JOURNAL OF INTERNATIONAL BUSINESS DISCIPLINES

Volume 6, Number 1 May 2011

Published By:
International Academy of Business Disciplines and Frostburg State University

ISBN 1-889754-89-7 ISSN 1934-1822

WWW.JIBD.ORG

JOURNAL OF INTERNATIONAL BUSINESS DISCIPLINES

Volume 6, Number 1 May 2011

Chief Editor:
Ahmad Tootoonchi
College of Business
Frostburg State University
101 Braddock Road
Frostburg, Maryland 21502
Tel: 301-687-4740
Tootoonchi@frostburg.edu

Editor:
Margaret A. Goralski
School of Business
Quinnipiac University
275 Mount Carmel Avenue
Hamden, Connecticut 06518
Tel: 203-421-4840
margaret.goralski@quinnipiac.edu

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JOURNAL OF INTERNATIONAL BUSINESS DISCIPLINES

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Editorial Note

The spring 2011 issue of the *Journal of International Business Disciplines (JIBD)* has been the result of a rigorous process in two stages:

- Stage 1: all papers that were submitted to the 2010 IABD conference went through blind reviews, and high quality papers were recommended for publication in the *Business Research Yearbook (BRY)*.
- Stage 2: approximately ten percent of the articles published in the *BRY* were selected for possible publication in *JIBD*, the respective authors were contacted and asked to resubmit their papers for a second round of reviews. These manuscripts went through a rigorous review process by the editorial board members and external reviewers. In the end, four articles were recommended by the editorial board for publication in the May issue of *JIBD*.

I would like to express my appreciation to the President of Frostburg State University, Jonathan Gibralter; Board of Directors of the International Academy of Business Disciplines; and my distinguished colleagues who served on *JIBD* Editorial Board or as external reviewers, for making this publication possible.

My special thanks to Margaret Goralski, editor; Louis Falk, web coordinator; Reza Eftekharzadeh, IABD VP for Administration and Finance for their outstanding contribution towards completion of this task.

JIBD is committed to maintaining high standards of quality in all of its publications.

Ahmad Tootoonchi, Chief Editor
Journal of International Business Disciplines

Volume 6, Number 1 May 2011

INFLUENCE OF JOURNAL QUALITY ON CITATION RELEVANCE: AN EXAMPLE STUDY OF MIS QUARTERLY PUBLICATIONS

Zhenyu Huang, Central Michigan University
huang1z@cmich.edu

Ying Ye, Dow Chemical
yye@dow.com

ABSTRACT

Citation Analysis is a rigorous research methodology that has been widely used to investigate the contribution of a journal toward other journals or academic disciplines. This methodology is often used to analyze the citation life cycles and patterns of journal articles, mostly cited studies, as well as frequently researched topics in an academic discipline. In this research, a citation analysis was conducted to investigate the ten year citation status of the literature published during 1995-1999 in MIS Quarterly (MISQ) – a top business journal in the Management Information Systems (MIS) area. The research unveiled the citation life cycles of MISQ publications and its top cited articles. It also found that IS research has been frequently cited by other business journals and the contribution of IS research toward other disciplines is profound.

INTRODUCTION

Citation analysis methodology, developed in the 1950's, is a well-established procedure in academic scholarship for examining and evaluating the contribution, dissemination, and extent of knowledge exchange in a given field, where a citation is listed as a reference at the end of an article (Cheng, Kumar, Motwani, Reisman, & Madan, 1999). For a long time, citation research has been focused on the investigated articles and their references (i.e. reference analysis), not on the articles that cited the investigated ones (i.e. citation analysis). With that said, reference analysis is useful in studying the relationship between other disciplines (their influence) and the target discipline, while citation analysis can be insightful in investigating the influence of the target discipline on other disciplines (Katerattanakul & Hong, 2003). Based on citation analysis, citation patterns and citation life cycles can be unveiled and studied. Citation pattern refers to the status, trend, and frequency of how a target article is cited over years after its publication. Citation life cycle refers to how often a target article is cited by other journals and disciplines, when the citation reaches a peak season, and when it comes to its obsolesce period. Citation

patterns can be used to enhance the understanding of the research quality of articles, journals, individual faculty, and departments and institutions (Mingers & Burrell, 2006).

Citation analysis and peer review are two major methods among those used in evaluating and ranking article and journal quality (Chan, Kim, & Tan, 2006). Peer review is a subjective evaluation of journal and article quality whereas citation analysis is perceived to be an objective method and more rigorous. Other journal quality evaluation approaches include surveying department chairs or faculty, ranking departments on the basis of membership on journal editorial boards, rejection rates of journals, and the number of journals sold, etc. (Kleijnen 2000). Citation analysis has been commonly used in physical and biological sciences (Katerattanakul & Hong, 2003), and not until recently has it been applied to journal and article quality studies in business fields in general and the MIS field in specific. For example, Culnan (1986) mapped the intellectual structure of MIS using co-citation analysis. Cooper, Blair, & Pao (1993) studied journal influence in MIS research using citation analysis methodology. Katerattanakul and Hong (2003) used this methodology to evaluate the quality and the knowledge contributions of MISQ. It was also one of the methodologies that were used to determine MIS citation patterns (Chan et al, 2006).

MISQ is regarded as a leading MIS journal. It is consistently ranked as one of the top journals (Chan et al, 2006). A rigorous citation analysis of MISQ will help find out what journals, authors, and articles are cited most in MISQ publications, which can help illustrate the influence of MIS research on other business and non-business disciplines. In addition, it can help save time for scholars when they look for references relevant to their MIS and business research projects. Being able to find relevant references for a quality research project is critical. Because even if the research methodology is accurate, the data source is unbiased, and research results are correct, the final result could be simply obsolete if the authors failed to find relevant and up-to-date references (Adams, 2003). Reference obsolescence happens especially when dealing with dynamic information such as financial, information technology, or other business data (Adams, 2003; Smith, 2004). The literature is regarded obsolete if its circulation decreased below a certain level, especially if it was cited frequently in the past (Glanzel & Schoepflin, 1995). Obsolescence can happen to the MIS and business literature. Therefore, it is important to study the citation patterns and life cycles of MIS journals. These questions, e.g., citation frequency and patterns, literature relevance, and obsolescence, indicate the refreshing speed of knowledge in an academic field. Answers to these questions would help scholars avoid repeating the study that had already been done and produce valid research that avoids the use of outdated information.

LITERATURE REVIEW

As mentioned above, citation analysis has been increasingly used in the MIS field to evaluate article and journal qualities. For example, Walstrom, Hardgrave, & Wilson (1995) ranked MIS

journals using a questionnaire approach. Based on the responses, they could find and rank three top journals in MIS: MISQ, Information Systems Research, and Communications of the ACM. Katerattanakul and Hong (2003) evaluated quality of MISQ using a citation analysis approach. They recorded 251 articles published in MISQ during 1989-1998 which were marked as target articles. For these target articles, some had never been cited while others were cited more than 20 times. Based on their analysis of the citation of MISQ articles, they concluded that MIS research contributes to advancing the body of knowledge in the MIS field as well as other business disciplines. Chan et al (2006) studied the citation patterns of International Conference on Information System (ICIS) articles using citation analysis. They found that there were a large number of MIS articles being cited by non-MIS journals.

Furthermore, citation analysis has been used in studying the citation life cycle of literature, also known as the literature 'aging' or 'obsolescence.' Literature is considered obsolete if its circulation decreased below a certain level (Glanzel & Schoepflin, 1995). The concept of "obsolescence" is more concerned with the document usage (citation) rather than its information or knowledge (Glanzel & Schoepflin, 1995). Scientists make use of other people's work in a characteristic manner (Pollman, 2000). Knowing the aging of literature is crucial to keep information up to date for scholars in scientific fields when they look for relevant articles. Pollman (2000) made a statistical analysis of scientific publications included in the science citation index (SCI) between 1972 and 1984. He found that the most recent literature was less frequently referred to than literature that was two or three years old. In the third or fourth year, however, a citation decline of SCI articles set in. Chung, Cox and Mitchell (2001) found that the number of the citations of articles published in three leading finance journals between 1974 and 1998 increased sharply during the first year after publication. The citation reached a peak during the fourth year and then declined gradually after that (Chung et al, 2001). But not all the articles were cited right after publication. For example, Cano and Lind (1991) analyzed citation in medicine and biochemistry and identified two types of citation cycles: type A and type B. Type A, comprised of both high and low cited papers in both fields, has an early peak of citation and may be approximated by a bilinear cumulative citation curve with a break at six years of age. Type B, on the other hand, exhibits a constant or slowly accelerating growth with a vigorous citation life extending over the entire period studied and typically one third or less of the total citations accumulated at six years of age.

Some journal articles could go unnoticed for a long time and then almost all of a sudden, attract a lot of attention and citation (van Raan, 2004). Burrell (2005) explained this phenomenon as scholars who had pushed the articles beyond their originally proposed purposes. According to Glanzel, Schlemmer, & Thijs's (2003) citation analysis, all papers indexed in the 1980 annual volume of the SCI (2003), 76% of all papers were cited in an initial period of three years. Papers that were not cited within the initial period of three years had a much lower chance to be cited later.

The citation curve of any journal can be described by the relative size of the curve, the extent to which the peak of the curve is close to the origin, and the rate of decline of the curve (Yu, Guo, & Li, 2006). A number of citation studies have been done in sociology, psychology, chemistry, medicine, and the financial field. It is important to extend this methodology into other business disciplines such as the MIS field.

RESEARCH QUESTIONS

In this study, citation analysis was conducted to investigate the life cycles and citation patterns of MIS literature. The objective of this study is to shed a light on current MIS research literature and to seek answers for the following questions:

First, what papers and authors in MISQ were most cited? It is important to understand what research has been published in the chosen area before researchers start their research project. The articles they read and write about will enhance their subject knowledge and help them clarify their research questions further (Saunders, Lewis & Thornhill, 2007). The process of literature review is time consuming. The awareness of top cited papers can help scholars save time when they contemplate their research ideas. The frequently cited articles unveil the most popular topics in the past years. It can also give suggestions to students who are preparing their research thesis, for example, PhD students on their dissertation topic selection.

Second, during which period were articles cited most after they were published and how long would this period last? According to the literature review, scientists and scholars typically made their major contribution at a relatively early stage in their careers (Cronin & Overfelt, 1994). The maximum output rate of the highest quality research usually occurred at an earlier age than the maximum rate of less distinguished works by the same individual (Cronin & Overfelt, 1994). Accordingly, using the information within the golden age of a literature is helpful to avoid outdated data and enhance the quality of research. Knowing the period in which an article was cited most can help determine the best time to use the literature.

Third, are literatures in the application section and the theory and research section cited differently? MISQ categorizes its articles of each issue into different sections such as application, theory and research, research note, MISQ Discovery, issues & opinions, case study, etc. Application and theory and research have been two main sections in which most articles were included. The application section research tends to give more updates, insights, and guidance to business practitioners, while the theory and research section articles tend to be more theoretical that provides academic and theoretical foundations and implications to scholars. Because of this nature, it is natural to contemplate if application research would receive less citation than theoretical research.

Investigating how articles in either section were cited can help discover the MIS research obsolescence rate in these sections. Application research could attract intensive attention and citation shortly after its publication as this type of research has a tendency to investigate current and hot topics and issues. The problems it studied and solutions it provided would be relevant to and referenced by business and academic research conducted shortly after its publication. Therefore, application research is expected to observe its citation peak sooner. Normally, if the peak citation season of an article came earlier, it would fade sooner too. As technology paces faster, new issues keep emerging and existing issues would fade out of people's research interests and focus. As a result, it is hypothesized that application research has an earlier citation peak and faster obsolescence rate. On the contrary, theoretic research tends to focus on fundamental issues and aims at establishing profound theories that can be generalized in multiple fields and applicable to solve various business problems. The theoretic value of this type of research will be uncovered gradually and last for years. Consequently, it tends to have a later citation peak. However, the slower peaking citation season an article has, the more citation it is likely to receive for it can accumulate more citations in more years. It is reasonable to conjecture that research in the application and theory and research sections have different citation patterns and obsolescence rates.

RESEARCH METHODOLOGY AND DATA ANALYSIS

MISQ was rated as one of the top IS journals by previous studies (Chan et al. 2006; Katerattanakul & Hong, 2003; Walstrom & Hardgrave, 2001; Whitman, Hendrickson, & Townsend, 1999). The journal is dedicated to MIS research and has contributed adequate articles in past decades that can be analyzed with citation research methodology. It is selected as the target journal in this study that represents MIS research. MISQ articles published between 1995 and 1999 were collected and treated as target articles. The citations on these target articles were collected from ABI/INFORM Global and SCI online database of the Institute for Scientific Information (ISI Web of Knowledge). For each target article, the citations within ten years since the article was published were collected and analyzed to allow fair comparisons between target articles. For example, for a target MISQ article published in 1995, all the articles published between 1995 and 2004 that cited it were located, collected, and analyzed. For a target article published in 1996, the citation data between 1996 and 2005 were collected and analyzed, and so on. Only in this way can target articles be compared in terms of citation life cycle and patterns. The citation analysis in this research was focused on document usage (citation patterns), the relationship between MIS and other disciplines, and the difference between the application section and the theoretic and research section articles.

All MISQ articles published in the theory and research section, application section, research notes, issues & opinions, MISQ Discovery, case study, SIM competition, research essay, and MIS doctoral dissertation were taken into consideration. Totally 118 MISQ articles published between 1995 and 1999 were found. And the citations of these 118 articles within the ten years

since the articles were published were analyzed. Table 1 indicates 118 citable articles published in MISQ between 1995 and 1999 and the basic citation information.

TABLE 1. MISQ (1995-1999) BASIC CITATION FACTS

	1995	1996	1997	1998	1999	Total
Number of Articles	24	22	21	22	29	**118**
Number of Citations within 10 years period	994	640	696	652	1272	**4254**
Number of un-cited articles	1	1	1	1	1	**5**
Average Citation per Article per Year	4.14	2.91	3.31	2.96	4.39	**3.61**

Two lists were compiled for the articles in MISQ during 1995-1999 into Table 2. The first list illustrates the number of articles, the total number of citations, and the number of citations per article in the application section. The information about the citation status of the theory & research section articles is included in the second list.

TABLE 2. CITATIONS OF ARTICLES IN DIFFERENT SECTIONS

Application Section			Theory & Research Section		
# of Articles	# of Citations	Citation per Article	# of Articles	# of Citations	Citation per Article
18	638	35	38	1480	39

Several indices for article citation were calculated thereafter. Citation per article is the average number of citations received by a target article over the ten years since its publication. Annual mean citation rate per article (citation density) provides a normalized quality index of the target articles based on the number of years since publication. While the target articles were categorized into the application and the theory & research sections, the number of citations in each category was recorded. Fifteen percent of the 118 MISQ articles during 1995-1999 were published in the application section, which received 638 citations in ten years after publication, equivalent to 35 citations per article. Thirty two percent of the 118 articles were in the theory & research section. They have received 1480 citations. The number of citations per article in ten years was 39.

Of all the 118 MISQ articles published in 1995-1999, each received an average of 36 citations over a ten-year period. Annual mean citation was 3.6 per article. Of which, the theory and research articles (39 citations in 10 years) were cited more often than the application articles (35 in 10 years). Katerattanakul and Hong (2003) found that MISQ articles published during 1989-1998 had averagely received 13.1 citations per article in ten years. Comparing to that, the data in this research shows an increase of citation rate of MISQ articles. It means that MIS literature's citations have accumulated in later years. Comparing to a 6% un-cited rate (Katerattanakul & Hong, 2003), the articles in MISQ during 1995 to 1999 had only a 4%

un-cited rate (one un-cited article each year, see Table 1). In addition, according to the data, even the least cited article received at least one citation in ten years since its publication.

Of the 118 articles published during 1995-1999, the top eight articles received a total of 1151 citations, which represented 27% of the total number of citations (4254). These articles were cited 144 times each during the first ten years after their publications. Table 3 lists the top cited article in MISQ. It proves that these top cited articles have immense influence on the MIS discipline. They were perceived to be 'classic' papers in the subjects they studied and provided theoretical foundations to many other studies. Furthermore, the citation data in this research showed that MISQ articles, especially these top cited articles, had big impact on other business disciplines. For example, the top cited MISQ article by Myers and Klein (1999) between 1995 and 1999 was cited by a plethora of articles from a variety of disciplines besides MIS, including computer science, management, business, operations research, engineering, medical informatics, ergonomics, and social science, among others.

TABLE 3. TOP CITED MISQ ARTICLES PUBLISHED DURING 1995 - 1999

Title of Article	Author	Year	Number of Citation	Citation per year
A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems	Myers & Klein	1999	208	20.8
Information Technology Adoption Across Time: A Cross-Sectional Comparison of Pre-Adoption and Post-Adoption Beliefs	Karahanna, Straub & Chervany	1999	201	20.1
Social Cognitive Theory and Individual Reactions to Computing Technology: A Longitudinal Study	Compeau, Higgins, & Huff	1999	157	15.7
Computer Self-Efficacy: Development of a Measure and Initial Test	Compeau & Higgins	1995	127	12.7
Gender Differences in the Perception and Use of E-Mail: An Extension to the Technology Acceptance Model	Gefen & Straub	1997	126	12.6
Creation of Favorable User Perceptions: Exploring the Role of Intrinsic Motivation	Venkatesh	1999	121	12.1
Key Issues in Information Systems Management: 1994-95 SIM Delphi Results	Brancheau, Janz, & Wetherbe	1996	111	11.1
Personal Computing Acceptance Factors in Small Firms: A Structural Equation Model	Igbaria, Zinatelli, Cragg, & Cavaye	1997	100	10.0

Figure 1 shows the time based pattern of the number of citations received by all target articles during each year since their publications. Empirically, the citation rate should vary over its citation life time for all journals (Mingers & Burrell, 2006). In this study, the number of citations

in MISQ literature kept increasing for ten years after the article was published, reached its peak around nine to ten years and stayed stable after that before starting to decline. Accordingly, MISQ articles demonstrated a healthy upward citation pattern.

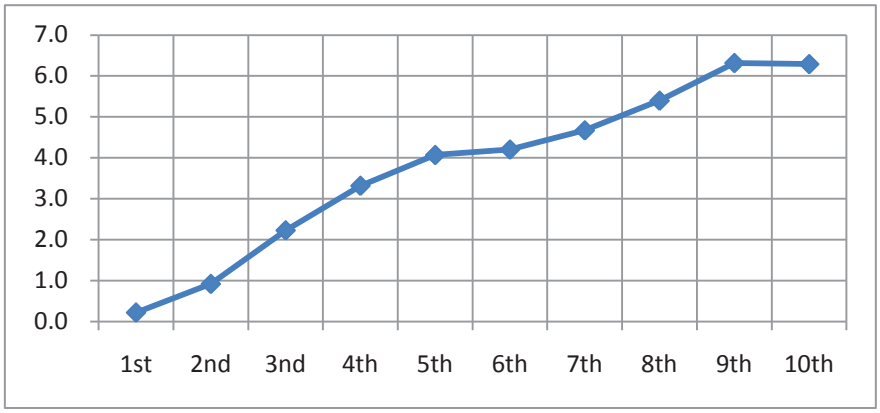

FIGURE 1. CITATION LIFE CYCLE OF MISQ ARTICLES

Figure 2 shows citation patterns of target articles in the application section vs. the theory and research section. There was no significant difference found in citation patterns between articles in these two sections.

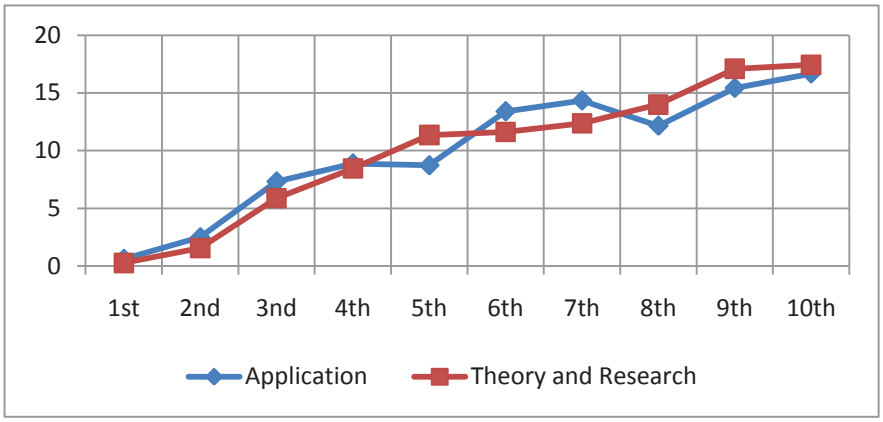

FIGURE 2. CITATIONS IN APPLICATION VS. THEORY & RESEARCH SECTION

RESULTS AND CONCLUSION

The citations of MISQ articles kept increasing after publication. It reached the peak around nine to ten years. The articles published in the theory & research sections averagely received four more citations per year than the articles published in the application section. However, the citation patterns of the articles in these two sections have shown no big difference. Both sections demonstrated upward patterns.

Comparing to the science literature of which citations increased sharply during the first three years after publication and reached the peak at the fourth year and then declined gradually, MISQ literature appreciated a late peak as well as a longer citation life cycle. The type B curve proposed in Glanzel et al's (2003) study is more suitable in describing MISQ literature citation pattern. The literatures in MISQ do not belong to the rapidly aging group which has a more skewed distribution with a small median age. The citation rate of MISQ literature declined slowly. That is why even though there was only a five year difference between this research and Katerattanakul and Hong's (2003) study, citations per article increased by 23. This research shows that the citations of MISQ have increased greatly in the later years. Some papers were still being regularly cited far more than ten years after publication.

Replications are an important component of scientific method in which tentative belief is converted to accepted knowledge (Berthon, Pitt, Ewing, & Carr 2002). The top cited MSIQ articles during 1995-1998 would give some suggestions to students when they choose their research topics or gain hints about the most popular research areas in MIS. Mature period and decline period are two periods in the life of MIS publications. Hypothetically, the mature period of an application article was shorter than that of a theory and research article. Correspondingly, it would decline sooner than a theory and research article. Line and Sandison (1974) pointed out that in a fast growing field or the one with rapidly advancing technology, older articles were made to be superseded more quickly. However, our research could not find this trend in MISQ publications as both sections' articles demonstrated an upward citation pattern throughout a ten year period.

LIMITATION AND IMPLICATION

In this study, the citation life cycle stopped right after the peak because the observation period was constrained at a special interval (ten years) of the aging process. Based on their current climbing citation patterns (Figure 1 & 2), it is hard to predict whether the citation would decline from eleventh year or keep increasing or when the mature period would stop. According to past citation research, it is possible that some articles went unnoticed for many years before being cited frequently (Burrell, 2005). Reliable analyses can be conducted based on revealed lifetime curves and aging prediction (Celler, Cani, & Davies, 1981). To get more reliable results, therefore, the citation years and the source years (for target articles) need to be extended as long as possible. There were only five source years in this study. The longer the source years, the more target articles could be included for analysis. More importantly, the citation years should be as long as possible. The advantage of long citation years is that the analysis could delineate a complete citation life cycle of journal articles. For example, Glanzel and Schoepflin (1995) studied the aging and the reception processes of scientific journal articles in a period of twenty-five citation years. As a result, they could depict the whole citation life cycle curve from increasing until declining. Furthermore, the citation observation years should be extended even more for a prestigious journal like MISQ as its literatures tend to have a longer citation life cycle

than a lower-tier journal. According to our observation, some early target MIS articles published in the 1970s were still cited recently. However, the determination of specific citation observation years should be based on the research discipline, the prestige of the journal, the nature of target articles (for example, practitioner-oriented vs. theoretical research), as well as the research objectives. A pilot test can be very useful to gauge appropriate source years and citation observation years. After that, a reliable full test can be conducted to complete a rigorous citation analysis.

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Volume 6, Number 1 May 2011

JUST TRUST ME: MODERATORS OF THE TRUST - BEHAVIOR RELATIONSHIP AND EFFECTS ON PERFORMANCE

John W. Upson, University of West Georgia
jupson@westga.edu

ABSTRACT

It is believed that firms within successful supply chains have a great deal of trust in one another. However, little is known about the effects of trust on firm performance in supply chain relationships. I draw on social exchange theory to devise a model linking trust between partners with two types of displayed behaviors: constructive and opportunistic. Constructive behaviors are those behaviors that strengthen the supply chain relationship whereas opportunistic behaviors are those behaviors that weaken the supply chain relationship. I then investigate several moderators to the trust-behavior relationship. Finally, I explore the effects of constructive and opportunistic behaviors on firm performance.

TRUST IN SUPPLY CHAINS

Trust is the mutual confidence that no party to an exchange will exploit another's vulnerabilities (Barney & Hansen, 1994). Trust is an important factor of success within business relationships. In a positive sense, trust has been referred to as the cornerstone of strategic relationships (Sherman, 1992) as it provides assurance that one firm's investments are safe from appropriation by its partners and that those partners will invest at a level that is equally appropriate. However, trust has also been referred to as "the biggest stumbling block to the success of alliances" (Sherman, 1992, p. 78). The absence of trust is so detrimental to business relationships that a third of all business relationships fail simply because they lack sufficient trust (Ireland, Hitt, & Vaidyanath, 2002; Sherman, 1992).

In an exchange relationship, firms often must extend trust to receive trust. Unfortunately, the first party to act in good faith and extend trust puts itself at risk because there is no guarantee that the partner will reciprocate (Gilliland & Bello, 2002). Partners that choose not to reciprocate are often placing their own firm's goals above the mutual goals of the relationship (Ketchen & Giunipero, 2004). In extreme cases, devious partners may take advantage of a firm's trust and exploit it to their own advantage. For example, Mitsubishi licensed some of its proprietary technology to rival Hyundai so that Hyundai could build a better car on behalf of Mitsubishi. Hyundai, in turn, not only used this technology to build Mitsubishi cars but to improve their own cars and surpass Mitsubishi in many key markets (Updike & Nakarmi, 1995).

Although tightly integrated relationships have many risks and frequent casualties, they are becoming increasingly common (Glaister & Buckley, 1999). This might indicate that

relationships are becoming increasingly important to firm survival but it does not suggest that managers are completely comfortable with these relationships. While trust facilitates cooperation, commitment, and cost reduction (Wicks, Berman, & Jones, 1999), it is possible to over or under invest in trust (Erdem, 2003). Over investing occurs when offering trust in excess of a relationship's potential value and under investing occurs when offering trust below the relationship's potential value. The desired outcome is optimal trust, or "knowing whom to trust, how much to trust them, and with respect to what matters" (Wicks et al., 1999, p. 102). Optimal trust is a mixture of trust and distrust. Managers might wonder if extending trust to a partner actually leads to performance gains. At the same time, managers may wonder if a lack of trust hinders firm performance or puts their firm at risk. This research question is then, how does trust within exchange relationships affect partner behavior and performance?

I investigate trust between firms from the perspective of social exchange theory (Blau, 1964; Gouldner, 1960) and in doing so I broaden the scope of the theory. To date, social exchange theory has been limited to interactions between employees and managers, and employees and their organizations (Cropanzano, Prehar, & Chen, 2002; Wayne, Shore, & Liden, 1997). Social exchanges involve unspecified obligations in which one person does a favor for another person. There is an expectation of some future reciprocation, although the time and form are often unclear (Gouldner, 1960). The person extending the favor has some degree of trust that the recipient will return in kind. I suggest that as individuals interact, so do firms. Obtaining a tightly integrated exchange relationship requires some degree of trust and interaction between partners (Kwon & Suh, 2004).

This paper is set in the context of supply chains, or networks of firms that transition goods from raw materials into finished goods (Handfield & Nichols, 2002). The field of strategic management seeks, as its primary goal, to understand firm performance (Meyer, 1991) and one component of firm performance is the performance of supply chain relationships (Croxton, Garcia-Dastugue, Lambert, & Rogers, 2001). Supply chains often rely on trust. Because contractual enforcement of partner obligations is more costly and less efficient than informal enforcement (Dyer & Singh 1998), supply chain partners rely to a great extent on trust and informal enforcement. As firms increasingly rely on integrated supply chain relationships, this context seems appropriate for studying the effects of trust on behavior and performance.

This study contributes to the extension of theory in several ways. First, the study shows that trust affects the choice of social enforcement method. Second, the study helps understand the implications of positive and negative social enforcement behaviors.

In this paper I examine trust within supply chains and the effects on behaviors leading to firm performance. In doing so, I first review relevant literature of social exchange theory and its implications to trust and supply chain relationships. I then present the model and related propositions. Finally, I discuss the managerial implications and future research.

TRUST AND FIRM PERFORMANCE

Effective management of relationships is a critical factor of success and requires a high level of trust (Ireland et al., 2002). Trust indicates one party's confidence in an exchange partner's

reliability and integrity (Morgan & Hunt, 1994). Trust has been defined as both a behavior and a belief system (Kramer & Tyler, 1996). I take the view that trust is a belief system that leads to certain expressed behaviors and apply it at the inter-organizational level. The result of trust is a firm's belief that its partner will perform actions that result in positive outcomes for the firm and avoid actions that result in negative outcomes (Anderson & Narus, 1990). Trust greatly improves the chance that business relationships will perform well. High levels of trust between partners have many benefits including low levels of uncertainty in partner behavior, greater information sharing (Kwon & Suh, 2004), less opportunistic behavior (Geyskens, Steenkamp, & Kumar, 1998), and greater risk taking (Beccerra & Gupta, 1999).

Research has identified four antecedents to trust (Chu & Fang, 2006). First, if a partnership is supportive and at the same time bears the opportunity for satisfactory outcome through mutual sharing, then the level of trust in such relationship will be increased (Anderson & Narus, 1990; Batt, 2003). Second, reputation has an extremely large influence on trust. Supply chain partners that enjoy high credibility in the market, are more trusted by their partners (Kwon & Suh, 2004). Also, because the cost of preventing opportunism is very high, those firms that are regarded as trustworthy become attractive as partners to other firms (Houston & Johnson, 2000). Third, conflict causes frustration for both parties (buyer and seller) and in turn influences the distrust among partners (Anderson & Narus, 1990). When partners perceive a conflict, it damages the trust-building process and lowers the level of trust. Finally, close communication affects the quality of bilateral relation in that it enables both parties share information, best practices, and process improvements (Anderson & Narus, 1990; Lee & Kim, 1999).

Trust to Behavior

The management of supply chain relationships requires a great deal of trust and coordination because the respective relationships often involve a high degree of interdependency (La Londe, 2002). Often, firms resist the notion to place greater trust in a partner because of fear that the partner will not reciprocate. The first party to act in good faith is open to exploitation. To protect against exploitation, there are two common enforcement options available to protect a party when extending trust to a partner: contractual and social (Gilliland & Bello, 2002).

Contractual enforcement is the legal form of mandating a desired behavior. Contracts are a way of forcing compliance between parties as firms are legally bound to behave in certain ways (Poppo & Zenger, 2002). Social enforcement, on the other hand, involves the presence of behavioral norms to ensure the parties of a relationship act in coordination with each other (Gilliland & Bello, 2002). For social enforcement to be effective, firms must have faith that payoffs are divided fairly, monitoring costs are minimal, agreements can be adjusted "on the fly," and there is no time limitation to the agreement (Dyer & Singh, 1998). This suggests that social enforcement relies greatly on trust. I therefore focus on the social enforcement measures because these require that partners observe each other's behaviors, gauge them as trustworthy or not, and respond accordingly.

Building upon the above reasoning, I suggest that relationships are managed by a series of displayed behaviors between firms. A firm will manage a relationship through a series of intended actions and reactions toward a partner. Some interaction will be proactive, the firm's

planned behavior, and some interactions will be reactive, as in response to a partner's behavior. In either case, it is through behaviors that the firms interact and convey their sense of trust toward each other. I recognize two types of behaviors toward partners, constructive and opportunistic. Constructive behavior involves actions taken to pursue mutual interests, whereas opportunistic behavior involves actions taken to pursue a firm's own interests at the expense of others (Das & Teng, 2000).

A model of trust and social enforcement is displayed in Figure 1. According to the model, trust within supply chain relationships is related to two forms of social enforcement behaviors, constructive and opportunistic. These behaviors partially mediate the relationship between trust and relationship performance. Behaviors stemming from high levels of trust contribute to the success of the relationship, whereas behaviors stemming from low levels of trust contribute to the deterioration of the relationship.

Restricting the model to the setting of supply chains allows the assumption that the participants are familiar with one another and that the relationship at issue has moved beyond the level of simple transactions. The supply chain partners are actively trying to create efficiencies and remove costs from the business model.

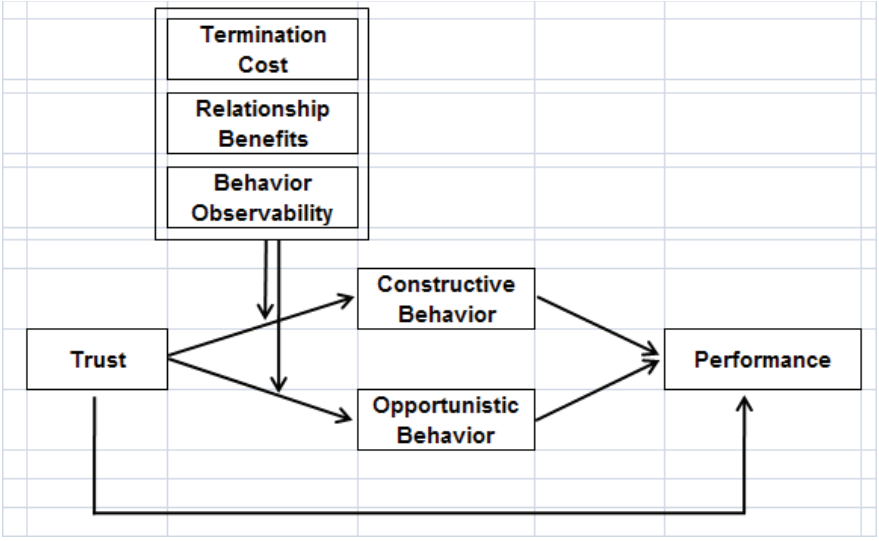

FIGURE 1. HYPOTHESIZED MODEL OF TRUST LEADING TO FIRM PERFORMANCE

The central argument is that behaviors affect relationship performance and that constructive and opportunistic behaviors are not two extremes of the same scale. Although a negative relationship likely exists between the two, it is quite possible for a firm to be high in both constructive and opportunistic behavior. For example, a research intensive firm may trust certain partners but still be unwilling to share proprietary information, an opportunistic behavior, because the information has a critical value to the firm. Thus, in this model, constructive and opportunistic behaviors are displayed as independent mediators of the trust-performance relationship.

Constructive Behavior

Constructive behavior, also referred to as cooperative behavior, involves the pursuit of mutual interests between firms through relationship-building actions (Das & Teng, 2000) such as information sharing, idea exchange, and willingness to make sacrifices for the partner. When trust is high, firms are more likely to focus on the relationship's success rather than on monitoring each other's actions (Gounaris, 2005). Constructive behaviors include long term thinking, a willingness to share information (Kalleberg & Reve, 1992), and greater acceptance of risk (Beccerra & Gupta, 1999). Constructive behavior allows firms to focus on core competencies and contributions that add value to the relationship. For example, in a helpful effort to reduce costs and improve efficiency of their supply chain, IBM offloaded the assembly of its personal computers to some of its partner distributors (O'Heir, 1997).

Partners in a relationship act upon each other's level of trust. Social exchange theory argues that trust evolves from past and current experiences and is continuously changing (Hutt, Stafford, Walker, & Reingen, 2000). A firm reacts to the level of trust displayed by its partners and modifies its own behavior to display the level of trust it has in respective partners. High levels of trust causes a firm to behave in a constructive manner because it has confidence that its partners share the same values and will act in its best interest. Thus, the firm can behave without fear of opportunism. For example, a firm might freely share information, dedicate resources to the relationship, make concessions for partners that they would not make for others, and take greater risks. Thus:

> **Proposition 1:** *Trust is positively related to the display of constructive behavior in a supply chain relationship.*

Opportunistic Behavior

Opportunistic behavior occurs when a firm pursues its own interests at the expense of its partners (Das & Teng, 2000). Opportunistic behavior does not imply that a firm is in direct competition with its partners; rather it implies that a firm is not acting in a manner that strengthens the relationship. A firm that engages in opportunistic behavior seeks to gain more from a relationship than it contributes. For example, in 2002 General Motors used its industry power to demand price cuts of four to six percent from its supplier partners even though it had received similar reductions in price the previous year (General Motors demand…, 2002). To minimize loss due to a partner's opportunistic behavior, firms incur increased costs to monitor and scrutinize partner behaviors (Gounaris, 2005; Kwon & Suh, 2004). As a result, productivity suffers and the desired efficiency and effectiveness are not realized and ultimately performance is affected.

I argue that when trust is low, firms will behave opportunistically because they lack assurance that partners will reciprocate trustful behaviors. Firm fearing opportunism will tend to close them off from partners thereby decreasing the effectiveness of relationships. Supply chain relationships might continue, but not as effectively as they could at high levels of trust. Additionally, when trust is low, firms may actively search for alternative partners (Kumar, Stern, & Achrol, 1992) and therefore limit their exposure in current relationships. For example, a firm

might limit the amount of information shared, withhold resources from the relationship, monitor partners closely, and avoid risks. The actions suggest that the firms are more concerned with their own priorities than with the priorities of the supply chain. Thus,

> **Proposition 2:** *Trust is negatively related to the display of opportunistic behavior in supply chain relationships.*

Relationship Termination Costs

Although supply chain relationships have the potential to produce various efficiencies and effectiveness (e.g. Petersen, Ragatz, & Monczka, 2005; Rajendran & Ziegler, 2001), there are times when firms must terminate certain relationships. Unfortunately, there are costs to termination, some of which may be very high as in the case that idiosyncratic investments have been made (Heide & John 1988). Termination costs differ from the more widely acknowledged switching costs (Porter, 1980) in that it is possible that no "switch" occurs after the relationship ends. For example, upon termination of a supplier, a firm may choose to discontinue the use of the product or service that the supplier provided thereby alleviating the need to find a new supplier. Although it is possible that no switching costs are incurred, the firm does realize costs of termination. Termination costs include all expected losses from termination such as the lack of a comparable alternative partner, relationship dissolution expenses, and/or switching costs (Morgan & Hunt, 1994). Because termination involves costs, it may be very expensive for firms to end relationships frequently (Morgan & Hunt, 1994). To avoid termination costs, firms become somewhat dependent upon their current set of partner relationships (Heide & John, 1988; Jackson, 1985) and increase their interest in maintaining quality relationships (Dwyer, Schurr, & Oh, 1987). Therefore, as termination costs increase, firms display more commitment to a relationship and this is likely displayed through constructive behaviors. Thus:

> **Proposition 3:** *Termination costs moderate the relationship between trust and constructive behavior in supply chain relationships; the relationship is more positive when termination costs are high.*

Opportunistic behaviors tend to benefit firms in the short run at the risk of partnership stability in the long run (Ellram & Cooper, 1990). Because opportunistic behaviors may eventually cause a supply chain relationship to end, firms engaging in these types of behaviors are more likely to incur termination costs. Therefore firms must weigh the short term benefits of opportunism against the long term costs of relationship termination. In a simple cost-benefit analysis, firms would only want to engage in opportunistic behavior if the value of the opportunistic behavior is higher than the termination costs. This suggests that as termination costs increase, firms are less likely to display opportunistic behaviors and instead seek to behave in ways that maintain their current relationships.

> **Proposition 4:** *Termination costs moderate the relationship between trust and opportunistic behavior in supply chain relationships; the relationship is more negative when termination costs are high.*

Relationship Benefits

Competition requires that firms continually seek out products, processes, and technologies that add value to their own offerings (Porter, 1980). This suggests that partner selection may be critical to a firm's competitive strategy. In fact, supply chain relationships, and specifically the role of procurement, may be the most important factor in delivering superior value to customers (Webster, 1992). Those partners that deliver superior benefits will be highly valued. Firms then likely commit to establishing, developing, and maintaining relationships with such valued partners. Therefore, firms that receive superior benefits from a partnership, such as profitability, customer satisfaction, and product are likely to be committed to the relationship. Thus, I suggest:

> **Proposition 5:** *Relationship benefits moderate the relationship between trust and constructive behavior in supply chain relationships; the relationship is more positive when relationship benefits are high.*

Opportunistic behaviors tend to put the priorities of a firm above the priorities of the relationship (Das & Teng, 2000). Firms that behave opportunistically are more likely to forgo the benefits of the relationship and concentrate on the benefits of their own actions. Opportunistic behavior will cause partners to withhold their commitment to the relationship, thereby decreasing the potential relationship benefits. Extreme opportunism may even eliminate any relationship benefits, effectively destroying value. Therefore, for firms to behave opportunistically, the opportunism benefits must outweigh the relationship benefits. As the relationship benefits increase, the hurdle for value creation through opportunism increases. Thus, I suggest:

> **Proposition 6:** *Relationship benefits moderate the relationship between trust and opportunistic behavior in supply chain relationships; the relationship is more negative when relationship benefits are high.*

Behavior Observability

A critical factor of firm behavior is the extent to which the behavior is observable to outside parties (Greve, 2008). Research in the field of competitive dynamics indicates that in highly collusive situations, firms will tend to honor collusion, or tacit agreements, when their actions are perfectly observable (Bernheim & Whinston, 1990). Under perfectly observable conditions, firms that defect from collusion are always detected and punished. However, when behaviors are imperfectly observable, there may be an incentive to defect from collusion because firms may act opportunistically without detection. I assert that behavior observability may not only affect a firm's behavior toward its competitors but also toward its partners.

When actions are imperfectly observable, constructive behavior is not affected. Partners that trust one another will continue to display constructive actions whether the actions are observable or not. However, when actions are imperfectly observable, opportunistic behavior is affected. Void of detection, firms that are intent on acting opportunistically will do so when they have the opportunity. An interesting twist is that the firms that act opportunistically in some respects may continue to act constructively in other respects. Consider the stereotypical con artist. This person displays a great amount of constructive behavior that allows him to gain the trust of the victim.

Meanwhile, the con artist is acquiring resources (i.e. money or commitment) from the person without that person's knowledge. I argue that firms which are likely to engage in opportunistic behavior will also engage in constructive behavior. One reason may be that the firm seeks to continue the relationship as long as possible to continue to reap the benefits of its opportunistic behavior. Based on arguments that behavior observability only affects opportunistic behavior, I propose:

> **Proposition 7**: *Behavior observability moderates the relationship between trust and opportunistic behavior in supply chain relationships; the relationship is more negative when behavior observability is high.*

Behavior and Performance

Constructive behaviors communicate a sense of trust to partners who in turn reciprocate the trust allowing the relationship to strengthen. This positive interaction allows firms to coordinate their effort and act in synchronization thereby creating efficiencies which lead to performance gains. An example of constructive behavior is the sharing of information, which has been labeled as the most important factor in successful supply chain relationships (Handfield, Krause, Scannell, & Monczka, 2000; La Londe 2002). Information sharing serves to reduce the level of uncertainty in supply chains as in optimizing inventory levels. Information sharing allows partners to plan based on the same set of data, thereby synchronizing their approach to issues and realizing cost reductions. Similarly, other types of constructive behaviors have positive effects on performance. Willingness to dedicate sufficient resources to a relationship helps to ensure that initiatives continue forward and performance goals are met. Offering concessions to a partner, when necessary, minimizes the likelihood of confrontations and allows the relationship to continue in a positive manner. Thus,

> **Proposition 8:** *Constructive behavior is positively related to firm performance in supply chain relationships.*

Conversely, opportunistic behavior communicates a lack of trust to partners who in turn reciprocate in a similar manner. Opportunistic behaviors hinder coordination among firms and act to prevent performance gains from the relationship (Kumar et al., 1992). For example, a firm might limit the amount of information that it shares with partners. This promotes uncertainty within the relationship and leads to delays in progress. Firms are less likely to interact with the same enthusiasm in the presence of uncertain partner behaviors. Similarly, other types of opportunistic behavior have negative effects on performance. Withholding resources from the relationship causes progress to slow and threatens the attainment of performance goals. Monitoring partners by scrutinizing and verifying every transaction is time consuming and expensive, both of which affect performance (Kwon & Suh, 2004). Ultimately opportunistic behavior negatively affects performance of the relationship; however, it may increase the performance for the opportunistic firm.

Although opportunistic behavior may detract from supply chain relationships, firms that act opportunistically may make performance gains themselves in several ways. For example, firms that make small price adjustments or changes in quality may improve their profitability at the

expense of their supply chain partners. If these changes are subtle, firms may be able to gain in performance and not face retaliations from others (Greve, 2008). Firms could also target a small set of partners thereby limiting the impact of their opportunistic behavior and subsequently limiting retaliation. This might also limit the risk to the firm's image in the case of detection. Finally, actions that are difficult to observe or have ambiguous interpretations are less likely to draw a response (Chen & Hambrick, 1995) and therefore more likely to provide performance gains. In summary, those firms that chisel away at partner benefits in favor of themselves and at the expense of partners may be able to gain in performance. While firm performance increases, the performance of the supply chain decreases. Thus,

> **Proposition 9:** *Opportunistic behavior is negatively related to firm performance in supply chain relationships.*

Trust on Performance

Lastly, I suggest that trust has a direct effect on performance. Trust, in the presence of neutral behavior will still increase the performance of the relationship. This happens when behaviors are not extreme enough in and of themselves to affect the relationship performance. Trust during periods of status quo allows firms to conduct business without incurring the expense of opportunistic behavior such as continuous price shopping as a means of monitoring the current supplier. It is also expected that trust will help alleviate hardships in the relationship and allow parties to overcome misinterpretation of displayed behaviors. Thus,

Proposition 10: *Trust is positively related to firm performance in supply chain relationships.*

DISCUSSION

To the best of this paper's knowledge, no study has focused on the effects of trust on relationship performance and the mediating effects of behaviors. This study taps relationships between buyers and suppliers and assesses the success of the relationship based on the level of trust and expressed behaviors. One general implication is that varying levels of trust can serve as a key ingredient in the determination of displayed behaviors in the supply chain between buyers and suppliers. High levels of trust lead to greater constructive behaviors such as information sharing (Kwon & Suh, 2004), and lower levels of opportunistic behaviors such as opportunistic behavior (Geyskens et al., 1998).

The effects of trust on behavior, however, are moderated by three critical factors: termination costs, relationship benefits, and behavior observability. While higher termination costs and relationship benefits both promote greater constructive behavior and less opportunistic behavior, the effects of behavior observability differ. Termination costs and relationship benefits are economic factors and I can expect rational outcomes in terms of firm behavior. However, behavior observability is a social factor and such rationality cannot be assumed.

Behavior observability is a benefit when firms seek to behave constructively. Firms are able to display their commitment to the relationship and gain reassurance that their partners are also committed to the relationship. Opportunistic behavior, on the other hand, becomes a bit more

complex when considering behavior observability. When observability is low, firms can behave opportunistically without much risk of being detected or punished. This might occur when there are information asymmetries. For example, if a supplier holds proprietary information about the true value of a product or service, it may be able to charge a price to the buyer that is above the fair price.

When behavior observability is high, firms must weigh the economic benefits of opportunism. As mentioned above, actions that are perfectly observable are normally detected and met with punishment. Therefore, for a firm to behave opportunistically at high levels of observability there must be little risk of punishment. The previous example of Hyundai (Updike & Nakarmi, 1995) highlights how firms may defect and use knowledge gained from the partnership for its own use. By being the first one to defect, Hyundai gained an advantage and was able to exploit a technology without being punished. Hyundai, in essence, took advantage of the trust extended by Mitsubishi. Being the first one to break the trust, may give the firm a head start, much like a first mover. In doing so, the firm must ensure that the new position is defensible and not easily imitated (Lieberman & Montgomery, 1988). However, it is likely that by defecting, the firm loses any potential future benefit from the relationship. Further, defection that is observable may limit future partnership opportunities with other firms as the defecting firm may gain a reputation as an untrustworthy partner.

Behaviors, in turn, mediate the effects of trust on relationship performance. The mediating effects I predict indicate the belief that social enforcement of informal rules is often an effective means of protecting relationships (Hill, 1995). Use of social enforcement behaviors allows firms to react quickly to relationship issues. Enforcement can take place in the absence of lawyers, or in many cases, in the absence of high-level executives (Dyer & Singh, 1998) thus providing quick resolution to issues. Costs of enforcement are low and in most cases involve employees who are directly involved with the issue. The results also reinforce the belief that proper management of relationships can lead to competitive advantages (Ireland et al., 2002). Social enforcement can make relationships more effective and efficient and therefore, more difficult to imitate.

While both constructive behaviors and opportunistic behaviors positively affect performance, the question is raised as to which behavior a firm should engage in. This is likely a question of the value of the partnership opportunity, firm opportunity, and the cost of detection. Overlaying these is the ethical values of the firm. While I have highlighted that both constructive and opportunistic behaviors can be profitable in the short term future research should investigate the long term benefits as well. Perhaps opportunistic behaviors have a limit to which they can be effective. It seems reasonable that over time a firm would be labeled as opportunistic and then find it difficult to establish relationships with other firms. This would certainly affect long term performance.

There are several managerial implications that can be derived from these arguments. First, constructive and opportunistic behaviors should not be viewed in the same scale. They each indicate different actions and are not mutually exclusive. Also, the context in which behaviors occur should be taken into account by managers. It is possible that opportunistic behavior is affected by conditions external to the partner relationship. For example opportunistic behaviors

that occur during times of economic stress may be more related to firm survival than lack of trust in a partner. Also, it is likely that constructive behavior is affected by conditions within the relationship. Interpersonal relationships and strong corporate cultures may overshadow the effect of trust at the firm level.

Second, managers should be aware of signs of mistrust from partners. Addressing mistrust early on will avoid large altercations later. Managers would be wise to extend the optimal level of trust to a partner. Optimal trust is "knowing whom to trust, how much to trust them, and with respect to what matters" (Wicks et al., 1999, p. 102). By doing so, managers can limit their firms exposure to the risk of a partner going bad. Lastly, managers should consider trust when determining opportunities to pursue. Managers in an environment of high trust should discount risk to the degree that they believe the partner will alleviate the risk. Working trustfully on each firm's strengths, managers can entertain opportunities that would otherwise be out of reach.

CONCLUSION

Because the effects of trust on performance within supply chain relationships is not fully understood, I have attempted to shed light on this relationship. The first step in this direction draws on social exchange theory and considers how the behaviors of firms, much like the behaviors of individuals, aids in building successful partner relationships. I suggest that firm behaviors display the level of trust that one firm has toward another. It is through the display of trusting behaviors that partner relationships succeed.

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Volume 6, Number 1 May 2011

STRATEGIC OPTIONS FOR GLOBALIZING MBA PROGRAMS

Robert A. Page, Southern Connecticut State University
pager1@southernct.edu

Kaylene Williams, California State University, Stanislaus
KWilliams@csustan.edu

Henry Hein, Southern Connecticut State University
heinh1@southernct.edu

ABSTRACT

Recent research suggests that Master of Business Administration [MBA] prestige is defined by the degree to which graduates master international business. This paper explores how 56 of the most popular MBA programs have adopted international management into their curricular offerings. Comparing global focus to tuition costs revealed four distinct types: elite, parochial, economic, and progressive MBA programs. Implications also are discussed.

INTRODUCTION

Business education should prepare students with the skills necessary to succeed in the global marketplace (Baruch, 2009; Kelan & Jones, 2009; Middleton, 2010; Seligman, 2001). As U.S. corporations continue to expand globally, the demand for cross-culturally competent job candidates grows. The U.S. needs professionals who are trained in the languages and cultures of international trading partners (Broughton, 2010). Global awareness has emerged as one of the most attractive and marketable features of an MBA program (Byrne, 2006; Chestnut, 2010; Gopalan, Pagiavlas, & Jones, 2008; Hatfield, 2010; Maich, 2009; Pilarte & Sapp, 2006). This paper explores the various strategies business schools are pursuing to realize that goal (Kathawala, Abdou, & Elmuti, 2002).

The markets that business schools are operating in are continually changing and becoming more challenging (Ivy, 2008; Thiede, 2008; Wipperfurth, 2001). To keep pace, schools must offer a dynamic yet concise program so that their graduates are ready for the future (Porter, 2008). One dimension of such programs involves international management skills. In a survey of managers, about half of the survey respondents said they are seeking MBA graduates with more global experience (Alsop, 2010; Finley, Taylor, & Warren, 2007; Randolph & Nielsen, 2008). Developing an awareness of diverse management styles, ethical values, and communication styles in the context of complex international systems is necessary to succeed in cross-cultural ventures (Bisoux, 2005; Bonvissuto, 2004; Gabriel & Griffiths, 2008; McGee & Festervand,

2002; Seybolt, 2004; Statland de Lopez, 2001; Tuleja, 2008). A recent *Wall Street Journal* analysis of MBA programs used "global mindset" as one of two primary criteria in its rankings:

> Global Mindset: About half of the survey respondents said they are seeking MBA graduates with more global experience, but only about 20% are recruiting more often at schools outside the U.S. to find such students. Nevertheless, three European schools -- Insead, London Business School and IMD -- are among the MBA programs that recruiters rated as most outstanding for teaching international business. (Alsop, 2010, p. 1)

In addition, the University of Pennsylvania's Wharton School of Business MBA program states:

> At Wharton, learning is something you *do***.** You actively engage in the challenges of today's global business with analytical, rigorous thinking. You learn how to make decisions, reason strategically, and understand all the dimensions of a business problem. (Wharton MBA, 2010)

While the general goal of going global has been uniformly accepted by major business schools, the nature of their responses is quite varied (Czinkota, Grossman, Javalgi, & Nugent, 2009; Gopalan, Stitts, & Herring III, 2006; Kathawala, Abdou, & Elmuti, 2002; Kelly, 2009; Liang & Lin, 2008; Pimpa, 2009; Schaur & Watts, 2010; Shahaida, Rajashekar, & Nargundkar, 2009; Tanova, Karatas-Ozkan, & Inal, 2008). This paper develops an empirically based conceptual model to explore these differences.

METHODOLOGY

Using a population of the most popular MBA programs, as defined by Internet hits on FindMBA.com, a random sample of 25% (56 MBA programs) was selected, and explored to determine the extent they incorporated international business into their curricula. According to Pritzwalks Limited (2007), there are 728 MBA programs in the U.S. and 363 in Europe, and data was collected from approximately 56 or 5% of the schools listed. A larger sampling of the schools in both the U.S. and Europe were originally selected however many of the schools either did not list sufficient website information or were not written in English. Data was collected on:

- Yearly tuition costs
- Global involvement (entire program/major/concentration)
- Global or international business classes (frequency; offered versus required)
- Global/international emphasis in website public relations material

A global focus score was computed for each institution. If global offerings were required of all students, rather than being merely elective options some students could choose to opt out of, they received higher global focus scores. Point values were assigned accordingly:

- Foreign language offerings (1 point)
- Foreign language requirements (10 points)
- Study abroad opportunities (3 points)

- Study abroad requirements (10 points)
- International internship opportunities (5 points)
- International internship requirements (10 points)

For a complete listing of the institutions analyzed, see Appendix 1.

GLOBAL MBA STRATEGIC POSITIONING

The level of commitment to preparing students to succeed in the global market varies greatly among MBA programs (Cotner, Jones, & Kashlak, 2003; Paucar-Caceres, 2008; Steagall, Michelman, & Traynham, 2004). Tuition costs at business schools also vary greatly, although high tuition costs do not necessarily indicate a greater global focus in curriculum and international study opportunities. This following scatter diagram revealed natural clusters of programs emerging with tuition on the y axis and the global focus score (GFS) on the x axis. This revealed a concentration of data within a yearly tuition range up to approximately $50,000 and global focus score up to 30. This diagram is presented in Figure 1:

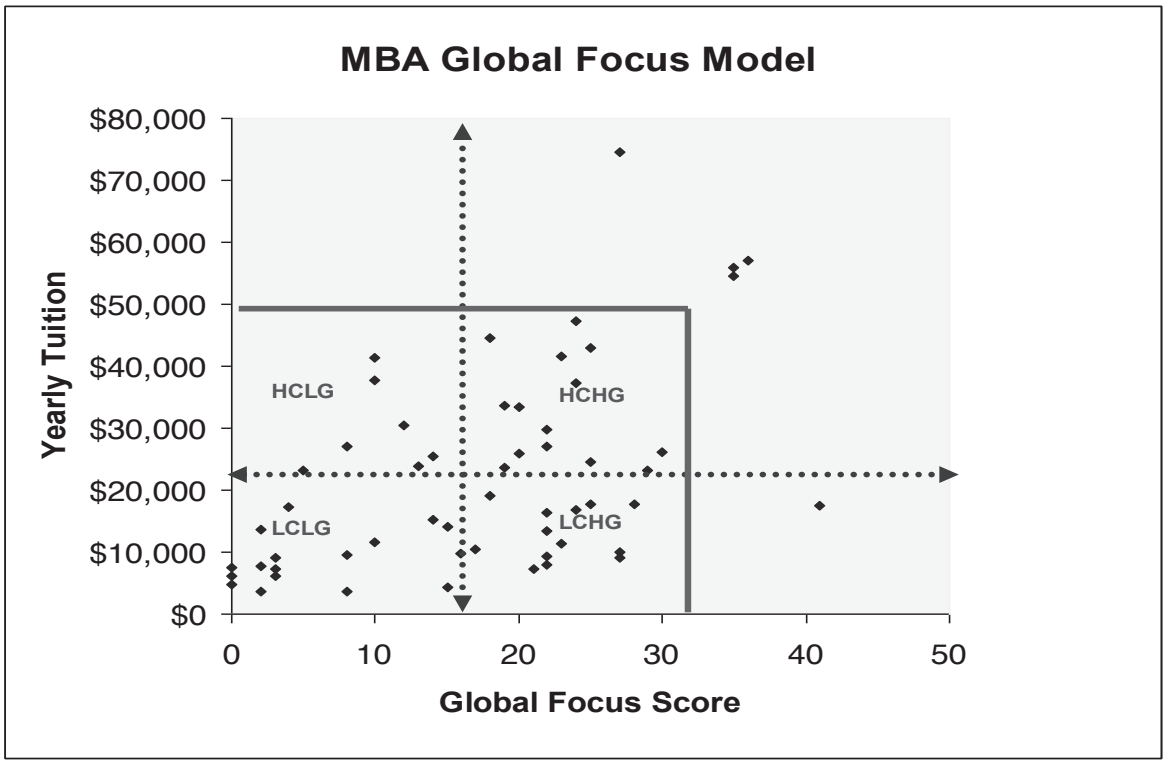

FIGURE 1. GLOBAL FOCUS VERSUS COST

The MBA Global Strategies Model (GSM) identifies four global strategies: high cost/low global focus, high cost/high global focus, low cost/low global focus and low cost/high global focus. The GSM is summarized in Figure 2:

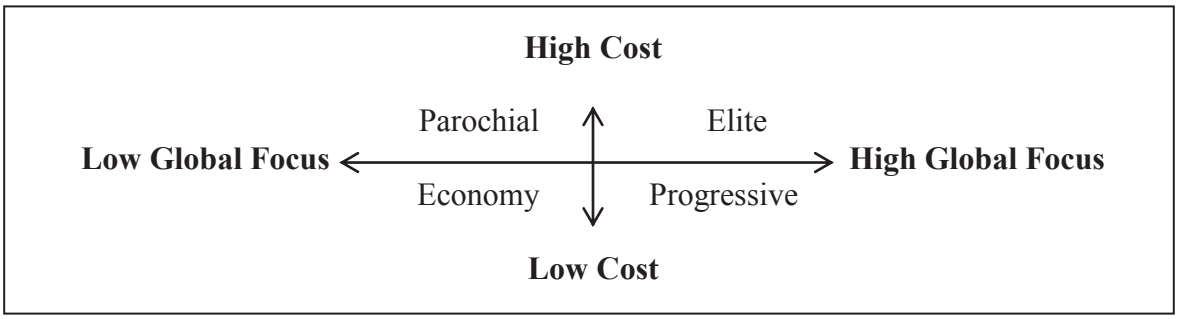

FIGURE 2. MBA GLOBAL STRATEGIES MODEL

Parochial: High Cost/Low Global Focus

Parochial schools offer a limited global focus in their curriculum. They focus on local and regional business needs. Generally, students who consider these schools are more willing to pay top dollar for an education from a well established school, but do not understand or value the need to develop a global mindset through their education.

Seven or approximately 13% of the 56 business schools researched fall into this quadrant. Yearly tuition costs range from $22,000 and up and the global focus scores are less than 17. Within this group are the more traditional and conventional MBA programs such as Boston College, Syracuse University and Vanderbilt University. The core competencies of these business schools reflect a history of tradition and excellence, are well recognized in their regions, and focus primarily on the U.S. business structure. Like Boston College - Carroll School of Management, their distinguishing factors are "a rigorous, challenging curriculum and an extraordinary spirit of community reflected in a shared understanding of our core values" (Boston College, 2010, p. 1). Their core values include promoting the highest standards of honesty and integrity to ensure that all members of the community recognize the benefits of living those ideals and to guarantee that academic performance is evaluated reliably and rewarded fairly. They strive to create an environment where students can pursue the highest level of academic performance and personal development for themselves and their community. The Carroll School offers one elective international business course involving some international travel (Boston College, 2010).

Elite: High Cost/High Global Focus

The schools in this quadrant offer a variety of courses with a global perspective, study abroad opportunities, foreign languages and international internships (see Appendix A). The MBA programs are focused on providing a world class education so that, upon graduating, the student will be better prepared for the global market. Students will have a greater understanding of international business and the skills needed to be successful when working with different cultures. They offer a full range of international business experiences, from a full range of

international courses to internships to study abroad experiences with foreign business school partners.

Eighteen or approximately 32% of the 56 business schools researched fall into the high cost/high global focus (HCHG) quadrant. Yearly tuition costs range from $22,000 and up and the global focus scores are greater than 16. Within this group are business schools like Yale, Dartmouth, and ESADE in Spain that have a high commitment to preparing students for global business. Like the Yale School of Management's MBA mission to educate global leaders for business and society, they "provide a rigorous training in fundamental skills as a foundation to help students develop meaningful aspirations" and are "infused with a restless ambition - a willingness to think creatively and take risks in order to improve the world" (Yale School of Management, 2010, p. 1).

The schools in this quadrant offer a variety of courses with a global perspective, study abroad opportunities, foreign languages and international internships. These MBA programs are focused on providing a world class education so that, upon graduating, the student will be better prepared for the global market. Students will have a greater understanding of international business and the skills needed to be successful when working with different cultures.

Economy: Low Cost/Low Global Focus

Economy providers build basic, affordably priced and convenient MBA programs for a culturally diverse student body. Often public institutions, their mission focuses on an accessible, affordable, quality education. A majority of their students are non-traditional: transfers, working, older, commuters. This type of program meets the needs and perceptions of the students and community while making it difficult for other educational institutions to deliver the same quality education at such an affordable price. However, the income and lifestyle limitations of non-traditional students seriously constrain the feasibility of many international options, such as overseas internships. These schools have made the strategic choice of favoring access and convenience over international experience.

Fifteen (or 27%) of the 56 business schools fall into the category of low cost/low global focus. Yearly tuition costs are below $22,000 and the global focus scores are less than 17. The MBA programs in this quadrant are economical and efficient. They tend to offer a consolidated, comprehensive, standardized general program whose goal is to provide each student with a relatively uniform educational experience involving a critical foundation of important skills and concepts.

Progressive: Low Cost/High Global Focus

Schools in this quadrant provide affordable, low cost programs with a high global focus which gives them a sustainable competitive advantage over all other quadrants and Southern Connecticut State University. They offer a variety of globally focused courses, study abroad opportunities, international internships, and in some programs, an international concentration or an international MBA program.

Sixteen (or 28%) of the 56 business schools fall into the category of low cost/high global focus. Yearly tuition costs are below $22,000 and their global focus scores are greater than 16. For example, University of Texas at San Antonio (2010), a low cost, high global focus school (GFS=21), with an MBA tuition of $7,268, excels in their international and exchange programs. They are dedicated to creating, applying and sharing knowledge that translates theory to practice; combines rigor with relevance; and provides innovative solutions to global business challenges. For students wishing to work in Latin or South America, UTSA is a university of choice.

COMPARATIVE MBA EDUCATION

European business schools are decidedly more international (Davie, 2010; Paliwoda & Librowica, 2007; Paucar-Caceres, 2008; Schaur & Watts, 2010; Thiede, 2003). Foreign language fluency and in-program international work experiences are required for graduation.

> According to both corporate and academic respondents, U.S. colleges and universities are turning out job candidates with high levels of domain knowledge. But with respect to cross-cultural competence, job candidates are much less well prepared. They are unlikely to understand the international dimensions of their major academic field and many have not had exposure to other cultures and languages. Compared to international students, our respondents believed U.S. students to be at serious competitive disadvantage in the global labor market. (Bikson & Law 1994, pp. 65-66)

In 2007, Antunes and Thomas studied the differences between European and U.S. models of business education. They concluded that although some elements of European business schools are borrowed from the homogeneous U.S.-style model, European schools focus on reflective, integrative learning and offer a greater sensitivity to international relations. European models have adapted to the institutional frameworks and the many different languages, cultures and regulations that exist across Europe (Middleton, 2010; Parry & Wharton, 2007; Randolph & Nielsen, 2008; Sisco & Reinhard, 2007). Differences between the American and European models are summarized in Table 1 (adapted from Antunes & Thomas, 2007).

As U.S. corporations continue to expand globally, the demand for cross-culturally competent U.S. job candidates grows. Management on both sides of a relationship should be aware of their counterparts' differences in philosophy. In particular, managers of U.S. companies have been slow to perceive a need to consider cultural differences (Tung & Miller, 1990). Adler and Graham (1989) note that undesirable outcomes at the negotiation table are often the result of cross-cultural communication problems. Two different cultures can have very different ideas about what constitutes a working relationship (Volkert, 2007). As more business leaders are recognizing this need there will be continuous movement among U.S. schools of business toward developing international business programs and requiring language competence, since this is already standard in Europe (Schorr, 2000). In response to a report published in 2003 by the European Commission on the impact of workforce diversity policies on European business, Wolfgang Wagner (2004) concluded that:

> Given the combination of diversity and economic vitality that characterizes the European market place, and the resulting depth of practical experience in operating across diverse

cultures, European companies may be well placed to turn diversity into advantage on the world stage. Europeans are less prone to ride roughshod over local sensibilities and cultural values. European businesses have a tradition of diversity in their inputs to decision making. Europe's comparatively inclusive and consensual approach to management is in stark contrast to the narrower 'professional' decision making that [has] historically been employed in Anglo-American Businesses. The world is a diverse environment and so is Europe. The experience and ability to manage and exploit this diversity are increasingly critical capabilities. Across all industries and business model, this is an area where European corporations have a competitive edge. (p. 13)

TABLE 1. DIFFERENCES BETWEEN EUROPEAN AND U.S. BUSINESS SCHOOLS

Institutional Differences:	Europe	U.S.
Language/Culture/ Regulation Standardization	~ Many languages ~ Multicultural ~ Heavy regulation ~ Slower acceptance and institutionalization of B-schools	~ Single language ~ More homogeneous culture ~ Low level of regulation ~ Fast acceptance and institutionalization of B-Schools
Size	~ Small to medium size	~ Medium to large size
Competitive Differences:		
Governance/Values	~ Predominantly public funding ~ Strong public sector linkages	~ Predominantly private funding ~ Weak public sector linkages
Funding/Endowment	~ Small endowments ~ Weaker resource base	~ Large endowments ~ Strong resource base
International Mindset	~ International in outlook ~ Students/faculty more international	~ Less international, more insular ~ Students/faculty less international
Innovation Knowledge	~ Practical, problem-based learning ~ Critical reflective thinking	~ Discipline and research based
	~ Range of models: one year	~ Two-year model for MBA
Transmission	~ Distance and action orientated learning ~ Knowledge conveyed in books and practice-oriented journals ~ Extensive executive education	~ Knowledge conveyed in academic research based journals ~ Focus on full time students
Social Capital:		
Rankings	~ Strengths - career progress - international outlook - value for money	~ Strengths - initial salary - career progress - alumni networks - research quality
Reputation	~ Some strong brands but, generally, lower brand identity and reputation; strong corporate linkages	~Many strong brands and reputation, particularly private schools; some corporate linkages

European programs often approach the global ideal where international management topics are integrated into most of the coursework. For example, examine the course offerings of INSEAD (2009), a French business school:

TABLE 2. INSEAD MBA GLOBALLY FOCUSED COURSES

Core: International Political Analysis
Macroeconomics in the Global Economy
Electives: Strategies for Asia Pacific
Economics and Management in Developing Countries
Going Global: Varieties of Capitalism
Europe and the EU in a Changing World
International Business and Government Policies
Building Business in India
Building Business in Silicon Valley
International Financial Management
Global Strategy and Management (INSEAD, 2009)

IMPLICATIONS

All too often, business education in the U.S. tends to respond to the global environment with an ethnocentric perspective (Currie, Matulich, & Gilbert, 2004; Gopalan, Stitts, & Herring III, 2006; Ramamoorthy, Gupta, Sardessai, & Flood, 2005). U.S. business schools have gotten away with this because U.S. companies have tended to adopt the attitude that international business is the same as intra-national business (Tung & Miller, 1990; Volkert, 2007). By defining U.S. program offerings as best practices, both U.S. universities and corporate recruiters expect mimetic isomorphism (Anonymous, 2010; Delaunay & Blodgett, 2005; Kalbag, 2009). This is epitomized by the fact that while corporate recruiters stress the importance of global awareness, they primarily recruit graduates from U.S. schools with global training, not from comparable international schools (Alsop, 2010). As international business becomes increasingly important, how long such preferences will persist becomes increasingly problematic (Clarke III & Flaherty, 2002). The ethnocentric attitudes of U.S. businesses can threaten their ability to successfully compete in other countries (Beech, 2006; Budden, Baraya, & Juban, 2005).

While some U.S. business schools have been slow to "go global," the same cannot be said of Europe. A more holistic approach embracing international diversity towards business education is already standard in Europe (Middleton, 2010; Randoph & Nielsen, 2008; Schaur & Watts, 2010; Schorr, 2000). In 2007, Antunes & Thomas (2007) concluded that although some elements of European business schools are borrowed from the homogeneous U.S.-style model, European schools feature a greater focus on reflective, integrative learning and offer a greater sensitivity to international relations (Coomber, 2009).

In part, European models have adapted to the institutional frameworks and the many different languages, cultures and regulations that exist across Europe due to accreditation standards with an explicit global focus. The primary European accreditation agency, Equis, has a broad focus and clear examination of executive education and corporate linkages, with a formal requirement to explain international linkages. The American equivalent, AACSB, does not require any discussion of corporate or international linkages. AACSB simply accredits the institutions range of degree and educational programs, the faculty inputs and curriculum designs (Antunes & Thomas, 2007).

In conclusion, as more and more businesses expand globally, both business and educational institutions will recognize the need to develop global strategies to manage the risk of falling behind (Roome, 2005). Parochial and economic focused MBA programs will need to emulate the strategies of the more globalized elite and progressive programs, or run the risk of obsolescence (McDonald, Bocchi, & Gooding, 2004; Walker & Jeurissen, 2003). In order for these schools to remain competitive in the MBA market, they will need to eventually update their programs to include a more global perspective (Finley, Taylor, & Warren, 2007). This is particularly true if they expect to keep charging high prices for their programs. Elite and progressive business schools maintain a very sustainable competitive advantage through rigorous curriculum with a global perspective (Anonymous, 2009a). This not only allows elites to charge high prices for their education, but also maintain their position in the market as an education leader (Anonymous, 2009b). However, the high prices can be a downfall, eliminating the opportunity for many candidates, and strengthening the progressives "best value for the buck" proposition.

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APPENDIX A

MBA Research Data Results

	School Name	TOTAL GLOBAL FOCUS SCORE	Yearly Tuition Resident (USD)	Quadrant
1.	Albertus Magnus	2	$13,536	LC - LG
2.	**Arizona State University (ASU) - W.P. Carey School of Bus.**	**22**	**$16,400**	**LC - HG**
3.	Babcock Graduate School of Mgmt -Wake Forest University	20	$33,400	HC - HG
4.	**Boston College - Carroll School of Management**	**8**	**$27,000**	**HC - LG**
5.	Case Western Reserve University - Weatherhead School of Mgmt	19	$33,650	HC - HG
6.	**Clemson University**	**3**	**$7,282**	**LC - LG**
7.	Dartmouth College - Tuck School of Business	25	$42,990	HC - HG
8.	**Duke University - Fuqua School of Business**	**23**	**$41,670**	**HC - HG**
9.	East Carolina University	0	$4,670	LC - LG
10.	**ESADE Business School - Barcelona Campus**	**27**	**$74,620**	**HC - HG**
11.	F.W. Olin Graduate School of Business at Babson College	36	$56,973	HC - HG
12.	**Hawaii Pacific University**	**22**	**$13,440**	**LC - HG**
13.	HEC School of Management, Paris	35	$54,600	HC - HG
14.	**Insead Europe Campus**	**24**	**$47,236**	**HC - HG**
15.	Istanbul Bilgi University	4	$17,200	LC LG
16.	**Lehigh University**	**23**	**$11,340**	**LC - HG**
17.	Marymount University	16	$9,825	LC - HG
18.	**Michigan State University - Eli Broad Graduate School of Mgmt**	**25**	**$17,750**	**LC - HG**
19.	MIT Sloan School of Mgmt, Massachusetts Institute of Technology	18	$44,556	HC - HG
20.	**Montclair State University**	**22**	**$8,000**	**LC - HG**
21.	North Carolina State University	25	$24,522	HC - HG
22.	**Nyenrode Business Universiteit**	**10**	**$41,300**	**HC - LG**
23.	Ohio State University - Fisher College of Business	29	$23,260	HC - HG
24.	**Portland State University**	**22**	**$27,000**	**HC - HG**
25.	Quinnipiac University	21	$16,740	LC - HG
26.	**San Diego State University**	**27**	**$10,000**	**LC - HG**
27.	SBS Swiss Business School	14	$25,541	HC - LG
28.	**Schiller International University - Florida**	**18**	**$19,000**	**LC - HG**

APPENDIX A

MBA Research Data Results (Cont.)

	School Name	TOTAL GLOBAL FOCUS SCORE	Yearly Tuition Resident (USD)	Quadrant
29.	Schiller International University - Madrid, Spain	19	$23,550	HC - HG
30.	**Southern Connecticut State University**	**2**	**$7,774**	**LC - LG**
31.	Stevens Institute of Technology - Howe School of Technology Mgmt	15	$4,425	LC - LG
32.	**Stony Brook University (SUNY)**	**8**	**$3,550**	**LC - LG**
33.	Stuart Graduate School of Bus. - Illinois Institute of Technology	5	$23,260	HC - LG
34.	Syracuse University - Whitman School of Management	12	$30,360	HC - LG
35.	**Temple University - Fox School of Business and Management**	**28**	**$17,756**	**LC - HG**
36.	University of California, Irvine - Paul Merage School of Business	30	$26,190	HC - HG
37.	**University of Colorado at Boulder - Leeds School of Bus.**	**3**	**$8,982**	**LC - LG**
38.	University of Connecticut	19	$9,510	LC - HG
39.	**University of Georgia - Terry College of Business**	**22**	**$9,328**	**LC - HG**
40.	University of Houston - C. T. Bauer College of Business	15	$14,000	LC - LG
41.	**University of Massachusetts Amherst - Isenberg School of Mgmt**	**3**	**$6,050**	**LC - LG**
42.	University of Minnesota - Carlson School of Management	13	$23,818	HC - LG
43.	**University of New Haven**	**14**	**$15,120**	**LC - LG**
44.	University of Oregon - Charles H. Lundquist College of Business	10	$11,592	LC - LG
45.	**University of Piraeus**	**17**	**$10,500**	**LC - HG**
46.	University of Pittsburgh - Joseph M. Katz Graduate School of Bus.	22	$29,676	HC - HG
47.	**University of Rochester - Simon Graduate School of Business**	**24**	**$37,215**	**HC - HG**
48.	University of San Francisco - Masagung Graduate School of Mgmt	20	$26,000	HC - HG
49.	**University of South Carolina - Moore School of Business**	**41**	**$17,500**	**LC - HG**
50.	University of Texas at San Antonio	21	$7,268	LC - HG
51.	**Vanderbilt University - Owen Graduate School of Management**	**10**	**$37,834**	**HC - LG**
52.	Virginia Commonwealth University	2	$3,612	LC - LG
53.	**Virginia Tech - Pamplin College of Business**	**27**	**$8,986**	**LC - HG**
54.	Wayne State University	0	$6,218	LC - LG
55.	**Western Connecticut State University**	**0**	**$7,448**	**LC - LG**
56.	Yale University	35	$56,000	HC - HG

Volume 6, Number 1 May 2011

UNDERSTANDING HUMAN NATURE: FROM AN EVOLUTIONARY PSYCHOLOGICAL PERSPECTIVE

Chulguen Yang, Southern Connecticut State University
yangc1@southernct.edu

Stephen M. Colarelli, Central Michigan University
colar1sm@cmich.edu

Kayong Holston, Ottawa University
kayong.holston@ottawa.edu

ABSTRACT

Management scholars have paid relatively little attention to human nature. We consider this a deficiency for developing a more accurate understanding of organizational behavior and more effective organizational interventions. We argue that Darwinian evolutionary psychology provides us useful conceptual tools to advance our understanding of human behavior in organizations. Beginning with a brief history of evolutionary thinking in social sciences, we present a general introduction of evolutionary psychology followed by some of its practical implications for managers. We conclude by addressing some of the criticisms against research that applied evolutionary psychology to the field of management and organization studies.

INTRODUCTION

It is a truism that nothing in biology makes sense except in the light of evolution (Dobzhansky, 1973). Indeed, evolution by natural selection has shaped not only our genetic make-up but our capacity for culture (Ehrlich, 2002; Wilson, 1978). In this sense, evolution is not merely about fossil records; our desires, intentions, and social behaviors have strong biological underpinnings and have been sculpted by evolution by natural selection (Wilson, 2007). Human nature is thus a complex product of dual processes of biological and cultural evolution (Durham, 1991; Gangestad & Simpson, 2007; Laland & Brown, 2002; Richerson & Boyd, 2005).

Yet, questions about the origin of human nature and its impacts on human behavior are discussed only superficially in management and organization studies (MOS). In a typical undergraduate management course, students will be exposed to a few dated theories about human nature and human motivation — for instance, Douglas McGregor's (1960) Theory X and Theory Y and Abraham Maslow's (1943) Theory of Need Hierarchy. We consider the current treatment of the subject is not enough because a *realistic* understanding of human nature has various practical implications for diverse managerial issues. In this paper we claim that Darwinian evolutionary psychology (EP) will enrich our understanding of human nature and organizational behavior. We

begin by explaining why researchers and scholars in MOS have been somewhat reluctant to adopt the Darwinian evolutionary perspective in the larger historical context of Darwinian thinking in social sciences. We then provide a general introduction of EP and its practical implications for managers, followed by acknowledging some of the criticisms leveled against evolutionary perspectives on management and organization.

A Brief History of Darwinian Thinking in Social Sciences

If one reflects upon the history of Darwinian thinking in social sciences, it becomes clear that the term, "survival of the fittest," was often misunderstood and even abused. The wrongheaded association of evolutionary theory with social Darwinism (a term coined by the sociologist Herbert Spencer) and eugenics actually helped to close off discourse and scientific progress in evolutionary approaches in social sciences. The social Darwinists attributed differences in socio-economic status to biological differences; people who were more biologically "fit" would naturally rise to the top of the pecking order, thus "survival of the fittest." Eugenics (a term coined by Francis Galton) advocated selective breeding as a means to improve society. These were not fringe movements led by crackpots; they were popular social philosophies articulated by prominent intellectuals and academics (e.g., Yerkes at Harvard; Thorndike at Columbia). Courses on eugenics were taught at the time at Harvard, MIT, and Chicago. By 1930, laws mandating sterilization of criminals and the insane had been introduced in 30 states of the United States (Plotkin, 2004).

These ideas arose when the state of evolutionary theory was still relatively unsophisticated and the understanding of evolutionary theory by social Darwinists and eugenicists was even less sophisticated. For example, equating survival of the fittest with socio-economic status reveals a misunderstanding of Darwinian fitness. Fitness in classical Darwinian theory refers to the number of offspring produced, not standing in the pecking order. In fact, social Darwinism is still being used as an epithet; many critics have argued that biological studies of human social behavior (including EP) justify a status quo and thus validate social injustice. However, an evolutionary *explanation* of status-seeking behavior in a social hierarchy or the existence of social ranking in both animal and human societies is not equal to a *justification* for it (Hagen, 2005). In other words, a neo-Darwinian evolutionary study of human behavior (including EP) is not a moral framework, but a scientific research program for understanding human nature.

Similarly, the eugenicists' goal of improving the human race by selective breeding indicated a fundamental misunderstanding of the role of unplanned variation in evolution. Variation is the engine that drives evolution and adaptation: there can be no evolution without variation. Eugenics, by narrowing variation, would actually reduce potentially adaptive variations.

By the late 1930s, support for these movements began to wane, and they were soon reviled. As social Darwinism and eugenics became more and more criticized, one unintended consequence was that *any* evolutionary perspective on human nature became tainted by guilt by association. Social scientists, according to van den Berghe (1978, p. 25), tried to "atone for their intellectual sins by dogmatically rejecting any notion that biological heritage helps to account for behavior."

Historically researchers and scholars in MOS have also ignored much of Darwinian ideas. There are several reasons for this. First, management scholars typically do not enter the field with biological backgrounds — undergraduate or graduate degrees, say, in biology or genetics. They are more likely to enter the field of Organizational Behavior (OB) with backgrounds in business, psychology, or sociology. Thus, management scholars typically have little background in biology. Given that understanding OB from evolutionary and biological perspectives requires an interdisciplinary bent, scholars must not only develop expertise in their own area of OB, but must also develop a knowledge base in a cognate biological area.

Second, biological explanations may have also been slow to catch on among scholars in MOS because biology is associated with costs to organizations, rather than with opportunities. For instance, most discrimination has some biological basis (Kurzban & Leary, 2001). Furthermore obvious biological differences among employees – sex, race, ability and disability, and age – have been the major sources of employment discrimination and the impetus for equal employment opportunity (EEO) law and interventions into organizational human resource (HR) policy. Health-related factors associated with workforce are biological – illness, injury, pregnancy – and these have negative connotations to employers.

Third, many theories and implicit images of organizations tend to be mechanical, conscious, deliberate, volitional, and rational (Morgan, 2006). The very notion of *management* implies that managers can plan for outcomes and then actively manipulate parts of organizations (i.e., structures, information, incentives, skill and talent mix) to achieve the desired results. Biology may be viewed by management scholars and practitioners as deterministic, unconscious, and uncontrollable, and thus they may believe that biological factors are inherently unmanageable. This view is, of course, misguided. If indeed biological factors influence behavior in organizations, managers (or anyone else who works in an organization) will be empowered if they understand this—and at a disadvantage if they do not understand this.

In other words, just because something has a biological basis does not mean that it is inherently unmanageable. Consider aging. People grow old; aging is an inevitable biological process. However, understanding the nature of that biological process enables us to have some effect on how quickly we age. We know that aging is caused by the body's loss of ability to repair routine (and non-routine) cell damage. Therefore, taking good care of our health will minimize cell damage and slow down the aging process. Quitting smoking, eating sensibly, and exercising within the limits of one's physical abilities all affect cell health and can keep people youthful longer. The same logic applies to organizationally relevant biological factors. For example, if we know that job satisfaction and leadership have large genetic components (Arvey, Bouchard, Segal, & Abraham, 1989; Arvey, Zhang, Avolio, & Krueger, 2007), this suggests that a greater emphasis be placed on selection than training. Simply put, biology is not a destiny unless one ignores it (Barkow, 1989).

EVOLUTIONARY PSYCHOLOGY AND ITS PRACTICAL IMPLICATIONS

Evolutionary Psychology: A Brief Introduction

Until recently, much of the thinking about causality in the social sciences has followed what Tooby and Cosmides (1992) call the standard social science model (SSSM). The SSSM holds that much of the variation in human behavior is due to culture and socialization. According to this view, humans are unique among species in that biological and instinctual constraints play a relatively small role. This view is no better epitomized than by the following passage from John B. Watson (1924/1970) on the malleability of human nature:

> Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select—doctor, lawyer, artist, merchant-chief, and, yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors. (p. 104)

The prominence of SSSM in the social sciences began in the early 20th century and is still prominent, though less so, today. Sullivan (1986), for instance, argued that most management theories (e.g., Theory X, Theory Y, human relations, human resources, and learning theories) have their theoretical foundation on the optimistic ideal of human malleability; thus "humankind has a nature bounded by laws and rules in such a loose manner as to make humans *almost infinitely* [emphasis added] malleable" (p. 539).

Yet, as van den Berghe (1974) pointed out, we need to strive for a realistic conception of human nature which is consistent with actual observable behavior, not with what we hope our behavior might be. Barash (1979) also made it clear that:

> Biology whispers deep within us, and if we use our knowledge of natural selection to eavesdrop, we may yet hear those whisperings and discover something new and something exciting about ourselves. (p. 45)

The seed of an interdisciplinary collaboration between biology and psychology actually dates back to Charles Darwin. In *On the Origin of Species* (1859/1979), Darwin described the origin of an instinctive behavior of the hive-bee:

> Thus as I believe, the most wonderful of all known instincts, that of the hive-bee, can be explained by natural selection having taken advantage of *numerous, successive, slight modifications of simpler instincts* [emphasis added]*;* natural selection having by slow degrees, more and more perfectly, led the bees to sweep equal spheres at a given distance from each other in a double layer, and to build up and excavate the wax along the planes of intersection. The bees, of course, no more knowing that they swept their spheres at one particular distance from each other, than they know what are the several angles of the hexagonal prisms and of the basal rhombic plates. The motive power of the process of natural selection having been economy of wax; that individual swarm which wasted least honey in the secretion of wax, having succeeded best, and *having transmitted by*

> *inheritance its newly acquired economical instinct to new swarms which in their turn will have the best chance of succeeding in the struggle of existence* [emphasis added]. (p. 256)

Towards the end of the book Darwin (1859/1979) also anticipated that "psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation" (p. 458). Influenced by Darwin, William James (1890/1950) thus defined an instinct as "the faculty of acting in such a way as to produce certain ends, without foresight of the ends, and without previous education in the performance" (p. 383). He further argued that humans have a far greater variety of impulses than any lower animal and there is no antagonism between instinct and reason:

> Reason, *per se*, can inhibit no impulses; the only thing that can neutralize an impulse is an impulse the other way. Reason may, however, make an *inference which will excite the imagination so as to set loose* the impulse the other way; and thus, though the animal richest in reason might be also the animal richest in instinctive impulses too, he would never seem the fatal automaton which a *merely* instinctive animal would be. (1890/1950, p. 393)

From the 1920s to 1980s, however, the social sciences, including psychology, were dominated by the SSSM. The proponents of the SSSM believed that human nature is unique among all species in that human nature alone is shaped primarily by experience. Accordingly, biological constraints on human behavior were considered relatively unimportant (Tooby & Cosmides, 1992). During this period, the Darwinian view on human nature was largely ignored in social sciences.

Yet, studies on the evolutionary biological foundation of human nature and its implications for human social behavior have grown exponentially for the past three decades (Gangestad & Simpson, 2007). For instance, evolutionary psychology (EP) as a synthesis of neo-Darwinian evolutionary biology and modern cognitive psychology has emerged over the past 15 years as a major meta-theoretical perspective in psychology (Confer et al., 2010). EP views human cognition and emotion as products of evolution and applies the theory of evolution by natural selection to understand human behavior (Barkow, Cosmides, & Tooby, 1992; Buss, 1999). The key conceptual foundation of EP is that members of our species share a set of universal psychological and behavioral traits inherited from our distant ancestors. Those traits are adaptations that contributed to our distant ancestors' survival and reproduction.

According to EP, we have our unique human nature which distinguishes us from other species and it was sculpted by two mechanisms: natural selection and sexual selection (Pinker, 1997). Surprisingly, the idea of natural selection is not difficult to understand:

> If individuals within a species differ genetically from one another, and some of those differences affect an individual's ability to survive and reproduce in its environment, then in the next generation the "good" genes that lead to higher survival and reproduction will have relatively more copies than the "not so good" genes. Over time, the population will gradually become more and more suited to its environment as helpful mutations arise and spread through the population, while deleterious ones are weeded out. Ultimately, this

> process produces organisms that are well adapted to their habitats and way of life. (Coyne, 2009, p. 11)

Sexual selection basically means that organisms with a certain trait that makes them attractive to the opposite sex tend to have more offspring than those without the trait, so the organisms with the trait would spread their genes more successfully than their counterpart (Miller, 2000; Ridley, 1993). Simply stated, traits that make individuals unattractive to the opposite sex can be hardly transmitted because those individuals with unattractive traits are less likely to find a mate and therefore can't reproduce.

Given that our distant male and female ancestors in small hunter-gatherer societies had different kinds of adaptive problems to solve (Lee, 2003; Thomas, 2006), it is thus very likely that men and women have inherited different mental programs and strategies to deal with sex-specific problems. As for mating strategies, for example, our female ancestors faced problems of protecting and securing resources for offspring, and therefore women evolved preferences for men who are competitive, have high status, and possess ample resources. In contrast, our male ancestors faced problems of deciding which women to mate with and which ones would be most fertile. Therefore men evolved preferences for women with a youthful appearance and an hour glass figure (Buss et al., 1990; Winston, 2002). As mating and reproduction pose different problems for men and women, one might be better to think of human *natures* along the fault line of sex since selection has designed certain sex-specific suites of complex adaptations for solving these problems.

In a nutshell, a majority of evolutionary psychologists are "adaptationists" who believe that "animals and plants, their body parts and their behaviors, consist largely of designs to solve particular problems" (Ridley, 1993, p. 14). Accordingly, the human mind is conceptualized as a composite of evolved domain specific psychological adaptations (i.e., functional algorithms or mental programs) which helped our distant ancestors to solve specific adaptive problems during the Pleistocene era (i.e., 2.5 million to 11,000 years ago) (Cosmides, Tooby, & Barkow, 1992). How natural selection had shaped the adapted psychological modules of the human mind is eloquently described by Cosmides et al. (1992):

> Natural selection can generate complex designs that are functionally organized – so that they can solve an adaptive problem – because the criterion for the selection of each design feature is functional: a design feature will spread only if it solves an adaptive problem better than existing alternatives…. Evolution by natural selection is the only presently validated explanation for the accumulation of functional design features across generations…. By understanding the selection pressures that our hominid ancestors faced – by understanding what kind of adaptive problems they had to solve – one should be able to gain some insight into the design of the information processing mechanisms that evolved to solve these problems. (p. 9)

In this paper, we thus define human nature as our species' universally shared emotional, cognitive and behavioral predispositions, which stem from evolved, heritable adaptations. That we inherited adapted psychological tendencies shaped by evolution by natural selection *under ancient environmental pressures* has significant implications for us living and working in the 21st

century. Stated a bit differently, the idea that our mental programs were sculpted under different environmental pressures means that we still possess the psychological make-up of the stone-age mind while living and working in a modern environment. We as a species have a capacity to learn new information and restrain our instincts; however, we cannot master them and thus completely free them from our genetic heritage. Thus, we would better understand the practical implications of EP for managing people in modern organizations by reflecting upon the mismatches between ancient psychological adaptations and the demands of the current environment (Bernhard & Glantz, 1992; Colarellli, 2003; Crawford, 1998; Smith, 2002).

Practical Implications of EP for Managing People in Organizations

Below we suggest three examples of practical implications of EP for managing people in organizations—motivation, in-group bonding, and organizational structure. We use these examples essentially to provide a flavor of EP's practical implications; they are by no means exhaustive.

Motivation

A proposition that evolution has something to say about business management sounds puzzling at first. Interestingly, however, Darwin (1887/1958) pointed out that "it has come to pass that most or all sentient beings have been developed in such a manner through natural selection, that pleasurable sensations serve as their habitual guides" (p. 89). This means that our "biological incentive system" was molded by natural selection and our behavioral intentions have deep *biological underpinnings* (Irvine, 2006). That our evolved innate biological incentive system coordinates our inner experiences of pleasure, fear, anger, and pain has several implications for managing people in contemporary organizations.

First, as Nicholson (1998) argued, "emotions are the first screen to all information received and they can never be fully suppressed" (p. 138). We often react emotionally and then justify our behavior rationally at some point later. We also remember negative information better than positive information and thus the former probably has a greater influence on our decision making process (Kahneman & Tversky, 1979). This is actually why both employers and employees dread performance appraisal as employees tend to selectively focus on the negative comments of employers regardless of their good intention (Nicholson, 1998).

Second, we are more sensitive to loss when gain is possible, but we generally prefer risk when loss is possible (Kahneman & Tversky, 1982). According to Moore (1996), our loss aversion and risk preference were shaped by natural selection under two different contingencies of the stone-age economy:

> In a subsistence economy loss of resources could critically impair reproductive potential, and thus it could be adaptive to assume the risks of fighting to prevent the loss of discrete resources…. Perhaps the principle is that it is better to have a little something to ensure immediate survival or at least minimal reproductive success and worse to have nothing and risk hardship, starvation, death, or total reproductive failure. (p. 394)

Even in our digital economies, we still observe how our instincts for loss aversion and risk preference have influenced our decision making process:

> Every financial-markets trader can recite the old saw, "Cut your losses and let your profits run." The same traders will also tell you that this rational rule of thumb is the hardest thing they have to learn on the job. Their instinct is to take risks as soon as losses start to mount. A stock starts to fall and they double-up their positions, for instance. That's the frantic fight to survive in action. And similarly, it's instinct that drives people to sell while a stock is still rising. That's risk aversion in action. That said, experienced traders know how damaging these instincts are; and they have rules and procedures that basically force them to cut their losses and let their profits run. But without such rules and procedures, human nature would most likely take its course. (Nicholson, 1998, pp. 138 – 139)

Related to this, we value the present by maintaining the status quo and feeling overconfident even when the outlook for the future is risky and uncertain. Akerlof and Shiller (2009), for instance, attributed the failure of forecasting the recent collapses of some financial institutions to the ignorance of the role of *animal spirits*; people tend to feel safe and fail to notice until real events – the collapse of banks, the loss of jobs, mortgage foreclosures – were upon them.

It would be thus beneficial for managers to frame the impending change as threatening to maintain the momentum of change. It is also critical to realize that organizational members will resist change initiatives unless (a) they are dissatisfied with the current state, and (b) they are sure that benefits from the change are to be shared.

In-Group Bonding

That our distant ancestors lived a life of hunter-gatherers up until 10,000 years ago helps us understand why desire to bond with others is one of the strongest social needs of our species (Cacioppo & Patrick, 2008). However, we do not develop a relationship randomly. Lenski (1966), one of the few sociologists who adopted a Darwinian evolutionary perspective, wrote:

> In fact, it sometimes seems that the stronger the sacrificial tendencies in *intragroup* relations, the weaker such tendencies in *intergroup* relations. This means that *our judgments about the frequency and importance of sacrificial action in human life are a function of the social level on which we focus*. If we make the family or some other primary group the object of our analysis, we are far more likely to be impressed by the evidence of self-sacrifice than if we examine a large and complex nation. When we view human action in this broader perspective, as we shall in this volume, we soon discover that these groups which generate so much sacrificial action in their internal relations are often capable of the most ruthless pursuit of their partisan group interests when dealing with outsiders, even though the latter are members of the same society. (pp. 28 – 29)

From an evolutionary psychological perspective, this tendency of a strong in-group preference is an evolutionarily stable strategy for maximizing our genetic payoff (Salter, 2003). As helping family relatives to reproduce successfully enhances the altruist's genetic payoff indirectly,

evolution shaped us to favor those who are biologically related more than those who are not (Hamilton, 1964). Kin nepotism is thus a psychological adaptation and friendship (cronyism) is an extended form of nepotism with non-kin others based on repeated social exchanges (Page & Yang, 2010).

Accordingly, from the "gene politics" vantage point, our social relationship can be mapped in a concentric circle (i.e., family relatives the innermost, friends in between, and strangers the peripheral). We also perceive those who are biologically related more trustworthy (Yang, Colarelli, Han, & Page, in press). It is thus very likely that our desire to construct an internal representation of the social relationships is firmly rooted in our hardwired tendency to "classify people, situations, and experience into categories – good or bad, in or out – rather than engage in time-consuming and nuanced analysis" (Nicholson, 1998, p. 142). The mental map helps us navigate through our social space and categorize social information more efficiently. In this sense, our territorial behaviors in organizations (e.g., turf wars) are deeply entrenched in our biology and this is why it is so difficult to eliminate them from the organizational scene (Simmons, 1998).

Organizational Structure

We inherited a biological incentive system that conditions us to prefer working with people with more or less equal status in a relatively small group. According to Boehm (1999), modern hunter-gatherers do not live in a rigid dominance hierarchy; by developing and maintaining social mechanisms of sharing food and preventing severe competition and self-promotion, the hunter-gathers have deliberately subdued dominance struggles, particularly among males to promote egalitarianism in the band (Cashdan, 1990).

From an evolutionary perspective, a formal hierarchical structure of the organization is a recent evolutionary invention; it mismatches with the grain of our evolved human nature (Bernhard & Glantz, 1992; Colarelli, 2003). However, in all-male groups where chances for intra-group competition and agonistic struggle for limited resources are high, a hierarchical structure is adaptive since the hierarchy of dominance actually keeps competition and conflict at manageable levels (Colarelli, Spranger, & Hechanova, 2006). It is also well known that males and females have adopted different communication strategies (i.e., "genderlect") to influence others (Tannen, 1986). Accordingly, under the unstructured task condition, it may be more beneficial to select teams of women than to train men to behave in non-hierarchical problem-solving groups (Colarelli et al., 2006; Zand, 1974). Furthermore, if our tribal social instinct prompts us to prefer a social group with no more than 150 people (Dunbar, 1998), then organizations might benefit by restructuring their units so that they do not exceed 150 people (Nicholson, 1998).

It is also frequently observed in contemporary organizations that people compete for the limited resources and constantly engage in public contests (Nicholson, 1998). Both men and women gossip and spread rumors to enhance their status in a hierarchy and taint the reputations of social rivals but tend to conceal them about friends and lovers (Confer et al., 2010). Interestingly, there are some sex differences in spreading damaging gossip; men tend to focus more on deficiency in athletic and professional prowess while women focus more on appearance and sexual conduct (Buss & Dedden, 1990).

Practically speaking, it is almost impossible for managers to control gossip and eliminate rumor at the workplace: it is better to make the best use of our penchant for storytelling. For instance, by sharing tacit knowledge and core values of the community through informal meetings and online channels, managers could better socialize newcomers and maintain strong organizational culture (Denning, 2001; Orr, 1996). Besides, given the increasing uses – and misuses – of social media (e.g., Facebook, Youtube, Twitter, etc.) in our lives, managers should train employees to navigate social media more responsibly to avoid the pitfalls that could hurt their career.

CRITICISMS AGAINST EVOLUTIONARY PSYCHOLOGY

EP as a research program has recently gained new momentum among scholars in MOS (e.g., Colarelli, 2003; Lawrence & Noria, 2002; Markoczy, 2003; Nicholson, 2000; Talbot, 2005). Business journals have begun to publish special issues on EP; for example, *Managerial and Decision Economics* (2006, guest edited by Satoshi Kanazawa), *Journal of Organizational Behavior* (2006, guest edited by Rod White and Nigel Nicholson), and *Ruffin Series in Business Ethics* (2004, guest edited by Edward Freeman and Patricia Werhane). However, a majority of researchers and scholars in MOS are still skeptical and even hostile toward EP. Most of their criticisms can be grouped into two categories – "lack of evidence," and "distal versus proximal explanation." The following passages are typical criticisms.

In a review of Nicholson's *Managing the human animal: Why people behave the way they do in corporate settings*, Thompson (2003) wrote:

> It is pointless to pretend that I approached this book with an open mind, hardwired as I am by a background in sociology and radical organization theory…. First, the quality of evidence is poor…. The second recurring problem, common to EP, is the preference for distal (or ultimate) over proximate explanation (Rose, 2000). So many of the things explained by Nicholson as the result of hardwiring of the brain through evolutionary adaptation could be explained more effectively by reference to specific institutional influences and social organization. (pp. 373 – 374)

A similar criticism has been put forward by an industrial psychologist. In his review of Colarelli's *No Best Way: An Evolutionary Perspective on Human Resource Management* (2003), Wilson (2004) criticized that:

> The central point of the book is that I-O [Industrial and Organizational Psychology] requires decision makers to act in ways that are not in agreement with how they evolved to behave and make decisions. I am sure our behavior evolved along with everything else, but unfortunately, behavior does not leave any fossils. The discussion of how humans behaved several thousand years ago will remain nothing more than speculation and has no place in a serious science of behavior until someone invents a time machine. (pp. 1098 – 1099)

Unpacking these vague criticisms, there appear to be three specific concerns: (1) the methods or scientific rigor used in EP is somehow lacking, and (2) inferences about human behavior in the (distant) past are unscientific speculation, and (3) the focus on ultimate rather than proximate

causes. These criticisms are banal. Nevertheless, let's consider them. Are the methods used in evolutionary psychology less "rigorous" than the methods used in other behavioral and social sciences? Scholarly articles with an evolutionary psychological framework are published in peer reviewed journals; and many EP-related articles appear in non-EP journals (e.g., *Psychological Science*); one would expect that editors hold authors to the same standards for methodology and evidence, regardless of theoretical perspective. Thus, what the critics of EP are in fact arguing is that articles with an evolutionary psychological framework be held to a *higher* standard of methodological rigor.

What about the inferences evolutionary psychologists make about human behavior in the distant past? Is this unscientific speculation? It would seem that anyone who makes such a criticism has not read much science. Many sciences make inferences about probable events in the past (without requiring a "time machine"). The most notable is the Big Bang theory of the origins of the universe (Linde, Linde, & Mezhlumian, 1994). Much of science involves inferences about what we cannot see; but given theoretically relevant evidence, reasonable inferences are plausible. Hunting and gathering and farming are clearly types of work behavior, and it is widely accepted that humans were hunter gatherers until about 10,000 years ago, when people in the Fertile Crescent area of Eurasia began using agriculture as a source of food (Bender, 1975).

Although we cannot directly observe behavior in the past, evolutionary psychologists, anthropologists, and evolutionary biologists (among others) use a toolkit of sound scientific methods to make inferences about human behavior in the distant past (Buss, 2008; Confer et al., 2010). These include using current analogues (existing hunter-gatherer groups and non-human primates), behavioral inferences from skeletal fossils (e.g., type of bone breakage or injury can indicate degree of big game hunting), artifacts (remains of tools and weapons provide evidence of craft skill and approaches to hunting and warfare), symbolic artifacts (e.g., aesthetic ornaments can provide clues to family life, rituals, status differentiation), and molecular evolution (the molecular clock and human mitochondrial molecular clock techniques, DNA analysis of bone fossils).

Furthermore, EP does not claim that Darwinian understanding of the human mind will explicate our hominid ancestors' mental traits with telling accuracy; in other words, "we do not possess a videotape of deep time that would reveal in precise detail all of the selective events over millions of years that have led to the current design of the human body and mind" (Confer et al., 2010, p. 122). Instead, EP focuses on the functional relationships between adaptive problems in our ancestral environment and psychological mechanisms to solve them (Cosmides et al., 1992). The on-going debates on the testability of evolutionary hypotheses might be attributed to inattention to a multiple-level analysis of EP framework (Buss, 1999). The prime goal of testing EP hypotheses is not to test evolution by natural selection which is a general level of EP principle. Instead, a testable hypothesis should be derived from a middle-level theory of evolution by natural selection which is broad enough to cover entire domains of psychological functioning. Then, empirically testable consequences of a hypothesized mental mechanism could be examined using standard psychological research methods (Buss, 1999; Kirkpatrick, 1999). Hence, a research strategy is conceivable when one grasps the hierarchical nature of evolutionary theorizing about the relationships among adaptive problems in the ancient environment,

psychological adaptations evolved to solve them, and their recurring effects in the current environment (Crawford, 1998).

Our evolved behavioral tendencies should also be interpreted in a more nuanced manner. The impacts of our evolved mind on the human resource management practices would be more subtle and be reinforced or inhibited depending on the nature of current environmental inputs or contingency under which the firm is embedded. While nepotism is morally prohibited and sanctioned in modern workplaces, for example, it is widely practiced in ethnic-minority owned small businesses (Meyer, 2002; Sanders & Nee, 1996). In other words, kin nepotism as an evolved instinct still works in certain economic niches (Salter, 2002).

The accusation that EP prefers ultimate (i.e., evolutionary payoff of a behavior through differential survival and reproductive success) to proximate (i.e., immediate cause of a behavior) explanation is also widely shared among EP critics. However, the ultimate and proximate explanations are not an either-or issue (Confer et al., 2010). Simply put, the ultimate explanation is no better than or "opposed" against the proximate explanation. One of the strengths of the evolutionary research program lies in its theoretical usefulness for helping us understand both the "why" (ultimate) and "how" (proximate) of a trait that has been selectively retained in our behavioral repertoire. If we do not have some understanding of distal causes, then our prescriptions based solely on proximal causes are likely to be misinformed; if our underlying assumptions are wrong, then proximal interventions won't work well. The better we understand the distal, the more effective our proximal interventions and understandings will be. For example, we now know that a proximal cause of alertness and sleep is a neuropeptide hormone, orexin (Mieda, Willie, Hara, Sinton, Sakurai, & Yanagisawa, 2004). Therefore, one might develop a medication (using orexin) to allow people to stay awake naturally for 24 hours, not perceiving any need for sleep. However, because this intervention is based strictly on a proximal cause, it ignores the function (ultimate cause) of sleep. If the function of sleep is to consolidate the day's experiences and learning, then manipulating the proximate mechanism for sleep may have the unintended consequence of producing people who cannot learn from experience.

CONCLUSION

We have begun this paper by emphasizing the need for a valid and useful theory of human nature for MOS. We suggest that EP can meet the theoretical need if scholars in MOS are more open to evolutionary thinking. EP maybe is not the only lens through which we understand human nature. Yet, EP is firmly based on the scientifically valid theory of evolution by natural selection – a simple but powerful idea – proposed by Charles Darwin about one hundred and fifty years ago.

A biological understanding of our mind and social behavior is now very much a part of modern science. As more of the behavioral and social sciences embrace biological explanations (and this is occurring at a rapid rate), management and organizational behavior scholars, if they do not begin to acknowledge biological influences on behavior in organizations, will be increasingly marginalized in the scientific community. Furthermore, given the problems biological factors pose for organizations, scholars' limited efforts to incorporate biological understanding into the

field of MOS will only make matters worse. Ignoring biology will not make these problems go away, but will prolong them.

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JOURNAL OF INTERNATIONAL BUSINESS DISCIPLINES

Volume 6, Number 1 May 2011

Published By:
International Academy of Business Disciplines and Frostburg State University

ISBN 1-889754-89-7 ISSN 1934-1822

Printed in the USA by Commercial Press Printing Company