitive brands and make marketing efforts much more effective, (Aaker, 1991; Keller 1993; Yoo, & Donthu, 2001). In this study, a consumer behavior brand equity model was adopted to gauge voter response to candidate brands in advance of the 2016 U.S. presidential campaign.

Literature Review

Candidate Brands

Branding is concerned with creating a distinctive identity, for a product, service, or individual (Aaker, 1997; Plummer, 2000). Individuals themselves are actually brands. For example, Lebron James and Eli Manning serve as primary sources of identity. Candidate brands are similar to the latter, where political leaders and their associations define the brand. The present focus is on brand equity derived from the candidate’s name (e.g., Barack Obama), which is the part of a brand that can be verbalized and is the primary indicator of brand value (Keller, 1993; Cobb-Walgreen, Ruble, & Donthu, 1995). The name of the candidate, like product brand names, provides the voter with an experience-based technique for quick problem solving that
provides voter orientation and influences voter choice (Needham, 2006, p. 180; Schneider, 2004). The act of voting is like a “consumer choice,” for which voters use small amounts of information received during the campaign to facilitate their choice between candidates (Parker, 2012; Popkin, 1994). There is a great deal of research that has looked at different aspects of political branding (Lauro, 2000; Needham, 2005, 2006; Reeves, 2006; Westen, 2007). Industry strategists suggest that the use of different branding tactics developed in commercial markets (e.g., personality, trust, connectivity, and performance) can also be used in politics for comparing the image and or brand positions’ of candidates (e.g., see Draper, 2000; Grannell, 2008; Parker, 2012; Potter, 2008; Singer, 2002; Walsh, 2007; Westen, 2007). In spite of the fact that most of the research on political branding is relatively new, there have been sufficient studies to support the concept that candidate brands can be treated as units of empirical analysis and observation.

**Brand Equity**

Aaker (1991, 1996) defined brand equity as “a set of brand assets and liabilities linked to a brand, its name, and symbol, that add to or subtract from the value provided by a product or service to a firm and or to that firm’s customers.” He further proposed a five-dimensional model of brand equity that includes name awareness, brand associations, perceived quality, brand loyalty, and other key assets. This study uses Yoo and Donthu’s (2001) “customer-based” brand equity scales, developed to gauge four of the five (i.e., excluding other proprietary assets) dimensions proposed by Aaker.

Brand knowledge is a vital element in consumer decision making and greatly affects the success of branding efforts (Keller, 1993). Brand knowledge is composed of brand name awareness and brand associations (Aaker, 1996). Brand name awareness is the strength of a brand in the memory of the consumer, a necessary condition for brand equity development on the other three dimensions (Keller, 1993). Brand associations are pieces of positive and negative information related to a brand in consumer memory. Brand associations are critical in the overall management function of branding because they represent the content of brand knowledge and provide brand meaning to consumers (Keller, 1993).

Research also supports the fact that both perceived brand quality and brand loyalty are strongly related to brand equity. Perceived brand quality is the consumer’s judgment about a brand’s overall excellence (Aaker, 1996; Zeithaml, 1988). Aaker (1996) also pointed out that perceived brand quality is an important point of differentiation. Brand loyalty is the level of attachment that a customer has to a brand, considered the single most reliable assessment of brand equity (Reichheld, 2001). Loyal consumers provide a company with a competitive advantage that helps establish barriers of entry, gives the company time to respond to competitive offerings, and allows the company to demand premium prices (Aaker, 1996). Consumer loyalty ultimately results from value and trust derived from the brand name (Chaudhuri & Holbrook, 2001; Riley, 2004).

**Multidimensional Brand Equity Scale**

Yoo and Donthu (2001) developed a series of validated psychometric scales that measure aspects of customer-based brand equity. Yoo and Donthu (2001, p. 2) defined brand equity as the “measurement of cognitive and behavioral brand equity at the individual consumer level through a consumer survey.” Scale indicators were factors analyzed from an original pool of scale items from a wide range of validated measures of each dimension and eventually reduced to 10 items that make up the Multidimensional Brand Equity scale (MBE; Yoo & Donthu, 2001). The four-dimensional scale items capture attitudinal loyalty, brand recognition awareness, perceived quality, and the “perceptual strength” of brand associations. The MBE has been shown to be
parsimonious in brand survey research, highly reliable across product categories and brands, and free of cultural bias. However, it is important to note that the MBE measure only captures the perceptual strength of brand associations.

**Purpose of the Study**

The purpose of this study was to use the MBE construct to gauge potential U.S. presidential candidate brand name strength as a barometer of candidate potential with Democratic, Republican, and Independent voter segments prior to the 2016 U.S. presidential election. The first goal was to validate that the level of candidate brand name equity, based on voter response, is related to future voting intentions and election results. Customer-based brand equity is related to future purchase intentions and behavior at the individual consumer level (Agarwal & Rao, 1996; Ambler, 1997; Keller, 1993; Tolba & Hassan, 2006; Yoo & Donthu, 2001), mainly because of the confidence instilled by strong, familiar brands in the purchase decision process (Aaker, 1992; Chaudhuri, & Holbrook, 2002; Erdem, 1998). Researchers use consumer purchase intentions as an antecedent to consumer choice to confirm the existence of brand equity (Cobb-Walgren et al., 1995). Candidate brand equity should indicate voters’ willingness to choose a candidate, particularly in a political environment where “the average citizen tends to pay only occasional, then usually superficial, attention in politics” and make political decisions by relying on heuristic devices such as a strong, familiar name (Sniderman, Brody, & Tetlock, 1991, p. 15).

Second, the influence of voter party affiliation on candidate brand equity ratings was examined as a means of mapping candidate strength with Democratic, Republican, and Independent voters. Party affiliation (i.e., party bias) influences the persuasiveness of political communication (Chang, 1998; Robideaux, 2002), the way in which voters process campaign information (Bothwell & Brigham, 1983), and the effects of political advertisements on candidate evaluation (Kaid, 1997). Given the partisan nature of politics, it is likely that candidate brand equity will significantly differ between voter segments. Few studies have empirically documented the influence of party bias on candidate brand valuation or the extent of any differences. The objective was to identify the presence and the degree of brand equity valuation differences between voter groups in order to compare candidate strength within each party electorate. Of particular interest was Independent party voters who have played a pivotal role in recent U.S. presidential elections and do not have a shared party affiliation with the present candidates.

The third goal focused attention on the individual factors of the multidimensional brand equity construct (i.e., awareness-association strength, perceived candidate quality, and candidate loyalty) when used to valuate candidate brands. The objective was to determine their individual contributions to candidates’ overall brand equity ratings and to determine whether these effects differ between voter party groups. Concerning the latter, it would be expected that candidates receive higher ratings on each factor from their party electorate. However, the extent of each variable’s contribution to brand equity ratings from different voter segments is unknown, which will provide further insight into the functionality of the three-factor model for valuating a competitive set of candidate brands.

**Method**

The study design used survey research to assess candidate familiarity, brand equity, and voting intentions for four potential U.S. presidential candidates (i.e., Hillary Clinton [D], Joseph Biden [D], Chris Christie [R], and Paul Ryan [R]) from a sample of registered voters. These four
candidates served as units of analysis because at the time of data collection they were the two candidates from each major party who were the subject of speculation about running for president.

Respondents were registered voters recruited from various parts of the country. To allow for the exclusion of respondents not familiar with one of the candidates, before rating each candidate on other measures, respondents indicated their familiarity with each candidate and did not respond to unfamiliar candidates. As a measure of voter intentions, respondents were asked how likely it was that they would vote for each candidate if they were to run in the approaching general election using a five-point Likert scale.

**Candidate Brand Equity Measurement**

Yoo and Donthu’s (2001) MBE served as the measure of candidate brand equity. It was necessary to modify the wording of some items to use the MBE in the context of political candidates voted for rather than brands purchased. The modified 10-item MBE measure has two items for candidate name awareness (‘‘I am aware of candidate x’’ and ‘‘I can recognize candidate x among other competing candidates’’), three items for brand association strength (‘‘some characteristics of candidate x come to my mind quickly,’’ ‘‘I can quickly recall the symbol or logo of candidate x,’’ and ‘‘I have difficulty imagining candidate x in my mind’’), two items for perceived candidate quality (‘‘the likelihood that candidate x would be a quality president is extremely high’’ and ‘‘the likelihood that candidate x would be a functional president is extremely high’’), and three items for candidate brand loyalty (‘‘I consider myself loyal to candidate x,’’ ‘‘for U.S. president candidate x would be my first choice,’’ and ‘‘I will not vote for another candidate if candidate x runs in the general election’’).

The MBE (Yoo & Donthu, 2001) is a three-factor model that combines recognition awareness and perceptual strength of associations into one memory-based factor, while treating perceived quality and brand loyalty as independent factors. Respondents indicated their agreement to each item statement using five-point Likert scales. Candidate total brand equity ratings and scores for each dimension are the focal point of analysis. Averaged items for each scale dimension produced for each candidate an awareness-association strength score, perceived candidate quality score, and candidate loyalty score. A candidate’s total brand equity rating is an average of the dimension scores across all scaled items.

**Sample**

One hundred fifty surveys were sent out and 107 surveys were usable for analysis. The sample was split between 53 females and 54 males. The political party affiliations were 33 Democrats, 19 Republicans, 39 Independents, and 16 something else. The ages of the respondents ranged from 18 to over 65: 18 (3), 20s (15), 30s (17), 40s (22), 50s (42), 60 plus (8). The education of the respondents ranged from grammar school and some high school to a postgraduate degree: grammar school (6), high school graduate (8), some college (29), college graduate (28), some postgraduate work (6), and postgraduate degree (30). The annual family income of the sample ranged from less than $20,000 to over $120,000 per annum: less than $20,000 (7), $20,000 to $40,000 (17), $41,000 to $60,000 (22), $61,000 to $80,000 (14), $81,000 to $120,000 (31), over $120,000 (16). The location distribution of the sample is as follows: New England (15), Middle Atlantic (14), South Atlantic (21), East North Central (15), Mountain (8), West North Central (8), West South Central (6), East South Central (6), and Pacific (14).

**Candidate Brand Equity and Intention to Vote**

Displayed in Table 1 are candidates’ overall MBE scores (i.e., a composite mean of candidate awareness-association strength, perceived quality, and loyalty scale items) and mean
intention to vote scores for sampled respondents. Clinton had the highest brand equity score (3.34), higher than all other candidates. Governor Christie was next, (2.86), followed by Ryan (2.35), and then Biden, (2.08). Similar to the composite MBE scores, Clinton received the highest intention rating (2.76), higher than Christie (2.01), followed by Ryan (1.80), then Biden (1.72) on the five-point measure.

Correlation results reported in Table 2 illustrate the existence of a moderately strong relationship between the level of candidate brand equity and intention to vote for candidates. Significant positive correlations for each candidate brand show future voting intentions increased with higher candidate brand equity ratings. The strongest relationship was for Clinton (.892) and it was also strong for the other candidates: Christie (.779), Ryan (.710), and Biden (.639), significant at the .01 level.

An interesting finding of the correlation analysis was significant negative relationships between the level of candidates’ brand equity and intention to vote for candidates from the opposite party. For example, negative coefficients between Democratic candidate Clinton’s brand equity rating and intention to vote for Republican candidate indicate that as Clinton’s brand equity increases, respondents’ intentions to vote for candidates outside Clinton’s party diminish. Results showed similar negative relationships for each candidate, particularly between both Democratic candidates and the leading Republican candidate. This reported negative relationship, although not as strong as the positive correlations, illustrates that as the strength of a candidate brand increases, voters’ willingness to vote for other candidates diminishes, illustrating the barrier effect of brand equity on competitive brands.

**Party-Based Candidate Brand Equity**

For each candidate brand, a one-way analysis of variance (ANOVA) was conducted to evaluate the relationship of voter party affiliation to candidate brand equity ratings, as displayed in Table 3. The independent variable (party identification) included four groups: Democratic, Republican, Independent, and something else. The dependent variable for each ANOVA was MBE brand equity mean scores.

The ANOVA was significant for each candidate brand except Ryan: Clinton F(3,100) = 9.8816, p = .00001; Biden F(3,98) = 3.7386, p .01363; Christie (F3,92) = 3.2847, p = 02429; Ryan, F(3,85) = 1.7586, p = .16124.

As expected, each candidate had stronger brand equity within his or her own party and weaker from opposing party voters. Clinton (D) rated highest on brand equity (3.92) with Democratic voters, much higher than Biden (2.16). For Republican voters, Christie had the highest brand equity of (2.59), which was higher than Ryan (2.17). For independent voters, Clinton was again the highest (3.31), followed by Christie (2.92). Ryan (2.37) and Biden (1.86) had the lowest scores among independents.

**Variable Contribution to Brand Equity**

Displayed in Table 4 are candidates’ mean ratings for each brand equity dimension. Clinton and Biden had high familiarity ratings (98% and 97%), while Christie and Ryan were lower in familiarity rating (89% and 84%). Clinton and Christie had high awareness associations (3.62 and 3.44), followed by Ryan and Biden (2.94 and 2.39).

In general, perceived quality and brand loyalty ratings were lower across candidates than awareness-association strength scores, particularly candidate loyalty. Clinton had the highest score on perceived quality and candidate loyalty (3.52 and 2.89). Christie was second (2.52 and 2.61), then Ryan (2.13 and 1.99), and last Biden (2.07 and 1.78). This would suggest that high awareness is very important in overall brand equity.
Discussion

The brand equity model indicated a strong relationship with voting intentions. This study seems to give credence to the use of brand equity valuation as a theoretical alternative to polling data. Party-based brand equity scores illustrated a partisan bias that exists in candidate brand valuation. Candidates measured as stronger brands within their party electorate and weaker brands with opposing party voters. This was particularly evident for Clinton and Christie, who are both polarizing candidates. Candidate loyalty most clearly demonstrated the partisan nature of candidate branding. As would be expected, candidates received the highest loyalty ratings from partisan voters, while dropping substantially from opposing voter groups, contributing most to fluctuations in brand equity scores between voters affiliated with the two major parties. Interestingly, for Independent voters, there was not a party bias effect on total candidate brand equity ratings that were comparatively lower for each candidate, compared to their party ratings. The strongest candidate brands with Independents were first Clinton (D) followed by Christie (R). The strength of brand equity among independents is very important, as the history of recent presidential elections suggests that no major party can win the White House without a majority of independent voters.

Clinton had the highest awareness at the time of the data collection, suggesting that the brand equity strength of the others might increase with more awareness. Name recognition has traditionally been a barrier for lesser-known candidates that must be overcome in a political campaign. Strong brand awareness does not always equate to a strong brand because people may be well aware of a brand and have negative associations toward it.

Conclusion

This study does support the theory that a strong brand equity score leads to voting intention for political candidates. The model used in this study does have validity in evaluating the future voting choice of voters. The measures of awareness, quality valuation, and loyalty can be used to predict the outcome of elections.

This study also supports the theory that brand equity is highest in the candidate’s political party. It should also be pointed out that all candidates must be aware of their brand equity ratings among independent voters and they very often swing an election one way or the other.

This paper also suggests that high awareness is an extremely important element in overall brand equity scores

Future Research

Future research could track these potential candidates as long as there is a possibility that they will run for president and note changes in their overall brand equity scores. Since this data represents an indication of candidate brand equity at the time of collection, tracking any changes over time might prove to be insightful. This is particularly valuable since the four candidates have yet to declare their intention to run for the presidency.

This particular study focused on the presidential election but future work might also examine the influence of brand equity on local elections.

Future research could also measure the application of other related brand constructs, such as “brand personality,” that are theoretically related to consumer attitudes and market behavior.
REFERENCES


Table 1
Candidate MBE Brand Equity and Intention to Vote Mean Scores

<table>
<thead>
<tr>
<th>Candidate</th>
<th>n</th>
<th>Brand Equity</th>
<th>SD</th>
<th>Intention to Vote</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(D) Clinton</td>
<td>104</td>
<td>3.34</td>
<td>.896</td>
<td>2.76</td>
<td>1.57</td>
</tr>
<tr>
<td>(D) Biden</td>
<td>102</td>
<td>2.08</td>
<td>.478</td>
<td>1.72</td>
<td>1.19</td>
</tr>
<tr>
<td>(R) Christie</td>
<td>96</td>
<td>2.86</td>
<td>.709</td>
<td>2.01</td>
<td>1.16</td>
</tr>
<tr>
<td>(R) Ryan</td>
<td>89</td>
<td>2.35</td>
<td>.576</td>
<td>1.80</td>
<td>1.13</td>
</tr>
</tbody>
</table>

Table 2
Candidate MBE and Intention to Vote Correlations

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Intent to Vote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton-MBE</td>
<td>.892</td>
</tr>
<tr>
<td>Biden-MBE</td>
<td>.405</td>
</tr>
<tr>
<td>Christie-MBE</td>
<td>-.030</td>
</tr>
<tr>
<td>Ryan-MBE</td>
<td>-.029</td>
</tr>
</tbody>
</table>

Table 3
Candidate MBE Scores by Party

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Democrat Mean</th>
<th>Democrat Std err</th>
<th>Democrat N</th>
<th>Republican Mean</th>
<th>Republican Std err</th>
<th>Republican N</th>
<th>Independent Mean</th>
<th>Independent Std err</th>
<th>Independent N</th>
<th>Other Mean</th>
<th>Other Std err</th>
<th>Other N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>3.92</td>
<td>.134</td>
<td>33</td>
<td>2.71</td>
<td>.21</td>
<td>19</td>
<td>3.31</td>
<td>.13</td>
<td>37</td>
<td>3.21</td>
<td>.17</td>
<td>16</td>
</tr>
<tr>
<td>Biden</td>
<td>2.16</td>
<td>.09</td>
<td>33</td>
<td>1.71</td>
<td>.14</td>
<td>19</td>
<td>1.86</td>
<td>.10</td>
<td>37</td>
<td>1.97</td>
<td>.18</td>
<td>15</td>
</tr>
<tr>
<td>Christie</td>
<td>2.59</td>
<td>.10</td>
<td>32</td>
<td>3.22</td>
<td>.22</td>
<td>17</td>
<td>2.92</td>
<td>.11</td>
<td>34</td>
<td>2.89</td>
<td>.17</td>
<td>13</td>
</tr>
<tr>
<td>Ryan</td>
<td>2.17</td>
<td>.08</td>
<td>26</td>
<td>2.56</td>
<td>.16</td>
<td>18</td>
<td>2.35</td>
<td>.11</td>
<td>33</td>
<td>2.40</td>
<td>.14</td>
<td>12</td>
</tr>
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</table>

Table 4
Candidate MBE Dimension Ratings

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Familiarity</th>
<th>Awareness Associations</th>
<th>Perceived Quality</th>
<th>Candidate Loyalty</th>
<th>Total Brand Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton (D)</td>
<td>98%</td>
<td>3.62</td>
<td>3.52</td>
<td>2.89</td>
<td>3.34</td>
</tr>
<tr>
<td>Biden (D)</td>
<td>97%</td>
<td>2.39</td>
<td>2.07</td>
<td>1.78</td>
<td>2.08</td>
</tr>
<tr>
<td>Christie (R)</td>
<td>89%</td>
<td>3.44</td>
<td>2.52</td>
<td>2.61</td>
<td>2.86</td>
</tr>
<tr>
<td>Ryan (R)</td>
<td>84%</td>
<td>2.94</td>
<td>2.13</td>
<td>1.99</td>
<td>2.35</td>
</tr>
</tbody>
</table>
IMPACT OF CUSTOMERS’ BIRTH ORDER UPON THE PERSONAL SELLING PROCESS

David R. Rink
Indiana University Kokomo

ABSTRACT

Birth order has a significant effect upon the development of an individual’s personality. When combined with other information, customers’ birth order will enable salespeople to develop and implement sales strategies and programs better attuned to their personalities. This should improve the likelihood of making a sale as well as increase customer satisfaction and retention. Specific suggestions for using birth order to create a more customized sales experience for customers are discussed for each stage in the personal selling process.

INTRODUCTION

Before making an initial contact, salespeople learn as much as possible about a potential customer as well as his/her company and industry. Such knowledge is invaluable in this and subsequent stages of the selling process. With regards to each prospect, the desired information includes, but is not limited to, purchasing style and personal characteristics, one of which is the buyer’s personality.

A major determinant of an individual’s personality is the order in which he/she was born within the family.1 In the words of one researcher, “Birth order … makes the shared family experience different for each sibling. … It is a surrogate for differences in age, size, power, and privilege among siblings” (Sulloway, 1995 at 76).

Among all of the individual differences with a developmental origin, only gender has a stronger influence on personality traits than birth order (Sulloway, 2001).

Numerous studies in the behavioral and social sciences have investigated birth order and its effect upon the development of an individual’s personality. Some contradictory results have emerged. But, research generally confirms the existence of certain personality characteristics for first-born and later-born.

Although many birth order-related articles and several books have appeared in the popular and professional business literature, only a handful exists in the academic business literature.2 Very few of these relate to personal selling. What does exist concentrates on the birth order of salespersons (e.g., Rink, 1982; Boone and Kurtz, 1988). The possible impact of

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customers’ birth order upon the personal selling process does not appear to have been investigated.

When combined with other information, prospects’ birth order will enable salespeople to formulate and implement sales strategies and programs better attuned to their personalities. This should improve the likelihood of making a sale as well as increase customer satisfaction and retention. According to one researcher, “neglect of birth order as a targetable demographic factor may be remiss at best, and unprofitable at worse” (Claxton, 1995 at 37).

The following paper provides specific suggestions for using buyers’ birth order to create a more customized sales experience for them. These recommendations are organized according to the six steps in the personal selling process delineated by Kotler and Keller (2012): prospecting and qualifying; preapproach; presentation and demonstration; overcoming objections; closing; and follow-up and maintenance.

PROSPECTING AND QUALIFYING

As part of the preliminary fact-finding process to identify likely customers, salespeople should ascertain their birth order. This information along with that typically gathered on prospects (e.g., financial capability) will better assist salespeople in qualifying possible buyers in order to decide which ones to pursue. Such data will also help salespeople estimate the amount of time they may have to spend with each potential customer, likelihood of making a sale, and anticipated profitability.

Since parents lack child-rearing experience with their first offspring, they transfer their insecurities and anxieties to their initial child. Hence, first-born generally are anxious, insecure, cautious, worrisome, risk-averse, and dependent. When first-born are anxious, they want to affiliate with others (e.g., Schachter, 1959; Warren, 1966; Joubert, 1990; Sulloway, 1996; Salmon and Daly, 1998). First-born also possess low self-esteem (e.g., Sampson, 1965; Ernst and Angst, 1983; Burden and Perkins, 1987; Rowe et al., 1992; Sulloway, 1996; Mock and Parker, 1998; Sulloway, 2001). Further, first-born are patient and willing to wait (e.g., Chabris et al., 2008; Lampi and Nordblom, 2009; Morgan, 2009; Gilliam and Chaterjee, 2011).

If salespeople decide to target first-born prospects, they can expect to spend significantly more time with them in each stage of the personal selling process than their later-born counterparts (Rink, 2010). Salespeople can also anticipate many communications and interactions initiated by likely first-born buyers, especially face-to-face meetings. Because first-born are cautious and risk-averse, salespeople can expect the probability of making an initial sale to first-born customers to be lower than that for later-born ones. Even if salespeople made a sale, they can anticipate the associated profit to be comparatively small.

But, if the salesperson is able to persuade a first-born prospect to switch companies, he/she can expect the likelihood of retaining such a buyer to be relatively high. In addition to being cautious and risk-adverse, first-born prefer the status quo and are less willing to adopt “new” innovations (e.g., Sulloway, 1995 and 1996; Jefferson et al., 1998; Saad et al., 2005; 3 For example, see Schachter (1959), Sampson (1965), Warren (1966), Nixon (1981), Kidwell (1982), Ernst and Angst (1983), Eisenman (1987), Moore and Cox (1990), Phillips et al. (1990), Bromiley and Curley (1992), Seff et al. (1993), Sulloway (1995 and 1996), Davis (1997), Mock and Parker (1997), Zajonc and Mullally (1997), Jefferson et al. (1998), Paulhus et al. (1999), Roszkowski (1999), Eckstein (2000), Zweigenhaft and Von Ammon (2000), Sulloway (2001), Steelman et al. (2002), Rohde et al. (2003), Saad et al. (2005), Healey and Ellis (2007), Hertwig et al. (2007), Dixon et al. (2008), Courtiol et al. (2009), Wang et al. (2009), Lampi and Nordblom (2010), Sulloway and Zweigenhaft (2010), and Gilliam and Chatterjee (2011).
Healey and Ellis, 2007). Being highly resistant to change, this new first-born customer would be less likely to forsake the salesperson’s product for a competitor’s product. (This presumes, of course, that the salesperson provided excellent follow-up and maintenance service.) As a result, the value of such a first-born buyer over the long run in terms of cumulative sales and profitability would be comparably large.

On the other hand, later-born tend to be self-reliant, secure, independent, and impatient as well as less anxious, cautious, and worrisome, because parents have child-rearing experience by this time. Further, they possess higher self-esteem than first-born. Hence, if salespeople select later-born prospects to pursue, they can anticipate spending dramatically less time with them in each stage of the selling process. Later-born customers will necessitate far fewer communications and interactions, including face-to-face meetings, than first-born ones. Later-born are also more risk-oriented. Thus, salespeople can expect the likelihood of making an initial sale to later-born buyers to be higher than that for their oldest siblings. Salespeople can also anticipate the corresponding profit to be relatively large.

However, later-born typically take extreme risks, are open to “new” innovations, and do not prefer the status quo. Being less resistant to change as well as impatient and impulsive, new later-born customers would be more likely to change companies (and to do so frequently) than their oldest siblings. Hence, the salesperson would have to search for replacement buyers more often. Acquiring new customers can cost five times more than satisfying and retaining existing ones (e.g., Vavra, 1995; Reichheld, 2001).

**PREAPPROACH**

After determining which prospects to target, salespeople learn as much as possible about each one as well as his/her company and industry. This information, along with the potential buyer’s birth order, will assist salespeople in the optimal establishment of call objectives, selection of contact method, creation of an overall sales strategy, and development of a plan to implement this strategy.

In addition to being dependent, risk-averse, anxious, insecure, and worrisome as well as possessing low self-esteem, first-born usually are conforming, conventional, and traditional compared to later-born. Therefore, possible first-born customers will probably desire face-to-face interactions with a salesperson—beginning with the initial contact, and continuing throughout the selling process. This will permit first-born prospects to personally meet the salesperson as well as ask questions and receive immediate feedback, which will help reduce their anxiety, worry, and insecurity. Further, first-born typically are suggestible and more susceptible to normative influences than later-born (e.g., Kirchner, 1971; Sulloway, 1995, 1996, and 2001; Saad et al., 2005). First-born also prefer assistance in decision-making (Zuckerman and Grosz, 1958; Stafford and Greer, 1965). As a result, potential first-born buyers are likely to be more receptive to a salesperson than later-born ones. By meeting face-to-face with prospective first-born customers in each stage of the selling process, the salesperson will increase the likelihood of making a sale.

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5 Normative influences are socially supportive and pertain to the need to meet the expectations of others whereas informative influences provide worthwhile information regarding one’s environment (Kirchner, 1971).
On the other hand, later-born generally are independent, self-reliant, and secure as well as possess high self-esteem. Later-born also are non-conforming, unconventional, and non-traditional. Hence, it is less likely later-born prospects will need to meet salespeople face-to-face prior to their presentation. Because later-born tend to be heavier users of technology than first-born (Rink et al., 2013), salespeople should use social media to contact potential later-born buyers instead of traditional communication means (e.g., telephone). In general, later-born are more susceptible to informational influences than normative influences. They also prefer a minimum of suggestion and assistance in decision-making. Thus, salespeople should keep their initial (and subsequent) contacts with possible later-born customers to a minimum, these communications should be primarily information-based, and social media should be used.

PRESENTATION AND DEMONSTRATION

After determining which prospective buyers to target, gathering information on them (including birth order) as well as their companies and industries, and developing an overall sales strategy, the salesperson initiates contact with each prospect using his/her preferred mode of communication based upon birth order. After learning more about the likely customer’s specific product needs, the salesperson prepares and delivers a custom-designed presentation that “persuasively communicate[s] the product’s benefits and … explain[s] appropriate courses of action to the potential buyer” (Zikmund and d’Amico, 1999, p. 567). While the following suggestions apply to the initial face-to-face meeting between the prospect and salesperson as well as presentation, most of these suggestions also apply to those instances where there is no face-to-face meeting between the two parties prior to the presentation.

INITIAL FACE-TO-FACE MEETING/PRESENTATION

Because first-born tend to be responsible and serious, the salesperson should be on time (if not early) for the initial meeting (and any subsequent ones) with a potential first-born buyer. As first-born generally are conservative, traditional, conforming, and conventional as well as achievement-/success-oriented and status-conscious,6 everything about the salesperson's appearance (e.g., hair), clothing (e.g., style), accessories (e.g., jewelry), language, and actions (e.g., mannerisms) at this inaugural meeting (and any subsequent ones) should reflect these characteristics. Standard business attire should be worn at this meeting (and any subsequent ones) with the possible first-born customer. Also, the salesperson's handouts (and presentation) should be formal, conventional, comprehensive, and detailed. Since first-born are organized and prefer structure in their daily lives,7 the salesperson's handouts (and presentation) should be well-structured and organized, as should the preliminary meeting (and any subsequent ones).

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7 For example, see Sampson (1965), Leman (1985), Moore and Cox (1990), Harris and Morrow (1992), Sulloway (1995 and 1996), Jefferson et al. (1998), Paulhus et al. (1999), Hertwig et al. (2002), Rohde et al. (2003), and Healey and Ellis (2007).
Another way the salesperson could appeal to the achievement-/success-orientation and status-consciousness of a first-born prospect is by having handouts (and presentation slides) professionally prepared with special attention given to design, font types, graphics, and colors. Dark colors (e.g., black or purple), which epitomize elegance and sophistication (Sullivan, 2008), should be used. Handouts should be bound in elegant and expensive binders. The company’s name and logo should be emblazoned in gold letters on the front and spine of these binders. In addition, if the salesperson has won company sales awards, been recognized by his/her industry, received advanced sales training at a renowned sales institute, earned professional sales certification, and/or graduated from a major university with a degree in sales, he/she should mention these facts during the initial meeting (and presentation). This and other relevant information should be included in the salesperson’s resume and enclosed in the binder.

First-born also tend to be patient, willing to wait, traditional, and conventional as well as conforming, supportive of authority, and adhere to the rules. Hence, potential first-born buyers are less likely than later-born ones to interrupt a salesperson’s presentation; if they do, it will be less frequently, and the interruption will be shorter in nature. However, as first-born generally are anxious, insecure, worrisome, dependent, cautious, and risk-averse as well as possess low self-esteem, the salesperson can expect significantly more questions from potential first-born customers than their younger siblings after his/her presentation. Likewise, the salesperson can anticipate receiving dramatically more information requests from first-born prospects than later-born ones, which may require him/her to examine a wider variety of sources (Rink, 2010).

On the other hand, later-born tend to be independent, unconventional, self-reliant, non-traditional, nonconforming, unstructured, and non-conservative as well as possess higher self-esteem than their oldest sibling. Later-born usually are less serious, achievement-/success-oriented, and status-conscious than first-born. Later-born prefer a minimum of suggestion and assistance in decision-making. In addition, later-born are more susceptible to informational influences than normative influences. Later-born also are more creative and innovative in their thinking than first-born (e.g., Eisenmann, 1987; Bohmer and Sitton, 1993; Steelman et al., 2002). In general, later-born are more sociable, easy-going, friendly, and out-going than first-born (e.g., Eckstein and Driscoll, 1983, Fullerton et al., 1989; Sulloway, 1995 and 1996; Paulhus et al., 1999).

Given these personality characteristics of later-born, the initial face-to-face meeting (and presentation) with a possible later-born buyer should be relatively informal and slightly less structured than conventional business meetings. Unless notified otherwise, the salesperson should wear standard business attire to the first meeting. (If there is a subsequent meeting, the salesperson should wear business attire similar to that of the later-born prospect.) Everything about the salesperson’s appearance, accessories, language, and actions at the preliminary meeting (and any subsequent ones) with a likely later-born buyer should project the above-mentioned traits.

As later-born are likely to be impatient, independent, and self-reliant as well as possess high self-esteem and prefer a minimum of assistance in decision-making, the salesperson’s presentation should not be as long and/or detailed as that for first-born customers. The presentation itself should focus on major relevant points as the salesperson understands the needs of the later-born prospect. Details corresponding to these major points (and any other

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information the salesperson thinks might be of interest to the possible later-born buyer) should be relegated to handouts. While these handouts (and presentation slides) should be professionally prepared, they do not warrant the same special attention accorded to those for first-born customers. However, they should be prepared and presented in a creative and innovative manner. The salesperson should briefly mention his/her background and professional achievements during the meeting; but, these should not be dwelt upon at length, unless the prospect asks for more information. Because later-born generally are sociable, friendly, and outgoing, the salesperson can anticipate a “friendlier” atmosphere in his/her initial face-to-face meeting (and presentation) with later-born buyers than their oldest siblings.

Later-born typically are undisciplined and impulsive (e.g., Ernst and Angst, 1983; Leman, 1985; Moore and Cox, 1990; Sulloway, 1995 and 1996) as well as impatient and unconventional. Therefore, salespeople can expect more interruptions from such potential customers throughout their presentation than from their first-born counterparts; and each of these will likely be longer in nature. But, after the presentation, salespeople can anticipate dramatically fewer questions from later-born prospects, because they tend to be secure, self-reliant, and independent as well as possess high self-esteem. For these reasons, and since later-born prefer a minimum of suggestion and assistance in decision-making, salespeople can expect to receive significantly fewer information requests from likely later-born buyers than first-born ones (Rink, 2010).

OVERCOMING OBJECTIONS

After deciding which prospective customers to pursue, collecting information on them as well as their firms and industries, formulating an overall sales strategy for each, and delivering a custom-designed presentation, the salesperson must address prospects’ objections and questions. The particular approach adopted by the salesperson to handle these will depend upon many factors, one of which is buyers’ birth order.

In general, first-born are less willing to adopt “new” innovations and prefer the status quo. First-born also tend to be patient, willing to wait, responsible, and dependent. Typically, first-born are cautious, insecure, anxious, and worrisome as well as possess low self-esteem. In addition, first-born are likely to be traditional, conventional, conservative, risk-averse, organized, and structured.

On the basis of these personality traits of first-born, salespeople can anticipate dramatically more resistance to change from first-born customers than later-born ones. For example, first-born prospects are going to be far less likely to give up established supply sources, brands, etc. than their later-born counterparts. Salespeople can also expect significantly more questions and objections as well as requests for additional information and/or analyses from probable first-born buyers than later-born ones. As a result, salespeople can anticipate spending more time with potential first-born customers in this stage than later-born ones.

The fact first-born are suggestible, prefer assistance in decision-making, and are susceptible to normative influences will be advantageous to salespeople. However, they must closely monitor the anxiety level of first-born prospects during this stage. When first-born become anxious or stressed, they want to affiliate with others. Thus, salespeople can expect most, if not all, of the many communications and interactions initiated by first-born buyers to be face-to-face meetings. If possible first-born customers do not receive adequate personal attention, complete answers to their questions, and sufficient additional information and/or
analyses, these prospects may exhibit assertive or aggressive behavior (e.g., Sulloway, 1996; Jefferson et al., 1998; Paulhus et al., 1999; Rohde et al., 2003; Beck et al., 2006). If salespeople are unable or unwilling to effectively meet the affiliative needs of potential first-born buyers or handle the assertive/aggressive behavior of these individuals, it is very unlikely they will successfully navigate this stage of the personal selling process.

On the other hand, later-born tend to be risk-oriented, willing to adopt “new” innovations, impatient, independent, and self-reliant. Later-born also prefer a minimum of suggestion and assistance in decision-making. In addition, later-born are friendly, easy-going, sociable, and outgoing; possess high self-esteem; and are more cooperative and trustful than first-born (e.g., Sulloway, 1996; Courtiol et al., 2009).

Given later-born’s personality profile, prospective later-born customers will be more likely to accept change. In addition, later-born prospects will ask fewer questions, raise less objections, and make fewer requests for additional information and/or analyses than their first-born counterparts. For these reasons, and because the atmosphere for addressing questions and objections of potential later-born buyers will probably be more congenial than that for first-born ones, the salesperson can anticipate spending less time with later-born customers in this stage. However, the salesperson must provide quick and complete responses to later-born prospects’ questions and objections as well as prompt delivery of additional requested information and/or analyses. Otherwise, these buyers are apt to take their business elsewhere.

CLOSING

After overcoming the objections of a potential customer and answering his/her questions, the salesperson “attempts to obtain a commitment to buy from the prospect” (Zikmund and d’Amico, 1999 at 570). Along with other relevant information, knowledge of the likely buyer’s birth order will assist the salesperson in determining the optimal closing method to implement.

Salespeople have a variety of closing techniques from which to select: straightforward—ask for the order; summative close—summarize benefits of buying the product, and then ask for the order; narrow alternatives to a choice—Model A or Model B; get buyer to make minor choices—red or blue; urgency close—limited supply or timeframe; and assumptive close—offer to help write up the order (e.g., Churchill and Peter, 1998; Zikmund and d’Amico, 1999; Kotler and Keller, 2012). If the prospective customer is still reluctant to agree to purchase the company’s product, salespeople can offer these special concessions: price cut, free installation, extra quantity, free service, and trial order (e.g., Kotler and Keller, 2012; Lamb et al., 2013).

In general, first-born are anxious, insecure, worrisome, and cautious. Hence, salespeople can expect significantly more questions as well as additional requests for information and/or analyses from first-born prospects than later-born ones. Because first-born want to affiliate with others when they are anxious, salespeople can anticipate even more communications from and face-to-face meetings with potential first-born buyers than in the previous stage. First-born also tend to be risk-averse, less willing to adopt “new” innovations, and prefer the status quo. Salespeople, therefore, can expect more resistance to change from first-born than later-born customers. For these reasons, and since first-born typically are patient, willing to wait, and dependent, salespeople can anticipate a longer negotiation and closing process with first-born than later-born prospects.

Because first-born tend to be cautious, patient, and risk-averse as well as prefer the status quo and are less willing to adopt “new” innovations, high-pressure sales tactics will probably
prove ineffectual with likely first-born buyers. Thus, the salesperson should not use the “urgency close” technique or “straightforward” approach with first-born customers. Pressuring first-born prospects to purchase a product before they are ready will merely compound the anxiety and stress they are already experiencing, which will probably result in a non-closing event. First-born typically are suggestible and susceptible to normative influences as well as prefer assistance in decision-making. Hence, the assumptive closing technique would probably be the best of the remaining four methods for the salesperson to use with potential first-born buyers. While not quite as advantageous, the last three closing techniques may be viable: “get buyer to make minor choices”, “narrow alternatives to a choice”, and “summative close”.

Since first-born are worrisome, cautious, patient, risk-averse, and willing to wait as well as prefer the status quo and are less willing to adopt “new” innovations, it is possible none of these six closing techniques will motivate a probable first-born customer to purchase the company’s product. However, special concessions like those mentioned previously (e.g., free product trial) may prove successful in closing a sale with first-born prospects. Extra quantity, price cut, and free service would be especially attractive inducements to potential first-born buyers as these represent “more compensation” in exchange for assuming “more risk”.9

Because closing is more stressful for first-born than later-born customers, salespeople should continually observe the anxiety level of first-born prospects. When they become anxious, first-born want to affiliate with others. Therefore, salespeople should meet face-to-face with likely first-born buyers whenever they experience these emotions. If these potential customers feel they are not receiving adequate personal attention, complete answers to their questions, sufficient additional information and/or analyses, and satisfactory price/non-price incentives to offset their perceived risk, these prospects may exhibit assertive or aggressive behavior. Salespeople must be capable of effectively meeting the affiliative needs of likely first-born buyers and/or handling their assertive/aggressive behavior; otherwise, it is very likely salespeople will not make a sale to these individuals.

On the other hand, later-born tend to be self-reliant, independent, non-traditional, and unconventional. They also possess high self-esteem as well as prefer a minimum of suggestion and assistance in decision-making. Therefore, during the negotiation and closing process, the salesperson can expect fewer questions, less additional requests for information and/or analyses, and fewer communications and interactions (especially face-to-face meetings) from possible later-born customers than first-born ones.

Since later-born tend to be impatient, salespeople should provide prompt answers to their questions as well as quick delivery of requested additional information and/or analyses. Because later-born are also risk-oriented and more willing to adopt “new” innovations, salespeople can anticipate less resistance to change from later-born prospects. In general, later-born are friendly, easy-going, sociable, and out-going. As a result, salespeople can expect a “friendlier” atmosphere in the negotiation and closing process for potential later-born buyers than that of their oldest counterparts. Similarly, and since later-born are more cooperative and trustful than first-born, salespeople can anticipate spending less time with probable later-born customers in this stage than first-born ones.

Later-born usually are self-reliant and independent as well as prefer a minimum of suggestion and assistance in decision-making. As a result, salespeople probably should not use

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9 In a laboratory experiment, Morgan (2009) found first-born were significantly more patient and willing to wait to receive a higher payout than later-born. However, first-born required more compensation if they were going to assume more risk.
these four closing techniques on later-born prospects: “assumptive close”, “narrow alternatives”, “get buyer to make minor choices”, and “urgency close”. Later-born prospects might feel offended or insulted if a salesperson used any of these closing methods. In addition, later-born are impatient, risk-oriented, and open to “new” innovations as well as possess high self-esteem. The “straightforward approach”, therefore, would likely be the better of the two remaining closing techniques for the salesperson to use with possible later-born buyers. “Summative close” may also be a viable closing technique. However, since later-born tend to be impatient, the salesperson should summarize the benefits of buying the company’s product in a relatively short period of time; otherwise, the later-born prospect may not agree to purchase the product.

Given the above-mentioned personality characteristics of later-born, none of the six closing techniques may persuade a potential later-born customer to purchase the company’s product. Special concessions (e.g., free product trial), however, might prove successful in closing a sale with such prospects. But, salespeople probably do not have to offer the same price discount and/or number of non-price incentives to possible later-born buyers as they had to first-born ones in order to convince them to purchase the same product.

FOLLOW-UP AND MAINTENANCE

At this point in the personal selling process, the salesperson has closed a sale. Through negotiation, the salesperson was able to reach a mutually beneficial arrangement with a new customer regarding price, product, services (e.g., employee training), and other items important to the buyer. If the salesperson hopes to turn this new client into a repeat customer, follow-up and maintenance become critical. The magnitude and timing of this follow-up and maintenance will depend upon several factors, one of which is the buyer’s birth order.

In general, first-born are anxious, worrisome, insecure, and dependent as well as possess low self-esteem. Salespeople, therefore, can expect to spend considerably more time with first-born customers after their purchase than later-born buyers. Salespeople can also anticipate dramatically more communications and interactions initiated by first-born clients, especially requests for face-to-face meetings, than later-born ones during this stage.

Because first-born tend to be anxious, worrisome, insecure, and dependent as well as possess low self-esteem, first-born buyers will experience significantly higher post-purchase dissonance than their later-born counterparts. Lacking a reference point for evaluating their emotional state, first-born customers will want to affiliate with others. Also, it is crucial first-born clients receive affirmation as soon as possible after their purchase. First-born buyers’ needs for affiliation and affirmation are substantial. For these reasons, the salesperson should meet face-to-face with first-born customers to address their affiliative and confirmation needs (as well as subsequent follow-up and maintenance needs). If first-born clients do not receive prompt, personal, and sufficient attention, they may exhibit assertive or aggressive behavior. If the salesperson is unable or unwilling to effectively meet the affiliative and affirmation needs (as well as subsequent follow-up and maintenance needs) of first-born buyers and/or handle their assertive/aggressive behavior, it is unlikely these first-born customers will be repeat purchasers.

On the other hand, later-born generally are self-reliant, secure, and independent as well as possess high self-esteem. Thus, salespeople can expect to spend dramatically less time with later-born clients after their purchase than their oldest siblings. Salespeople can also anticipate significantly fewer communications and interactions initiated by later-born buyers, especially face-to-face meetings, than first-born ones. Because later-born prefer a minimum of suggestion
and assistance in decision-making, salespeople should keep their communications with later-born customers to a minimum. As later-born are more susceptible to informational influences than normative influences, salespeople’s communications with later-born clients should be primarily information-based and utilize social media as their vehicle.

Since later-born tend to be self-reliant, secure, and independent as well as possess high self-esteem, later-born buyers will experience significantly less post-purchase dissonance than first-born ones. Hence, they will require little, if any, confirmation of their purchase. If later-born customers do seek purchase affirmation, they will consult a few close friends. But, this confirmation will not be crucial for their post-purchase dissonance reduction (Rink, 2010). Any follow-up and maintenance communications initiated by the salesperson with later-born buyers should be information-based, be kept to a minimum, and use social media. If later-born customers have any questions or problems, they will contact the salesperson. Because later-born are impatient, if there is some problem arising from product purchase, use, etc., the salesperson must resolve this problem as soon as possible to the complete satisfaction of later-born buyers; otherwise, they will probably not be repeat customers.

**LIMITATIONS**

A variety of factors in the family environment interact with one another, and an individual’s birth order, to create a unique personality for each sibling. Only those antecedent variables having a major potential impact upon the personal selling process (e.g., parent’s child-rearing experience) were discussed in this paper. Other moderating variables worthwhile considering include: family size, age spacing of siblings, birth order of parents, gender configuration of siblings, existence of split family (e.g., step-dad), age cohort, and social class (e.g., Toman, 1976; Ernst and Angst, 1983; Leman, 1985; Sulloway, 1996).

Birth order researchers have not investigated middle-born and only children as extensively as first-born and later-born. What research has been conducted has generally found that the personality traits of middle-born and only children resemble those of later-born and first-born, respectively. Therefore, for purposes of this paper, middle-born were incorporated with later-born, and only children with first-born.

The suggestions contained within this paper apply primarily to long-term relationships between customers and salespeople that involve relatively large sums of money (e.g., manufacturer selling his/her product to a merchant wholesaler) instead of one-time, or short-term, interactions involving significantly smaller sums (e.g., sales associate selling a watch to a final consumer in a retail store). In addition, these recommendations relate principally to those instances where salespeople are interacting with only one customer as opposed to several (e.g., buying center). However, if the buying center has one designee who interacts with salespeople on behalf of the remaining members, then most of these suggestions are probably still appropriate. Finally, these recommendations relate to those situations where salespeople visit the possible customer’s place of business—not vice versa, which usually occurs in the real estate industry with regard to average- or lower-priced personal residences. But, if a realtor approached a “major” potential buyer with a “high end” property to sell, whether residential or commercial, then many, if not most, of these suggestions may still apply.

10 For example, see Arnstein (1978), Kidwell (1982), Leman (1985), Nyman (1995), Sulloway (1996), Paulhus et al. (1999), Hertwig et al. (2002), Rohde et al. (2003), Saroglou and Fiasse (2003), Lampi and Nordblom (2009), Wang et al. (2009), and Lampi and Nordblom (2010).
CONCLUSION

Birth order provides unique and useful insight into an individual’s personality. Numerous studies have confirmed the existence of differential personality traits between first-born and later-born. When combined with other information, customers’ birth order will enable salespeople to develop and implement sales strategies and programs better attuned to their personalities. Specific suggestions for using birth order to create a more customized sales experience for buyers are discussed for each stage in the personal selling process.

Since parents lack child-rearing experience with their first offspring, they transfer their anxieties and insecurities to their initial child. As a result, first-born generally are anxious, risk-averse, worrisome, cautious, dependent, and insecure as well as possess low self-esteem, prefer assistance in decision-making, and prefer the status quo. When they become anxious, first-born want to affiliate with others. Salespeople, therefore, can expect to spend dramatically more time with first-born prospects than later-born ones throughout the sales process. First-born customers want to communicate frequently with salespeople, preferably in face-to-face meetings.

First-born tend to be conservative, traditional, conventional, organized, structured, achievement-/success-oriented, and status-conscious. Thus, everything about the salesperson’s appearance, clothing, language, actions, etc. as well as handouts, presentation, and meetings should reflect these characteristics. For example, the salesperson’s handouts and presentation slides should be well-structured and organized as well as professionally prepared. Printed materials should be bound in elegant, expensive binders.

Since first-born are insecure, worrisome, risk-averse, and anxious, salespeople can anticipate significantly more questions, objections, and requests for additional information and/or analyses from potential first-born than later-born buyers. If first-born prospects do not receive adequate personal attention, complete answers to their questions, and sufficient additional information and/or analyses, they may become assertive or aggressive. Salespeople must be capable of effectively meeting the affiliative needs and handling the assertive/aggressive behavior of prospective first-born customers; otherwise, it is unlikely they will make a sale.

First-born are cautious, patient, and less likely to adopt “new” innovations as well as prefer the status quo. Hence, they will exhibit more resistance to change than their younger counterparts. Although first-born are suggestible and prefer assistance in decision-making, their personality make-up warrants low-pressure sales tactics (e.g., assumptive close) instead of high-pressure methods. As a result, the negotiation and closing process will be longer for possible first-born buyers than later-born ones.

Given the above-mentioned personality traits of first-born, salespeople can expect that first-born customers will experience significantly higher post-purchase dissonance than their younger siblings. When first-born become anxious, they want to affiliate with others. Also, it is crucial first-born buyers receive confirmation as soon as possible after their purchase. First-born customers’ needs for affiliation and affirmation are substantial. For these reasons, salespeople should meet face-to-face with first-born buyers to address their affiliative and confirmation needs (as well as subsequent follow-up and maintenance needs). If this is not done, these customers may become assertive or aggressive. Salespeople must be capable of dealing with such behavior; otherwise, it is unlikely these first-born buyers will be repeat purchasers.

On the other hand, because parents have child-rearing experience by the time subsequent offspring arrive, later-born tend to be self-reliant, secure, and independent as well as possess
high self-esteem. Salespeople, therefore, can anticipate spending dramatically less time with later-born prospects than first-born ones throughout the personal selling process. Later-born customers will initiate far fewer communications with salespeople, including face-to-face meetings, than first-born ones.

In addition, later-born generally are non-conservative, unconventional, and non-traditional. They also are less serious, formal, structured, achievement-/success-oriented, and status-conscious than first-born. Further, later-born are sociable, easy-going, creative, and innovative in their thinking. Everything about the salesperson's appearance, clothing, language, actions, etc. as well as handouts, presentation, and meetings should project these characteristics.

Later-born typically are self-reliant and independent, possess high self-esteem, and prefer a minimum of suggestion or assistance in decision-making. Hence, salespeople can expect fewer questions, objections, and requests for additional information and/or analyses from possible later-born buyers. However, since first-born tend to be impatient, salespeople should provide prompt answers to their questions and quick delivery of additional requested information and/or analyses. Because later-born also are risk-oriented and willing to adopt "new" innovations, salespeople can expect less resistance to change from later-born customers. As a result, simply asking for the order may be the most viable closing technique for salespeople to use with later-born prospects. Thus, the negotiation and closing process will be shorter with later-born buyers than their oldest siblings.

Because of the personality traits of later-born, salespeople can anticipate that later-born customers will experience dramatically less post-purchase dissonance than their first-born counterparts. Later-born buyers, therefore, will require little, if any, confirmation of their purchase. Hence, salespeople can expect to spend significantly less time with later-born clients after their purchases than first-born ones. Any follow-up and maintenance communications initiated by salespeople to later-born customers should be information-based, be kept to a minimum, and utilize social media.

Birth order has a significant influence upon the development of an individual’s personality. When combined with other information, customers’ birth order will enable salespeople to develop and implement sales strategies and programs better attuned to their personalities. This should improve the likelihood of making a sale as well as increase customer satisfaction and retention.

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**AUTHOR**

David R. Rink is a Professor of Marketing at Indiana University Kokomo. He can be contacted at the School of Business, Indiana University Kokomo, 2300 South Washington Street, Kokomo, IN 46902 USA. Email: drink@iuk.edu.
A BROADER PERSPECTIVE OF EMOTIONAL LABOR AND ITS IMPACT ON LICENSED FUNERAL DIRECTORS

J. R. Smith*
Jackson State University

Kimberly M. Dean-Dorsey
Mississippi University for Women

Alisa L. Mosley
Tennessee State University

Joann White
Jackson State University

ABSTRACT

This study addresses the emotive dissonance and emotive effort dimensions of emotional labor and their relationships to the emotional exhaustion, depersonalization, personal accomplishments and job satisfaction consequences of emotional labor using licensed funeral directors as sample respondents. The final sample size for data analysis was 111 licensed funeral directors who were administered a structured face-to-face survey. Study hypotheses relating to the dimensions and consequences of emotional labor were formulated and tested using multiple regression analysis. Emotive dissonance as hypothesized resulted in higher levels of emotional exhaustion. An inverse relationship resulted with higher levels of emotive effort indicating lower levels of depersonalization. No support was revealed for hypothesized higher levels of emotive dissonance being indicative of lower levels of job satisfaction; and higher levels of emotive effort resulting in higher levels of job satisfaction. Study limitations are delineated and avenues for future research are advanced.

INTRODUCTION

Although death is inevitable, it is a topic that people normally avoid addressing. However, workers employed in the funeral services industry deal with death on a daily basis as a profession. It is one of the few industries that survive as a result of death. In addition to the physical labor requirements of the job (e.g. removal of the deceased, embalming), the licensed funeral director is also required to perform emotional labor. As one of his greatest tasks, he shoulders the responsibility of comforting the bereaved as they prepare to make final arrangements for their loved ones. In this capacity, the licensed funeral director is expected to appear understanding, sympathetic, and somber about his potential clients’ loss. Although his experienced personal emotions may not match the expected job related emotions, by displaying the expected emotions, the funeral director aspires to encourage the bereaved to entrust the care of their loved one to his establishment.

This requirement to invoke or suppress personal emotions (feelings) in order to display
appropriate job related emotions in an attempt to yield desired customer responses, is called emotional labor (Hochschild, 1983). Hochschild specified jobs involving emotional labor are defined as those that:

a. Require face-to-face or voice-to-voice contact with the public
b. Require the worker to produce an emotional state in another person
c. Allow the employees to exercise a degree of control over their emotional activities (Alias, 2013:165).

In examining the emotional labor theory, researchers have considered a wide array of occupations, including flight attendants (Hochschild, 1983; Kinman, 2009), table servers (Adelmann, 1989), Disneyland employees (Van Maanen and Kunda, 1989), cashiers (Rafaeli and Sutton, 1987; Rafaeli, 1989; Tolich, 1993), bank employees, hospital workers (Wharton, 1993; Bolton, 2001; Mazhindu, 2009; Stayt, 2009); hotel employees (Kim, 2008; Hwa, 2012) and retail customer services (Rafaeli and Sutton, 1990; McCance, Nye, LuWang and Chiu, 2013), the majority of which require workers to behave exceptionally enthusiastic. A fair amount of data-based research studies have addressed emotional labor surrounding death and funeral service business within the last decade (Brady, 2009; Maziarz, 2009; Stayt, 2009; Bailey, 2010; Bailey, Murphy and Porock, 2011; Fox, 2011; Pruitt, 2012; Scott, Barnes and Wagner, 2012). What are the effects of emotional labor in an occupation where the clients and workers are interacting over what is described as the most emotion invoking aspect of life - death (Lofland, 1982; Gentry, Kennedy, Paul, and Hill, 1995; Stayt, 2009)?

REVIEW OF THE THEORETICAL AND EMPIRICAL LITERATURE

EMOTIONAL LABOR

Until recently, emotional labor was an unacknowledged, yet effort intensive, skill intensive, and productive part of a service worker's job (Morris and Feldman, 1996; Steinberg and Figart, 1999; Bono and Vey, 2005; Geddes and Callister, 2007; Humphrey, Pollack and Hawver, 2008; Judge, Woolf and Hurst, 2009; De-Chih Lee, Hung and Huang, 2012; Humphrey, 2012). Measurements reveal that three-fourths of the U.S. gross national product (GNP) and nine out of every ten newly created jobs are service related (Zeithaml, Parasuraman, and Berry, 1990). Deregulation and increased competition in service industries have led to an amplified interest in the emotional conduct of service workers (Zeithaml, et al., 1990; Schneider and Bowen, 1995). Organizations have begun to realize the impact of the emotional effectiveness of the workers who come in contact with the clients. It is upon the effectiveness of these emotional laborers that clients base their perceptions of the organization's service quality (Bowen and Schneider, 1989; Mastracci, 2011).

Emotional labor jobs require face-to-face or voice-to-voice contact with the public; they require the worker to produce an emotional state in another person - gratitude or trust, for example; and they require the management or control of personal emotions, whether self-supervised or supervised by a manager. Hochschild (1983) acknowledged that in true professions (e.g. doctors, lawyers, social workers) workers supervise their own emotional labor by considering professional norms and client expectations. Hochschild (1983) chose to exclude such occupations from her studies of emotional labor, focusing solely on jobs where the employer exerts some control over the workers' emotional performance. Licensed funeral directors, the sample selected for this study, are among the types of
workers that Hochschild chose to exclude. Rather than their emotional performance being controlled by an employer, funeral directors are expected to consider professional norms and client expectations and respond accordingly.

Service workers perform emotional labor in one of three ways: surface acting, passive deep acting, or active deep acting (Hochschild, 1983; Ashforth and Humphrey, 1993; Kruml and Geddes, 2000a). Surface acting occurs when workers' experienced and expected emotions are incongruent and the workers display the expected emotions by changing their outward appearances and behaviors (Hochschild, 1979, 1983; Ashforth and Humphrey, 1993; Grandey, 1998; Kruml and Geddes, 2000a; Zerbe, 2000; Brotheridge and Grandey, 2002; Brotheridge and Lee, 2002; Zapf, 2002; Grandey, 2003). Passive deep acting occurs when workers genuinely feel the expected emotions. In this instance, the experienced and expressed emotions are identical and no acting is necessary for the appropriate display (Ashforth and Humphrey, 1993; Kruml and Geddes, 2000a). Finally, active deep acting occurs when workers do not feel the expected emotions and as a result, use training or personal experience to help invoke the appropriate emotions within themselves. In this case, workers do not initially feel the expected emotions, but manage to conjure up the appropriate emotions and display them (Hochschild, 1979, 1983; Ashforth and Humphrey, 1993; Brotheridge and Grandey, 2002; Brotheridge and Lee, 2002; Grandey, 2003).

**DIMENSIONS OF EMOTIONAL LABOR**

Emotional labor was originally thought to be a unidimensional construct titled emotive dissonance and described as the conflict between experienced and expressed emotions (Hochschild, 1983). It occurs when the worker's internal or "true" feelings collide with the emotional expressions expected or required for the work role (Hochschild, 1979, 1983; Rafaeli and Sutton, 1987; Middleton, 1989; Abraham, 1998a, 1998b, 1999). Many of the emotional labor researchers (Rafaeli and Sutton, 1987; Adelmann, 1989; Sutton, 1991; Wharton, 1993; Ashkanasy, 1996; Abraham, 1998a, 1998b, 1999; Zerbe, 2000) have concentrated their research efforts on this construct, examining only one dimension. Incidentally, this one dimension only captures two of the three ways that emotional labor can be performed - surface acting and passive deep acting. While Morris and Feldman (1997) contend that emotional labor consists of three dimensions, they too manage to capture only surface and passive deep acting, omitting active deep acting, which relates to the individual effort the service worker exerts to display appropriate emotions. Kruml and Geddes' (2000a) two-dimensional construct appears to be the only empirically derived model that captures all of the ways that emotional labor is performed.

The emotive dissonance dimension captures surface and passive deep acting, while the emotive effort dimension captures active deep acting. The purpose of this study is to examine emotional labor, employing this view of emotional labor as a two-dimensional construct. It is the intent of this study to examine the relationships between the dimensions and the outcomes of emotional labor among licensed funeral directors. Hochschild (1983) suggests that the extent to which workers surface act, active deep act, or passive deep act, in other words, the extent to which they experience emotive dissonance or emotive effort, will influence their outcomes. Consequences often associated with the dimensions of emotional labor include depersonalization, diminished personal accomplishment, emotional exhaustion, and job satisfaction.

**ORGANIZATIONAL CONSEQUENCES OF EMOTIONAL LABOR**

*Emotional exhaustion* is the outcome most associated with emotional labor and is characterized by
feelings of being emotionally overextended due to the work role (Maslach, Jackson, and Leiter, 1996). Prior research has offered conflicting findings regarding emotional labor and emotional exhaustion. Though Hochschild (1983) contends that deep acting will result in emotional exhaustion, more recent scholars claim that emotional exhaustion is positively related to surface acting and dissonance (Ashforth and Humphrey, 1993; Morris and Feldman, 1997; Kruml, 1999).

Depersonalization is characterized by unsympathetic and impersonal responses toward recipients of one's service or care (Maslach et al., 1996) and is related to surface acting and emotive dissonance (Hochschild, 1983; Kruml, 1999). Workers experiencing depersonalization are likely to emotionally distance themselves from customers, changing only their outward expression to meet the emotional requirements of the job.

Personal accomplishment is synonymous with feelings of competence and successful achievement in one's work (Maslach et al., 1996). It is expected that the licensed funeral directors who are able to display genuine emotions to clients (through passive or deep acting), will experience more emotive effort, and as a result, feel a great sense of personal accomplishment.

Job satisfaction, an assessment of how pleased an individual is in his work role (Locke, 1976), has also been examined repeatedly. Studies investigating the existence or frequency of emotional labor required in a job reveal a positive relationship between emotional labor and job satisfaction (Adelmann, 1995; Morris and Feldman, 1997). Alternatively, there is evidence indicating a negative relationship between emotive dissonance and job satisfaction (Rutter and Fielding, 1988; Morris and Feldman, 1997; Abraham, 1998a; Zapf, Vogt, Seifert, Mertini, and Isic, 1999).

The adverse outcomes of emotional labor on employees ultimately bring about adverse consequences for the organization. Though emotional labor is a profitable element of a service worker's job (Hochschild, 1983; James, 1989, 1992; Morris and Feldman, 1996; Steinberg and Figart, 1999; Bolton, 2001), unless it is performed in the most efficient manner, what is to be organizationally profitable can eventually lead to increased organizational costs. The outcomes most often associated with emotional labor—depersonalization, diminished personal accomplishment, and emotional exhaustion—have been found to have extenuating effects on the worker's attendance, work attitudes, and commitment to the organization (Maslach and Jackson, 1981; Jackson, Schwab, and Schuler, 1986; Firth and Britton, 1989; Babakus, Cravens, Johnston, and Moncrief, 1999). To combat the likelihood of these consequences on employees and the organization, it is imperative that organizations promote utilizing the method of emotional labor dimension that will weaken the adverse outcomes.

Maslach and Jackson (1981) discovered that higher levels of depersonalization among emotional laborers resulted in absenteeism. Firth and Britton (1989) revealed depersonalization as a predictor of job turnover. Like depersonalization, emotional exhaustion has also surfaced as a predecessor of absenteeism and turnover. Jackson et al. (1986) reported that job turnover occurred within 12 months of self-reported feelings of emotional exhaustion among schoolteachers. Firth and Britton (1989) found emotional exhaustion to be associated with total time off sick. Emotional exhaustion has been linked to diminishing organizational commitment (Babakus et al., 1999) and intent to leave (Boles, Johnston, and Hair, 1997). Results have shown that when two or more of these adversities are high, (e.g. excessive absenteeism and job turnover) increases in organizational costs are to be expected (Mowday, Porter, and Steers, 1982). In light of these studies, one might deduce that organizational intervention leading to the reduction or avoidance of the negative outcomes of emotional labor would have an immense bearing on the success of an organization.

The various ways that service workers can perform emotional labor gave rise to two dimensions:
emotive dissonance (surface and passive deep acting) and emotive effort (active deep acting) (Kruml and Geddes, 2000a). The literature appears to be void of studies examining emotional labor using the two-dimensional model since the revelation of the second dimension - emotive effort. This study seeks to discern the dimension of emotional labor that may yield the least detrimental outcomes among licensed funeral directors. The expected implications include educational (e.g. mortuary school) or organizational (e.g. staff developments and apprenticeships) training of employees on "the best way to act", improved psychological well-being of emotional laborers, and minimization of organizational costs associated with employee absenteeism, and turnover.

**PURPOSE OF STUDY**

A research void in the emotional labor literature is the lack of research efforts directed toward discerning the relationships between dimensions (emotive dissonance and emotive effort) and consequences (emotional exhaustion, depersonalization, personal accomplishments and job satisfaction) of emotional labor focusing on the funeral services industry. This research effort purports to be at the preliminary stage toward bridging the gap.

The purpose of this data-based study is two fold:
1. To examine the relationships between the dimensions and consequences of emotional labor among licensed funeral directors.
2. To determine if the dimensions and consequences of emotional labor among licensed funeral directors reflect study results reported in prior researched service occupations advanced in the literature.

**RESEARCH QUESTIONS AND HYPOTHESES**

The major research question that guides this study is:

What are the relationships between the dimensions (emotive dissonance and emotive effort) and consequences (emotional exhaustion, depersonalization, personal accomplishment, and job satisfaction) of emotional labor among licensed funeral directors?

The supporting questions to be addressed are:

- Are licensed funeral directors more likely to operate on the emotive effort dimension (active deep acting) than the emotive dissonance dimension (surface and passive deep acting)?
- Do licensed funeral directors on the emotive effort dimension experience fewer adverse effects of emotional labor than those on the emotive dissonance dimension?

Previous studies of service workers in more enthusiastic roles reveal that those who employ surface acting or passive deep acting are likely to experience emotional dissonance and suffer adverse personal and professional outcomes (Hochschild, 1983; Ashforth and Humpey, 1993; Ashforth and Humphrey, 1995; Morris and Feldman, 1997; Brotheridge and Lee, 1998; Kruml, 1999; Zapf, et al., 1999; Kruml and Geddes 2000b). Conversely, service workers utilizing active deep acting exert more emotive effort and are more likely to experience positive rather than adverse personal and professional outcomes (Kruml and Geddes, 2000b).
In this study, the independent variables are emotive dissonance and emotive effort. The dependent variables are emotional exhaustion, depersonalization, personal accomplishment, and job satisfaction. (A visual depiction of the proposed model is presented in Figure 1). Building on the
aforementioned research findings and applying the two-dimensional model of emotional labor, the current study will test the following hypotheses:

**Emotional Exhaustion**

Hypothesis 1a: The higher the level of emotive dissonance, the higher the level of emotional exhaustion.

Hypothesis 1b: The higher the level of emotive effort, the lower the level of emotional exhaustion.

**Depersonalization**

Hypothesis 2a: The higher the level of emotive dissonance, the higher the level of depersonalization.

Hypothesis 2b: The higher the level of emotive effort, the lower the level of depersonalization.

**Personal Accomplishment**

Hypothesis 3a: The higher the level of emotive dissonance, the lower the level of personal accomplishment.

Hypothesis 3b: The higher the level of emotive effort, the higher the level of personal accomplishment.

**Job Satisfaction**

Hypothesis 4a: The higher the level of emotive dissonance, the lower the level of job satisfaction.

Hypothesis 4b: The higher the level of emotive effort, the higher the level of job satisfaction.

**METHOD**

**THE SAMPLE**

The method of data collection selected for this cross-sectional study is passive observation via face-to-face surveys. According to Salant and Dillman (1994), when surveying populations who are not very likely to respond willingly by mail, surveys in which the respondent has one-on-one contact with the interviewer offer enormous advantages. Face-to-face surveys yield incomparable response rates, best allow for the use of lengthy questionnaires, and collect the most accurate data. In the study, licensed funeral directors responded to a suitable instrument, measuring their levels of emotive dissonance and emotive effort, as well as the consequences deemed to be associated with these variables.

The target population for the study was licensed funeral directors who are currently employed across a “deep south” southern state. This population was selected because researchers have consistently ignored the funeral services industry (Saunders, 1991; Goldenhar, Gershon, Mueller, and Karkasian, 2001). The occupational requirements of licensed funeral directors often call for interaction with extremely emotional clients. Depending on the situation, clients may be aggressive or passive dependent (Cordes and Dougherty, 1993). The emotional expectations of licensed funeral
directors, including the authentic display of concern, understanding, and solemnity, are in extreme contrast to the emotional expectations of the subjects in the majority of emotional labor studies.

For this study, employing two independent variables, a .05 significance level, and calls for a probability power of .80, a sample of 100 respondents will detect suitable $R^2$ values of 10 percent or greater. When a representative sample of this size is reached, the result should be generalizable for managerial significance (Hair, Black, Babin, Anderson, and Tatham. 2006:236).

The number of sample respondents selected for this study was 125. Fourteen refused to participate. Hence, the ultimate sample size for data analysis was 111 sample respondents. The study sample was comprised of forty-nine (44.1%) African-American and sixty-two (55.9%) Caucasian licensed funeral directors. Twenty (18.0%) were females and ninety-one (82.0%) were males. The mean age of sample respondents was 48, with a minimum age 23 and maximum age 77. With respect to marital status, seven (6.3%) were single, eighty-two (73.9%) married, seventeen (15.3%) divorced and five (4.5%) widowed.

A directory of the state's licensed funeral homes served as the list frame and systematic sampling was utilized to select the sample. In this study, a licensed funeral director from each funeral home selected through systematic sampling was contacted by phone to obtain agreement to participate in the study and subsequently to negotiate a date and time for the face-to-face survey. During the survey process, the questions from the previously discussed instrument were presented in pre-coded form, thereby ensuring that the answers to the questions were recorded in a standardized procedure across the sample.

**SURVEY INSTRUMENT**

Each variable under study was measured using previously developed multi-item scales. Nunnally (1978) maintains that a reliability coefficient (e.g. Cronbach alpha) of .70 or greater is acceptable and sufficient for research. The scales measuring three of the four outcomes in this study (emotional exhaustion, depersonalization, and personal accomplishment) have been proven to show acceptable levels of reliability. However, the two-dimensional model of emotional labor is a relatively new concept with new scales for each dimension. According to Nunnally and Bernstein (1994), in the early stages of construct validation, it is fitting to use instruments with only modest reliability scores. Therefore, the new emotive dissonance and emotive effort scales used in this study bear suitable reliability coefficients slightly below .70.

The independent variables, emotive dissonance and emotive effort, was measured using scales developed by Kruml and Geddes (2000a) during the discovery of the two-dimensions of emotional labor. The Maslach Burnout Inventory [(MBI) (Maslach, et al., 1996)] was used to measure three of the dependent variables. The MBI is composed of 22 items that form three subscales-emotional exhaustion, depersonalization, and personal accomplishment. It has a reasonably high test-retest reliability, as well as internal consistency, and convergent validity (Maslach and Jackson, 1981). Favorable results concerning the concurrent and predictive validities of the MBI have been documented in several studies (Maslach, 1976; Pines and Kafry, 1978; Maslach and Jackson, 1979 and 1981; Iwanicki and Schwab, 1981; Gold, 1984; Rafferty, Lemkau, Purdy, and Rudisill, 1986; Green and Walkey, 1988; Lee and Ashforth, 1996). The remaining dependent variable, job satisfaction, was measured with the Hackman and Oldham (1975) General Job Satisfaction subscale of the Job Diagnostic Survey.
RESULTS

STATISTICAL ANALYSES

Multiple regression analysis was employed to test the hypotheses for this study. This multivariate technique is necessary because the proposed model identifies two dimensions of emotional labor that are related to particular outcomes.

The emotive dissonance and emotive effort scales are recently developed measures that are in the early stages of establishing validation. Therefore, it is appropriate to reassess their levels of reliability after testing a new sample. Cronbach's alpha was used to verify the internal consistency of these scales. This composite reliability coefficient evaluates multiple items that form a scale designed to measure a single construct and determines the degree to which all the items are measuring the same construct (Nunnally, 1978; Hair, et al., 2006). SPSS statistical software was utilized to conduct the multiple regression analyses and reliability tests.

RELIABILITY ANALYSIS

The scales measuring the outcomes in this study- emotional exhaustion, depersonalization, personal accomplishment, and general job satisfaction-have been proven to show acceptable levels of reliability. However, the two-dimensional model of emotional labor is a relatively new concept with new scales for each dimension. Therefore, it was appropriate to conduct a factor analysis to ensure that the scale items loaded as expected to reassess the scales' levels of reliability after testing the new sample. Cronbach's alpha was used to verify the internal consistency of these scales.

The factor analysis was conducted before testing the hypotheses. Kruml and Geddes (2000b) utilized the emotive effort scale shortly after construction, reporting a reliability coefficient of $\alpha = .66$. The internal consistency for this scale was also reassessed after testing the sample of licensed funeral directors in this study. This test revealed a reliability coefficient of $\alpha = .77$.

TESTING OF HYPOTHESES

The assertion of Hypothesis 1a is that emotive dissonance is positively related to emotional exhaustion. Hypothesis 1b asserts that emotive effort is inversely related to emotional exhaustion. The results of the multiple regression analysis reveal that the linear combination of the independent variables is significantly related to the outcome variable, emotional exhaustion ($F = 7.992; p = .001$). The $R^2 = .129$, which indicates that 12.9% of the variance in emotional exhaustion can be accounted for by the dimensions of emotional labor. There is strong support for Hypothesis 1a. The more emotive dissonance licensed funeral directors experience, the more likely they will be emotionally exhausted ($b = 2.758; t = 2.154; p < .05$). Although emotive effort is a significant predictor of emotional exhaustion, the positive beta coefficient indicates that the direction of this relationship is not as hypothesized. While an inverse relationship was hypothesized, the results reveal a significant positive relationship between emotive effort and emotional exhaustion ($b = 3.979, t = 3.288; p = .001$). This implies that for licensed funeral directors, emotional exhaustion increases as emotive effort increases. Therefore, Hypothesis 1b was not supported. (Summary Findings of Tested Hypotheses are presented in Table 1).
TABLE 1
Summary Findings of Tested Hypotheses

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a: The higher the level of emotive dissonance, the higher the level of</td>
<td>Supported; Significant positive relationship found.</td>
</tr>
<tr>
<td>emotional exhaustion.</td>
<td>( b = 2.758; p &lt; .05 )</td>
</tr>
<tr>
<td>H1b: The higher the level of emotive effort, the lower the level of</td>
<td>Not supported; Significant positive relationship found.</td>
</tr>
<tr>
<td>emotional exhaustion</td>
<td>( b = 3.979; p = .001 )</td>
</tr>
<tr>
<td>F = 7.992; ( p = .001 ); ( R^2 = 12.9% )</td>
<td></td>
</tr>
<tr>
<td>H2a: The higher the level of emotive dissonance, the higher the level of</td>
<td>Not supported; No significant relationship.</td>
</tr>
<tr>
<td>depersonalization</td>
<td>( b = -.059; p = .552 )</td>
</tr>
<tr>
<td>H2b: The higher the level of emotive effort, the lower the level of</td>
<td>Supported; Significant inverse relationship found.</td>
</tr>
<tr>
<td>depersonalization</td>
<td>( b = -.216; p &lt; .05 )</td>
</tr>
<tr>
<td>H3a: The higher the level of emotive dissonance, the lower the level of</td>
<td>Not supported; No significant relationship.</td>
</tr>
<tr>
<td>personal accomplishment</td>
<td>( b = .212; p = .776 )</td>
</tr>
<tr>
<td>H3b: The higher the level of emotive effort, the higher the level of</td>
<td>Not supported; Significant inverse relationship found.</td>
</tr>
<tr>
<td>personal accomplishment</td>
<td>( b = -.1757; p &lt; .05 )</td>
</tr>
<tr>
<td>H4a: The higher the level of emotive dissonance, the lower the level of</td>
<td>Not supported; No significant relationship.</td>
</tr>
<tr>
<td>job satisfaction</td>
<td>( b = -.875; p = .885 )</td>
</tr>
<tr>
<td>H4b: The higher the level of emotive effort, the higher the level of</td>
<td>Not supported; No significant relationship.</td>
</tr>
<tr>
<td>job satisfaction</td>
<td>( b = -.074; p = .071 )</td>
</tr>
</tbody>
</table>

It is the prevision of Hypothesis 2a that emotive dissonance is positively related to depersonalization. The data analysis failed to reveal the existence of this relationship. There is, however, support for Hypothesis 2b, which predicts an inverse relationship between emotive effort and depersonalization. According to the data analysis, as emotive effort increases, feelings of depersonalization decrease (\( b = -.216; t = -2.293; p < .05 \)).

The multiple regression analysis revealed a significant relationship between the linear combination of the dimensions of emotional labor—emotive dissonance and emotive effort—and personal accomplishment (\( F = 3.152; p < .05; R^2 = .055 \)). However, while Hypotheses 3a hypothesized an inverse relationship between emotive dissonance and personal accomplishment, the multiple regression analysis failed to indicate that this relationship exists. Thus, Hypothesis 3a is not supported. Hypothesis 3b predicts a positive relationship between emotive effort and personal accomplishment. Although emotive effort is significantly correlated with personal accomplishment, the direction of the relationship is the opposite of that hypothesized. Consequently, Hypothesis 3b is also not supported.

Hypothesis 4a predicted that emotive dissonance is inversely related to job satisfaction, while Hypothesis 4b predicted that emotive effort is positively related to job satisfaction. The multiple regression analysis failed to reveal that either of these relationships exists. Therefore, neither of these hypotheses regarding job satisfaction was supported. Although the overall mean job satisfaction score of 5.80 implies that as a group, licensed funeral directors are satisfied in their job, the results of the multiple regression analysis do not point to emotive dissonance or emotive effort as significant contributors of job satisfaction.

The major research question addressed by this study was: What are the relationships between the dimensions (emotive dissonance and emotive effort) and consequences (emotional exhaustion, depersonalization, personal accomplishment, and job satisfaction) of emotional labor among licensed funeral directors? The results of the data analysis indicate a significant positive
relationship between each of the dimensions of emotional labor and emotional exhaustion. Among the sample respondents, feelings of emotional exhaustion increased as emotive dissonance increased, as well as when emotive effort increased. This suggests that the workers who are least likely to experience emotional exhaustion are those who experience the appropriate work-related emotions and are able to express them in their interactions with customers.

No significant relationship was identified between emotive dissonance and depersonalization. However, the results do suggest a significant inverse relationship between emotive effort and depersonalization. This implies that feelings of depersonalization tend to decrease as workers exert effort to align their experienced emotions with the expected job-related emotions. While the results of the data analyses do not intimate a relationship between emotive dissonance and personal accomplishment, there is the indication of a significant inverse relationship between emotive effort and personal accomplishment. Among the sample respondents, feelings of personal accomplishment increase as the workers increase effort to feel the appropriate emotions.

Finally, the results of this study do not indicate that job satisfaction is impacted by emotional labor among licensed funeral directors, as no significant relationship was identified between job satisfaction and either of the emotional labor dimensions.

Additional tests were applied to the data to address the supporting questions of this study. The first supporting question addressed whether licensed funeral directors are more likely to active deep act, surface act, or passive deep act. Specifically, are licensed funeral directors likely to operate with higher levels of emotive effort or emotive dissonance? Cross tabulation and Chi-Square test were performed on the data to respond to this question.

The cross tabulation revealed the numbers and percentages of sample respondents that fell into each of four categories: (1) low emotive dissonance/low emotive effort, (2) low emotive dissonance/high emotive effort, (3) high emotive dissonance/low emotive effort, and (4) high emotive dissonance/high emotive effort (The complete profile of the respondents by category is presented in Table 2). The results of the Chi-Square test (Table 3) indicate a significant difference between the groups (Chi-Square = 5.669; Likelihood ratio = 5.652; p < .05). The cross tabulation discloses low emotive dissonance/low emotive effort as the largest category, comprising 42.3% of the sample respondents. The low emotive dissonance score suggests that there is some alignment between the experienced and expressed emotions. The low emotive effort score indicates that little effort is required to `express the expected emotion. This combination is most descriptive of passive deep actors. These results indicate that licensed funeral directors are generally more likely to passive deep act, meaning that the emotions they exhibit in their interactions with customers are reflections of their genuine felt emotions.

<table>
<thead>
<tr>
<th>TABLE 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissonance*Effort Cross tabulation of Respondents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Low Effort</th>
<th>High Effort</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Dissonance</td>
<td>47 42.3%</td>
<td>19 17.1%</td>
<td>66 59.5%</td>
</tr>
<tr>
<td>High Dissonance</td>
<td>22 19.8%</td>
<td>23 20.7%</td>
<td>45 40.5%</td>
</tr>
<tr>
<td>Total</td>
<td>69 62.2%</td>
<td>42 37.8%</td>
<td>111 100.0%</td>
</tr>
</tbody>
</table>
TABLE 3
Chi-Square Results of Significance Between Groups

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Df</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>5.669</td>
<td>1</td>
<td>.017*</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>5.652</td>
<td>1</td>
<td>.017*</td>
</tr>
</tbody>
</table>

p < .05

To address the second supporting question, multiple regression analyses were conducted on the data using the dissonance/effort categories as selection criteria. The supporting question addressed whether licensed funeral directors operating on a high emotive effort dimension experience fewer adverse effects than those operating on a high emotive dissonance dimension. According to the results of the analyses (presented in Table 4), the linear combination of the independent variables (emotive dissonance and emotive effort) is significantly related to personal accomplishment for sample respondents in the high emotive dissonance/low emotive effort category (F = 8.420; p < .01; R2 = .470). The results specify a significant inverse relationship between emotive effort and personal accomplishment for individuals in this category (b = -.712; t = -3.892; p = .001). This implies that feelings of personal accomplishment decrease as emotive effort increases among licensed funeral directors with high levels of emotive dissonance and low emotive effort. No other significant relationships varied between the four categories.

TABLE 4
Multiple Regression Analysis for Personal Accomplishment Among High Dissonance/Low Effort Respondents

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Beta</th>
<th>t-value</th>
<th>F</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotive Dissonance</td>
<td>-.498</td>
<td>-1.304</td>
<td>8.420</td>
<td>.470*</td>
</tr>
<tr>
<td>Emotive Effort</td>
<td>-.712**</td>
<td>-3.892</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .01  
**p = .001

STUDY LIMITATIONS

Self-report techniques (i.e., face-to-face surveys) for data gathering introduce the possibility for common method variance problems (Podsakoff and Organ, 1986; Spector 1987) and are subject to errors that stem from general human tendencies, such as social desirability and acquiescence bias (Podsakoff, MacKenzie, Lee and Podsakoff, 2003; Burton-Jones and Straub, 2004). The researcher's inability to control such biases poses a threat to the internal validity of the experiment.

The low reliability coefficient for the Kruml and Geddes (2000a) emotive dissonance scale (α=.61) may convey the need for additional scale items. The current scale consists of only two questions. The reliability coefficient is based on both the average correlation among items (internal consistency) and the number of items; therefore, Nunnally and Bernstein (1994) avow that longer scales are more reliable and more precise. Remenyi, et al. (1998) suggests that appropriate Likert scales typically range from three to thirty questions. Calculation of the Spearman-Brown Prophecy formula indicates that lengthening the emotive dissonance scale to twelve items, while maintaining the same average correlation among the items as in the current scale, would increase the reliability coefficient to .90. In order to maintain criterion validity, properly lengthening the scale may call for a meticulous examination of the underlying factors of emotive dissonance to determine if additional
antecedent variables can be identified that will aid in the further development of the scale (Duchon, Green, and Tabor, 1986; Davison and Neale, 1990).

The sample included licensed funeral directors who are currently employed across a “deep south” southern state. Sampling within one geographical location presents a threat to external validity by limiting the generalizability of the results. Hence, findings may only be suggestible for funeral directors included in the geographic area from whence the sample was drawn.

**DIRECTIONS FOR FUTURE RESEARCH**

There exists a need for the development of additional scale items for the emotive dissonance scale (Kruml and Geddes, 2000a) utilized in this study. The current scale is comprised of two items and revealed an alpha of .68 in this study. Nunnally (1978) explains that low reliability scores are often a result of a scale consisting of a relatively small number of items.

The relationship between job satisfaction and emotive effort (Hypothesis 4b) warrants further investigation. A review of the literature did not reveal any previous examinations of this relationship. The reasons behind the failure to find a significant correlation are unknown. This relationship requires additional exploration, perhaps with a broader sample within the same occupation, as well as a sample of emotional laborers in an occupation that calls for cheerful emotional displays. This would allow for a comparison of findings between workers in professions that demand contrasting emotional expressions.

More quantitative data-based studies addressing emotional labor on grossly unrepresented sample groups (e.g. convalescent home directors, nurses and employees; mental institutional directors, nurses and employees, marriage and divorce counselors, sex therapists, abortion clinic directors, nurses and employees; prison and death row employees and supervisors; law enforcement officers, employees and supervisors) are warranted to enhance model building and validate theory development for management research.

**CONCLUSIONS AND MANAGERIAL IMPLICATIONS**

This empirical research study addressed dimensions and consequences originally identified in Hochschild's (1983) landmark study of emotional labor. The purpose of this study was to get at the relationships that may exist between the dimensions and consequences of emotional labor among licensed funeral directors and to determine whether the findings augment those found in prior emotional studies addressing different occupational groups.

Using licensed funeral directors, statistical analyses identified significant relationships between the dimensions of emotional labor and emotional exhaustion, along with a significant relationship between emotive effort and depersonalization. The results convey that the majority of licensed funeral directors exhibit their genuine feelings in their interactions with customers, limiting the adverse outcome of emotive dissonance. The findings also indicate that workers who exert more effort experience less depersonalization. Licensed funeral directors were found to experience low levels of emotional exhaustion and depersonalization. They also tend to experience high levels of personal accomplishment and job satisfaction, although these occurrences cannot be attributed to the dimensions of emotional labor. Finally, study findings tend to indicate an improved reliability of the emotive effort scale. Applying this scale to a new sample resulted in an increase in Cronbach's alpha from .66 to .77.
The expectation is that this study contributes to the body of the emotional labor literature by quantitatively investigating the outcomes of emotional labor using a newfound two-dimensional model of emotional labor and examining a sample of emotional labor workers where a research void exist in the management discipline. Given that the measured outcomes—emotional exhaustion, depersonalization, personal accomplishment, and job satisfaction—have a tendency to affect organizational costs by influencing workers' attitudes about the job, organizational commitment, job satisfaction, intent to leave, absenteeism, and turnover, practitioners may benefit from the suggested implications of the findings revealed in this study.

In addition to recommendations for developing coworker relationships and using humor as a technique for maintaining emotional balance, implications for emotional management training were also discussed. Perhaps individuals who experience difficulty genuinely expressing the required emotions can be taught to effectively exhibit the appropriate emotions. Should this suggestion prove beneficial, funeral homes that offer apprenticeships for licensing and educational institutions that offer mortuary science degrees may consider the addition of emotive effort or active deep acting training as a part of the licensing curriculum to become a licensed funeral director.

Further investigation of a relationship between the emotional labor dimensions and job satisfaction is warranted. Finally, the generalizability of the findings may be improved by sampling licensed funeral directors in other states of comparable socioeconomic and demographic data profiles.

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**AUTHORS**

*J. R. Smith is a Professor of Marketing at Jackson State University. He can be contacted at Jackson State University, 1400 John R. Lynch Street, Jackson, Mississippi 39217. Email: jrsmith@jsums.edu (corresponding author).*

Kimberly M. Dean-Dorsey is an Associate Professor of Management at Mississippi University for Women. She can be contacted at Mississippi University for Women, 1100 College Street, Columbus, Mississippi 39701. Email: kdorsey@bu.mux.edu

Alisa L. Mosley is the Associate Vice President of Academic Affairs at Tennessee State University. She can be contacted at Tennessee State, 3500 John A Merritt Blvd., Nashville, Tennessee 37209. Email: amosley@tnstate.edu

Joann White is an Assistant Professor of Management at Jackson State University. She can be contacted at Jackson State University, 1400 John R. Lynch Street, Jackson, Mississippi 39217. Email: joann.white@jsums.edu
CLUSTER DISTRIBUTION PATTERN OF BIOTECHNOLOGY
ESTABLISHMENTS IN THE UNITED STATES

Falih M. Alsaaty, PhD
College of Business, Bowie State University, Maryland

Abstract

The purpose of this paper was to investigate the pattern of cluster distribution of biotechnology establishments in the United States for the 2008-2012 period, and to elaborate on key factors that influence the distribution. A sample of states was selected on the basis of a minimum number of biotechnology establishments in each state. The threshold was set at 50 establishments for the state to streamline the analysis. The clustering pattern was also identified by relating the number of establishments in each state to its population to arrive at the cluster density (the number of establishments per a million of inhabitants). It was found that (a) 75 percent of the biotechnology establishments in the country resided in thirteen states in 2012 while (b) 80 percent of all establishments were micro companies (business firms with less than 20 employees each). The data show that the industry experienced stagnation from 2010 to 2012, a situation that is unlikely to persist in the long-term. The size of a state’s population plays a minor role in attracting the formation of new biotechnology ventures.

Introduction

The biotechnology industry in the United States is a relatively new phenomenon. Its emergence is often associated with the founding of Genentech in 1976 as the first biotechnology company (Malik and Hine, 2011). Biotechnology, unlike many other scientific fields, lacks a generally accepted definition. There are a wide variety of definitions for the field. For example, Friedman (2004, p.4) defines the term “as the application of molecular biology for useful purposes”, while the Organization for Economic Cooperation and Development (OECD, 2009) defines it as “the application of science and technology to living organisms, as well as parts, product, and models, thereof to alter living or non-living materials for the production of knowledge, goods, and services”. Moreover, the Biotechnology Industry Organization (BIO) views biotechnology as “technology based on biology”.

It appears that the reason for the absence of a widely accepted definition of biotechnology is that the field is rooted in a number of scientific disciplines such as medicine, immunology, genetics, food science, and microbiology. It is, therefore, a collective term that encompasses different sub-fields of scientific endeavors. The field of biotechnology has extended its reach since its inception to include the following areas of diverse research and development activities (Noji and Omiya, 2013):

- Medical technology and pharmaceuticals.
- Food, drinks, and feed.
- Chemicals and textile.
- Pulp and paper.
To highlight the importance of biotechnology to human beings, the BIO uses the slogan: “Healing, Fueling, Feeding: How Biotechnology Is Enriching Your Life”. Giovannetti and Jaggi (2012) argued that today’s biotechnology companies are delivering new levels of health, prosperity, and sustainability. Moreover, Gholamali, Moghadam, and Zanjani (2013) indicated that the biotechnology industry is likely to change production methods, the products, and structure of other industries.

Biotechnology companies are generally small organizations with limited resources, output, and market share. Many of them tend to follow the business model of specialization and division of labor to leverage their assets and skills. For example, Kermani and Bonacossa (2003) pointed out that there are more than 4,000 specialized companies in the world. Despite its recent emergence as an economic entity, some scholars (e.g., Malik and Mine, 2011) believe that the biotechnology is the most mature industry in the United States.

The purpose of this paper was to investigate the clustering pattern of the biotechnology industry in the United States. A sample of states with 50 or more establishments each in 2012 was chosen. Thirteen states met the specified criterion. The states’ population of the selected sample constituted 58 percent of the country’s total population while the number of establishments in the sample comprised 75 percent of all establishments in the country. We believe that the selected sample reflects the actual situation of the biotechnology industry in the country in 2012. The paper investigated biotechnology establishments as designated by the U.S. Census Bureau with industry code 541171 – research and development in biotechnology – of the North American Industrial Classification System (NAICS). There is a dearth of scholarly articles about the size, employment, and cluster density of the biotechnology industry. This paper is intended to bridge the gap in the literature.

**Why Clusters**

Clusters are geographic concentrations of companies and institutions in a particular field of activities (Cortright, 2009) that include the following:

- Suppliers of equipment, inputs, or services.
- Distribution channels.
- Manufacturers of complementary products.

The U.S. Census Bureau defines establishments as “a single physical location where business is conducted or industrial operations are performed”. On the other hand, the Bureau refers to a firm as “a business organization consisting of one or more domestic establishments in the same state and industry that were specified under common ownership or control”. In this paper, the terms “establishments”, “companies”, “firms” are used interchangeably.
The theoretical foundations of clusters are rooted in the belief that technology-intensive knowledge companies tend to group geographically to take advantage of externalities (e.g., Niosi and Bas, 2001; Zaheer and George, 2004; Bozarth, Blackhurst, and Handfield, 2007; Kim and Harris, 2010) that include the following:

- Knowledge spillover.
- Availability of specialized skills.
- Access to venture capital.
- High-technology infrastructure.
- Proximity to research institutions.

Clusters are also perceived to contribute to the creation of knowledge and value within their boundaries (Maskell, 2001), the promotion of professional networks and the development of strategic alliances (Phene and Tallman, 2002), and the enhancement of regional industry efficiency as well as strengthening the high-technology infrastructure (Kim and Harris, 2010). In a study about Chilean natural resources sector, Felzensztein, Gimmon, and Aqueveque (2012) found out that the industry cluster fosters inter-firm cooperative relationships in such functions as marketing.

More to the point, it is believed that clusters enhance the competitiveness of their individual components of companies (de Oliveira Wilk and Fensterseifer, 2003). Finally, Stuart and Sorenson (2003) adopted a sociological approach to explain the clustering of the biotechnology companies. The authors concluded that the companies tend to co-locate because entrepreneurs find it hard to leverage social ties they need to mobilize resources when they reside far from those resources. The authors also emphasized that entrepreneurs want three kinds of resources to succeed: (a) new ideas or foundation technology, (b) capital, and (c) employees with highly specialized skills.

**Industry Overview**

Innovation, strategic alliances, and mergers and acquisitions drive the growth and prosperity of the biotechnology industry. As is the case with other economic sectors, the industry is also influenced by the health of the national – and international – economy. It is expected, therefore, that the recent recession in the United States would make it difficult for many biotechnology companies to achieve a reasonable rate of growth in employment or other performance indicators.

Table 1 provides aggregate data about the industry. As could be seen in the Table, from 2008 to 2012, the number of biotechnology establishments increased from 2,926 companies to 3,012 companies, an increase of about 3 percent, while their employment declined from 102,724 employees to 81,380 employees, a decrease of 21 percent. The substantial decline in employment could have been the result of: (a) downsizing strategies of the companies concerned because of the economic recession at the time, and (b) mergers and acquisitions that occurred within the industry which resulted in streamlining of business operations. On the other hand, the average payroll per employee rose from $114,000 in 2008 to $138,000 in 2012, a jump of 21 percent, an indication of the growing demand for skilled personnel in the biotechnology industry.
Contrary to popular belief, the biotechnology industry – defined by the Census Bureau as research and development in biotechnology (NAICS code 541711) – is very small component of the U.S. economy, although it stands to potentially contribute greatly to the country’s employment, investment, and income. To visualize the size of the industry, it is useful to point out that the Bureau classifies the industry as an integral part of a larger economic sector, that is, professional, scientific, and technical services (NAICS code 54). This sector is, in turn, constitutes one of the twenty sectors that make up the national economy. Data in Table 2 below shed light on the relative size of the biotechnology in the United States.

### Table 1

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Establishments</th>
<th>Annual Payroll (Thousands of dollars)</th>
<th>Number of Employees</th>
<th>Average Number of Employees</th>
<th>Average Annual Payroll per Employee (Thousands of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3,012</td>
<td>11,241,872</td>
<td>81,380</td>
<td>27</td>
<td>138</td>
</tr>
<tr>
<td>2010</td>
<td>3,199</td>
<td>13,114,233</td>
<td>110,737</td>
<td>35</td>
<td>118</td>
</tr>
<tr>
<td>2008</td>
<td>2,926</td>
<td>11,729,405</td>
<td>102,724</td>
<td>35</td>
<td>114</td>
</tr>
<tr>
<td>Average</td>
<td>3,046</td>
<td>12,028,503</td>
<td>98,280</td>
<td>32</td>
<td>122</td>
</tr>
</tbody>
</table>


As the Table above shows, there were more than 7.4 million business establishments in the United States in 2012 of which 859.2 thousands, or 0.12 percent, were classified as professional, scientific, and technical services. Of these, 3,012 establishments, or four-tenth of one percent, were classified as biotechnology. In terms of employment con-
tribution, the economic sectors combined employed 115.9 million people, of which the professional, scientific, and technical services employed a little bit more than 8 million, or 0.07 percent. Of these, only 81.4 thousands, or 0.01 percent, were engaged in research and development in biotechnology.

**Establishment Size**

A company size is an important factor that determines its long-term survival and growth. Smaller companies are often more vulnerable to be squeezed out of the marketplace than their larger counterparts. In business, size of the organization does matter in terms of its competitiveness. As commonly recognized, key attributes of small companies are interrelated and include: (a) limited capital, (b) restricted productive capacity, and (c) scarcity of managerial, marketing, and technical skills.

<table>
<thead>
<tr>
<th>State</th>
<th>Number of Establishments in the State (A)</th>
<th>Of Which Micro Firms* (B)</th>
<th>Percentage of Micro Firms (B) ÷ (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>824</td>
<td>635</td>
<td>77%</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>268</td>
<td>182</td>
<td>68%</td>
</tr>
<tr>
<td>Maryland</td>
<td>173</td>
<td>131</td>
<td>76%</td>
</tr>
<tr>
<td>New York</td>
<td>138</td>
<td>115</td>
<td>83%</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>134</td>
<td>108</td>
<td>81%</td>
</tr>
<tr>
<td>North Carolina</td>
<td>121</td>
<td>95</td>
<td>79%</td>
</tr>
<tr>
<td>Washington</td>
<td>116</td>
<td>86</td>
<td>74%</td>
</tr>
<tr>
<td>New Jersey</td>
<td>113</td>
<td>80</td>
<td>71%</td>
</tr>
<tr>
<td>Texas</td>
<td>104</td>
<td>93</td>
<td>89%</td>
</tr>
<tr>
<td>Florida</td>
<td>85</td>
<td>73</td>
<td>86%</td>
</tr>
<tr>
<td>Colorado</td>
<td>72</td>
<td>58</td>
<td>81%</td>
</tr>
<tr>
<td>Illinois</td>
<td>65</td>
<td>55</td>
<td>85%</td>
</tr>
<tr>
<td>Ohio</td>
<td>53</td>
<td>46</td>
<td>87%</td>
</tr>
<tr>
<td>Total of the Selected States</td>
<td>2,266</td>
<td>1,757</td>
<td>78%</td>
</tr>
<tr>
<td>Other States</td>
<td>746</td>
<td>651</td>
<td>87%</td>
</tr>
<tr>
<td>All States</td>
<td>3,012</td>
<td>2,408</td>
<td>80%</td>
</tr>
</tbody>
</table>


- Employment of less than 20 individuals for each establishment.

As shown in Table 3, the number of establishments included in the sample is 2,266 in 2012. This is equivalent to 75 percent of all biotechnology companies in the United States. Of the total selected establishments, 1,757 companies, or 78 percent, were small in size with employment of less than 20 persons each. Put differently, the great majority of biotechnology companies (80 percent) in the United States could be classified as micro firms. On the other hand, in terms of size of the industry in each state, California
with 824 establishments is the largest hub for biotechnology in the country, followed by Massachusetts (268 companies), Maryland (173 companies), and New York (138 companies).

**Industry Prospects**

Despite the relative newness and smallness of the biotechnology industry, it is likely that it will grow in size and influence in the future for the following reasons:

- The need for innovative and effective medical treatment to combat a variety of diseases.
- The desire for new products and services that could extend the life span of human beings, animals, and plants.
- The necessity to preserve a healthy environment.
- The need for new or modified agricultural products as well as to increase the sector’s output.
- The need for new processes, systems, and products to improve industrial efficiency and production.
- The country’s growing scientific base.
- The availability of capital for well-managed companies as well as for promising entrepreneurial new ventures.
- The availability of financial support such as grants from government agencies such as the National Institute of Health (NIH) and the Department of Defense.
- Accessibility to a large pool of managerial and technical skills needed.
- The innovative nature of the industry.
- Mergers and acquisitions activities that occur within the industry that often lead to more competitive biotechnology companies.
- The sheer size of the U.S. economy and the stability of the country.

**Industry Clusters**

A great deal of discussion has taken place in academic circles about the tendency of the biotechnology companies to locate in certain geographical locations in the United States. Table 4 above represents a snapshot of the industry’s largest clusters in thirteen key states in 2012. It also shows the states’ ranking with and without including population size into account.

As indicated earlier, California occupied the highest ranking among all states in terms of attracting biotechnology businesses (824 establishments), followed by Massachusetts (268 establishments), Maryland (173 establishments), and New York (138 establishments). As the number of establishments in each state is related to the state’s population, we find that the (original) ranking of the states is changed. For instance, Massachusetts with a population of 6.6 million people occupied the highest (#1) ranking after taking into account the size of its population, while California with a population of 38 million people occupied the third (#3) place in the ranking. Likewise, Colorado with a population of 5.2 million people moved from the eleventh (#11) place to the fifth (#5) place when the size of its population is taken into consideration. For the country as a whole, there were 9.6 establishments per a million of inhabitants. In brief, the state ranking as
reflected in the cluster density measure indicates that a state’s population size plays a minor role as a factor to attract the founding of new biotechnology ventures.

### Table 4
Ranking of Biotechnology Establishments in Selected States, 2012

<table>
<thead>
<tr>
<th>State</th>
<th>Number of Establishments In the State (A)</th>
<th>Rank</th>
<th>Population (Millions) (B)</th>
<th>Cluster Density* (A) ÷ (B)</th>
<th>Cluster Density Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>824</td>
<td>1</td>
<td>38.041</td>
<td>21.7</td>
<td>3</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>268</td>
<td>2</td>
<td>6.646</td>
<td>40.3</td>
<td>1</td>
</tr>
<tr>
<td>Maryland</td>
<td>173</td>
<td>3</td>
<td>5.885</td>
<td>29.4</td>
<td>2</td>
</tr>
<tr>
<td>New York</td>
<td>138</td>
<td>4</td>
<td>19.570</td>
<td>7.1</td>
<td>9</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>134</td>
<td>5</td>
<td>12.764</td>
<td>10.5</td>
<td>8</td>
</tr>
<tr>
<td>North Carolina</td>
<td>121</td>
<td>6</td>
<td>9.752</td>
<td>12.4</td>
<td>7</td>
</tr>
<tr>
<td>Washington</td>
<td>116</td>
<td>7</td>
<td>6.897</td>
<td>16.8</td>
<td>4</td>
</tr>
<tr>
<td>New Jersey</td>
<td>113</td>
<td>8</td>
<td>8.865</td>
<td>12.7</td>
<td>6</td>
</tr>
<tr>
<td>Texas</td>
<td>104</td>
<td>9</td>
<td>26.059</td>
<td>4.0</td>
<td>13</td>
</tr>
<tr>
<td>Florida</td>
<td>85</td>
<td>10</td>
<td>19.318</td>
<td>4.4</td>
<td>12</td>
</tr>
<tr>
<td>Colorado</td>
<td>72</td>
<td>11</td>
<td>5.188</td>
<td>13.9</td>
<td>5</td>
</tr>
<tr>
<td>Illinois</td>
<td>65</td>
<td>12</td>
<td>12.875</td>
<td>5.0</td>
<td>10</td>
</tr>
<tr>
<td>Ohio</td>
<td>53</td>
<td>13</td>
<td>11.544</td>
<td>4.6</td>
<td>11</td>
</tr>
<tr>
<td>Total of the Selected States</td>
<td>2,266</td>
<td></td>
<td>183.404</td>
<td>12.4</td>
<td></td>
</tr>
<tr>
<td>Other States</td>
<td>746</td>
<td></td>
<td>130.510</td>
<td>5.7</td>
<td></td>
</tr>
<tr>
<td>All States</td>
<td>3,012</td>
<td></td>
<td>313.914</td>
<td>9.6</td>
<td></td>
</tr>
</tbody>
</table>


* The term “cluster density” is used in the paper to refer to the number of biotechnology establishments in a state per a million of its inhabitants.

### Concluding Remarks

The main attributes of the biotechnology industry in the United States could be summarized as follows:

- The great majority of biotechnology companies are micro firms, that is, they employ less than twenty persons each.
- New biotechnology ventures tend to cluster in selected geographic areas.
- The size of a state population plays a minor role in attracting the companies.
- As is the case with other high-technology sectors, the development and expansion of the biotechnology industry is highly influenced by the rate of growth of the national economy.
- Innovation and availability of capital are among the most important factors influencing the survival and growth of the micro companies.
Individuals with scientific background in field of biotechnology coupled with entrepreneurial tendency are likely to explore opportunities to found new ventures.

The biotechnology industry is an important source of employment, income, and investment in the United States. The industry is also a source of new entrepreneurial venture creation (Aha and York, 2011). Innovation is widespread in biotechnology (e.g., Jarvis, 2003; Mirasol, 2006; Liu and Schmid, 2009). Among the industry’s contributions is the development of new methods, tools, and processes for identifying potential drugs or probing the molecular underpinnings of diseases (Pisano, 2006). The industry in general, and the entrepreneurial companies in particular, deserve attention and support from state and federal governments. The assistance can take the following forms:

- Greater support in the form of grants.
- Tax incentives.
- Subsidized loans.
- Infrastructure facilities.
- Encouragement for stronger ties with institutions of higher education.

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APPLICATION OF THE SPORTS MENTAL TOUGHNESS QUESTIONNAIRE (SMTQ) TO THE PREDICTION OF ENTREPRENEURIAL SUCCESS: A PROPOSAL

Lawrence S. Silver
Southeastern Oklahoma State University

ABSTRACT

Entrepreneurial research is again addressing the individual characteristics of individuals as predictors of new venture success (Baum, Locke, and Smith, 2001). This paper proposes that the Sports Mental Toughness Questionnaire, developed by Sheard, Goby, and van Wersch (2009) may be a psychometrically sound instrument to predict entrepreneurial success. The proposal is based on individual traits identified in the entrepreneurship literature, their similarity to traits necessary for success in elite sports, and the sound psychometric properties of the SMTQ.

INTRODUCTION

Numerous studies have examined individual personality factors that possibly lead to entrepreneurial success or failure. These include, but are not limited to, studies in attribution theory (Askim-Lovseth and Feinberg, 2012; Rogoff, Lee and Suh, 2004), expectancy theory (Gatewood, Shaver, Powers, and Gartner, 2002), Affective Events Theory (Morris, Kuratko, Schindehutte and Spivack, 2011), resilience and self-efficacy (Bullough, Renko and Myatt, 2013), work-related personality traits (Owens, Kirwan, Lunsbury, Levy and Gibson, 2013), and the Big Five Personality traits (Zhao and Seibert, 2006). Despite these efforts at defining the “entrepreneurial personality,” the results have often been disappointing (Shane and Venkataraman 2000).

An area of concern for personality trait research for entrepreneurs is the variety of personality and psychological theories advanced to explain entrepreneurial success or failure. Often these theories conflict or explain a very small part of the performance results. Additionally, the psychometric properties of many of the instrument used were not designed to measure performance in a stressful achievement situation. Thus, the resurgence in examining factors associated with characteristics of the entrepreneur and new venture performance as noted by Baum, Locke, and Smith (2001) requires instruments that are valid and psychometrically sound.

Recently there has been interest in positive psychology (e.g., Seligman and Csikszentmihalyi, 2000), which studies positive individual traits that lead to subjective wellbeing for individuals. Proponents of positive psychology see a relationship between the mindset that produces success in one area of life as applicable to other areas (Dweck, 2006; Maouboussin, 2012; Sheard, 2013). Specifically, these authors suggest that success in an achievement situation, whether it is sports or business, requires the same traits.

While instruments to measure mindset vary, one such instrument, the Sports Mental Toughness Questionnaire (SMTQ) was designed specifically to measure those personality traits believed to be necessary to be successful in sports (Sheard, Golby and van Wersch, 2009). One assumption behind the development of this scale is that personality traits are the difference in those who achieve at the highest level of competitive sports and those who don’t. The reasoning...
is that at that level, physical ability and sport specific technique is roughly equal across all participants. This paper proposes that the same is true in business.

The purpose of this paper is to propose that the SMTQ be applied to measuring entrepreneurial success. First, a brief review of the literature on entrepreneurship and psychological factors will be presented. This review is necessarily brief because of the extensive work done in this area and space limitations. Next, there is a discussion of mental toughness and positive psychology and why traits that are applicable to competitive sports are also applicable to successful entrepreneurial ventures. Third, the psychometric properties of the SMTQ will be presented to demonstrate its dependable use as an instrument to administer to entrepreneurs. An argument for the similarities between elite sports and entrepreneurial success will also be offered. Finally, a summary section will summarize the paper and offer ideas for future research.

LITERATURE REVIEW

Two of the studies discussed in this section deal with attribution theory (Askim-Lovseth and Feinberg, 2012; Rogoff, et al., 2004). Attribution theory (Heider, 1958, Kelley, 1955) involves a post-hoc analysis of why an individual believes he or she was successful or unsuccessful in an achievement situation. People will attribute success or failure to either internal factors (It’s my fault) or external factors (luck); the nature of the environment in which the events occur (either stable or unstable); and, the extent to which people believe an event is global (I never make good business decisions) or specific (I made a bad decision in that instance). Askim-Lovseth and Feinberg (2012) found that attributional explanatory style related to perceived outcomes of a failed venture (financial well-being, career opportunities, family relations, and self-esteem). One limitation of this study was that the subjects were students presented with scenarios rather than actual entrepreneurs.

In a different look at attribution theory, Rogoff, et al. (2004) noted that entrepreneurs engage in self-serving bias in that they take credit for successes and discount responsibility for failure. This is known as the fundamental attribution error. Further, those who study entrepreneurs engage in actor-observer bias whereby the observer may not be objective in assigning attributions for success or failure. The key point here is that if entrepreneurs and experts observing entrepreneurs make different attributions for outcomes, then both observations and self-report instruments need to be discounted.

Gatewood, et al. (2002) conducted a web-based experiment on the effect of feedback on students and expectations of starting a business. Students who received positive feedback about entrepreneurial ability (regardless or actual ability) had higher expectations of business start-up success while those with negative feedback had lower expectations about starting a business. Interestingly, neither positive nor negative feedback produced a change in task effort or quality of performance. It is questionable the extent to which manipulating feedback in a situation where the subject has no risk is of any benefit.

The importance of resiliency and self-efficacy for entrepreneurial intentions under conditions of perceived danger (the war in Afghanistan) was studied by Bullough, et al. (2013). Variables measured included entrepreneurial intention, perceived danger, self-efficacy, and resilience. Results indicated that individuals in a situation of perceived danger will develop entrepreneurial intentions if they are able to grow from adversity (resilience) and believe in their entrepreneurial ability (self-efficacy). This study most closely approximates the type of measure argued for in this paper.
In a study of work-related personality traits, Owens, et al. (2013) had 147 small business owners complete a web-based personality test. Ten of the fourteen traits correlated with business success with goal setting, social networking, emotional resilience, and work drive explaining twenty-nine percent of the variance. Two limitation of the study are notable. One is that just because a person has a small business does not mean he or she is an entrepreneur. A second limitation is survivor bias. The only businesses that could complete the survey were those who had survived their start-up.

Moruku (2013) researched the relationship between entrepreneurial orientation (EO) and entrepreneurial behavior and performance. Results indicated a positive relationship between EO and entrepreneurial behavior but no relationship between EO and entrepreneurial performance. The author states in the conclusion of the paper that the conceptual ambiguity of EO likely contributed to the results. As this paper notes below, developing sound theoretical constructs to measure entrepreneurial performance is a difficult task.

A meta-analysis conducted by Zhao and Seibert (2006) asked the research question, “Do entrepreneurs differ from others in terms of their basic personality?” (Zhao and Seibert, at 265). Using the Big Five personality dimensions and entrepreneurial status, results showed entrepreneurs with higher scores on Conscientiousness and Openness to Experience than non-entrepreneurial managers and lower on Neuroticism and Agreeableness. No difference was found for Extroversion. There are several limitations to this study. One cited by the authors is that any meta-analysis is only as good as the collective underlying studies. Another is that the authors were unable to identify moderating variables that would have allowed them to isolate homogenous subsets of studies for each of the Big Five dimensions. Again, as noted in the section on the psychometric properties of the SMTQ, sub-scales were developed and tested for conceptual relevance. Finally, the Big Five personality dimensions have a mixed record of prediction in a wide range of business applications.

The problem with the Big Five is evidenced in a study by Huber, Poech, and Brodie (2014). In their research, the authors compared students in long-term entrepreneurship education programs, actual entrepreneurs, and non-entrepreneurs on the Big Five personality dimensions. The purpose was to rank the three groups but no such ranking resulted from the analysis.

Several conceptual papers also add to the literature on personality traits and entrepreneurship. One is work done by Shaver and Scott (1991) that takes an overview of psychological factors and entrepreneurship to that point. The authors note that personality characteristics as predictors of entrepreneurial success have had disappointing results. The lack of any definitive relationship between personality and entrepreneurship leads many researchers to abandon this area and move to factors external to the entrepreneur such as marketing, finance, and the economic environment. Yet, as they point out, external factors alone will not create a new venture. “For that we need a person, in whose mind all of the possibilities come together, who believes that innovation is possible, and who has the motivation to persist until the job is done” (Shaver and Scott, 1991 at 39).

Another conceptual paper by Silver (2012) proposed that the dispositional trait of goal orientation affected the exploitation of entrepreneurial opportunities. The research proposals stated that people with a Mastery-Approach goal orientation were most likely to exploit entrepreneurial opportunities. While this concept was borrowed from the educational psychology literature (Ames and Archer, 1988), the concept has been widely used in the sport psychology literature (e.g., Harwood, Hardy, and Swain, 2000).
Shane and Venkataraman (2000) note that two events are necessary for new venture development: one is the discovery of entrepreneurial opportunities and the other is the decision to exploit such opportunities. Due to the specialization of knowledge, some people will be more aware of opportunities than others, especially when those opportunities are closely related to the individual’s area of expertise. However, once an opportunity has been recognized, the potential entrepreneur needs the cognitive and dispositional ability to exploit the opportunity. Some of the dispositional traits mentioned include self-efficacy, optimism, tolerance for ambiguity, tolerance for risk, and need for achievement.

Finally, Morris, et al. (2011) develop what they call the Affective Events Theory (AET) to determine entrepreneurial performance. The basic premise of this conceptual paper is that attitudes and behavior are affected by the experience of emotion. That is, events cause affective states and these states have important outcomes in a work context. Some of the dispositional traits needed to deal with these affective states include the ability to handle uncertainty, ambiguity, novelty, and purpose.

The above discussion illustrates the problems researchers have had in attempting to determine if there is a set of dispositional traits that predict both the tendency to engage in entrepreneurial activities and success at those activities. While this paper does not propose a magic bullet solution, the concept of mental toughness, borrowed from the sport psychology literature, is a promising predictor of performance in entrepreneurship and business in general. Next a discussion of the mental toughness concept is presented.

MENTAL TOUGHNESS

Mental toughness is part of the positive psychology movement (Seligman and Csikszentmihalyi 2000). Positive psychology is defined as,

A science of positive subjective experience, positive individual traits, and positive institutions [that] promises to
improve quality of life and prevent the pathologies that arise when life is barren and meaningless (Seligman and Csikszentmihalyi, 2000 at 5).

Thus, positive psychology is about well-being, contentment, hope, optimism, and the flow of happiness in the present. Traits included in the study of positive psychology that relate specifically to this paper include vocation, courage, interpersonal skill, perseverance, originality, future mindedness, high talent, and wisdom (Seligman and Csikszentmihalyi, 2000).

Positive psychology engages in research about those psychological factors that make life worth living. The underlying idea is that a failure to achieve one’s goals of feeling good and being successful is not due to deep-seated pathologies. Rather failure and the resulting bad feelings are from a lack of skills and knowledge of how to reach one’s goals (Seligman and Csikszentmihalyi, 2000). Thus, positive psychology concentrates on how to train people to improve their skills. For Sheard (2013) the application is to improve psychological skill in sport. This paper transfers that argument to entrepreneurship.

As previously mentioned, Sheard (2013) believes that ability or talent is roughly equal at the top of level of any sport. Thus, psychological factors become the difference between winning and losing. This view is analogous to business where education and talent are widely spread across the general population. The difference then, between success and failure, can logically be attributed to psychological factors.
Eight skills necessary for success in sports are listed by Sheard (2013). The list is reproduced in Table 1 and compared to the skills indicated in the literature review for success in entrepreneurship. Each skill necessary for success in sports is in the left column and the corresponding identified skills for entrepreneurship are in the right column.

### Table 1
Comparison of Skills for Success in Sports and Entrepreneurship

<table>
<thead>
<tr>
<th>Skills Necessary for Success in Sports</th>
<th>Skills Identified as Necessary for Success in Entrepreneurship from the Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-regulation of arousal</td>
<td>Emotional resilience; ability to correctly interpret feedback; lack of fundamental attribution error</td>
</tr>
<tr>
<td>High self-confidence</td>
<td>Optimism; self-efficacy; openness; conscientiousness</td>
</tr>
<tr>
<td>Heightened concentration</td>
<td>Conscientiousness; self-efficacy; work-drive</td>
</tr>
<tr>
<td>Coping skills for dealing with distractions and unexpected events</td>
<td>Tolerance for risk; tolerance for ambiguity; tolerance for uncertainty</td>
</tr>
<tr>
<td>Feeling in control</td>
<td>Self-efficacy; resilience</td>
</tr>
<tr>
<td>Positive occupation with sport (entrepreneurship)</td>
<td>Optimism; work-drive; openness; conscientiousness; self-efficacy</td>
</tr>
<tr>
<td>Determination</td>
<td>Work-drive; conscientiousness; resilience</td>
</tr>
<tr>
<td>Commitment</td>
<td>Self-efficacy; tolerance for risk; work-drive</td>
</tr>
</tbody>
</table>

Positive psychology is an outgrowth of the idea that personality traits mediate behavior in a particular context rather than predispose individuals to engage in certain behaviors (Mischel and Shoda, 1995; Sheard, 2013). In brief, the predominant view of how personality affected behavior for the majority of the last century was that differences between people in social behavior was determined by their traits across all situations. For example, as Mischel and Shoda (1995) point out, it was assumed that “the more a person has a conscientious disposition…the more conscientious the behavior will be” (Mischel and Shoda, 1995 at 246). Yet, while valuable and predictive in one context, this approach treats variations in human behavior across contexts as unwanted, uninformed, or measurement error.

A second conception is one that is based on situation-based behavior. That is, the purpose of the researcher is to identify “the meaningful patterns that characterize the person’s behavior across seemingly diverse situations, and to discover the dynamics – the interaction among mediating process variables – that underlie that patterning and that can explain it” (Mischel and Shoda, 1995, at 247). That is, the situation (e.g., sports or entrepreneurship) determines the behavior mediated by dispositional factors. This view of the interrelatedness of the situation and the individual’s personality traits is a cornerstone of mental toughness. Indeed, Sheard (2013) notes that “mental toughness is a multi-factorial construct with its constitutive factors manifested behaviorally either singly or in combination in response to the appropriate situation or context [emphasis added] (Sheard, 2013 at 63). To address this specifically, the SMTQ was developed using subjects from a variety of sports.

The concept of mental toughness, as seen by the above quote, is easy to describe but difficult to define. Sheard, et al. (2009) note that mentally tough performers are able to bounce back quickly and effectively from stressful experiences. In order to achieve this, the performer needs the dispositional traits of optimism, hardiness, confidence, and persistence. A further complication in an attempt to define mental toughness is that it also incorporates the first view of personality theory discussed above – that dispositional traits determine behavior regardless of context. Thus, as Sheard (2013) pointed out, mental toughness is a global disposition and is an independent and a moderating variable. This potential complexity often leads to constructs, and
the resulting measurements, that are theoretically weak and psychometrically unsound (e.g., Moruku’s criticism of Entrepreneurial Orientation).

Given the discussion to this point, a rough definition of mental toughness can be offered. It needs to be noted that this is not a hard and fast definition, but more of a working definition. According to Sheard (2013), mental toughness is “a mindset and stable disposition that captures the cognitive, emotional, and behavioral characteristics of top sports [business] performers” (Sheard, 2013, at 67). This definition becomes clearer as the constructs of the SMTQ are discussed.

While the purpose of this paper is to propose that mental toughness be investigated in the area of entrepreneurship and not to test its applicability, the complexity of the construct cannot be ignored. There are possible methodological problems in the application of the construct to a research situation. However, some of these concerns are addressed in the discussion of the process of developing the SMTQ and its psychometric properties.

SCALE DEVELOPMENT

To develop the SMTQ, Sheard et al. (2013) developed a pool of 53 items using items from the Psychological Performance Inventory (PPI) and quotes from qualitative studies. An initial pool of 53 items was developed and face-validity was established by administering the instrument to five male and five female athletes and ten coaches working in a variety of sports. The items were administered using a four-point Likert scale anchored by “not at all true” and “very true.” After a review of the results, the investigators retained 18 items. A principal axis factor analysis reduced the scale to 14 items, which loaded on three factors. The subscales were Confidence, Constancy, and Control. Table 2 lists the items by subscale.

<table>
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<th>Table 2</th>
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<tr>
<td>SMTQ Item Wording</td>
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<tr>
<td><strong>Confidence</strong></td>
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<tr>
<td>I interpret potential threats as positive opportunities</td>
</tr>
<tr>
<td>I have an unshakeable confidence in my ability</td>
</tr>
<tr>
<td>I have qualities that set me apart from other competitors</td>
</tr>
<tr>
<td>I have what it takes to perform well while under pressure</td>
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<tr>
<td>Under pressure, I am able to make decisions with confidence and commitment</td>
</tr>
<tr>
<td>I can regain my composure if I have momentarily lost it</td>
</tr>
<tr>
<td><strong>Constancy</strong></td>
</tr>
<tr>
<td>I am committed to completing the tasks I have to do</td>
</tr>
<tr>
<td>I take responsibility for setting for myself challenging targets</td>
</tr>
<tr>
<td>I give up in difficult situations [reverse scored]</td>
</tr>
<tr>
<td>I get distracted easily and lose my concentration [reverse scored]</td>
</tr>
<tr>
<td><strong>Control</strong></td>
</tr>
<tr>
<td>I worry about performing poorly [reverse scored]</td>
</tr>
<tr>
<td>I am overcome by self-doubt [reverse scored]</td>
</tr>
<tr>
<td>I get anxious by events I did not expect or cannot control [reverse scored]</td>
</tr>
<tr>
<td>I get angry and frustrated when things do not go my way reverse scored</td>
</tr>
</tbody>
</table>

Sheard, et al. (2013)
The scale underwent extensive testing to develop sound psychometric properties. It was administered to subjects along with the Personal Views Survey III-R, the revised Life Orientation Test (LOT-R), and the Positive and Negative Affect Schedule (PANAS) to determine divergent validity. These scales were chosen because they are conceptually related to, but distinct from mental toughness. Cronbach’s α showed acceptable internal consistency for each of the scales. Confirmatory factor analysis indicated an acceptable goodness of fit and a Schmid-Leiman analysis noted that the items in the subscales were theoretically consistent with the overall construct. For a more detailed discussion, see Sheard et al. (2009).

SPORTS AND BUSINESS

Jones (2009) notes that while there are differences between business and sports, there are also a number of similarities. One area that corresponds with Sheard (2013) is the idea that talent and ability alone are not sufficient for sustain success in either business or sport. Success also requires an extraordinary mindset; one that is positive and resilient. In fact, Jones (2009) specifically states that the key to sustained success in business in not the ability of businesspeople to “do quantitative analyses quickly in their heads; rather, it is the development of mental toughness” (Jones, 2009 at 2). Other traits pointed out for success in both business and sports are hard work, perseverance, determination, dealing with success, and recovering from failure.

In a similar article, Rush (1996) discusses how several major league baseball players moved from sports to business and the lessons learned in baseball that apply to business. He quotes Dr. Joel Fish, at the time the director of the Center for Sports Psychology in Philadelphia as saying, “The good news for former players is that the competitive skills necessary to succeed in the world of sports are similar to the competitive skills necessary to succeed in business” (Rush, 1996 at 48). Skills noted in the article that transfer from baseball to business include letting go of a bad day, mental toughness, preparation, consistency, setting goals, and self-discipline.

Vishal Gondal (2014), the founder and CEO of Indiagames and former managing director of Disney UTV Digital, points out that there are many similarities between competitive running and entrepreneurship. These include long-term planning, hard work, dedication, tolerance for failure, and self-motivation. Additionally, runners are passionate about running and Gondal points out that similar passion is necessary for success as an entrepreneur.

As can be seen from this brief discussion, many of the dispositional traits necessary for entrepreneurial success revealed in the lit review are also necessary for success in sports and add support to the comparisons illustrated in Table 1. Therefore, the use of the SMTQ to predict entrepreneurial success appears, on its face, to be a reasonable area of inquiry.

IMPLICATIONS FOR FURTHER RESEARCH AND CONCLUSION

The purpose of this paper was to propose that the Sports Mental Toughness Questionnaire (Sheard et al. 2009) be used to predict entrepreneurial performance. The SMTQ is a 14-item self-report instrument that measures dispositional traits necessary for success in competitive sports.

Arguments for this proposal include the following: (1) entrepreneurship, like sports, is a stressful achievement situation; (2) the entrepreneurship literature reveals dispositional traits necessary for success that are similar to those measure in the SMTQ; (3) the strong psychometric
properties (including theoretical consistency) of the SMTQ; and, (4) the similarities between success in competitive sports and business.

The obvious next step is to test the psychometric properties of the SMTQ with entrepreneurs as subjects. Of course, this presents the usual set of problems in entrepreneurial research. First, it is difficult to find an acceptable sample of entrepreneurs. Second, successful entrepreneurs are much easier to find than failed ones, leading to survivor bias. Third, a convenience sample of students might move the discussion forward, but obvious problems with generalization remain. Despite these limitations, there is benefit for entrepreneurial research to explore this avenue of inquiry.

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**AUTHOR**

Lawrence Silver is the John Massey Endowed Chair and a Professor of Marketing at Southeastern Oklahoma State University, 1407 N. Fourth Ave, Durant, OK, 74701.

Email: lsilver@se.edu
INSTITUTIONS, FDI, TRADE AND GDP: A PATH ANALYSIS

Sang-Heui Lee

Management and Marketing, Pittsburg State University, slee@pittstate.edu

Jay van Wyk

Management and Marketing, Pittsburg State University, jvanwyk@pittstate.edu

Anil Lal

Economics, Finance and Banking, Pittsburg State University, alal@pittstate.edu

Abstract

Two streams of literature are combined in this study: the institutional determinants of Foreign Direct Investment (FDI) and international trade, and the relationship between FDI, international trade and Gross Domestic Product (GDP). To investigate the postulated hypotheses, a path analysis is utilized. Path analysis is a means to estimate the significance of causality relationships between the multiple independent and multiple dependent variables. The findings of this study support the significance of both direct and indirect relationships. Competitiveness has a direct and significant relationship with trade turnover and FDI inflows, respectively. Trade has a direct effect on GDP. It also has an indirect effect on GDP through FDI but only when competitiveness exists.

Introduction

Are institutions determinants of FDI and international trade? Does FDI and international trade influence GDP? These pivotal questions have spawned two major streams of literature in the fields of International Business and International Economics.

The determinants of FDI have been associated with the strategic intent of Multinational Enterprises (MNEs) which seek access to resources, foreign markets, efficiencies (cost reduction) and strategic assets (Dunning, 1993; Buckley et al., 2007). This approach is evidence of the eclectic theory which analyzes locational and economic determinants of FDI (Dunning, 1977). The concern that FDI decisions are influenced by a MNE’s ability to reduce transaction cost in uncertain investment environments, led to an enhanced view of the determinants of FDI. Apart from macroeconomic factors, firms’ investment decisions are also influenced by the institutional arrangement in host countries. Following North (1990), the “rules of the game” – that is, both formal legal arrangements and informal norms of behavior-- will also influence FDI and trade decisions. An appropriate institutional infrastructure assists foreign investors to engage
in value-adding activities that advance the dynamic comparative advantage of host countries (Porter, 1994). In this paper, it will be argued that institutional quality or governance, and competitiveness are institutional arrangements that influence FDI and trade.

It has also been observed that good governance and positive competitive environments encourage firms to focus on international markets and hence increase both imports and exports. Higher imports and exports reduce the transaction costs of foreign business and thus may lead to higher FDI. Furthermore, greater exposure to foreign influences, especially trade and investments, may lead to technology diffusion which, in turn, enables greater productivity increases through imitation and adaptation. If on the other hand, there is restricted or no international exposure in terms of trade and investment, the productivity level would be largely independent of what is taking place in the rest of the world (Findlay, 1996; Findlay, et al., 2001).

Given the importance of governance, competitive environments and foreign influences (foreign trade and investments) in higher economic growth, this study will seek to explore the true relationship among these variables.

The second literature stream deals with the influence of FDI and trade on the GDP of host countries. The goals of MNEs and host governments may differ in that firms seek profitability and governments seek economic development. The spillover effect of FDI and trade may result in benefits for host countries such as employment, improvement in managerial and technological competencies, and increased competitiveness (Hill, 2014). The positive effect of FDI and trade on economic development in host countries is well documented in the literature (Bende-Nabende et al., 2002; Kornecki and Rhoades, 2007; Ram and Zhang, 2002; Makki and Somwaru, 2004; Basu and Guariglia, 2005).

The primary purpose of the present study is to search for linkages between two literature streams and to explore whether a relationship path may link institutions with FDI and trade, and in turn, link FDI and trade with GDP. Multiple regression provided us with a two-dimensional relationship between institutions and FDI/trade and, in the same manner, between FDI/trade and GDP. Employing a path analysis enables a more nuanced exploration of the relationships among these phenomena. This approach may furnish a clearer view of the complex environment in which business managers make investment decisions and how stake holders in host country evaluate the potential benefits of FDI and international trade for economic development.

The paper is organized in five sections. Section one deals with a review of the literature and the formulation of hypotheses. The second section outlines methodology, data selection and concludes with a path analysis research model. In section three, the model fit is confirmed. The fourth section is a discussion of the study findings related to hypotheses testing. A summery is outlined in the final section which also addresses managerial implications as well as potential future research.

**Literature Review**

National competitiveness may be viewed as a nation’s relative competitive position in the international market place compared to other nations of similar economic development (Onsel et al., 2008). National competitiveness has been regarded as one of the most critical issues in enhancing economic growth and attracting FDI (Porter, 1990; Ozawa, 1992; Wysokinska, 1998).

The literature provides evidence of the spillover effect of FDI on various aspects of competitiveness such as productivity, labor, human capital and innovation (Aldaba and Aldaba, 2010; Basu et al., 2003). However, competitiveness, as a determinant of FDI, remains an
underdeveloped area of investigation. Some studies have addressed the relationship between various aspects of competitiveness and FDI. For example, in comparing Malaysia, Thailand and the Philippines, Ismael and Yussof (2003) found that different aspects of the labor market in each country determined FDI inflows. Narula and Wakelin (1998) found that innovation in industrial countries, notably technology and human capital, has been the competitive determinant of FDI; while in developing countries, competitive advantage to attract FDI was based on the cost advantage of labor and the opportunity to extract natural resources. In a study of Croatia, Sohinger and Horvatin (2004) found that although globalization led to an increase in FDI, the country’s competitive environment was still poor in terms of important indicators of competitiveness. These indicators included labor market rigidity, low investment in R &D and education, high labor costs, obsolete technology and low domestic competition.

The relationship between competitiveness and FDI inflows is well illustrated in the case of Georgia. The Georgian government actively targeted institutional improvement to enhance competitiveness and to create a friendly business environment for foreign investors. The main aim of the government’s policy was to improve its ranking within the World Economic Forum’s World Competitiveness Index and the World Bank’s Ease of Doing Business In Index. The policy was successful with Georgia elevating its ranking into the top 20 countries on both indexes. The government then used the dramatically improved index rankings to launch an international promotion campaign to attract FDI. FDI inflows to Georgia tripled from 2005 to 2007 (Schueth, 2010). Accordingly, the following hypothesis is proffered:

H.1: Competitiveness will influence FDI inflows

Economic growth is largely caused by productivity increases. History provides us with numerous examples of how basic instincts of survival and accumulation of wealth lead to productivity increase. Enterprise and entrepreneurial spirits flourish when the governments establish and enforce property rights and subject individuals to intense competition, domestic and foreign (Lal and Clement, 2005). Thus, institutions such as governance, and competitiveness that enhance enterprise and entrepreneurial spirit, enable higher economic growth. On the other hand, those institutional and other factors that do not promote enterprise and entrepreneurial spirit create informal barriers (relating to asymmetric information and uncertainty in exchange) that dampen productivity increase. It is well known that poor governance and also institutions that promote or encourage uncompetitive behavior entail negative externality and thus raise transaction costs. (Hennart, 2010)

Porter (1990) highlights the need for greater “domestic rivalry” or competition. Such a competitive environment encourages innovation which, in turn, may lead to cost cutting measures and the rollout of new products by local firms. According to Porter, firms that do not have to compete at home rarely succeed overseas. In the case of Japan, industries with strong domestic rivalry were also the country’s most successful international industries, e.g. automobiles, motorcycles, cameras. However, Japanese industries which were subject to weak domestic competition had little or no international success, e.g. construction, chemicals, paper. At the same time, greater domestic competition may lead to higher imports by insuring that foreign businesses are able to compete on a level playing field for domestic customers. Furthermore, there is evidence that an uncompetitive industry seeking a certain market power will lobby for restricted imports. The USA steel industry is a case in point. Therefore, the following hypothesis is put forward:
H.2: Competitiveness will influence trade turnover

Governance or institutional quality refers to the traditions and institutions by which authority in a country is exercised (Kaufman et al., 1999). Testing the influence of institutional quality on FDI in South-South investments, Arita (2013) found that each of the World Governance Indicators developed by the World Bank (voice and accountability, political stability and lack of violence, government effectiveness, regulatory quality, rule of law and corruption control) has a significant positive coefficient, indicating that higher quality institutions in host countries increase the level of FDI. According to Arita (2013), the overall results of the study are in line with the FDI-institutional literature and provide further support for the claim that improvements in institutional quality promote FDI. However, the study found that MNEs from emerging markets are less deterred from investing in countries with poor institutional quality than MNEs from advanced countries. Similarly, Van Horen (2007) found that banks owned by emerging market firms have a higher tendency to invest in countries with poor institutions. These markets have been avoided by banks from developed countries, but opportunities may provide a competitive advantage for emerging market firms despite institutional concerns. In a panel study of 64 emerging economies over a recent 11 year period, Wernick and Haar (2009) found that institutional quality of a nation is positively associated with FDI. All else being equal, they found that a single unit increase in governance and institutional quality will lead to an increase of about $204m per year in FDI. In a study of 53 African countries for the period 1996-2006, Wernick et al. (2014) found that positive changes in the quality of political institutions, using World Governance Indicators, are associated with increased FDI. However, for oil and gas-rich countries the negative association between institutional quality and FDI was weak. In a study of 60 countries, Brunetti and Weder (1997) found that poor institutional quality, notably related to the rule of law and corruption, negatively affected private investment. This relationship had the highest statistical significance of the 24 economic and political independent variables used in their study. Globerman and Shapiro (2003) found that host countries which attracted more FDI from the USA have impartial legal systems and better protection of property rights. In a study of 123 countries, Seyoum (2009) found that that the quality of formal institutions is as strong a determinant of FDI as other variables such as market size, trade orientation and economic growth. The study also showed that differences between the quality of institutions of home and host countries have a negative effect on FDI.

Control of corruption, as a form of governance or institutional quality, has received attention in the literature. In a study of 117 countries, Al Sadig (2009) found that a one percent decline in corruption will increase FDI per capita in host countries by approximately 20 percent. Rapid increases in the inflow of resource-seeking FDI in countries with poor institutional arrangements will lead to an increase in corruption (Robertson and Watson, 2004; Danon, 2010). According to Tanzi (1998), corruption provokes arbitrary enforcement of regulations and an increase in transaction costs for investors. Habib and Zurawicki (2001) found that corruption is negatively related to FDI inflows. According to Smarzynska and Wei (2000), corruption inhibits the transfer of technology through FDI. Investors that are compelled to seek joint venture entry modes to compensate for a lack of knowledge in a host market, will pay more in transaction costs. In general, corruption is regarded as a negative effect on corruption (Park, 2003; Zhao et al., 2003). However, others view corruption as an attraction for FDI by compensating for poor governance and poorly designed regulations and by “greasing the wheels of commerce” (Banerjee, 1997;
Aidt, 2003; Meon and Sekkat, 2005; Wang, 2009). The “grease the wheels” argument has been convincingly debunked as a cost factor, i.e. a waste of money and time that outweighs any potential benefit (Kaufmann and Wei, 1999; Danon, 2010). Consequently, the following hypothesis is proposed:

H.3: Governance (institutional quality) will influence FDI inflows

According to Jansen and Nordas (2004), improvement in institutional quality, i.e. reduction in corruption, improvements in government effectiveness and the rule of law, has a large and significant effect on trade liberalization and trade openness. According to Anderson and Marcouiller (2002), lesser institutional quality has a substantial negative effect on trade. In contrast, De Groot et al. (2004) found in a study of 100 countries that better quality of formal institutions tends to coincide with more trade. For international trade, the transactional cost of poor institutional quality, i.e. enforcing contracts, finding a reliable trade partner, is higher than the costs of tariff and transportation (Hummels, 2001; Andersen and Van Wincoop, 2003). Beugelsdijk and Van Schaik (2001) argue that institutional homogeneity between source and host countries give rise to similar norms of behavior (conventions, business practices, trust). For traders in both source and host countries, institutional quality will reduce uncertainty and its associated transaction costs. Thus, the following hypothesis will be tested:

H.4: Governance (institutional quality) will influence trade turnover

The relationship between international trade and international factor movements (FDI or migration of workers) has been analyzed and extended by trade economists under the Hecksher-Ohlin Model. If international trade is based upon differences in factor endowments, equalization of commodity prices may lead to equalization of factor prices, thereby eliminating any incentive for international factor movement (FDI or migration of workers). Thus, higher international trade may lead to lower FDI. The relationship between FDI and trade turnover also depends on the nature of FDI. For example, a “market seeking FDI” may lead to lower trade turnover.

However, according to Markusen (1998), trade turnover and international factor movements may complement each other if international trade is based on some other differences, e.g., differences in technology or firm-specific assets (ownership advantage). The relationship between FDI and trade turnover also depends on the nature of FDI. For example, in the case of natural resource or efficiency seeking FDI, higher FDI may lead to higher trade turnover (UNCTAD, 2006). Similarly, greater trade turnover or trade liberalization may encourage FDI by (1) signaling to foreign investors about a more “open business environment” in which the government encourages foreign participation and (2) reducing investor’s transaction costs through the knowledge of market structure of the host economy. Thus, the following hypothesis is offered:

H.5: Trade turnover will influence FDI inflows

The influence of FDI on GDP has generated a very extensive literature. One study cited 52 empirical studies on the relationship between FDI and GDP (Claassen, et al., 2012). A number of country panel studies found that FDI significantly enhanced economic growth (Bende-Nabende et al., 2002; Ram and Zhang, 2002; Makki and Somwaru, 2004; Basu and Guariglia, 2005). In
other studies, the impact of FDI on economic growth was positive for some countries but negative for others (Nair-Reichert and Weinhold, 2001; Zhang, 2001). FDI positively influences economic development in developing countries (Sylvester, 2005), in Africa (Sharma and Abekah, 2008), and in host countries such as China (Whalley and Xin, 2010), South Africa (Fedderke and Romm, 2006), and Nigeria (Okudua, 2009).

One of the most important factors explaining the inflow of FDI is the market size and growth rate of the host country (Love and Lage-Hidalgo, 2000; Chakrabarti, 2001; Lipsey, 2002; Van Wyk and Lal, 2008). In turn, FDI may also influence economic growth (Borensztein et al., 1998; De Mello, 1999; Obwona, 2001). The literature illustrates that the FDI-GDP relationship may be uni-directional in some countries or bi-directional in others. Lal and Van Wyk (2012) found that the FDI-GDP relationship was uni-directional for India but bi-directional for China in that FDI and economic growth reinforced one another. According to Sridharan (2009), the relationship between FDI and growth was bi-directional in Brazil, Russia and South Africa, but uni-directional in India and China. Qi (2007) found that the relationship between growth and FDI tended to be uni-directional in developed countries, but the relationship was bi-directional in developing countries.

The positive effect of FDI on GDP is often contingent on a set of conditions or caveats in the host country such as absorptive capacity, open trade and investment regime, macroeconomic stability, labor, human capital, real capital, financial institutions and infrastructure (Blomstrom, et al., 2000; Balasubramanyam et al., 1996; Gaikwad and Fathipour, 2013; Basu et al., 2003; Alfaro et al., 2004; De Vita and Kyaw, 2008). Despite the fact that some studies did not establish a relationship between FDI and economic growth (Durham, 2004; Akinlo, 2004; Herzer et al., 2008), the preponderance of evidence, as outlined above, confirms a positive and significant relationship between FDI and growth. In consequence, the following hypothesis will be tested:

**H.6: FDI inflows will influence GDP**

Considering the relationship between GDP and trade turnover, greater foreign trade may lead to higher GDP. In terms of the export led hypothesis (Makki et al., 2004) the argument may be advanced that export growth may lead to an increase in factor productivity through the targeting of larger world markets and the achievement of economies of scale. Also, higher export earnings may enable higher imports of capital and technology intensive inputs. This export increase may also happen because of import liberalization which makes better inputs (capital, intermediate, or technology) available and thereby resulting in efficient production geared towards the export market. Endogenous growth models and their extensions to open models (Grossman and Helpman, 1991; Lucas, 1988; Romer, 1990; Young, 1991) have emphasized the role of knowledge diffusion such as technology and organizational skills through greater foreign trade and investments in economic growth. It is now well accepted that a multitude of channels lead to knowledge diffusion which may enable higher economic growth. Such channels include non-proprietary scientific knowledge, new machinery and equipment which embody process improvements, the transfer of technology by firms and reverse engineering. (Caves et al., 2002) Thus, the following hypothesis is proposed:

**H.7: Trade turnover will influence GDP**

Methodology, Data and Research Model
The present study uses the manifest data that are available in international research organizations such as the World Bank, UNCTAD, etc. as shown in Table 1. Competitiveness is defined as a set of institutions, policies and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the level of prosperity that may be earned by an economy. The different aspects of competitiveness are captured in 12 pillars which form the Global Competitiveness Index. Competitiveness data was collected from the World Economic Forum that provides the Global Competitiveness Index which measures the microeconomic and macroeconomic foundations of national competitiveness of 148 countries. It is composed of 12 categories of institutions, factors and policies that determine the level of productivity of a country.

Governance consists of traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them. Dimensions of Governance include voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption.

Governance data was retrieved from the Worldwide Governance Indicators (WGI) project of the World Bank. WGI annual reports include the aggregate and individual governance indicators for 215 economies over the period of 1996-2013. The present study uses the aggregate indicators.

Trade openness used the trade turnover (export plus import) values of economies. The United Nations Conference on Trade and Development (UNCTAD) provides the international trade in goods and services. This study uses the value and shares of merchandise exports and imports in order to calculate the trade turnover value. The study uses the values of inward FDI flows. (UNCTAD)

GDP, at a purchaser’s price, is the sum of gross value added by all resident producers in the economy plus any product taxes, minus any subsidies not included in the value of the products. The values were retrieved from the World Bank. Across the different data sets, 114 countries for the year 2012 were considered for analysis.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Variable</th>
<th>Component</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitiveness</td>
<td>COMPET</td>
<td>12 pillars of global competitiveness</td>
<td>World Economic Forum</td>
</tr>
<tr>
<td>Worldwide Governance Indicators</td>
<td>GOVERN</td>
<td>Voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption.</td>
<td>World Bank</td>
</tr>
<tr>
<td>Trade Turnover</td>
<td>TRADEO</td>
<td>Values and shares of merchandise exports and imports</td>
<td>UNCTAD</td>
</tr>
<tr>
<td>FDI (Foreign Direct Investment)</td>
<td>FDIFLO</td>
<td>Inward foreign direct investment flows</td>
<td>UNCTAD</td>
</tr>
<tr>
<td>GDP (Gross Domestic Product)</td>
<td>GDP</td>
<td>The sum of gross value added by all resident producers in the economy</td>
<td>World Bank</td>
</tr>
</tbody>
</table>
The study used a path analysis to analyze the hypothesized parameters. Path analysis is a means to estimate significances of causality relationships between multiple independent variables and multiple dependent variables. A research model that uses a path analysis should include only observed variables. It should be noted that the latent variable concept did not exist when path analysis was developed (Wright, 1918). When a path does not yield certain causal relations, it may be used to identify the logical consequences of the hypothesis (Wright, 1921). However, path analysis is by no means restricted to cause and effect relations (Wright, 1954). Figure 1 shows the research model which includes the hypotheses. AMOS 22 estimated the parameters of this recursive model using the maximum likelihood method.

Chi-square statistic compares the tested model and the independence model to the saturated model. \( \chi^2 \) (CMIN) is 11.090 (df=2) and the p-value is .004, which meets the recommended value of .05 or less. The normed \( \chi^2 \) (CMIN/DF) is 5.545, which is larger than the recommended value 3. Therefore, Chi-square does not return a good model fit. However, RMSEA (Root Mean Square Error of Approximation), another absolute fit index, is .201, which is close to the recommended value .1. All of the baseline comparisons (incremental fit index) that include NFI (Normed Fit Index), RFI (Relative Fit Index), IFI (Incremental Fit Index), TLI (Turker-Lewis Index) and CFI (Comparative Fit Index) have values close to or greater than .9, which show a good model fit. The parsimony-adjusted measures that include PNFI (Parsimonious Normed Fit Index) and PCFI (Parsimonious Comparative Fit Index) have somewhat low values for both indices. Based on the rules of prior studies (Bentler and Bonett, 1980; Bagozzi and Yi, 1988; Byrne, 2001), the fit indices for the present model are acceptable, and the values indicate that the path model fits the data reasonably well. Table 2 shows the model fit indices.

<table>
<thead>
<tr>
<th>( \chi^2_{GoF} )</th>
<th>df</th>
<th>NFI</th>
<th>RFI</th>
<th>IFI</th>
<th>TLI</th>
<th>CFI</th>
<th>PNFI</th>
<th>PCFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.090 (P=.004)</td>
<td>2</td>
<td>.978</td>
<td>.891</td>
<td>.982</td>
<td>.909</td>
<td>.982</td>
<td>.196</td>
<td>.196</td>
<td>.201</td>
</tr>
</tbody>
</table>

Table 2. Model fit indices
Hypothesis Testing

Path analysis was used to analyze the hypotheses. Since the hypotheses are directional, the estimates were examined based on one-tailed tests, where significance must be lower than the $\alpha$-value .01 in order to be considered statistically significant. Since the effect of COMPET on FDIFLO is insignificant ($\beta=493.50$, $p>.01$), H1 is not supported. The effect of COMPET on TRADEO is significant ($\beta=883913.04$, $p<.01$); hence, H2 is supported. Since the effect of GOVERN on FDIFLO is insignificant ($\beta=-33.16$, $p>.01$), H3 is not supported. The effect of GOVERN on TRADEO is insignificant ($\beta=-9665.65$, $p>.01$); therefore, H4 is rejected. Since the effect of TRADEO on FDIFLO is significant ($\beta=0.024$, $p<.01$), H5 is supported. The effects of FDIFLO and TRADIO on GDP are both significant ($\beta=23.44$, $p<.01$ and $\beta=1.71$, $p<.01$, respectively); hence, both H6 and H7 are supported. Table 3 presents the properties of the causal paths, including unstandardized path coefficients ($\beta$), standardized coefficients, standard errors, and critical ratios. Figure 2 shows the result model with the standardized estimates.

<table>
<thead>
<tr>
<th>Path</th>
<th>Unstandardized</th>
<th>Standardized</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Supported?</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDIFLO ← COMPET</td>
<td>493.504</td>
<td>.015</td>
<td>3833.25</td>
<td>.129</td>
<td>.898</td>
<td>No</td>
<td>H1</td>
</tr>
<tr>
<td>TRADEO ← COMPET</td>
<td>883913.04</td>
<td>.782</td>
<td>154064.06</td>
<td>5.737</td>
<td>***</td>
<td>Yes</td>
<td>H2</td>
</tr>
<tr>
<td>FDIFLO ← GOVERN</td>
<td>-33.16</td>
<td>-.038</td>
<td>88.46</td>
<td>-.375</td>
<td>.708</td>
<td>No</td>
<td>H3</td>
</tr>
<tr>
<td>TRADEO ← GOVERN</td>
<td>-9965.65</td>
<td>-.335</td>
<td>3936.231</td>
<td>-2.456</td>
<td>.014</td>
<td>No</td>
<td>H4</td>
</tr>
<tr>
<td>FDIFLO ← TRADEO</td>
<td>0.024</td>
<td>.793</td>
<td>.002</td>
<td>11.496</td>
<td>***</td>
<td>Yes</td>
<td>H5</td>
</tr>
<tr>
<td>GDP ← FDIFLO</td>
<td>23.44</td>
<td>.282</td>
<td>4.724</td>
<td>4.962</td>
<td>***</td>
<td>Yes</td>
<td>H6</td>
</tr>
<tr>
<td>GDP ← TRADEO</td>
<td>1.71</td>
<td>.689</td>
<td>.141</td>
<td>12.118</td>
<td>***</td>
<td>Yes</td>
<td>H7</td>
</tr>
</tbody>
</table>

Table 3. Results of path analysis

Note: Two-tailed test, $\alpha=.01$, $|C.R.|>2.58$

The model includes indirect effects. TRADEO, e.g., has an indirect effect on GDP. FDIFLO has mediated the effect of TRADEO on GDP. However, the estimates are different. The direct effect of TRADEO on GDP is .69. The standardized estimates of the effect of TRADEO on FDIFLO is .79 and the value of FDIFLO on GDP is .28. Hence the indirect effect of TRADEO on GDP is .22 (.79*.28) and the total effect of TRADEO on GDP is .91 (.69+.22). Table 4 shows the estimated values of direct and indirect effects.

<table>
<thead>
<tr>
<th>Path</th>
<th>Direct Effect</th>
<th>Indirect Effect</th>
<th>Total Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP ← TRADEO</td>
<td>.69</td>
<td>.22 (.79*.28)</td>
<td>.91</td>
</tr>
</tbody>
</table>

Table 4. Indirect, direct and total effects of TRADEO on GDP
However, the standardized estimated value does not guarantee whether an indirect effect exists. AMOS software provides a special tool, called Bootstrap that returns a p-value, which is used to determine the significance of each estimated value. Table 5 shows the p-values of all the indirect effects of the model and their significance. The p-values of indirect effects except TREDEO → GDP are less than .05. Hence, they are significant.

<table>
<thead>
<tr>
<th>Variables</th>
<th>COMPET</th>
<th>GOVERN</th>
<th>TRADEO</th>
<th>FDIFLO</th>
</tr>
</thead>
<tbody>
<tr>
<td>TREDEO</td>
<td>…</td>
<td>…</td>
<td>…</td>
<td>…</td>
</tr>
<tr>
<td>FDIFLO</td>
<td>.009</td>
<td>.022</td>
<td>…</td>
<td>…</td>
</tr>
<tr>
<td>GDP</td>
<td>.020</td>
<td>.034</td>
<td>.065</td>
<td>…</td>
</tr>
</tbody>
</table>

Table 5. Standardized indirect effects - Two Tailed Significance (BC)

According to the table, TRADEO does not have an indirect effect on GDP because the p-value is larger than .05. Other indirect effects include COMPET on FDIFLO, COMPET on GDP, GOVERN on FDIFLOW and GOVERN on GDP. However, GOVERN does not have significant direct effects on FDIFLO and TRADEO. Hence, it must be excluded. Consequently, only COMPET has significant indirect effects on FDIFLO and GDP.

The results show that the indirect effect of TRADEO on GDP was not significant and the two indirect effects, COMPET --> GDP and COMPET --> FDIFLO through TRADEO, are significant. The latter two paths are nested, however, the indirect effect of TRADEO on GDP, which is a subset of the path COMPET to GDP, is not significant. This result translates into a very specific finding: TRADEO has a direct effect on GDP and also has an indirect effect through FDIFLO on GDP only when COMPET exists.

Figure 2. Result model
Managerial Implications and Future Research

The study combines two important streams of literature in International Business and International Trade in a path analysis by linking the institutional determinants of FDI and trade with the influence of FDI and trade on GDP.

The findings are based upon the evaluation of over 100 countries for the year 2012. The results of this study demonstrate (1) the relative importance of a competitive environment that encourages productivity increases on GDP via foreign trade; and (2) the direct and indirect impact of foreign trade on GDP. With regard to the second point, it is interesting to note that higher foreign trade may directly impact GDP or indirectly impact GDP via FDI. The results of this investigation confirm that competitive environments encourage greater foreign trade and, this on its own, enable higher economic growth. Furthermore, the analysis confirms that a more competitive environment which leads to higher foreign trade also encourages greater FDI and, in turn, also impacts GDP positively.

The findings affirm that the virtuous circle of growth in trade, investment and economic output may be mutually beneficial for both MNEs and host governments. Despite the seemingly diverse goals of MNEs and governments, our model suggests that the achievement of corporate goals, such as trade and investment, may be compatible with public goals such as economic development.
References


JUST-IN-TIME MANAGEMENT IN HEALTHCARE OPERATIONS

Jinglin Li*
Western Kentucky University

Trinity Vannoy
Western Kentucky University

Ismail Civlek
Western Kentucky University

ABSTRACT
Reducing costs and improving quality are two of the most important goals in managing healthcare operations. In this study, we explore how to improve healthcare operations by integrating Just-in-Time (JIT) management system. We first introduce the JIT management system, and then discuss how it can generate benefits in healthcare operations. We investigate implications for healthcare practice, which include how JIT techniques can be applied to healthcare operations, how hospitals and general practices can use JIT techniques, how JIT can help the patient throughput rate, and how technological advances can speed up healthcare processes. Implications for management and directions for future research are discussed.

INTRODUCTION
Just-in-Time (JIT) is a method of industrial organization aimed at producing only what is needed, when it is needed. The competitive benefits of JIT management are well implemented in both manufacturing and service industries. In JIT management systems, a process is capable of instant response to demand without the need for excess of inventories. The goal of JIT management is the total elimination of inventories at all stages of the process. Therefore, the major objective of JIT management philosophy is that the organization should aim zero inventory levels throughout the entire supply chain. The JIT management system originates from Toyota of Japan. Toyota was the first company to implement this system successfully (Monden, 1993); hence, the JIT management system has given this manufacturing company big advantage in terms of low inventories in their supply chain, which resulted lower operational costs.

In the JIT management system, the main idea is that inventory shouldn’t be overstocked; it should be delivered at the right time and to the right place. There are six key elements: Kanban system, the management commitment and employee involvement, elimination of waste, small lots and quick setups, total quality management, supplier relationships (Pheng & Chuan, 2001). Kanban is a Japanese word, which signals the delivery of components from one workstation to another in Japanese cards, and is
referred to a pull system in a manufacturing floor. This principle is an essential part of the JIT philosophy to promote deliveries when the company needs due to the customer demand. Thus, the company is able to minimize costs and improve efficiency in delivery of its supplies. In addition to Kanban, the JIT is also about continuing to improve the efficiency, which is called Kaizen. In light of sustaining continuous improvement, management’s efforts and leadership are very crucial to provide a nurturing and inspiring workplace, which will lead to higher productivity. Continuous improvement can’t be achieved unless top management is willing to commit fully and employees are encouraged to engage in quality processes.

The JIT management systems is considered more than a tool to reduce inventories in companies, it is an all-encompassing philosophy geared to eliminating waste and anything that does not add value. Anything in each step of the supply chain that is overstocked and adds no value to the final product is regarded as a waste, because inventory takes up space, and ties down capital, which also incurs storage cost and insurance cost. Moreover, the inventory has the risk of damage during storage and the risk of obsolescence as well. Therefore, promotion to eliminate waste is extremely important for successful implementation of JIT management. In a supply chain, small lots mean less average inventory, shortened manufacturing lead-time. Also, quick setups drive smaller lot sizes, make additional capacity available (often at bottleneck resources), reduce scrap and rework, and increase flexibility.

Quality is the fundamental goal of any management philosophy, so does JIT. The Total Quality Management (TQM) is a very proactive and systematic approach to improve and sustain quality while cutting costs across the supply chain (Anh & Matsui, 2007). The TQM promotes prevention and immediate detection of errors and problems at root source. The other principle for TQM is continuous improvement of quality across the company. Due to the need to continuously improve and sustain high levels of quality in a company, all of the employees should be encouraged and motivated to innovate to reach better levels of quality. In addition to the concept of quality, the supplier selection plays a vital role in any manufacturing or service company. One of the main differences between traditional purchasing and JIT is that JIT focuses on single sourcing. Single sourcing can increase customer intimacy, because a single supplier understands customer’s demand better, and suppliers are better equipped to plan their own schedules in accordance with their customer’s needs. It can also enhance the relationship between suppliers and customers. This kind longtime relationship is a win-win situation for all the players in the supply chain. To suppliers, it assures a stable business environment no matter how the market changes. To the buyer, it assures a better price and volume certainty. Hence, the JIT management system emphasizes on single sourcing instead of multiple suppliers.

DISCUSSION OF THE JIT IN HEALTHCARE OPERATIONS

The most common definition of JIT is always attached to manufacturing operations; however, it can apply to non-manufacturing industries as well, such as service sector firms. Both service and manufacturing firms create an end product and service; hence, the JIT techniques can be applied to both environments. Although healthcare is considered as a service industry, there are still some significant differences between
healthcare and service industries. First of all, healthcare providers are not able to stock their services and provide limited service or product like other traditional service companies do. Secondly, healthcare providers maintain a similar distribution chain like manufacturing but a more complex inventory system. Thirdly, it is very hard for healthcare decision-makers to forecast their demand, because the demand is based on daily patient census without any stable pattern. Therefore, high levels of buffer are common in healthcare operations. All of these differences make the healthcare a unique but complex industry.

The supply chain management of healthcare operations can be positively affected if the JIT management is implemented in each step. It is crucial that the supply chain of any organization needs to be connected with a series of smaller organizations, resources, and activities involved in the creation and delivery of value, in the form of both finished products and services, to end customers. The JIT enables great improvement in supply chain by providing right materials, low costs, and efficient services to facilitate patient care. In the healthcare operations, guaranteeing the great service and right products at the right time is very crucial. Continuous efforts to improve efficiency and eliminate the waste throughout the supply chain are important as well. Additionally, in the JIT philosophy, the main goal is to achieve zero levels of inventory. However, the demand for healthcare is based on daily patient census; it cannot be forecasted like other manufacturing and service companies. In the healthcare supply chain, the purchasing department should be built upon a long-term relationship with a small set of suppliers that will not only improve the supply efficiency but also lower the inventory cost. Medical Sterilization Inc. (MSI) is a successful example of adopting the JIT management system in healthcare industry. MSI offers contractor-provided reprocessing and sterilization of surgical equipment, which employs a highly hospital-tailored version of JIT. Furthermore, hospitals’ daily supplies, such as folders, are being overstocked, which take up space and ties down the cash flow.

Regarding the instances, in which the JIT management system can be applied in healthcare operations, cutting the costs by effective inventory management has very significant impact. Material costs, labor costs, and manufacturing costs are the main parts of patient care costs. In the healthcare management, all levels of management should be connected to all of the important decisions and put their efforts to the area they are specialized in. In this way, healthcare organizations can achieve lower levels of operating costs from parts, distribution and utilization of their resources. Moreover, healthcare organizations can first specify what kind of customers they are serving, what age group their patients belong to, what kind of service or products they need. Then, based on all these information, decision-makers can create a database, which will benefit their operations and customers. This kind of commitment to quality patient care is a reflection of the JIT philosophy. Additionally, maximizing resource utilization in the supply replenishment process is beneficial for the healthcare organizations. Hence, purchasing, materials management, and distribution departments should all be connected in the operations. For example, purchasing can help materials management because they know the inflow of goods better, and procurement managers in health organizations can order products directly whenever the products are needed. In this way, the decision-makers can maximize the utilization of their critical resources.
IMPLICATIONS FOR MANAGEMENT IN HEALTHCARE OPERATIONS

Most healthcare organizations have boards and doctors that work together for the good of the hospital. All of these decision makers should be informed about what the JIT management philosophy is, how it helps to increase efficiency and decrease inventories, how bottlenecks can be found, how to implement solutions, etc. The first step to institute the JIT philosophy in a healthcare organization is to perform a system analysis and figure out where bottlenecks and inefficiencies exist. Wennecke (2008) worked with a group of healthcare providers in a closed setting to provide novel JIT solutions for improving healthcare systems. The group came up with many different solutions. However, all of them had to be measurable, “either as time saved, fewer loops, fewer steps, lower costs, and so on.” Wennecke (2008) also stated “a solution must be sustainable.” The changes made using JIT techniques must be long term fixes instead of quick slashes that may cause a quick fix to a bigger problem. Wennecke (2008) shows that doctors are capable of introducing the JIT techniques in their hospitals if given any chance. Therefore, the top management in healthcare organizations should promote and support any efforts that lead to leaner operations in each step of the supply chain.

General practices are often at the forefront of a healthcare operation. Patients begin their journey through the system when they first walk into a general practice clinic to be examined by their general practitioner. They are often evaluated based on their symptoms and either discharged, taken for further examinations, or sent to a larger healthcare facility. A general practice often has no trend in the amount of patients seen day to day. Therefore, the healthcare organization always has to have enough inventory on hand to treat patients without any critical shortages. However, in the JIT management systems, the main goal is to minimize holding inventories at each step of the supply chain.

Mann (2010) is an executive member of a group designed to help general practices by taking advantage of lean manufacturing practices. Mann (2010) states “Anything that helps us to deliver our work in a way that is best adapted to the needs of our clients in a simpler, slimmer and speedier way must be worth knowing.” Even if the general practices have taken a long time to switch over to applications of the JIT management system, they intensely search for new ideas to increase the level of lean processes in their entire supply chain in order to save money by reducing the inventory, while still improving and maintaining quality care for their patients. Furthermore, Mann (2010) explains that there are 3 ways to introduce lean manufacturing into healthcare organizations. Firstly, he expresses “Take a keen interest (as a primary care team) in what patients and their careers tell you about their experience of receiving care.” This describes the fact that the primary care providers should actually listen when patients review their care. Once it is possible to determine what is wrong with the system, it becomes possible to suggest a solution. Secondly, he writes “In meetings where decisions are being taken, insist that brainstorming is not accepted as providing a workable solution.” This describes that instead of just brainstorming and ending the meeting make sure that patients and doctors are asked how the solutions would be received to make sure that they are feasible. Lastly, he states “Ask patients and staff the leading and inviting
question, ‘how do we waste your time’? This describes that it is important to ask the patients about wasteful moments in their experience because it may not be possible for the doctors to know what has been happening before they see the patient first hand. Therefore, inventories in the healthcare organizations can be reduced dramatically, if general practices can identify questions such as described here and come up with novel solutions.

Hospitals have much larger bottlenecks and inefficiencies in their daily operations than small general practice clinics do due to their size, seeing thousands of patients and employing hundreds of employees. The level of inventory in a hospital can be extreme, so the JIT management system is a perfect tool to reduce costs while maintaining quality patient care. However, how can you decrease the level inventories in an environment that has so much capital intensity and resources? Brandt (2011) discussed how JIT was applied to a surgical room in a hospital. A surgery requires many different medical personnel, pieces of equipment and medical tools. It can be very complex to try and reduce inventory. After applying a JIT analysis, it was realized that the surgical room had medical tools in many different locations. This led to nurses running all over the place in the middle of a surgery looking for a certain instrument. Applying a strict organizational structure allowed for inventory to go down, because it was much easier to see inventory levels and replenish them before stock outs. This also helped the hospital to minimize waste due to spoilage of perishable goods.

It is also important for hospitals to have very updated charts on every patient. Each patients chart is very important, because it can tell the hospital information about inventories. For example, if you know that a patient is diabetic you need to be sure to have enough insulin and needles on hand, which is inventory, while not having too much that it costs a lot in holding costs. Second, it can tell the hospital vital information about a patient that can help with throughput rate. If the patient is always receiving quality care then they are more likely to get through the system quickly because they will be discharged. Having an advance in technology has allowed for electronic charts to take over many hospitals.

Nace (2006) discusses how electronic charts have helped a hospital first hand. Doctors and nurses can quickly check facts and enter information about a patient that can be electronically seen from any area in the hospital. This eliminates the large amount of paper that was being used for every new patient seen and also eliminated a large amount of ‘running around’ time that often occurs in hospitals. It is much easier to transfer the patient around the hospital to different departments and doctors and have an electronic chart always be there. There is no more having to call up the previous doctor about messy notes on a paper chart.

Patients are at the core of healthcare systems. Without patients filling hospitals, clinics, care centers, etc. there would be no need for a healthcare system. Considering a general perspective, the most important aspect of the JIT techniques is patient throughput rate. Ultimately, it is how many patients can a healthcare system get through their doors and out everyday. Thus, it is important to have a high bed turnover while still maintaining a high level of service. The JIT techniques can help decision-makers to find the bottlenecks and inefficiencies in a healthcare organization and offer solutions. Jenkins
and Gisler (2012) discuss these issues and how they affected the Central Baptist hospital system by using a value stream mapping technique, which visually showed the route of patients in the system during their flow time in the system. This analysis helped the decision-makers to realize an average time frame showing the locations of bottlenecks in the system. Due to the patient gridlocks, it was clear that significant gaps in communication and coordination among employees and different departments existed. Using a lean tool, the value stream map, provided a solution of all the main decision-makers to meet every morning and discuss data that needed to be shared. These data sets consisted of current occupancy, nurse staffing, pending admissions, etc. Therefore, the hospital has started achieving quicker admission with less waiting times on average because of the JIT management system. Additional, there are more ways to increase the patient throughput through better medical practices in the healthcare organizations, often by the advancement of technology.

CURRENT TECHNOLOGICAL JIT INNOVATIONS IN HEALTHCARE INDUSTRY

Holter Monitoring Systems: The Holter Monitoring System is a small device that features software that is designed to be easy to use and informative without being invasive. It uses a recorder to detect abnormalities in a patient’s heart rhythm over a long period of time. They are comfortable for the patient to wear, and lightweight and compact.

Stylet for Endotracheal Intubation: The new Glide Scope is a reusable stylet that allows for easy intubations in surgeries and the ER. Since it is made from stainless steel, it can be cleaned and sterilized just as other surgical instruments. This decreases the inventory of stylets that are needed in a hospital. It also is rigid and shaped to the trachea, allowing for doctors to not waste time manually shaping a stylet.

Asset Tracking System: The Homer asset tracking system is a new technological system with a single, mobile antenna that uses radio frequency identification to locate and recover hospital equipment. This device does not need a large space for major infrastructure, and can be seamlessly integrated with minimal installation.

Pneumatic Patient Positioners: These positioners help hospitals and surgery centers to save time and resources. It is designed to be placed under the patient and inflated in order to help support some of the weight of the patient so that they can be slid from the hospital bed onto the surgical table.

OR Integration System: An integrated system that manages electronic imagery and patient data during surgery. It offers a live transmission of images and video recording. This allows security for both the patient and the doctor. This system can also help to see bottlenecks and inefficiencies in the system.

Portable Vital Signs Monitor: Portable monitors check patients’ vitals signs and help to decrease the amount of inventory required. Due to this monitor, healthcare organizations no longer needs to have large, very expensive machines, which are moved from room to room. The new technology has brought portability and efficiency to the healthcare facilities.

Inventory Management System: Uses radio frequency identification and networking technologies to track medical inventory. This allows for a much smaller inventory
because it allows for no stealing or loss of product. Each and every unit that is purchased can be accounted for. This allows for better managing expiration dates on time sensitive products. Everything is online for the key decision makers to account for.

NEW RESEARCH DIRECTIONS FOR JIT IN HEALTHCARE OPERATIONS

Healthcare operations can always be improved and will continue to be improved as technology advances. It is easy to see that just in the past 10 years, which is when the previously discussed innovations were created, that technology in healthcare operations has come a long way. As technology advances so can improvements in efficiency. The JIT management is not only about eliminating inventory to zero but also about improving efficiency and quality. We have seen a great number of successful examples in which JIT management has been applied in manufacturing sector. At the same time, JIT management is becoming more and more integrated into hospitals and general practices as well. We observed in this research that effective inventory management and supply chain management are key variables of healthcare operations that affect the efficiency and performance of the hospitals in the healthcare sector. However, there are numerous ways to improve healthcare operations by incorporating with JIT principles, such as total visibility of all components of the process, continuous improvement of the process, employees’ actively involvement and holistic approach to eliminate waste (Duclos, Sih, & Lummus, 1995, p. 39). All these approaches can be applied to healthcare operations. As a result, we can also see that manufacturing and healthcare service share lots of similarities, especially in the supply distribution and inventory control, nevertheless, the differences should be noticed as well in our future new research.

CONCLUSION

While countless academic research focused on JIT in manufacturing firms are being revealed, we hardly see JIT management research in service sector, especially in healthcare operations. Through our study and research in JIT management in healthcare operations, we analyze the similarities and differences between manufacturing sector and service sector, then we conclude that JIT management is an appropriate access to improve healthcare operations, in particular, in effective inventory management and supply chain management area. As a result, we can ultimately increase the patient throughput rate. In addition, abundant evidences about current technologies and leading firms in which implemented JIT management are provided in our research paper. With the rapid development of technologies, we believe that more and more hospitals or general practices will apply JIT management to their healthcare operations.
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AUTHORS

*Jinglin Li is a senior student of Finance in the Gordon Ford College of Business at the Western Kentucky University. She can be contacted at the Western Kentucky University, 1906 College Heights Blvd., 11058, Bowling Green, KY 42101. Email: jinglin.li097@topper.wku.edu (corresponding author).

Trinity Vannoy is a senior student of Accounting in the Gordon Ford College of Business at the Western Kentucky University. She can be contacted at the Western Kentucky University, 1906 College Heights Blvd., 11058, Bowling Green, KY 42101. Email: trinity.vannoy420@topper.wku.edu.

Ismail Civelek is an Assistant Professor of Management in the Gordon Ford College of Business at the Western Kentucky University. He can be contacted at the Western Kentucky University, 1906 College Heights Blvd., 11058, Bowling Green, KY 42101. Email: ismail.civelek@wku.edu.
NEW STYLE SHEET FOR 2015 FOR MUSTANG JOURNALS

Marty Ludlum *
University of Central Oklahoma

Tommy Thompson
Arcada University, Helsinki, Finland

David Davidson
Chien Hsin University, Jhongli, Taiwan

ABSTRACT

This research details the preferred style sheet for submissions to Mustang Journals in the business disciplines and the social sciences. (Legal papers use the same title information but use Harvard Blue Book format for footnotes). The first thing to note is an abstract of 150 words or less is indented. The methods discussed will benefit those who are writing their papers for any of the Mustang Journals. The abstract should be in italics.

INTRODUCTION

This paper conveys the style sheet elements in an example. All papers should be submitted in MS-Word format. All text should be in Times New Roman with a 12 point font. Do not use any special formatting other than the space bar. All paragraphs should be indented via the tab button.

First, you should note that the title is in all capital letters and bold. After the title, skip two lines. Put in the first author’s name in bold, but not in all capital letters. Underneath the name, write the author’s school affiliation in italics. If more than one author, indicate with an * which author is the corresponding author and put the contact information for the authors at the end of the paper. After the last author’s information, skip three spaces and put in the heading for the abstract.

For references in the body of the paper, we use the following format. The current population of Finland is 5,401,267 at the end of 2011 (Statistics Finland, 2012), comparable in size with Oklahoma in the United States. If a direct quote is used, “the page number is added at the end” (Ludlum, Moskalionov, and Ramachandran, 2010 at 17). Headings for the paper should be centered and in all capital letters and bold.

METHOD FOR BUSINESS AND SOCIAL SCIENCE PAPERS

Terms should be defined and references given. If there is one reference for a statement, use this format (Arcada, 2012). If a statement has multiple references, use this format as a guide. Females tend to be more ethical than males (Ludlum and Smith, 2011; Ludlum, 2010; and Ludlum, 2004). The references are separated by a semicolon. If you are using references, you should NOT use any footnotes. Include that information in the text of the paper.

Statistics, if used, should be explained. The statistical information can be reported as this example. A strong majority of students agreed (69% agreed, 11% disagreed). We also
found that students who were employed ($x^2=13.976$, df=8, p=.082) and younger students ($x^2=75.717$, df=44, p=.002) supported more individualized views of ethics.

The statistical information can also be included in a chart or graph. Please insert the graph(s) or chart(s) into the paper where they belong. Remember, the papers will be printed in black and white only. Therefore, you should experiment with any graph that requires multiple shades to be understood or read.

IMPLICATIONS FOR FUTURE RESEARCH & CONCLUSION

Do NOT use any header, footer, or page numbering system. These are tedious to correct and edit for the final journal proof. Following a conclusion, you should put all of your references. Main headings should be in all capital letters, centered, and bold type. Secondary headings (if used) should be in all capital letters and centered. The references should not be numbered. Instead, put the references in alphabetical order by the author’s last name.

Be cautious about using links to find your references, since the links change so often, they are useless a year after the paper is published! After the end of the body of the paper, skip three spaces, then put in the heading for references. Skip another space then include the references. Single space all references. Keep all references in 10 point font. Notice that Mustang Journals uses italics rather than underlining. Italics are much easier to read and duplicate. After the references, put the information for contacting the author(s) with school affiliation and email address.

REFERENCES


AUTHORS

*Marty Ludlum is an Associate Professor of Legal Studies at the University of Central Oklahoma. He can be contacted at the University of Central Oklahoma, 100 North University, Edmond, Oklahoma 73034. Email: mludlum@uco.edu (corresponding author).

Tommy Thompson is an Assistant Professor of Make Believe at Arcada University. He can be contacted at Arcada University, 100 North Main, Helsinki, Finland. Email: tthompson@yahoo.com.

David Davidson is a Professor of Other Stuff at Chien Hsin University. He can be reached at CHU, 100 North Main, Jhongli, Taiwan. Email: ddavidson@nothere.com.