Volume 15, Number 1

Print ISSN 1544-1458
Online ISSN 1939-6104

ACADEMY OF STRATEGIC MANAGEMENT JOURNAL

Editor

Dr. Shawn Carraher
University of Texas at Dallas

The *Academy of Strategic Management Journal* is owned and published by Jordan Whitney Enterprises, Inc. Editorial content is under the control of the Allied Academies, Inc., a non-profit association of scholars, whose purpose is to support and encourage research and the sharing and exchange of ideas and insights throughout the world.

Authors execute a publication permission agreement and assume all liabilities. Neither Jordan Whitney Enterprises nor Allied Academies is responsible for the content of the individual manuscripts. Any omissions or errors are the sole responsibility of the authors. The Editorial Board is responsible for the selection of manuscripts for publication from among those submitted for consideration. The Publishers accept final manuscripts in digital form and make adjustments solely for the purposes of pagination and organization.

The *Academy of Strategic Management Journal* is owned and published by Jordan Whitney Enterprises, Inc., PO Box 1032, Weaverville, NC 28787, USA. Those interested in communicating with the *Journal,* should contact the Executive Director of the Allied Academies at info@.alliedacademies.org.

EDITORIAL REVIEW BOARD

TABLE OF CONTENTS

PERCEIVED VALUE, SATISFACTION, BRAND EQUITY AND BEHAVIORAL INTENTIONS: SCALE DEVELOPMENT FOR SPORTS SPECTATORSHIP IN US COLLEGE FOOTBALL…….....…….1
Bahadir Birim, Celal Bayar University
M. Meral Anitsal, Tennessee Tech University
Ismet Anitsal, Tennessee Tech University

THE IMPACT OF VENTURE CAPITAL ON FUNDING AMOUNTS PROMISED IN ALLIANCE CONTRACTS……..…….12
Paul Forshey, High Point University
Edward Levitas, University of Wisconsin-Milwaukee

CEO DIRECTORS: GOING IT ALONE OR CLUSTERING ON BOARDS?.....32
Stephen V. Horner, Pittsburg State University

STRUCTURAL COMPARISON OF MANAGEMENT APSECTS OF COMMUNITY HEALTHCARE CENTRES IN EUROPE WITH SPECIAL FOCUS ON GERMANY.....41
Dr. Fabian Renger, Community Health Center Consulting & Research
Dr. Attila Czirfusz, Elisabeth University

STRATEGIC RESPONSES OF NON-PROFIT ORGANIZATIONS TO THE ECONOMIC CRISIS: EXAMINING THROUGH THE LENSES OF RESOURCE DEPENDENCY AND RESOURCED-BASED VIEW THEORIES……..……48
Murat Arik, Middle Tennessee State University
Leigh Anne Clark, Middle Tennessee State University
Deana M. Raffo, Middle Tennessee State University

PERSON-ORGANIZATION FIT RELATIONSHIP WITH JOB SATISFACTION AND TURNOVER: THE MEDIATING INFLUENCE OF LEADER-MEMBER EXCHANGE…….71
Renaud Jutras, Université du Québec à Trois-Rivières
Cynthia Mathieu, Université du Québec à Trois Rivières

HAS SWOT OUTLIVED ITS USEFULNESS? 85
Michael D. Meeks, Louisiana State University

PERCEIVED VALUE, SATISFACTION, BRAND EQUITY AND BEHAVIORAL INTENTIONS: SCALE DEVELOPMENT FOR SPORTS SPECTATORSHIP IN US COLLEGE FOOTBALL

Bahadir Birim, Celal Bayar University
M. Meral Anitsal, Tennessee Tech University
Ismet Anitsal, Tennessee Tech University

ABSTRACT

Despite sporting events' popularity, concern is lacking in relation to maintaining relationships between fans and sports organizations. Just as companies rely on customers, sports organizations rely on their fans. The present study attempts to establish factor structure among constructs, including perceived value, satisfaction, brand equity, and behavioral intentions as related to a college football team in US. Data was obtained from 390 students at a Southeastern public university with a moderately successful football team. Exploratory factor analysis was performed to identify measurement scale's structure for sports spectatorship. Four factors were extracted, explaining 70.3% of the variance. Cronbach's alpha scores were meaningful statistically for all factors. For academic researchers and marketing executives of sports organizations, the research findings provide several implications about enhancing relationships with fans. Theoretical and practical considerations for the conceptual structure's advancement are discussed along with this study's limitations and suggestions for future studies.

INTRODUCTION

Sports organizations and their athletes compete not only within their respective leagues/sports arenas but also within entertainment alternatives such as television networks and social media. They are part of daily activities and talks within any community. In fact, when a couple of people come together in any community around the world, one of the first topics they discuss is the performance of their favorite athletes and teams. Furthermore, any comments or activities such as team owners' racist statements or players' off-the-field incidents affect the teams' and leagues' image. Apparently, teams and their fans are in special relationships. The image of a team, even the personalities of its athletes can influence these relationships. For example, the NBA has hired a new chief marketing officer in an effort to expand its popularity, repair its image, and match the NFL's high television ratings (Vranica, 2014). In some situations fans may lose interest and transfer to another team. Retaining spectators' interests is one of the most crucial responsibilities for sports marketers in a multi-billion-dollar industry (Tsiotsou, 2013).

In order to increase game awareness and attendance, teams laid out carefully planned marketing activities (Hansen & Gauthier, 1989). A professional sports organization's revenue results from not only venues' ticket sales, but also media rights, sponsorships, merchandise sales, and stadium seating arrangements (Mason, 1999). As the marketing of sporting events continues to expand, sports marketers must make wise decisions in terms of adding value to the service, and satisfying their target markets, this way they may retain and expand their fan base and convince them to attend sports events more frequently.

For example, the Sacramento Kings, an NBA team, is famous for new marketing ventures; thanks to collaborating with several business sponsors, this basketball team has created attractive offers for its fans including a mascot's eye view of events and a virtual reality tour of the arena. The team has also strengthened its relationship with fans through one-stop shopping in Northern California. These kinds of innovative attempts have increased ticket sales (Boudway, 2014). Senior executives are seeking other ways to sustain long-term relationships with fans. Amenities such as mobile apps, which stream instant video replays, notification about restroom lines, behind-the-scenes information, personalized engagement at the arena, forum discussions, and analyses of team performance, are ways of attracting more passionate fans. Sports organizations can be successful as long as they focus on making their fans more passionate (Hutchison, 2015). The rules of sports spectatorship are altering as activities of engaging fans before and after games have become more important than the game day activities.

In considering attendance growth in the sports industry, sports organizations concentrate on offering better brand equity and creating more satisfaction among their fans and sponsors (Beccarini & Ferrand, 2006). Sports organizations are sources of leisure-time activities for fans and brand building opportunities for sponsors, who recognize and share a mutually attractive team image. Based on this social reality, a sports organization's positive image contributes to fans' support and engagement (Ferrand & Pages, 1999). Game attendance is thought of as a process-related leisure- time activity; therefore, many factors influence the fans' experiences (Theodorakis, Alexandris, Tsigilis, & Karvounis, 2013). From higher ticket prices and ease of recalling the sports organization's brand name to attitudes of fans and image perceptions about mascots can contribute to assessing a sports organization's brand equity. Sports fans' continual engagement and commitment to sports organizations depends on perceived value, satisfaction, and brand equity. In order to better understand and predict behavioral intentions of sports fans, sports marketers must understand complex relationships among the above mentioned constructs. (Yoshida & Gordon, 2012).

This study aimed to contribute to sports marketing literature by developing scales to measure perceived value, satisfaction, brand equity and behavioral intentions related to sports spectatorships. Because long-term and uninterrupted fan attendance is regarded as a meaningful outcome for a sports organization, this paper focuses on how to develop that kind of structure. Relevant constructs such as perceived value, satisfaction, brand equity, and behavioral intentions are investigated here because these constructs within the context of college football have not been collectively explored in other sports marketing literature. However, marketing literature provided evidence that they may be relevant in sports spectatorship. Specifically, this study may provide researchers and practitioners valid and reliable measurement tools for making decisions leading to increased support of and higher attendance rate at sporting events, thus gaining a competitive advantage for sports teams.

LITERATURE REVIEW

The sports industry is characterized by intense competition among organizations within leagues, with other leagues, and with other leisure-time activities. Today, sports organizations recognize fans as customers. Thus, from a marketing perspective, the key issue is developing better relationships with these customers. Sports organizations' success depends on not only performance on the field, but also interaction with fans. Therefore, these organizations must consider multiple ways to increase the number of fans, thus reinforcing competitiveness.

Perceived Value

Zeithaml (1988) referred to the concept of perceived value as "the overall assessment of the utility of a product or service based on perception of what is received and what is given" (p.14). Perceived value can also be determined in other ways. Sheth, Newman, and Groos (1991) approached perceived value as consumption value dimensions that influence consumer choices. These dimensions consist of the following: emotional value, which is related to feelings that products and services arouse; social value, which is the social image of having particular products or services; functional value, which stems from specific products' or services' characteristics; epistemic value, which is concerned with choosing new alternatives of existing products or services; and conditional value, which corresponds to benefits from a product or service in a specific situation. Consumer choices may be based on any or all of these five consumption values. Sweeney, and Soutar (2001) suggests that rather than evaluating products and services according to expected performance or money, consumers pay attention to enjoyment and social opportunities stemming from products or services. Sports organizations are providers of entertainment and leisure-time activities in the service sector. When consumers can develop a pleasant relationship based on environment and entertainment, they are more willing to maintain that relationship with the provider. Sports organizations' perceived value may contribute to the probability of attendance and attraction (Lock & Filo, 2012). Unless customers have positive experiences, it will be difficult to maintain positive value perceptions about the sports brand or provider. (Athanasopoulou, Kalogeropoulou, & Douvis, 2013).

Jin, Lee, and Lee (2013) examined the significance of perceived value in conjunction with sporting mega events. Specifically, their study noted that perceived value played a central role in positively affecting these events' continuity. Nuviala, Grao-cruces, Pérez-Turpin, and Nuviala (2012) investigated professional sports services to analyze customers' perceptions. The results indicated that perceived value significantly influenced customers' perceptions of sports services.

Satisfaction

Satisfaction is one of the major constructs of interest in academic research. Churchill and Surprenant (2015) defined satisfaction conceptually as "outcome of purchase and use resulting from the buyer's comparison of the rewards and costs of the purchase in relation to the anticipated consequences" (p.493). If satisfied with a product or service, a customer may purchase again. Conversely, if a customer is unsatisfied, repurchase probability is less (Matsuoka, Chelladurai, & Harada, 2003).

Yoshida, James, and Cronin (2013) discussed the concept of satisfaction in terms of a theoretical model involving college football games. Data gathered from spectators` responses to questionnaires revealed that satisfaction has a strong positive effect on fans' experiences. Gray and Wert-Gray (2012) found that satisfaction level affects attendance at professional and collegiate sporting events. Eventually, it may affect the relationship between fans and sports organization. Researching soccer fans' satisfaction with sports organizations, Sarstedt, Ringle, Raithel, and Gudergan (2014) found that satisfaction helps develop long-term relationship with fans. Also assessing satisfaction in the context of sports, Biscaia, Correia, Yoshida, Rosado, and Moraco's (2013) study indicated that satisfaction plays an essential role in increasing customer retention.

Brand Equity

Brand equity may be defined in various ways. Keller (1993) described customer-based brand equity as "the differential effect of brand knowledge on consumer response to the marketing of the brand" (p. 8). Brady, Cronin Jr, Fox, and Roehm (2008) explored brand equity's role in recovering from performance failure. Participants of this study completed a questionnaire that presumed a performance-failure scenario for both high-equity and low-equity brands. Findings showed that behavioral intentions are stronger for high-equity versus low-equity brands in the failure incident.

Watkins (2014) reported that group experience and venue had the strongest influence on NBA fans' social identification with their teams, which was essential for brand equity building. Richelieu and Pons (2006) studied brand equity by comparing two professional sports organizations' primary and secondary datasets. Findings indicated that both organizations tried to create their own tradition dependent on positioning fan activities so that strong brand equity was regarded as the most important leverage able asset. Gladden, Irwin and Sutton (2001) explored brand equity based on enhancement of team-consumer relationships in professional major leagues, including the NBA, MLB, NHL, and NFL. These researchers contended that brand management practices might ensure long-term bonds by retaining brand equity in the fans' minds. Yoshida, James, and Cronin (2013) examined components relevant to sporting events. According to their data analysis, the role of brand equity measured by attendance at college football games was positively supported. Thus, based on several studies, brand equity might be considered one of the critical indicators of sports organizations' marketing success.

Behavioral Intentions

According to Zeithaml, Berry, and Parasuraman (1996)**,** "behavioral intentions are associated with a service provider's ability to get its customers to say positive things about them, recommend them to other consumers, remain loyal to them to exemplify repurchase from them, spend more with the company, and pay price premiums" (p.34). Based on this observation, Yoshida and James (2010) described customers' behavioral intentions to "recommend the team to others customers, attend the team's future sporting events, and remain loyal to the team" (p. 344).

Yu et al. (2014) explored behavioral intentions among several constructs by surveying fitness center members over 60 years old. These researchers determined that behavioral intentions are the most notable construct leading to repurchase intention for this age group. Examining marketing in professional baseball, Cheng, Chen, and Chen (2012) found that behavioral intentions might be considered a construct affected by several other constructs, such as attitudes, subjective norms, and perceived behavioral control. Theodorakis, Alexandris, Tsigilis, and Karvounis (2013) explored behavioral intentions in professional soccer and found that those intentions depended on level of satisfaction, team performance and game quality. All there research emphasizes the importance of behavioral intentions in sports marketing.

METHODOLOGY

This study's sample consisted of 390 undergraduate students at a major Southeastern public university. Surveys, which took approximately 15 minutes to complete, were distributed to students in multiple sections of a Principles of Marketing class during fall and spring semesters.

Extra credits were given as incentive to the students who completed the questionnaire. Students were also informed that they can stop responding taking the survey anytime they want. A total of 415 student surveys were distributed. 25 surveys were dropped because more than 50 percent of the responses were missing.

Majority (85 percent) of the students in the sample indicated they were aware of their university's football team and attended games. Table 1 includes demographics of the study's sample. The majority of the sample was men with the ratio of men to women being 67 percent to 33 percent, respectively. Regarding age, 78 percent of the respondents were between 18 and 22 years old. In terms of marital status, 92 percent of the respondents were single and 8 percent were married. In terms of household income, 24 percent of the sample had an annual income of over 15,000 US dollars.

Table 1
DEMOGRAPHIC STATISTICS OF THE SAMPLE

Age	18-22	77.4%
	23-27	17.4%
	28-32	2.6%
	33-37	.5%
	38-42	.5%
	43-47	.8%
	48-52	.3%
	53 +	.5%
Gender	Female	32.9%
	Male	67.1%
Marital Status	Single	91.5%
	Married	8.5%
Income	Less than $10,000	17.1%
	$10,000-15,000	6.9%
	$15,001-20,000	6.6%
	$20,001-30,000	6.9%
	$30,001-50,000	14.3%
	$50,001-75,000	18.7%
	$75,001-100,000	10.5%
	More than $100,000	19%

Items were developed based on literature and authors experiences. An initial pool of 45 items were created or adopted related to four constructs namely, perceived value, satisfaction, brand equity, and behavioral intentions. All items were 7-point Likert scale. Redundancy was introduced intentionally to find best description of fans terminology. An important objective of this research was to obtain clean items for each construct. The study of relationships among these constructs in sports spectatorship was beyond the scope of this paper.

IBM SPSS version 20, a statistical program, was used to conduct exploratory factor analysis, calculating descriptive statistics of demographic variables and Cronbach's alpha related to the study's conceptual framework. A Cronbach's alpha of 0.7 or greater was considered acceptable internal consistency (Tavakol & Dennick, 2011). For determining factors to exclude, Kaiser's criterion was used based on selecting eigenvalue of greater than one. Graphically, the screen test revealed a break between the steep slope of the first influential factors and the gentle slope of the following factors (Bryman & Cramer, 2005).

RESULTS AND DISCUSSION

Exploratory factor analysis (EFA) was employed in this study to uncover valid factors underpinning the model for understanding sports spectatorship. Descriptive and reliability statistics were also reported within the scope of data analysis.

All 45 items were included in the initial EFA accounted for 65.947% of variance. Six factors were observed, and factors with eigenvalues above 1 were considered for further analysis. Varimax rotation was used to clarify factor loadings. As a cut off criteria, factor loadings above 0.40 were used and items below this number were removed after checking face validity and redundancy. Any items that cross-loaded to more than one factor were checked and removed to ensure validity.

Twenty-six clean items were generated for confirmatory factor analysis (CFA). Four factors were identified accounting for 70.320% of the observed variance. The CFA indicated that all items loaded together substantially and significantly on their related primary factor (Table 1). This pattern of loadings provided evidence of convergent and discriminant validity. Content validity was deemed adequate given that the construct included items similar to those used in other studies. Descriptive statistics, including mean and standard deviation, were also shown in conjunction with the data set (Table 3).

Cronbach's alpha values for each of the factors were also shown in Table 4. All alpha values were above 0.85 showing good reliability and internal consistency for all factors.

Table 2
ROTATED COMPONENT MATRIX

	Component			
	Satisfaction	**Perceived Value**	**Brand Equity**	**Behavioral Intentions**
I won't mind paying a higher ticket price for the TTU Golden Eagles' games.			.699	
If the catalog of the TTU Golden Eagles is not sent to me free, I am willing to pay to get one.			.678	
The TTU Golden Eagles is the most popular team in the category.			.679	
When I need to watch football, I will think of the TTU Golden Eagles immediately.			.866	
When I am asked about football, the TTU Golden Eagles will come to mind immediately.			.827	
The TTU Golden Eagles reflect my lifestyle.			.706	
The TTU Golden Eagles provide a satisfactory level of performance for the money.		.741		
The TTU Golden Eagles provides the best value compared to competitors.		.757		

Table 2
ROTATED COMPONENT MATRIX (Continued)

	Component			
	Satisfaction	**Perceived Value**	**Brand Equity**	**Behavioral Intentions**
The TTU Golden Eagles' games are worth the money I paid.		.793		
The TTU Golden Eagles' home games are generally a good value.		.758		
The services I purchase while at the stadium provide excellent value.		.618		
I get perfect value in going to the TTU Golden Eagles' football games.		.654		
Overall, I am satisfied with my experiences at games.	.748			
I truly enjoy going to games.	.779			
I am happy with the experiences I have in the TTU stadium.	.791			
Going to games has been delightful.	.811			
I have had many unique or special moments with the TTU Golden Eagles.	.657			
The TT Golden Eagles have special meaning to me.	.722			
Being a TTU Golden Eagles' fan is satisfying to me.	.730			
Part of the reason I go out of my way to support the TTU Golden Eagles is because of their social programs.				.725
One of the reasons I speak positively about the TTU Golden Eagles is because of what they do for the community.				.676
I buy merchandise from the TTU Golden Eagles partly because I believe they are a socially responsible organization.				.727
Part of the reason I make sure other people know how I feel about the TTU Golden Eagles is because of the good things they do for the community.				.759
I recommend going to the TTU Golden Eagles' games to someone who seeks my advice.				.642
I encourage friends and relatives to go to the TTU Golden Eagles' games.				.598

Table 3
DESCRIPTIVE STATISTICS

(N=390)	Mean	Std. Deviation
I won't mind paying a higher ticket price for the TTU Golden Eagles.	2.30	1.545
If the catalog of the TTU Golden Eagles is not sent to me free, I am willing to pay to get one.	2.41	1.660
The TTU Golden Eagles is the most popular team in the category.	3.17	1.554
When I need to watch football, I will think of the TTU Golden Eagles immediately.	2.64	1.686
When I am asked about football, the TTU Golden Eagles will come to mind immediately.	2.81	1.767
The TTU Golden Eagles reflect my lifestyle.	2.85	1.736
The TTU Golden Eagles provide a satisfactory level of performance for the money.	4.03	1.510
The TTU Golden Eagles provide the best value compared to competitors.	3.94	1.449
The TTU Golden Eagles' games are worth the money I paid.	3.93	1.540
The TTU Golden Eagles' home games are generally a good value.	4.34	1.490
The services I purchase while at the stadium provide excellent value.	4.15	1.371
I get perfect value in going to the TTU Golden Eagles' football games.	4.07	1.425
Overall, I am satisfied with my experiences at games.	4.48	1.322
I truly enjoy going to games.	4.39	1.471
I am happy with the experiences I have in the TTU stadium.	4.47	1.354
Going to games has been delightful.	4.44	1.377
I have had many unique or special moments with the TTU Golden Eagles.	3.98	1.568
The TTU Golden Eagles have special meaning to me.	4.10	1.526
Being a TTU Golden Eagles fan is satisfying to me.	4.18	1.513
Part of the reason I go out of my way to support the TTU Golden Eagles is because of their social programs.	3.35	1.524
One of the reasons I speak positively about the TTU Golden Eagles is because of what they do for the community.	3.84	1.386
I buy merchandise from the TTU Golden Eagles partly because I believe they are a socially responsible organization.	3.70	1.521
Part of the reason I make sure other people know how I feel about the TTU Golden Eagles is because of the good things they do for the community.	3.87	1.431
I recommend going to the TTU Golden Eagles' games to someone who seeks my advice.	3.99	1.519
I encourage friends and relatives to go to the TTU Golden Eagles' games.	4.01	1.622
I am doing the right thing when I attend.	4.46	1.376

Table 4
RELIABILITY STATISTICS

Factor	Cronbach's Alpha	Number of Items
Satisfaction	.940	8
Perceived Value	.880	6
Brand Equity	.904	6
Behavioral Intentions	.902	6

This study developed items of important constructs related to the model of understanding behavioral intentions for sports spectatorship. It also explored sports marketing's core concepts to identify factors that spectators consider in evaluating a sports team. Reliable and valid items were developed for measuring satisfaction, perceived value, brand equity, and behavioral intentions in sports spectatorship context. As indicated above, the framework consists of four factors. Factor 1 is satisfaction, involving seven items indicating spectators' evaluations are part of the sporting event. Factor 2 is perceived value, involving six items indicating the fans' perceptions of value provided by the sports team. Factor 3, is brand equity, involving six items related to the team's image. Factor 4 is behavioral intentions, involving six items indicating the fans' support of the sports team.

FUTURE RESEARCH AVENUES

This study's findings have limitations, pointing to the need for future research. These findings are limited to providing insight into undergraduate students' behavioral intentions for spectatorship in terms of a Southeastern university's college football team. While these findings cannot be used to generalize about all types of spectatorship, they might be used to explore other sports, regions, countries, or spectator groups.

Furthermore, this study's dataset was used primarily to develop constructs for sports teams. As students' evaluations of the team may vary depending on success in another collegiate football season, a second dataset will be gathered for replication to examine reliability and validity of constructs further. Therefore, this study is a pre-test phase and a comparative study could be conducted to test for differentiation among constructs.

Finally, to the best of the authors' knowledge, there is a gap in the sports marketing literature regarding perceived value, satisfaction, brand equity, and behavioral intentions. Thus, the next step could be to investigate the relationships among these constructs via structural equation modeling. Such an investigation would be an opportunity to examine what makes sports fans to attend events and engage with their teams more. Thus, further study could expand empirical knowledge by yielding insight into these sports marketing constructs.

REFERENCES

Athanasopoulou, P., Kalogeropoulou, D., and Douvis, J. (2013). Relationship Quality in Sports: A Study in Football Teams and Fitness Centres. *Sport, Business and Management: An International Journal, 3*(2), 100–117.

Beccarini, C., and Ferrand, A. (2006). Factors Affecting Soccer Club Season Ticket Holders' Satisfaction: The Influence of Club Image and Fans' Motives. *European Sport Management Quarterly*, *6*(1), 1–22.

Biscaia, R., Correia, A., Yoshida, M., Rosado, A., and Moraco, J. (2013). The Role of Service Quality and Ticket Pricing on Satisfaction and Behavioural Intention within Professional Football. *International Journal of Spoerts Marketing and Sponsorship*, *1*(July), 301–326.

Boudway, I. (2014). Sacramento Kings Open a Sports Marketing Shop. *Bloomberg*. Retrieved from http://www.bloomberg.com/bw/articles/2014-09-04/crown-sports-sacramento-kings-new-sportsmarketing on 12-10-2014.

Brady, M., Cronin Jr, J., Fox, G., and Roehm, M. (2008). Strategies to Offset Performance Failures: The Role of Brand Equity. *Journal of Retailing*, *84*(2), 151–164.

Bryman, A., and Cramer, D. (2005). *Quantitative Data Analysis with SPSS 12 and 13 - A Guide for Social Scientists* (pp. 1–394). New York: Routledge.

Cheng, C.-F., Chen, L. H., and Chen, M.-Y. (2012). Fan Participation Behaviour in Baseball : an Application of the Theory of Planned Behaviour. *International Journal of Sports Marketing and*, *14*(1), 757–768.

Churchill, G. A., and Surprenant, C. (2015). An investigation into Customer the Determinants of Satisfaction. *Journal of Marketing Research*, *19*(4), 491–504.

Ferrand, A., and Pages, M. (1999). Image Management in Sport Organisations : The Creation of Value. *European Journal of Marketingpean*, *33*(3/4), 387–401.

Gladden, J. M., Irwin, R. L., and Sutton, W. A. (2001). Managing North American Major Professional Sport Teams in the New Millenium: A Focus on Building Brand Equity. *Journal of Sport Management*, *15*(1), 297–317.

Gray, G. T., and Wert-Gray, S. (2012). Customer Retention in Sports Organization Marketing: Examining the Impact of Team Identification and Satisfaction with Team Performance. *International Journal of Consumer Studies*, *36*(3), 275–281.

H. Tsiotsou, R. (2013). Sport Team Loyalty: Integrating Relationship Marketing and a Hierarchy of Effects. *Journal of Services Marketing*, *27*(6), 458–471.

Hansen, H., and Gauthier, R. (1989). Factors Affecting Attendance at Professional Sport Events. *Journal of Sports Marketing*, (3), 15–32.

Hutchison, D. (2015). In The Customer Engagement Arena , Sports Teams Lead the Way. *Forbes*. Retrieved from http://www.forbes.com/sites/sap/2015/02/03/in-the-customer-engagement-arena-sports-teams-lead-the-way on 5-1-2015.

Jin, N. (Paul), Lee, H., and Lee, S. (2013). Event Quality, Perceived Value, Destination Image, and Behavioral Intention of Sports Events: The Case of the IAAF World Championship, Daegu, 2011. *Asia Pacific Journal of Tourism Research*, *18*(8), 849–864.

Keller, K. L. (1993). Managing Customer-Based Brand Equity. *Journal of Marketing*, *57*(January), 1–22.

Lock, D., and Filo, K. (2012). The Downside of Being Irrelevant and Aloof: Exploring Why Individuals do not Attend Sport. *Sport Management Review*, *15*(2), 187–199.

Mason, D. S. (1999). What is the Sports Product and Who Buys it ? The Marketing of Professional Sports Leagues. *European Journal of Marketing*, *33*(3/4), 402–418.

Matsuoa, H., Chelladurai, P., and Harada, M. (2003). Direct and Interaction Effects of Team Identification and Satisfaction. *Sport Marketing Quarterly*, *12*(4), 244–253.

Nuviala, A., Grao-cruces, A., Pérez-turpin, J. A., and Nuviala, R. (2012). Percieved Service Quality, Percieved Value and Satisfaction in Groups of Users of Sports Organizations in Spain. *Kinesiology*, *44*, 94–103.

Richelieu, A., and Pons, F. (2006). Toronto Maple Leafs vs Football Club Barcelona : How Two Legendary Sports Teams Built Their Brand Equity. *International Journal of Sports Marketing and Sponsorship*, (May), 231–251.

Sarstedt, M., Ringle, C. M., Raithel, S., and Gudergan, S. P. (2014). In Pursuit of Understanding What Drives Fan Satisfaction. *Journal of Leisure Research*, *46*(4), 419–447.

Sheth, J. N., Newman, B. I., and Groos, B. L. (1991). Why We Buy What We Buy: A Theory of Consumption Values. *Journal of Business Research*, *22*, 159–170.

Sweeney, J. C., and Soutar, G. N. (2001). Consumer Perceived Value: The Development of a Multiple Item Scale. *Journal of Ret*, *77*, 203–220.

Tavakol, M., and Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*, 53–55.

Theodorakis, N. D., Alexandris, K., Tsigilis, N., and Karvounis, S. (2013b). Predicting Spectators' Behavioural Intentions in Professional Football: The Role of Satisfaction and Service Quality. *Sport Management Review*, *16*(1), 85–96.

Vranica, S. (2014). The NBA's Plan to Win More Fans. *The World Street Journal*. Retrieved from http://www.wsj.com/articles/the-nbas-plan-to-win-more-1413751312 on 4-10-2015.

Watkins, B. A. (2014). Revisiting the Social Identity-Brand Equity Model : An Application to Professional Sports. *Journal of Sport Management*, 28 (4), 471–480.

Yoshida, M., and Gordon, B. (2012). Who is More Influenced by Customer Equity Drivers? A Moderator Analysis in a Professional Soccer Context. *Sport Management Review*, *15*(4), 389–403.

Yoshida, M., and James, J. D. (2010). Customer Satisfaction with Game and Service Experiences : Antecedents and Consequences. *Journal of Sport Management*, *24*, 338–361.

Yoshida, M., James, J. D., and Cronin, J. J. (2013). Sport Event Innovativeness: Conceptualization, Measurement, and its Impact on Consumer Behavior. *Sport Management Review*, *16*(1), 68–84.

Yu, H. S., Zhang, J. J., Kim, D. H., Chen, K. K., Henderson, Min, S. D., and Huang, H. (2014). Service Quality , Perceived Value , Customer Satisfaction , and Behavioral Intention Among Fitness Center Members Aged 60 Years and Over. *Social Behavior and Personailty*, *42*(5), 757–768.

Zeithaml, V. A. (1988). of Consumer Perceptions A Means-End Value : Quality , and Model Synthesis of Evidence. *Journal of Marketing*, *52*(3), 2–22.

Zeithaml, V. A., Berry, L. L., and Parasuraman, A. (1996). The Behavioral Consequences of Service. *Journal of Marketing*, *60*(2), 31–46.

THE IMPACT OF VENTURE CAPITAL ON FUNDING AMOUNTS PROMISED IN ALLIANCE CONTRACTS

Paul Forshey, High Point University
Edward Levitas, University of Wisconsin-Milwaukee

ABSTRACT

In this work, we examined the impact of venture capital involvement in the alliance markets by exploring two questions: does venture capital involvement tend to improve access to the alliance market and does venture capital increase the amount of remuneration those alliances provide firms developing innovative products? We test our theory on firms developing innovative products turning public in the biotech industry. Our findings indicate venture capital backed firms tend to form alliances more quickly, form more alliances, and bring more money into the firms developing innovative products through alliances compared to firms lacking venture capital backing in the year prior to the initial public offering (IPO) and in a five-year period following the IPO. This work directly extends the existing literature about venture capital involvement into the alliance formation process. Our paper also addresses the need for more research on the benefits firms developing innovative products receive from the alliances they form and the need for more research on the alliance formation process in general.

Key words: Alliances, Alliance Formation, Innovation, and Funding Innovation

INTRODUCTION

Venture capital, debt financing, and the capital markets do not provide enough money to develop new technologies fully and typically, corporate financing, provides the remaining monies to develop new innovations (Teece, 1992). One, and the most likely, source of corporate financing for firms developing innovative products since Teece's (1992) work has been alliances. Recent research indicates firms tend to choose between capital market funding and the alliance market for funding depending on the availability of funding in the capital markets (Lerner, Shane, & Tsai, 2003). Thus, the funding necessary for firms developing innovative products potentially comes from both the capital markets and from alliances.

Previous work shows venture capital involvement increases initial public offering (IPO) values (Stuart, Hoang & Hybels, 1999), improves the survive rate of IPO firms (Fisher, & Pollock, 2004; Jain, & Kini, 2000), and improves the number of alliances formed (Colombo, 2006; Gans et al., 2002; Hsu, 2006; Lindsey, 2008). Previous work on the number of alliances formed seems to assume that more alliances are better. To our knowledge, no one has investigated the impact venture capital firms have on the amount of money firms developing innovative products generate from the alliances they form. In addition, one would expect venture capital backed firms to be more efficient in forming alliances assuming venture capital provide valuable assistance in the alliance formation process. Thus, this research combines tests of efficiency and benefits to the target firm by testing how quickly firms form alliances and the remuneration those firms receive from the alliances they form.

This work directly addresses the impact of venture capital on money obtained through alliance contracts, and in doing so, also addresses the need for additional research on the impact

venture capital has in the alliance markets (Gans et al., 2002). We also address the need to better understand the benefits small innovative firms receive from the alliances they form (Alvarez et al., 2005; Coombs et al, 2006) and on the alliance formation process in general (Ahuja, 2000).

This study is unique because we investigate how quickly firms developing innovative products form alliances and the financial benefits they receive from those alliances in the same study. The first hypothesis parallels previous work on venture capital impact in the capital and alliance markets that indicates venture capital involvement has a positive impact on firms developing innovative products (i.e. Colombo, 2006; Finkle, 1998; Gans et al., 2002; Hsu, 2006; Lerner, 1994). Hypothesis 1 tests whether firms developing innovative products using venture capitalists will form alliances more quickly than firms that turn public without venture capital backing during the time period in this study. Second, we examine the remuneration firms developing innovative products receive as a result of the alliances they form. Hypothesis 2 tests if venture capital involvement will increase the remuneration promised firms developing innovative products in the alliance contract(s) around the IPO period.

We use the biotech-pharmaceutical industry to test our hypotheses, and we find support for both of our hypothesis. In addition, the data in this sample also indicates many innovative firms in the biotech industry turn public and form alliances simultaneously with, or very shortly after the IPO process. Our findings extend the knowledge related to venture capital involvement during the alliance formation process, and the funding of firms developing innovative products. We fully discuss the implications of our hypotheses, and the finding that firms developing innovative products seem to be forming alliances and turning public simultaneously.

THEORY AND HYPOTHESES

Funding Innovations

Firms developing innovative products that are often years away from releasing a product have limited financing options. The tradition understanding of the financing options is as follows: typically, firms developing innovative products start with investments by the entrepreneurs starting the company. Angel funding if it's available sometimes follows the initial funding. Later, venture capital firms provide meaningful amounts of additional funding to continue firm development and prepare the firms developing innovative products for an IPO (Lerner, 1994; Lerner, 1995). The IPO potentially provides the firms developing innovative products with the single largest influx of money it will have to continue development of the product. Secondary offerings (selling more shares of stock on a public market) can also provide additional revenue for continued growth after an IPO. At some point, the firms developing innovative products will release the product to the consumer market or sell the product to another firm, and to generate income.

In some industries, established firms choose to invest in innovation through alliances rather than, or in addition to, developing innovations internally. Previous research suggests alliances provide a means to share complementary resources, benefits, and risk, among firms (Hitt, Dacin, Levitas, Arregle, & Borza, 2000; Ireland, Hitt, & Vaidyanath, 2002). Established firms choose to finance innovations in other firms to reduce risks (see: Bowman & Hurry, 1993; Folta & Miller, 2002; McGrath, 1997; McGrath & Nerkar, 2004; Reuer & Tong, 2005; Vassolo, Anand, & Folta, 2004 for a complete explanation); they lack the ability or desire to develop and utilize new technologies (e.g., Tushman & Anderson, 1986) or both. Similarly, firms developing innovative products have several reasons to choose an alliance over capital market funding.

Firms developing innovative products often lack complementary resources like commercialization expertise, specialized manufacturing expertise, or specialized marketing expertise in addition to needing funding and therefore, seek partners who can provide funding in combination with other complementary resources (Rothaermel & Boeker, 2008; Teece, 1986). An alliance can be a desirable alternative to capital market funding for firms developing innovative products when capital market funding is scare, expensive, or when the firms developing innovative products also needs complementary resources in addition to funding (Lerner, Shane & Tsai, 2003; Teece 1986).

The Information Asymmetry problem in alliances formation

Theory suggests that alliances provide some protection to firms developing innovative products from appropriation when those firms pass private and valuable knowledge about an innovation directly to another firm (Arrow, 1962; Bhattacharya & Ritter, 1983; Hennart, 1988; Leland & Pyle, 1977). Legal agreements typically define the parameters of an alliance (Anand & Khanna, 2000; Gulati, 1998; Kogut, 1988; Oxley & Sampson, 2004; Reuer & Ariño, 2002; Reuer & Ariño, 2007; Ring & Van de Ven, 1992). Thus, knowledge can pass safely among the partners as long as both partners are mutually dependent on each other for continued development of the innovation (Hamel, 1991), and the alliance contract includes the appropriate protections for the firms involved (Liebeskind, 1996).

However, we contend the alliance formation process in most cases has high information asymmetry among potential partners and more closely resembles an open-market exchange of valuable knowledge described by Arrow (1962) rather than an exchange of knowledge protected by an alliance agreement described above. Forming an alliance takes place before the alliance contract is signed and the collaboration formally begins. Protecting valuable knowledge is generally difficult without a carefully constructed contract (Liebeskind, 1996). Predatory, or opportunistic behavior is often a meaningful threat to firms developing innovative products that rely on alliances to provide outside financing (Lerner, Shane & Tsai, 2003). Therefore, the alliance formation process leaves firms developing innovative products seeking alliances with the decision to risk appropriation of valuable knowledge and pass as much information as possible to the potential alliance partner to encourage alliance formation; or conversely, the firms developing innovative products can withhold valuable information to reduce the probability of appropriation but then, the firms developing innovative products potentially jeopardizes the alliance because the potential partner will not recognize the value of the innovation. In sum, the alliance formation process closely resembles Arrow's (1962) description of selling knowledge on open markets.

Signaling

Signaling improves transactions among firms with inherently high information asymmetries by providing a differentiating equilibrium among firms without transferring valuable knowledge that could be appropriated. There are two kinds of market signals: direct signals and indirect signals. Direct signals are observable characteristics or attributes of a firm that provide clues about an unobservable characteristic or attribute of that firm. Indirect signaling, the type provided by venture capital, is based on the idea that a firm can be certified as a high-quality firm by third party (Brau & Fawcett, 2006). Indirect signals are trustworthy when the third party would suffer a meaningful loss by falsely representing the target firm (Megginson

&Weis, 1990). Economists have long recognized the activities of intermediaries improve market efficiency by enabling investments in environments with otherwise prohibitive levels of information asymmetry (Lerner, Shane & Tsai, 2003). Venture capital firms along with underwriters and analysts are recognized as intermediaries for investors in the capital markets (e.g. Barron, Byard, Kile, & Riedl, 2002; Carter & Dark, 1993; Carter, Dark, & Singh, 1998; Carter & Manaster, 1990; Kimbrough, 2007; Lerner, Shane, & Tsai, 2003; Lindsey, 2008; Logue, Rogalski, James, Seward, & Foster-Johnson, 2002).

Venture Capital Influence in the Alliance Market

Intermediaries in the capital markets potentially influence decisions in the competitive markets when information flows through managers who are familiar with the capital market intermediaries to decision makers within a given company (Brau & Fawcett, 2006). Many of the same activities venture capital typically engage in that directly improves the value of the firms developing innovative products at the IPO should also provide a signal of quality to firms in the competitive market. Venture capital firms back only a few firms from the hundreds of candidates who seek their investment (Lerner, 1994). Once a venture capital firm is working with a selected group of firms, those venture capital firms tend to advance about one-third of their portfolio of firms to a public offering liquidating the other two-thirds through acquisitions or bankruptcy (Lerner, 1994). In addition to simply vetting firms, venture capitalists improve the quality of the firm as they prepare for the IPO (Colombo, 2006; Fisher, & Pollock, 2004; Gans et al., 2002; Hsu, 2006; Jain, & Kini, 2000; Lindsey, 2008; Stuart, Hoang & Hybels, 1999).

Venture capitalists also have an incentive to facilitate the alliance formation process directly in addition to any benefits derived from signaling. Young firms generally lack critical resources (Stinchcombe, 1965), and firms developing innovative products almost always lack complementary resources (Finkle, 1998; Rothaermel & Boeker, 2008). An alliance provides needed resources, facilitates continued growth and improves the value of firms developing innovative products (Arend, 2006; Das, Sen, & Sengupta, 1998; Hagedoorn & Schakenraad, 1994; Hitt, Dacin, Levitas, Arregle, & Borza, 2000; Ireland, Hitt, & Vaidyanath, 2002; Koh & Venkatraman, 1991; Stuart, 2000). Venture capital firms ultimately make their money when they sell of their holdings in the firms sometime after the IPO. Thus, venture capital firms would potentially benefit from alliances formed shortly before or shortly after the IPO because an alliance in most cases will increase the value of any stock the venture capitalist still owns.

Venture capitalists also potentially have the means to facilitate alliances. Venture capital firms grow and develop firms in a technological area of expertise by drawing on a network of people to help firms developing innovative products succeed at critical junctures (Jain & Kini, 2000). Direct action combined with the venture capitalist's ability to signal high quality to potential alliance partners should improve the probability firms developing innovative products will form alliances. The desire to cash out should also encourage venture capitalist to pursue alliances sooner rather than later assuming all other considerations in the alliance are equal and thus, we expect firms with venture capital backing will tend to form alliances more quickly.

H1: Firms turning public with venture capital backing will form alliances more quickly in the year leading up to and during a 5-year period following the IPO compared to firms lacking venture capital backing.

Forming alliances more quickly implies more alliances in a given time period. More alliance in a given period of time could mean more money for the firms developing innovative products; however, it is unknown if series of small alliances provide more remuneration than a single alliance providing a large amount of money and covering a longer time frame. Thus, we continue by examining the remuneration promised firms developing innovative products in the alliances announcements recorded in the RDNA database.

Firms developing innovative products form alliances to access many different resources. We assume in the biotech industry that the alliance agreement will reflect joint value maximization efforts on the part of the firms involved (Zajac & Olsen, 1993). We argue it is in the best interest of a venture capitalist, and certainly the firm they represent, to maximize the amount of money the firms developing innovative products receives even if the primary motivation for an alliance is to gain access to a complementary resource. Previous research in the biotech industry shows firms developing innovative products form alliances to gain access to specialized manufacturing, marketing networks, established distribution channels, and expertise in managing the clinical trials process (Baum, Calabrese, & Silverman, 2000; Pisano, 1990; Teece, 1986) in addition to funding. Finding funding and gaining access to complementary resources are not mutually exclusive and thus, we expect venture capitalist to make every effort to maximize the amount of money they bring into the target firm.

Consistent with the argument in the previous section, improving the financial stability of the firms developing innovative products should improve the stock market value of the firms developing innovative products. Higher stock market values would provide venture capital firms with higher returns as they cash out of the firms developing innovative products in the future. Therefore, it is in the best interest of venture capitalist to try to maximize the amount of remuneration promised to the firms developing innovative products as part of a collaborative agreement. Thus, we expect venture capital involvement to have a positive impact on the remuneration promised to firms developing innovative products in the 7-year period surrounding the IPO.

H2: Firms turning public with venture capital backing will acquire more money through alliances in the year preceding the IPO through a 5-year period following the IPO compared to firms lacking venture capital backing.

METHODS

Industry Setting

The biotechnology industry is an ideal setting for this study because established firms routinely form alliances with firms developing innovative products, the innovative nature of the industry in general, and prior research in the biotech sector. First, the biotech industry accounts for more alliances than any other industry and twice as many alliances as the next largest industry during the time period of this study (Rothaermel, 2001b). The development time required to bring a new drug to market generally takes about 15 years and costs over $500 million (Rothaermel & Deeds, 2004). The IPO firms, in most cases, need money and other complementary resources for an extended period of time in the biotech industry because the products they develop will take years or decades before they are released to the public (Rothaermel & Boeker, 2008; Teece, 1986). The pharmaceutical companies have increasingly focused on getting products through clinical trials, manufacturing, and marketing while the

biotech firms tended to focus on the discovery and early development of new innovative products during the time period of this research. Finally, there is a considerable history of using the biotech industry to study alliances in the existing literature that can be brought to this project.

Data and Sample

The sample for this study consists of US-based biotech companies and pharmaceutical companies traded on US exchanges that entered research and development alliances between January 1, 1994, and December 31, 2004. We limited the biotech companies to firms listed under the Standard Industrial Classification (SIC) codes 2834 pharmaceutical preparations, 2835 in vitro and in vivo diagnostic substances, 2836 biological products except diagnostics, and 8731 commercial physical and biological research. We use publicly traded companies to gain access to financial data and to improve the ability to screen spin-off firms from the sample. We limited alliance to dyads since we do not have a means to track the flow of money among alliances with multiple partners.

We construct a unique data set for this study from multiple data sets. The IPOdata.com data set provides the IPO date, venture capital involvement and other IPO information for biotech firms. IPO information is supplemented by reading SEC prospectus filings announcing the IPO (S1 and SB2 filings). S1 filings are the prospectus filings usually associated with an IPO, and SB2 filings are an alternative small business filing. Compustat provides the financial data. The RDNA data set provides the alliance data, and the IMS Life Cycle data set provides product data. Details about the data sets used in this study are available upon request.

The two central questions asked in this study require two different dependent variables. We employ two different statistical techniques to test the two different dependent variables (Greene, 2008). We use a hazard /event analysis to answer the question "do firms developing innovative products form alliances more quickly, and construct a panel data set to test "do they receive more money from the alliances they form."

We begin with the event analysis. The data set for the event analysis has 104 firms and 353 observations. We construct a second data set from the data these 353 observations. Many firms do not report the remuneration promised in the alliance contract, our dependent variable for the second analysis. We test for selection bias using a Heckman model (1979). The test for independent equations was not significant: $Chi^2_{(9)}=10.64$, $p>.05$. Thus, selection bias between the two different samples is not indicated. Therefore, we simply drop alliances failing to report remuneration for the panel data. A five-year period after the IPO is consistent with past literature studying the effects of venture capital on IPO outcomes (Fisher & Pollock, 2004; Lerner, 1994; Jain & Kini, 1999; Jain & Kini, 2000); however, firms can, form alliances prior to the IPO. In some cases, it may even be preferable to form alliances prior to the IPO since alliances tend to improve the value of the firms developing innovative products (Das, Sen, & Sengupta, 1998; Stuart, 2000). Improving the value of the firm could in turn increase the amount of money raised in the IPO. Therefore, the panel data tracks the firm beginning one full year before the IPO date, the year of the IPO, and then, for five full years after the IPO. The resulting data follows 70 firms over a seven-year period.

Event Analysis Variables

The dependent variable in a Cox Regression is the hazard function associated with the event of interest: forming an alliance. The time variable in this analysis is measured in months,

and is the time to the first alliance or the time between alliances for firms forming more than one alliance within the seven-year period. The independent variable in this research is *VC* Involvement (VC stands for Venture Capital). VC Involvement is code one when venture capitalists are involved with the firms developing innovative products during the IPO process and zero when venture capitalists are not involved with the firms developing innovative products.

The ability to signal the possession valuable resources should affect firms developing innovative products' ability to form alliances (Ahuja, 2000). Therefore, we also include several variables that potentially signal the possession of valuable resources to potential alliance partners and, thus influence the ability to form alliances. We include the age of the firms developing innovative products. Age is a proxy for having resources that develop over time (Stinchcombe, 1965) and financial stability (Lerner, Shane, & Tsai, 2003). *Age* is the age of the firms developing innovative products in years. We use dummy variables to control for different market segments by SIC. We code each dummy variable one when the firms developing innovative products operates in a given SIC and zero when it does note. We have four dummy variables 2834, 2835, 2836, and 8731. Previous research indicates that a firm's experience in forming alliances potentially impacts future alliances (Kale, Dyer, & Singh, 2002; Rothaermel & Deeds, 2006). Therefore, we record the number of recent alliances the firms developing innovative products may have finalized to account for recent experience in the alliance market. Prior Alliance is the sum of alliances (if any) over a ten-year period prior to the time frame of this research.

We had two variables that violated the assumption of proportionality in our pre-analysis: a variable to capture patent data and a variable to capture the value of the initial public offering. We stratified these variables to improve our Cox Model. The amount of money raised with the IPO reflects the inherent value of the IPO firm. The offer amount is a proxy for the potential performance of the firm representing investor's belief the firm has sufficient resources to perform well after the IPO (Jain, & Kini, 2000). The variable Amount Stratified is the total value of the IPO rounded into increments of 10 million. All monetary amounts are converted to 2009 dollars.

In the biotechnology related industries, patent statistics can provide an effective measure of a firm's intellectual property (e.g., Sorenson & Stuart, 2000): a very valuable resource for biotech firms (Baum, Calabrese, & Silverman, 2000). New patents based on previous work must cite the prior patents. Citing a patent is similar to the practice of academics citing previous research in current work. The number of citations a patent receives over time is an indication of the importance, the inherent value of those patents, and provides more information compared to simple patent counts (Podolny & Stuart, 1995; Trajtenberg, 1990). The NBER data set includes an adjustment to account for the tendency of older patents to acquire more citations and certain technical categories to be more valuable than others (Hall, Jaffe, & Trajtenberg, 2001). Thus, we weight the patents by the number of citations it receives, and adjust these weights with NBER adjustment factors to account for differences in technology class and patent age. We then sum firms developing innovative products' weighted patent citations for the life of a patent (up to 20 years). Finally, we stratified the raw data by rounding citation into increments of 1000 to create the variable Patents Stratified for this analysis.

There are two variables previous research indicated could impact our results that we removed from the final model in the pre-analysis process. Past research indicates firms developing innovative products turn more often to alliances as a source of funding when money

in capital markets constricts (Lerner, Shane & Tsai, 2003). A variable to account for the amount of money available in the IPO market, and a variable to account for the amount of money in the alliance markets tested at p>.8. Therefore, we removed these variables from our final model in the event analysis.

Panel Data Set Variables

The dependent variable in the panel data set is a running sum of remunerations promised in the alliance agreement covering a seven-year period. The monthly time variable is converted into years to give us seven periods in panel data. The dependent variable, Total Value, includes all the upfront money promised to the firms developing innovative products. Total Value is adjusted to 2009 dollars (in millions). When more than one alliance occurs in a given time period, the multiple values are added together. The independent variable remains VC Involvement in this analysis. As before, VC Involvement is code one when venture capitalists are involved with the firms developing innovative products during the IPO process and zero when venture capitalists are not involved with the firms developing innovative products.

We use several of the same variables used in the event analysis as control variables in this analysis, and we add additional variables previous research indicates should impact the amount of remuneration. The variable Offer Amount is used in this analysis as well. Offer Amount is the value of the IPO in 2009 dollars. Stratification is not required in this analysis. The age of the firms developing innovative products is retained. The variable Patent Portfolio is retained, but stratification is not required in this analysis. The variable Previous Alliances is the sum of alliances formed in preceding years. We use two measures of market receptivity in this analysis (see: Brown, 1970 for discussion on market receptivity). IPO Market Sum is the sum of the money available in the biotech IPO market over the target years. We calculate this amount by summing the amounts of the successful Biotech IPOs by year. Alliance Market Sum is the sum of the money available in the alliance market by year. We calculate this variable by summing the total alliance amounts reported in alliance contracts in the biotech industry by year. The variables 2834, 2835, 2836, and 8731 are dummy variables for the SIC codes (coded the same as before). The variable Private/Public is a dummy variable coded one if the firm is public at the time or zero if the firm is still a private firm at the focal time period. Research indicates underwriter prestige is highly correlated with venture capital reputation and impacts IPO amounts (Carter, Dark, & Singh, 1998; Carter & Manaster, 1990; Logue, Rogalski, Seward & Foster-Johnson, 2002). The variable Underwriter Prestige is the Carter-Manaster ranking of the underwriters in this data set (Carter, Dark, & Singh, 1998). A local cluster of similar firms provides a competitive advantage to firms developing innovative products (Porter, 2000), and previous research links geographic location to the value of an IPO (Deeds, DeCarolis and Coombs, 1997). Consistent with Deeds, DeCarolis and Coombs, (1997), we use known concentrations of biotech firms in this analysis (see Table 1 for the number of firms in each area). The dummy variables Location: Boston, Location: NY TriState, Location: Philadelphia and so on account for the location of the firms developing innovative products. We code each dummy variable 1 when the firm's operating address is in the target location and 0 when it is not.

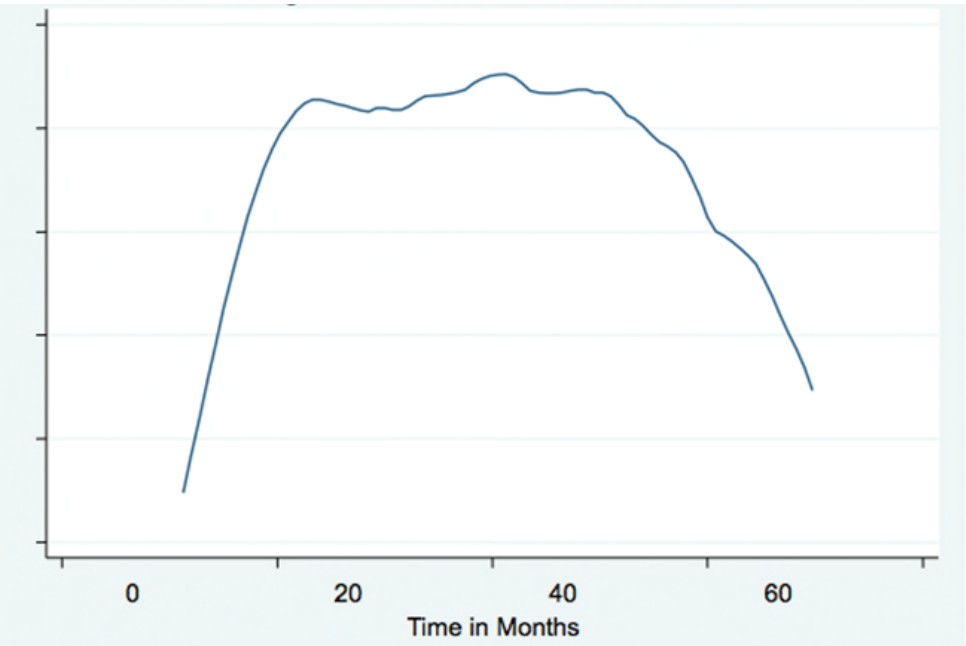
Table 1 FIRM LOCATIONS		
	Frequency	**Percentage**
Boston	63	12.86
NY Tri-state	42	8.57
Philadelphia	21	4.29
San Diego	56	11.43
Philadelphia	133	27.14
Seattle	21	4.29
Other	154	31.43

RESULTS

Event Analysis

Table 2 contains the descriptive statistics and the correlation matrix. The data indicates 69% of the firms in this sample use venture capital backing in the biotech field. The average firm is 7 ¾ years old when it forms its alliance. Most of the firms developing innovative products are equally distributed among SIC code as 2834, 2836 and 8731 (30-35% in each) with 2835 accounting for about .01%.

Figure 1
SMOOTHED HAZARD ESTIMATE

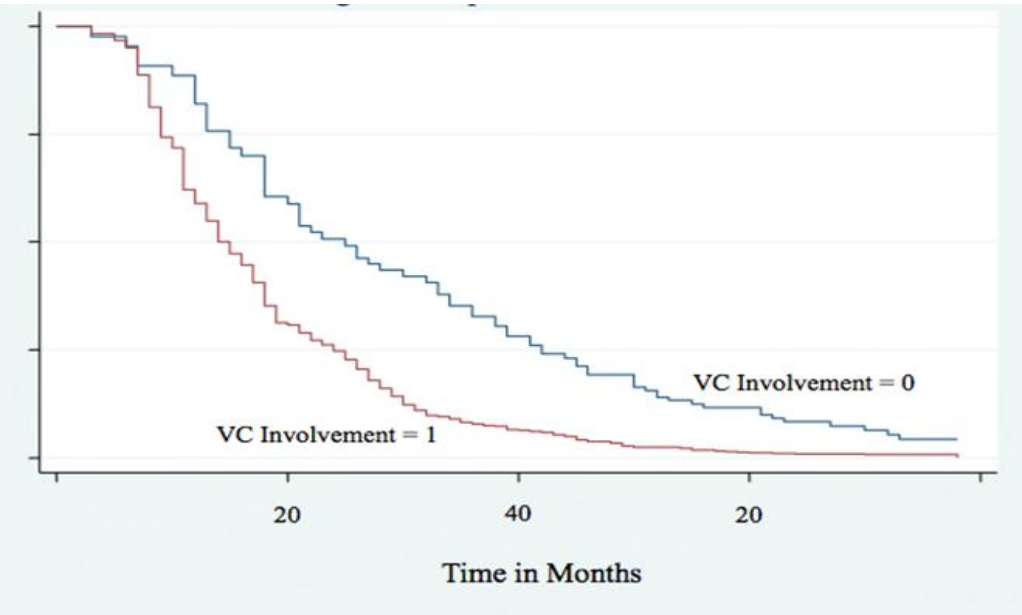


There are a couple of advantages to using a Cox model over other possible choices. A Cox model calculates the conditional probability of an event at any point in time. It is a very robust model when data is right censored. In addition, the hazard and survival functions provide interpretable information about the overall effects of the variables. Therefore, we begin our analysis by graphing the smoothed hazard function (Figure 1). Figure 1 clearly shows an inverted "U" shape. The graph rises quickly from the starting point at about 11-13 months into the study,

continues steeply upward until about 20-22 months just after the IPO (the IPO is at 18 months), levels off, and begins to drop quickly at about 50 months (about 2.5 years after the IPO). The curve would indicate the odds a biotech firm in this sample will form their alliances within a relatively short 3-3 ½ year period around the IPO and then, the odds these firms will form subsequent alliances diminish fairly quickly. This curve supports the expectation that venture capital will encourage alliance formation shortly before or shortly after the IPO, so they can maximize the value of the target firm and begin cashing out after it turns public.

Next we look at the Kaplan-Meier survival curve for venture capital involvement (Figure 2). The univariate survival estimates for firms using venture capital backing and firms lacking venture capital backing are significantly different: Chi^2 22.71, $p< 0.05$. The two lines are approximately parallel with firms using venture capital having a consistently higher incident rate after the initial couple of months in this sample. This sample indicates a venture capital backed firm tends to form at least one alliance in a little over a 60-month period. The odds of a firm lacking venture capital forming an alliance are consistently lower. The Kaplan-Meir test provides some limited support for Hypothesis 1: Firms turning public with venture capital backing will form alliances more quickly in the year leading up to and a five-year period following the IPO compared to firms lacking venture capital backing.

Figure 2
KAPLAN-MEIER SURVIVAL ESTIMATES



We use a conditional risk approach that assumes sequential events for the Cox Regression Model (Cleves, 2009). Simply, a conditional risk model assumes the second alliance must follow the first; the third alliance must follow the second and so on, when firms form more than one alliance. Specifically, we use a Cox model, with efron ties and a robust option to test our hypotheses (Cleves, 2009). This model adjusts the standard error by clustering the 104 firms in this data set. We have to force the likelihood-ratio (LR) test once we choose to cluster standard error by firm. Therefore, there is no guarantee of validity for likelihood ratio tests.

Table 2
DESCRIPTIVE STATISTICS AND CORRELATIONS FOR THE EVENT ANALYSIS

	Variable name	Mean	Std. Dev.	1	2	3
1	VC Involvement	0.69	0.46	1		
2	Amount Stratified	46.88	31.92	-0.0351	1	
3	Patents Stratified	722.38	1967.63	-0.2134*	0.4128*	1
4	Age	7.76	8.90	-0.1190*	-0.0885	0.07
5	2834	0.31	0.46	-0.0931	-0.0674	-0.0242
6	2835	0.01	0.11	0.0142	0.0525	0.0015
7	2836	0.35	0.48	0.0427	-0.3650*	-0.2053*
8	8731	0.33	0.47	0.0449	0.4238*	0.2312*
9	Prior Alliance	0.95	1.97	-0.0477	0.3798*	0.4710*

	Variable name	4	5	6	7	8	9
4	Age	1					
5	2834	-0.0127	1				
6	2835	-0.0178	-0.0716	1			
7	2836	-0.1297*	-0.4888*	-0.0783	1		
8	8731	0.1477*	-0.4706*	-0.0754	-0.5149*	1	
9	Prior Alliance	0.3452*	0.0414	-0.0246	-0.1608*	0.1276*	1

n=353 * = p<.05

Table 3 shows the results of our Cox Regressions. Model 1 is significant Wald $Chi^2_{(7)}$ 63.73, p< 0.05. Several of the control variables reach a significant level in Model 1, p<.05: Age, Prior Alliance and two SIC dummies. Model 2 includes VC Involvement. Model 2 is significant Wald $Chi^2_{(8)}$ 64.19, p< 0.05, and the (LR) test is also significant $Chi^2_{(1)}$ 20.68, p< 0.05. The variable VC Involvement is significant in Model 2, p<.05. Thus, Hypothesis 1, firms turning public with venture capital backing will form alliances more quickly, is supported in Model 2. These results indicate the rate of alliance formation is 95% quicker for firms using venture capital backing (all other variables in Model 2 held constant). However, as mentioned earlier, the raw patent data and the raw offer amount data violated the assumption of proportionality and were therefore stratified. We included these of the variables in the full model with Log (time). The variable OffAmtStrata (in various forms) still violates the assumption of proportionality, p<0.05. OffAmtStrata failed to reach a significant level in model 2, p=.646. Therefore, we removed OffAmtStrata in Model 3. Model 3 is significant Wald $Chi^2_{(7)}$ 62.06, p< 0.05 and the (LR) test is also significant $Chi^2_{(1)}$ 20.68, p< 0.05. The variable VC Involvement is significant in Model 3, p<0.05. Thus, Hypothesis 1, Firms turning public with venture capital backing will form alliances more quickly, is also supported in Model 3. These results indicate rate of alliances is 93.5% quicker for firms using venture capital backing form alliances (all other variables in Model 3 held constant).

Table 3
COX REGRESSIONS

	Model 1	Model 2	Model 3
Amount Stratified	0.999351	0.9982792	
	(0.0040)	(0.0037)	
Patents Stratified	1.000005	1.000059	1.000054
	(0.0001)	(0.0001)	(0.0001)
Age	0.9714106*	0.973555*	0.9757164*
	(0.0118)	(0.0112)	(0.0094)
2834	0.2505608**	0.2613755***	0.2720105***
	(0.0671)	(0.0649)	(0.0617)
2835	0.109858***	0.1054778***	0.1062293***
	(0.0763)	(0.0649)	(0.0657)
2836	0.5882825	0.5768132	0.6102002
	(0.1431)	(0.1639)	(0.1617)
Prior Alliance	1.201515*	1.180985*	1.165053*
	(0.1016)	(0.0837)	(0.0714)
VC Involvement		1.95022*	1.935512*
		(0.5656)	(0.5569)
Wald Chi 2	63.73***	64.19***	62.06***
LR Chi2		20.68***	20.30***

Hazard Ratios shown
Standard error in parenthesis
Standard error adjusted for 104 clusters
Likelihood-ratio (LR) test is forced
Number of observations = 353
p<0.05, ** p<0.01, *** p<0.001

The hazard function for our independent variable, VC Involvement, doesn't change much from Model 2 to Model 3. Therefore, we can assume OffAmtStrata's violation of the assumption of proportionality does not have undue effect in these models. The LR test is significant from Model 2 to Model 3. The standard errors tend to decrease in Model 3. Therefore, Model 3 is probably a better fit than Model 2. More importantly, the same control variables are significant in both Model 2 and Model 3, $p<0.05$. Thus, we can be fairly confident that venture capital involvement improves the rate of alliance formation during the seven years we tracked the firms in this research although one could argue about the amount of that affect (i.e., 93.5% versus 95% change in rate).

Panel Data

Table 4 contains the descriptive statistics and the correlation matrix for the panel data. The data indicates 67% of the firms use venture capital backing in this data set. The average firm is about 8 ½ years old. Most of the firms developing innovative products in this data set are in SIC 2834

(36%) followed by 2836 (37%), 8731 (16%) and with 2835 accounting for about .01% (not shown on the table). The two data sets are very similar even though some data is lost in the panel data set.

Table 4
DESCRIPTIVE STATISTICS AND CORRELATIONS

		Mean	Std. Dev.	1	2	3	4
1	Total Value	90.2031	160.7320	1.0000			
2	Age	8.4541	6.4791	0.0965*	1.0000		
3	Previous Alliances	1.2082	1.6410	0.3010*	0.8562*	1.0000	
4	Private/Public[a]	0.7143		0.3034*	0.2443*	0.2677*	1.0000
5	Patent Portfolio	631.8221	1852.7960	0.0298	0.2754*	0.3472*	0.0390
6	IPO Market Sum	102.6551	67.0814	0.3889*	0.3032*	0.2917*	0.6547*
7	Alliance Market Sum[b]	166.2499	103.5274	0.3184*	0.3179*	0.3273*	0.7010*
8	Offer Amount[b]	77300.0000	227000.0000	0.0320	0.2875*	0.3599*	0.0000
9	Underwriter Prestige	7.2720	2.7109	0.1792*	-0.0065	0.0753	0.0000
10	VC Involvement	0.6714	0.4702	0.1905*	0.0522	0.0915*	0.0000

		5	6	7	8	9	10
1	Total Value						
2	Age						
3	Previous Alliances						
4	Private/Public[a]						
5	Patent Portfolio	1.0000					
6	IPO Market Sum	0.0738	1.0000				
7	Alliance Market Sum[b]	0.0015	0.6004*	1.0000			
8	Offer Amount[b]	0.7706*	0.0554	-0.0476	1.0000		
9	Underwriter Prestige	0.1431*	0.1396*	-0.0954*	0.1381*	1.0000	
10	VC Involvement	0.0218	0.1216*	-0.0910*	0.1139*	0.2174*	1.0000

Location and SIC dummy variables omitted

n=400 [a]= dummy variable

*p<.05 [b]= shown in thousands

In this data set, we have three variables that will not vary over time: the location of the firm, the quality of the underwriter involved in the IPO and venture capital involvement during the IPO process, but we also have several variables that do vary over time. The advantage of

using panel data in this research is to allow variables like the accumulation of patents, the private-public status of the firm, the amount of money available in the IPO and the amount of money available in the alliance markets to change over time.

Table 5
GEE RESULTS

	Model 1	**Model 2**
Age	-8.1201*	-8.6835*
	(4.0756)	(4.0278)
Previous Alliances	43.8329*	44.7236*
	(20.5065)	(20.5501)
Private/Public	-3.1836	-3.4510
	(13.0764)	(13.1581)
Patent Portfolio	-0.0030	0.0001
	(0.0159)	(0.0148)
IPO Market Sum	0.4839***	0.4749***
	(0.0961)	(0.0972)
Alliance Market Sum	0.0002*	0.0002*
	(0.0001)	(0.0001)
Offer Amount	-0.0000	-0.0000
	(0.0000)	(0.0000)
Underwriter Prestige	6.8264*	5.1265
	(2.9645)	(3.0431)
VC Involvement		55.5345*
		(21.7222)
Constant	19.6261	-8.4968
	(42.0239)	(46.1515)
Wald Chi 2	110.85***	118.94***

Location and SIC dummies not shown
Standard Error in parenthesis
Standard Error adjusted for 70 clusters
n = 490
+ p<.10 * p<0.05, ** p<0.01, *** p<0.001

We use a generalized estimating equation (GEE) model to test our hypothesis. GEE models are a population-averaged model. Our model uses a normal distribution, and a robust option to cluster the standard error by the firms developing innovative products to test our hypothesis. We choose a GEE model because it is well suited to test group effects (i.e. firms with venture capital backing) as opposed to other regression techniques intended to provide coefficients that predict individual effects (UCLA Statistical Consulting Group, 2013). Our methodology includes several measures that will tend to minimize any possible reverse causality. First, it takes a year or more to find a partner and negotiate an alliance contract. Therefore, we lag IPO Market Sum, Alliance Market Sum and Patent Portfolio so these measures are more

likely to reflect the time period associated with the negotiation of the alliance contract (and not the signing year when the amount is reported). We also have a variable that should be lagged an additional year. The variable Previous Alliances is from the year preceding the negotiation year. We assume the firms developing innovative products have (at the minimum) already started an alliance for it to learn much from its prior alliances. In addition to methodological practices that minimize reverse causality, we also performed a Granger Causality test.

Table 5 shows the generalized estimation equation results. Both models have 70 firms followed over a seven-year period. The first model tests the control variables. Model 1 is significant $Chi^2_{(17)} = 110.85$, $p<0.05$. The control variables Age, Previous Alliances, IPO Market Sum, Alliance Market Sum and Underwriter Prestige reach significant levels, $p<0.05$. Model 2 is significant $Chi^2_{(18)} = 118.94$, $p<0.05$. The variable VC Involvement is significant, $p<0.05$. Thus, Hypothesis 2: firms turning public with venture capital backing will form alliances promising greater remuneration, is supported. The control variables Age, Previous Alliances, IPO Market Sum, and Alliance Market Sum remain significant, $p<0.05$ in Model 2.

DISCUSSIONS, LIMITATIONS, FUTURE DIRECTION

Discussion

We focused on two relatively fundamental questions for this study: does venture capital involvement improve an innovative firm's access to the alliance markets, and does venture capital involvement tend to increase the amount of remuneration those alliances provide. We find support for our proposed theory with this data set. Venture capital backed firms tend to form alliances more quickly in the seven-year time period around the IPO (one year prior to, the IPO year, and a five-year period after), and firms developing innovative products with venture capital backing tend to be promised more remuneration in the alliance contracts they sign over the time period in this research.

This work extends previous research on the benefits of venture capital involvement in three specific ways. First, firms developing innovative products tend to be in critical need of resources (Rothaermel & Boeker, 2008; Teece, 1986) that support the survival of the firm (Stinchcombe, 1965). Alliances have been a means to acquire critical resources in the biotech industry for several decades now (Ahuja, 2000; Baum, Calabrese, & Silverman, 2000; Rothaermel, 2001a; Rothaermel, 2001b; Rothaermel &Deeds, 2004). Forming alliances more quickly implies quicker access to critical resources and more alliances in a given time period. More alliances in a given time period in turn implies greater access to critical resources. Our findings show alliances forming quicker, and in most cases more often for firms using venture capital backing. Thus, venture capital backed firms should have both quicker access and greater access to critical resources compared to firms lacking venture capital backing. Second, previous research indicated venture capital firms help IPO firms overcome critical hurdles leading up to the IPO process that helped firms succeed (Jain & Kini, 1999). Forming alliances can be considered a critical hurdle for firms developing innovative products in the biotech industry if one accepts the assertion alliances provide critically needed resources that support the development of the firm. Our results indicate venture involvement has a positive impact alliance formation, not only prior to, but also shortly after the IPO. Thus, we find venture capital involvement not only helps firms overcome critical hurdles prior to an IPO and shortly after the IPO. This is consistent with Fisher & Pollock's (2004) assertion that venture capitalist maintain on ongoing interest in the firms they represent beyond the IPO. Finally, past research indicated

venture capital involvement tended to increase money flowing into the firm through increased IPO values (Lerner, 1994 Stuart, Hoang & Hybels, 1999), and our results show venture capital involvement also tends to improve money flowing into the firm through the alliances it forms.

The control variables in this study also provide some additional insights into a possible connection between the IPO markets and the alliance markets. We find a positive relationship between the money available in the IPO markets and the amount of money the firms developing innovative products promised in the alliance contract. We also find a positive relationship between the money available in the alliance markets, and the amount of money promised the firms developing innovative products; when there is more overall money available in the markets, more money tends to go to individual firms and not simply more money spread out over more firms. This is consistent with Lerner, Shane and Tsai's (2003) findings that predict that the available funding in the alliance markets and capital markets rise and fall together. It also implies market receptivity in the alliance markets in addition to the capital markets (see Brown, 1970 for a complete explanation of market receptivity in the capital markets).

Past research indicates experienced venture capitalists are skilled at timing the capital markets, so the firms they represent tend to enter receptive IPO markets and thus, generate more money from the IPO (Lerner, 1994). Our findings indicate timing the alliance market will also tend to improve the remuneration a firms developing innovative products will receive, thus practitioners should be aware of the potential benefits associated with timing an alliance market as well as timing the IPO market. Finally, previous experience with alliances improved both the rate at which firms form alliances and the amount of remuneration the firms developing innovative products receives in our data set. We are, however, unable to fully explore the impact and implications of previous alliance experience (i.e. Kale, Dyer, & Singh, 2002) beyond a simple positive impact in this data set.

This sample also leads to additional insights about the development of firms developing innovative products in addition to our formal hypothesis. Past research already indicated that many firms fail because of rigors of the IPO process (Hensler, Rutherford, & Springer, 1997). Turning public stresses manager's capabilities, as they must to continue with the day-to-day management responsibilities of the firm while simultaneously navigating the IPO process. A typical IPO in the biotech industry involves about 5.5 years of technical preparation prior to the IPO (Beckman, 2006). The IPO itself costs about $1.5 million (Silverman, 2006), and involves an intense one-year period beginning with the IPO's announcement when the managers are immersed in the IPO process. The intense one-year period involves multiple meetings with the intermediaries involved in the IPO process and a "road show" to help recruit the investors that will purchase the initial stock offering. These activities associated with an IPO process stress managerial capabilities. Our findings indicate that in addition to the stressors associated with the IPO, the managers of firms developing innovative products will also be forming a meaningful number of alliances at about the same time as the IPO. Forming and managing alliance is a challenging, time intensive, and costly task for managers of firms developing innovative products (Kale, Dyer, & Singh, 2002; White & Siu-yun Lui, 2005). The managers of the firms developing innovative products must identify appropriate partners, convince those potential partners to enter the alliance, negotiate the alliance contract and then, manage the alliance processes if the alliance is to be successful. It takes a year or more for a firm to search for partners, negotiate an alliance agreement and begin an alliance. The hazard function in our study show an upturn in the odds a firm will sign an alliance agreement just prior to the IPO and continues in inverted "U" shape for about three years after the IPO before dropping quickly. This

hazard function indicates that the firms in this study are forming initial alliances in a critical time period that coincides with the IPO. Thus, managers of firms developing innovative products that rely on alliances as a source of funding and other resources are likely to be tasked with two high stakes, time intensive processes spanning about a four-year period: turning public and forming alliance(s).

Limitations and Future Direction

This study is limited to biotech firms, and thus generalizing any of the findings beyond this industry is not advisable. This study essentially parallels the work on venture capital involvement in the capital markets, so additional work is needed in a couple of areas. Historically, and practically, work involving venture capital begins with the question: "do venture capitalists make a difference," and subsequent research addresses variability among venture capitalists should a difference exist. The nature of this data set does not allow us to explore the reputation, experience or other characteristics of the venture capitalists; so additional work should be done to determine the impact of reputation and/or experience on remuneration. The connection between the money available in the capital markets and the money available in the alliance markets is not fully explored. The desire or ability of venture capitalists to time the alliance market to maximize their own returns is also unknown, and could use additional research.

REFERENCES

Ahuja, G. 2000. The duality of collaboration: Inducements and opportunities in the formation of interfirm linkages. *Strategic Management Journal*, 21: 317-342.

Anand, B. N. & Khanna T. 2000. Do firms learn to create value? The case of alliances. *Strategic Management Journal*, Special Issue 21(3): 295-315.

Arend, R. J. 2006. SME-Supplier alliance activity in manufacturing: Contingent benefits and perceptions. *Strategic Management Journal*, 27: 741-763.

Arrow, K. J. 1962. Economic welfare and the allocation of resources for invention. In R.F. Nelson (Ed), *The rate and direction of inventive activity: Economic and social factors* (pp. 609-622). Princeton, NJ: Princeton University Press.

Barron, O. E., Byard, D., Kile, C. & Riedl, E. J. 2002. High-technology intangibles and analysts' forecasts. *Journal of Accounting Research*, 40(2): 289-313.

Baum, J. A., Calabrese, T. & Silverman, B. 2000. Don't go it alone: Alliance network composition and startups' performance in Canadian biotechnology firms. *Strategic Management Journal,* 21: 267-294.

Bhattacharya, S. & Ritter, J. R. 1983. Innovation and communication: Signaling with partial disclosure. *Review of Economic Studies*, 50: 331-346.

Bowman, E. H. & Hurry, D. 1993. Strategy through the option lens: An integrated view of resource investments and the incremental-choice process. *The Academy of Management Review*, 18(4): 760-782.

Brau, J. C. & Fawcett, S. E. 2006. Initial public offerings: An analysis of theory and practice. *The Journal of Finance*, 61(1): 399-436.

Brown, J. Michael. 1970. Post-offering experience of companies going public. *The Journal of Business*, 43(1): 10-18.

Carter, R. B. & Dark, F. H. 1993. Underwriter reputation and initial public offers: The detrimental effects of flippers. *The Financial Review*, 28(2): 279-301.

Carter, R. B., Dark, F. H. & Singh, A. K. (1998). Underwriter reputation, initial returns, and the long-run performance of IPO stocks. *The Journal of Finance*, 53(1): 285-312.

Carter, R. & Manaster, S. 1990. Initial public offerings and underwriter reputation. *The Journal of Finance*, 45(4): 1045-1067.

Cleves, Mario. 2009. How do I analyze multiple failure-time data using Stata? Retrieved from: http://www.stata.com/support/faqs/stat/stmfail.html

Colombo, Massimo G., Grilli, Luca, & Piva, Evila. 2006. In search of complementary assets: The determinants of alliance formation of high-tech start-ups. *Research Policy*, 35: 1166-1199.

Das, S., Sen, P. K. & Sengupta, S. 1998. Impact of strategic alliances on firm valuation. *Academy of Management Journal*, 41: 27-41.

Deeds, D.L., DeCarolis, D., Coombs, J.E., 1997. The impact of firm-specific capabilities on the amount of capital raised in an initial public offering: evidence from the biotechnology industry. *Journal of Business Venturing*, 12: 31– 46.

Finkle, T. A. 1998. The relationship between boards of directors and initial public offerings in the biotech industry. *Entrepreneurship Theory and Practice*, Spring: 5-29.

Fisher, H. M. & Pollock T. G. 2004. Effects of social capital and power on surviving transformational change: The case of initial public offerings. *Academy of Management Journal*, 47(4): 463-481.

Folta, T. B. & Miller, K. D. 2002. Real options in equity partnerships. *Strategic Management Journal*. 23: 77-88.

Gans, Joshua S., Hsu, David H., & Stern, Scott. 2002. When does start-up innovation spur the gale of creative destruction? *RAND Journal of Economics*, 33(4): 571-586.

Green, W.H. 2008. *Econometric Analysis (6th ed.).* MacMillan Publishing Company: New York.

Gulati, R. 1995a. Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. *Academy of Management Journal*, 38: 85-112.

Hagedoorn, J. & Schakenraad, J. 1994. The effect of strategic technology alliances on company performance. *Strategic Management Journal*, 15(4): 291-309.

Hall, Bronwyn H., Jaffe, Adam B., & Trajtenberg, Manuel. 2001. The NBER patent citations data file: lessons, insights and methodological tools. Working Paper. 8498. National Bureau of Economic Research.

Hamel, G. 1991. Competition for competence and inter-partner learning with international strategic alliances. *Strategic Management Journal*, Summer Special Issue, 12: 83-103.

Heckman, J. J. 1979. Sample selection bias as a specification error. *Econometrica*, 47(1): 153-161.

Hennart, J. F. 1988. A transaction cost theory of equity joint ventures. *Strategic Management Journal*, 9: 361-374.

Hensler, D. A., Rutherford, R. C. & Springer, T. M. 1997. The survival of initial public offerings in the aftermarket. *The Journal of Financial Research*, 20(1): 93-110.

Hitt, M. A., Dacin, M. T., Levitas, E., Arregle, J. L. & Borza, A. 2000. Partner selection in emerging and developed market contexts: Resource-based view and organizational learning perspective. *Strategic Management Journal*, 43: 449-467.

Hsu, David H. 2006. Venture capitalists and cooperative start-up commercialization strategy. *Management Science*, 52(2): 204-219.

Ireland, R. D., Hitt, M. A. & Vaidyanath, D. 2002. Alliance management as a source of competitive advantage. *Journal of Management*, 28(3): 413-446.

Jain, B. A. & Kini, O. 1999. The life cycle of initial public offering firms. *Journal of Business Finance and Accounting*, 26(9): 1281-1307.

Jain, B. A. & Kini, O. 2000. Does the presence of venture capitalist improve the survival profile of IPO firms? *Journal of Business Finance and Accounting*, 27(10): 1139-1176

Kale, P., Dyer, J. H. & Singh, H. 2002. Alliance capability, stock market response, and long-term alliance success: The role of the alliance function. *Strategic Management Journal*, 23(8): 747-767.

Kimbrough, M. D. 2007. The influences of financial statement recognition and analyst coverage on the capital market's valuation of R&D capital. *The Accounting Review*, 82(5): 1195-1225.

Kogut, B. 1988. Joint ventures: Theoretical and empirical perspectives. *Strategic Management Journal*, 9: 319-332.

Koh, J. & Venkatraman, N. 1991. Joint venture formation and stock market reactions: An assessment in the information technology sector. *Academy of Management Journal*, 34: 869-892.

Leland, H. E. & Pyle, D. H. 1977. Informational asymmetries, financial structure, and financial intermediations. *The Journal of Finance*, 32(2), Papers and Proceedings of the Thirty-Fifth Annual Meeting of the American Finance Association, September 16-18, 1976: 371-387

Lerner J. 1994. Venture capitalists and the decision to go public. *Journal of Financial Economics*, 35: 393-316.

Lerner, J. 1995. Venture capitalists and the oversight of private firms. *The Journal of Finance*, 50(1): 301-318.

Lerner, J., Shane, H. & Tsai, A. 2003. Do equity financing cycles matter? Evidence from biotechnology alliances. *Journal of Financial Economics*, 67: 411-446.

Liebeskind, J. P. 1996. Knowledge, strategy and the theory of the firm. *Strategic Management Journal*, 17: 93-107.

Lindsey, L. 2008. The Role of Venture Capital in Strategic Alliances. *The Journal of Finance*, 63(3): 1137-1168.

Logue, D. E., Rogalski, R. J., Seward, J. K. & Foster-Johnson, L. 2002. What is special about the roles of underwriter reputation and market activities in initial public offerings? *The Journal of Business*, 75(2): 213-244.

Megginson, W. L. & Weiss, K.A. 1991. Venture capitalist certification in initial public offerings. *The Journal of Finance*, 46(3): 879-903.

McGrath, R. G. 1997. A real options logic for initiating technology positioning investments. *Academy of Management Review*, 22: 974-996.

McGrath, R. G. and Nerkar, A. 2004. Real options reasoning and a new look at the R&D investment strategies of pharmaceutical firms. *Strategic Management Journal*, 25: 1-21.

Oxley, J. E. & Sampson, R. C. 2004. The scope and governance of international R&D alliances. *Strategic Management Journal*, 25: 723-749.

Pisano, G. P. 1994. Knowledge, integration, and the locus of learning: An empirical and analysis. *Strategic Management Journal*, 15: 85-100.

Podolny, J. M. & Stuart, T. E. 1995. A role-based ecology of technological change. *The Journal of Sociology*, 100(5): 1224-1260.

Porter, M. E. (2000). Location, competition, and economic development: Local clusters in a global economy. *Economic Development Quarterly*, 14(1): 15-34.

Reuer, J. J. & Ariño, A. 2002. Contractual renegotiations in strategic alliances. *Journal of Management*, 28(1): 47-68.

Reuer, J. J., & Ariño. A. 2007. Strategic alliance contracts: Dimensions and determinants of contractual complexity. *Strategic Management Journal*, 28: 313-330.

Reuer, J. J. & Tong, T. W. 2005. Real options in international joint ventures. *Journal of Management*, 31(3): 403-423.

Ring, P. S. & Van de Ven, A. 1992 Structuring cooperative relationships between organizations. *Strategic Management Journal*, 13(7): 483-494.

Rothaermel, F. T. 2001a. Incumbent's advantage through exploiting complementary assets via interfirm cooperation. *Strategic Management Journal*, 22 (6/7): 687-699

Rothaermel, F. T. 2001b. Complementary assets, strategic alliances, and the incumbent's advantage: An empirical study of industry and firm effects in the biopharmaceutical industry. *Research Policy*, 30: 1235-1251.

Rothaermel, F. T. & Boeker, W. 2008. Old technology meets new technology: Complementarities, similarities, and alliance formation. *Strategic Management Journal*, 29: 44-77.

Rothaermel, F. & Deeds, D. 2004. Exploration and exploitation alliances in biotechnology: A system of new product development. *Strategic Management Journal*, 25(3): 201-221.

Silverman, E. 2006. The hermit crab solution. *Nature Biotechnology*, 24(3): 245-247.

Sorenson J.B. & Stuart T.E. (2000) Aging, obsolescence and organizational innovation. *Administrative Science Quarterly*, 45(1): 81-112.

Spence, A. Michael. 1973. Job market signaling. *The Quarterly Journal of Economics*, 87(3): 355-374.

Stinchcombe, A. L. 1965. Social structure and organizations. In *The Handbook of Organizations*, Chicago Rand McNally: 142-193.

Stuart, T. E. 2000. Interorganizational alliances and the performance of firms: A study of growth and innovation rates in a high-technology industry. *Strategic Management Journal*, 21: 791-811.

Stuart, T. E. & Podolny, J. M. 1996. Local search and the evolution of technological capabilities. *Strategic Management Journal*, 17: 21-38.

Stuart, T. E., Hoang, H. & Hybels, R. E. 1999. Interorganizational endorsements and the performance of entrepreneurial ventures. *Administrative Science Quarterly*, 44: 315-349.

Teece, D. J. 1986. Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy*, 15: 285-305.

Teece, D.J. 1992. Foreign Investment and Technological Development in Silicon Valley. *California Management Review*, 34(2), 89-107.

Tushman, M. L. & Anderson, P. 1986. Technological discontinuities. *Administrative Science Quarterly*, 31: 439-465.

Trajtenberg, M. 1990. A penny for your quotes: Patent citations and the value of innovations. *The Rand Journal of Economics*, 21(1): 172-187.

UCLA Statistical Consulting Group. Stata Library: Panel Data Analysis. From http://www.ats.ucla.edu/stat/stata/library/gee.htm (Retrieved November 12, 2013).

Vassolo, R. S., Anand, J. & Folta, T. B. 2004. Non-additivity in portfolios of exploration activities: A real options-based analysis of equity alliances in biotechnology. *Strategic Management Journal*, 25: 1045-1061.

White, Steven & Siu-Yun Lui, Steven. 2005. Distinguishing costs of cooperation and control in alliances. Strategic Management Journal, 26: 913-932.

Zajac, E.J. & Olsen, C.P. 1993. From transaction cost to transaction strategies. *Journal of Management Studies*, 30: 131-145.

CEO DIRECTORS: GOING IT ALONE OR CLUSTERING ON BOARDS?

Stephen V. Horner, Pittsburg State University

ABSTRACT

CEO directors are a unique type of outside director and have been the object of governance scholars' inquiry. Scholarly investigation includes the characteristics of appointing firms, those of CEOs and their home firms that influence their acceptance of director appointments, and the impact of CEO directors on appointing firm outcomes. Examination of the incidence of active CEO directors serving on corporate boards as outside directors has produced conflicting findings as to whether firms have multiple CEOs serving as directors or if firms are reluctant to replicate skills of directors already on the board. This study examines this clustering effect investigating circumstances surrounding board service of active CEOs and proposes that CEO directors do indeed cluster on boards.

INTRODUCTION

CEO directors are active CEOs serving as outside directors on the boards of other firms (Fahlenbrach, Low, & Stutz, 2010). In their pivotal study of U.S. corporate boards, Lorsch and MacIver (1989) reported 63% of outside board members serving as active CEOs. Fich (2005) reported that number as 59% for the period 1997-1999 from a sample of Fortune 1000 firms. More than twenty years after Lorsch and MacIver's work, Fahlenbrach and colleagues show that figure to be nearly 9% during the period 1989-2002 ranging from a high of 11% in 1995 to a low of 6% in 2001. These changes reflect a trend reported by Lorsch and MacIver (1989) citing the growing complexity of the CEO Job and the increasing commitment required for director Service. Even as the number of active CEOs serving as corporate directors has declined over the past decade, the critical role they play in corporate governance has increased in importance.

CEO directors are greatly valued by appointing firms and external constituencies for their potentially unique performance of the governance functions of monitoring as prescribed by agency theory (Fama & Jensen, 1983), of connecting the firm to vital resources as described by the resource dependence perspective (RDP) (Pfeffer & Salancik, 1978), and of advising and counseling the CEO in discharging the service role of the board (Johnson, Daily, Dalton, & Ellstrand, 1996; Zahra & Pearce, 1989). Indeed, they are a unique category of director with attributes different from those of many other director types (e.g., insiders, non-CEO outsiders, grey directors, etc.) that uniquely add value to the firm. For example, Fich (2005) reported a positive response by financial markets upon appointment of active CEOs as outside directors on corporate boards noting, in particular, the value that CEOs of commercial banks bring to the appointing firm. In addition, a CEO director brings prestige to the appointing firm by "certifying" (Fahlenbrach et al., 2010) the firm to be worthy of her/his valuable time and prestige, and board service adds to the CEO director's own prestige by acknowledging the experience, knowledge, and expertise that comprise her/his human capital as a strategic leader (Fahlenbrach et al., 2010; Horner, 2015).

This study investigates how the existence on corporate boards of active CEOs influences subsequent appointments of other active CEOs. This "clustering" effect was noted by Fahlenbrach

and colleagues (2010) who reported that existing CEO directors increased the likelihood of additional CEO directors. In contrast to these findings, Fich (2005) reported an inverse relationship of CEO appointments with the proportion of CEO directors already on the board suggesting the possibility that firms are reluctant to appoint directors with skills similar to those already serving. This study examines the nature of these conflicting findings, explores the circumstances that potentially influence clustering of CEO directors, and proposes the tendency of CEO directors to cluster on corporate boards.

CEO DIRECTORS: APPOINTING FIRM AND SOURCE FIRM

Scholarly thinking about CEO directors comes largely from the finance and strategic management literatures. It can be summarized in terms of effects on appointing (focal) firms and characteristics of the source (home) firms and appointing (focal) firms. Effects on appointing firms reflect performance outcomes and governance processes. Regarding firm performance, Fich (2005) reported a positive stock market reaction to announcement of appointments of active CEOs as outside directors. Tian and colleagues (2011) also observed a favorable market reaction to involvement by CEO directors in CEO selection. With respect to governance processes, Faleye (2011) found managerial compensation to be higher and less sensitive to performance, although Fahlenbrach and colleagues (2010) using a broader sample and longer time frame found no relationship between the presence of CEO directors and managerial compensation. The presence of CEO directors may also impact the advising and monitoring functions of boards especially for firms with high governance needs such as small or growing firms or those with inexperienced CEOs (Fahlenbrach et al., 2010). CEO directors may also facilitate the spread of institutional governance norms. They subjected focal firm CEOs to loss of power through increased board power such as addition of more outsiders or separation of the chair and CEO positions when these CEO directors had experienced similar events at their home firms (Westphal & Zajac, 1997).

Finally in a set of mixed findings, the existence of incumbent CEO directors showed a negative association with appointment of new CEO directors to boards (Fich, 2005), while another study showed that the presence of CEOs directors increases the likelihood of subsequent appointments of new CEO directors (Fahlenbrach et al., 2010). In sum, CEO director research reflects an increase in market value in response to the presence of CEO directors (Fich, 2005).

In addition, the presence of CEO directors tends to enhance governance at fledgling firms (Fahlenbrach et al., 2010), may impact managerial compensation, and may also be a vehicle whereby corporate governance practices diffuse across firms (Westphal & Zajac, 1997). Furthermore, findings are mixed as to whether the presence of CEO directors impacts subsequent appointment of additional CEOs as outside directors (Fahlenbrach et al, 2010; Fich, 2005).

Characteristics of appointing firms play a role in influencing acceptance by active CEOs of director appointments. Similarities between the source (home) and appointing (focal) firm in terms of size, age, financial and investment policies, governance structures, and even geographic proximity (due to reduced time and travel cost) make them easier to understand and reduce the time and effort required to adapt to the new board (Fahlenbrach et al., 2010). A new director can need three to five years to adequately understand the firm (Bacon and Brown, 1975). Similarities between the two firms can reduce the opportunity costs of board service thereby reducing the employment risk CEOs may experience by taking on the added responsibilities of outside board service (Wiersema, 2002). In contrast to such costs, board service may bring benefits to the CEO director and her/his home firm through increased knowledge of business

opportunities (Booth and Deli, 1996). In addition, board service enhances directors' compensation in a non-financial manner through greater prestige that is often highly valued among strategic leaders. Furthermore, the presence of prestigious incumbent CEO directors may be an inducement that attracts other active CEOs to service as outside directors.

Beyond the similarities discussed above, CEO directors' home firm characteristics also influence their acceptance of outside directorships. CEOs whose home firms have high growth opportunities tend to hold fewer outside directorships (Booth and Deli, 1998). This supports the notion identified above that knowledge of business an opportunity is a factor in attracting active CEOs to board service. In addition, CEOs with heirs apparent or strong top management teams to whom they may delegate decision making tend to hold more outside directorships (Booth and Deli, 1998).

In sum, this line of research demonstrates markets' favorable reaction to the appointment of CEO directors and the impact of board service by active CEOs on board quality and governance processes at the appointing firm. In addition, similarities between the source (home) and appointing (focal) firms can reduce the opportunity costs of board service thereby reducing employment risk for active CEOs serving as outside directors. Such service may also lead to greater knowledge of business opportunities, enhanced prestige, and inducements for other active CEOs to also serve as outside directors. Finally, source (home) firms are a factor in influencing acceptance by active CEOs of outside directorships if they lack growth opportunities or possess strong management teams affording the CEO greater flexibility for such service. The next section more closely examines characteristics of CEO directors and issues of multiple CEO directors serving on the same board.

CEO DIRECTORS' CHARACTERISTICS AND CLUSTERING

A number of characteristics make CEOs particularly unique as corporate directors in terms of the skills, expertise, and experiences they bring to the tasks and processes of governance. Among these is the general knowledge they have acquired over the course of their professional development. Their prior achievements are seen as a measure of their talent, and this notion is the basis of the managerial talent hypothesis (Fich, 2005): CEOs of well-performing firms are rewarded with directorships and also disciplined through penalties (e.g., forced exit) in the director labor market (Fama, 1980; Fama and Jensen, 1983). Active CEOs as corporate directors are seen as bringing superior management talent (Fich, 2005) and are considered the most likely among the different types of directors to impact the appointing firm (Fahlenbrach et al., 2010). CEO directors also bring a certain amount of specialized expertise (Fich, 2005) in that as a group they typically share specialized sets of interests, skills, knowledge, and relationships (Kotter, 1982). In addition, appointing firms seem to value certain industry backgrounds more than others. For example, CEOs of commercial banks tend to be viewed from the standpoint of appointing firms as more valuable than CEO directors from other types of firms (Fich, 2005). CEO directors may also be more independent as outside directors as they are considered by investors as less likely to be coopted by an appointing firm's CEO (Fich, 2005) perhaps due to their positions of power. Results of one study suggest that such a favorable reaction from financial markets may be in response to an expectation that an outside CEO director may be more likely to support the appointing firm CEO in making needed changes at the appointing firm (Fich, 2005; Westphal & Zajac, 1997). Some CEOs may have heirs apparent or other able lieutenants to whom to transfer decision making authority (Booth & Deli, 1996; Fahlenbrach et

al., 2010) allowing them greater freedom and flexibility to perform their governance duties. Finally, CEO directors also bring to the appointing firm a certain amount of prestige. A CEO contemplating acceptance of a board appointment may be particularly sensitive to the reputational risk of associating oneself with a particular firm's direction. By accepting a board appointment, the CEO signals to the business and broader community her/his "certification" of the firm's future prospects (Fahlenbrach et al., 2010). In sum, CEO directors bring to the board general, specific, and industry knowledge through their career and life experiences, independence through their structural positions (Jensen & Zajac, 2004), and, by their acceptance of board appointments, certification of the firm's direction and future prospects.

An active CEO's service as an outside director on the boards of other firms is driven by a variety of motives. Perhaps chief among these motives is the opportunity to identify and exploit new opportunities for growth (Booth & Deli, 1996). This growth motive is particularly acute when the CEO's home firm is experiencing low opportunities for growth, and the CEO is seeking information concerning new growth opportunities. The CEO turned CEO director seeks information for growth opportunities through the enhanced general business knowledge that can develop from the interpersonal connections forged through board service. This general business knowledge about the corporate arena is distinct from the type of information that directors might glean about specific opportunities such as acquisition targets (Haunschild, 1993) or specific product market or geographic market opportunities. Board service may indeed encompass a good deal of information about specific business opportunities or threats, and CEO directors may indeed benefit from such specific knowledge. However, board service and the ensuing director ties are more vital sources of knowledge concerning business models and "know-how" rather than as sources of private information (Haunschild, 1993). Thus, the expanded information network developed through corporate board service provides a general "business scan" (Useem, 1984: 45) that is an important intangible resource for the CEO director's home firm (Horner, 2006).

This information seeking by CEO directors could potentially conflict with the same activity by other CEO directors serving on the same board. CEO directors with similar skill sets may be seeking similar types of opportunities. In the event multiple CEOs serve on the same board, all may infer similar conclusions from the information gleaned in that context and develop similar strategies thereby increasing the potential for competitive intensity. Firms with low growth opportunities such as those run by CEO directors may be singularly vulnerable to increased competitive intensity. The tendency of CEO directors not to "cluster" on boards of the same firms could grow out of a desire not to expose the CEO director's home firm to competitive intensity, which could have negative performance consequences for the CEO's home firm. Fahlenbrach and colleagues (2010) noted that only 13% of appointing firms and source firms were in the same industry suggesting that this might be explained by "concerns about sharing sensitive business information with close competitors" (p. 18). This same concern may extend to common service on the same board when directors share similar skill sets. This provides some explanation as to why "clustering" may not occur. That is to say, the inverse relationship reported by Fich (2005) of appointment of CEO directors with the percentage of CEOs already serving as outside directors on a board may be due to the desire by CEOs to avoid situations that increase competitive intensity for their home firm.

As Fich (2005) further observed, an appointing firm way wish not to replicate existing skills brought to the board by incumbent CEO directors. Appointing firms may wish to avoid costs of redundancy in the skills of its directors, as redundant systems are costly and typically

require trade-offs between costs and their resulting benefits. Directors are key organizational resources, and the time spent in recruiting and developing directors must take into account the trade-offs of similar skill sets among its board members. Nominating committees expend a certain amount of effort considering board candidates. In addition, it may often take 3-5 years for a director to "learn the ropes" (Bacon & Brown, 1975). It is in firms' (and incumbent boards') interests to balance the costs and benefits of director development, and one way this may occur is by avoiding, as Fich (2005) suggests, duplicate skill sets among its board members.

In addition to the costs associated with similar skill sets among directors, issues of board process may also come into play. The separation of strategy decision making between managers and the board can be seen as comprising four stages: formulation, ratification, implementation, and monitoring (Fama & Jensen, 1983). Formulation comprises plans for positioning the firm with respect to resource and product markets, proposals for resource utilization, and proposed interorganizational relationships. Ratification is the process of approval of the formulated strategies including choosing from the decision alternatives generated in the formulation phase. Implementation is the execution of the formulated plans and requires creation of the organizational parts, processes, and systems and their relationships to one another. Implementation is organizing, coordinating, and integrating the work of the organization through structures, processes, culture, and procedures. Monitoring is the processes of evaluating the performance of those implementing the strategy and developing reward systems. Because formulation and implementation is the domain of managers, these two functions comprise decision management. Similarly, because ratification and monitoring are generally the domain of the board, these functions are considered to be decision control. Decision management and decision control are at the core of the organizational decision process or system (Fama & Jensen, 1983), and the distinction between the two crystallizes the distinction between management and governance.

The multiple voices accompanying such similar skill sets on the board would seem to illustrate the notion that "two heads are better than one." However, research suggests that diversity among strategic leaders can be a two-edged sword (Milliken & Martins, 1996). Diversity among top management teams tends to promote more sound strategy formulation due to the richness of information and opinions inherent in group diversity but less agreement on implementation due to the multiplicity of views on how to proceed (Hitt, Ireland, & Hoskisson, 2003). In addition, multiple viewpoints, even if from a similar skill set, may proceed from a more heterogeneous set of perspectives (Mintzberg, 1988). This may acutely be the case with the types of non-programmable behaviors (Misangyi & Acharya, 2014) characteristic of strategic leadership, which can be very difficult to articulate and to assess. Strategy ratification by the board is a more passive process requiring a fairly forthright decision of approval or disapproval while monitoring is a more active process requiring board action (formative or disciplinary) with respect to outcomes of specific steps taken by the focal firm's CEO and top managers. Hence, strategy ratification by the board is analogous to strategy formulation by managers in that it is deliberative in nature focusing more on a desired state of affairs rather than on courses of action. Strategy monitoring is analogous to strategy implementation in that it is active in nature focusing on a course of action in response to strategic outcomes. Just as formulation benefits from multiple viewpoints and implementation suffers from multiple viewpoints, ratification likewise benefits from multiple viewpoints and monitoring suffers from them. Whereas control is a primary governance function of the board, governance quality may benefit or suffer from the potential unanimity resulting from having

directors with similar skill sets such as that developed while also serving as an active CEO.

In sum, a number of characteristics of CEOs influence their tendency to serve as corporate directors and may, in turn, influence their tendency not to cluster on boards. CEOs are attractive as corporate directors to appointing firms on the basis of their unique knowledge, independence, and prestige. Their unique knowledge comes in the form of general management skills, expertise, and experiences, in the form of the specialized knowledge that is somewhat singularly the domain of the top position in an organization, and in the form of industry knowledge such as commercial banking. Their independence may be a function of their equal status relative to the appointing firm's CEO as well as of their own power base at their home firm where long tenure and a strong top management team may afford them the flexibility to explore additional corporate leadership opportunities such as service on other corporate boards.

Their prestige is a combination of factors stemming from their structural position, their knowledge, and their home firm power bases. The opportunity for new business knowledge may drive them toward board service but also may conflict with motives of other CEO directors contributing to a tendency not to serve with other CEO directors. In addition, appointing firms may avoid board service by multiple CEOs in order to conserve scarce governance resources and to reduce the potential for multiple strong voices on the board that could lead to dissension, especially in performance of the board's monitoring function. The next section addresses the empirical evidence regarding the tendency for service by multiple CEOs on the same corporate board.

RESOLVING THE TWO CONFLICTING FINDINGS

In contrast to Fich's (2005) findings, Fahlenbrach and colleagues (2010) found that the existence of a CEO director on the board increases the likelihood of additional CEO director Appointments. They reason that this finding lends support to the notion that potential directors seek prestigious appointments. Given the additional prestige that CEO directors bring to appointing firms joining a board with an existing CEO director enhances the prestige of the incoming CEO director through the new association with the incumbent CEO director.

In addition to the qualitative differences in the two studies, the samples of the two are considerably different. The sample in the study of Fahlenbrach and colleagues (2010) consists of 26,231 director appointments from 1989-2002, while Fich's (2005) sample of 1493 director appointments comes from 432 Fortune 1000 firms from 1997-1999. Hence, Fahlenbrach and colleagues' (2010) sample encompasses a broader time frame than Fich's (2005) sample, and the sampling frame is director appointments while Fich's (2005) study derives its director appointments from a sample of firms. Fich (2005) provides strong theoretical arguments for his finding that firms avoid clustering of CEO directors, while Fahlenbrach and colleagues (2010) provide strong empirical evidence of clustering. However, Fahlenbrach and colleagues (2010) suggest that the clustering they observed supports the notion that director candidates accept appointments partially based on the potential prestige those appointments bring to the director. Furthermore, the board literature has long supported this "prestige hypothesis" with theory and empirical evidence. Hence, despite Fich's (2005) convincing argument against the clustering of CEOs, Fahlenbrach and colleagues (2010) provide stronger statistical evidence in support of the clustering effect and demonstrate that this is consistent with scholarly theory and empirical evidence.

To summarize, the scholarly literature on boards presents strong evidence that active CEOs tend to be attracted to boards where other active CEOs already serve as directors. They

are attracted to such boards by the potential growth in general knowledge of business opportunities and by the prestige associated with serving on a board along with other prestigious CEO directors (Fahlenbrach et al., 2010). The preceding discussion suggests the following primary proposition: Active CEOs seeking board service will tend to accept appointment to boards with incumbent CEO directors.

SUGGESTIONS FOR FUTURE RESEARCH

A number of additional issues warrant further investigation. One such area is the issues of the benefits accruing to CEOs who join boards composed already of active CEOs serving as outside directors as well as the benefits to those incumbent CEOs of having directors join the board who are also CEOs. Previous discussion addressed the initial prestige accorded an active CEO joining a board with incumbent CEO directors. Future research might examine other benefits such as the impacts on performance of the new CEO director's home firm, on the new CEO director's home firm compensation, or on the incidence of subsequent additional board appointments.

Another area that might benefit from additional investigation is whether the value of the expertise brought by CEO directors to the board of the focal firm is context dependent. If context dependent, then their value occurs only if the focal firm is involved in a context in which the CEO director has a certain level of expertise. Moreover, their presence on the board may be detrimental to the focal firm if not engaged in that context. Wernerfelt (1984) points out that resource are not necessarily strengths unless they fit strategically with the firm's needs. Krause and colleagues (2013), in their study of the impact of COO directors show that the expertise brought to the board by this unique type of director is valuable only when the firm needs the expertise and otherwise that expertise is detrimental to the focal firm. These researchers found that the operational expertise presumed to exist among the skills brought to the board by COO directors is valuable only in certain contexts. When the firm's operational efficiency is decreasing, the presence of COO director(s) is associated with improved profitability (industry-adjusted ROA), while presence of non-CEO outside executive directors is associated with declining profitability. When operational efficiency is increasing, the presence of COO director(s) is associated with declining profitability, while the presence of non-CEO outside executive directors is associated with improved profitability. The research on boards shows that while certain director expertise is valuable when the focal firm engages in activities relevant to that expertise, there is little or no evidence that such expertise causes declining performance if the firm is not engaged in activities relevant to that expertise. For example, Kroll and colleagues (2008) and McDonald and colleagues (2008) showed how outside CEO director acquisition experience improved acquisition performance of the focal firm demonstrating that boards with experience in specific contexts may provide more effective governance. While providing support for the notion of strategic relevance (Wernerfelt, 1984), there is no empirical evidence that the presence of CEO directors with context specific experience might be detrimental to the performance of firms not engaged in that context.

Finally, issues of measurement regarding the value of CEO directors need to be addressed. Currently, the measurement of CEO directors is on a nominal scale indicating merely the presence or absence of CEOs on the board of a firm. Nominal scales provide the least amount of information about a particular variable in that such nonmetric scales identify attributes, characteristics, or categorical properties and, in the case of CEO directors, indicate the number of occurrences of CEO directors on a board. In addition, such measurement may capture

a variety of constructs and likely includes a good deal of noise as well. Substantive results may depend on development of more statistically meaningful measurement scales.

SUMMARY AND CONCLUSION

The quality of a firm's corporate governance is thought to be enhanced by membership on the board of directors of active CEOs. These individuals bring unique experience as managers of an existing firm providing both a valuable and rare attribute to the governance function of the firm. Active CEOs are sought by appointing firms in the belief that they add financial value to the firm as well as non-monetary reputational value by certifying the future prospects of the firm. Investigation of the tendency of CEO directors to cluster on boards extends scholarly understanding of boards, the directors that compose them, and the firms whose affairs they are charged with overseeing.

REFERENCES

Bacon, J. & Brown, J. K. 1975. *Corporate directorship practices: Role, selection and legal status of the board*. NewYork: The Conference Board.

Booth, J. R., & Deli, D. N. 1996. Factors affecting the number of outside directorships held by CEOs. *Journal of Financial Economics, 40*(1): 81-104.

Fahlenbrach, R., Low, A., & Stulz, R. M. (2010). Why do firms appoint CEOs as outside directors? *Journal of Financial Economics, 97*(1): 12-32.

Faleye, O. 2011. CEO Directors, Executive Incentives, and Corporate Strategic Initiatives. *Journal of Financial Research 34*: 241-277.

Fama, E. F. (1980). Agency problems and the theory of the firm. *Journal of Political Economy 88*(2):288–35.

Fama, E. & Jensen, M. 1983. Separation of Ownership and Control. *Journal of Law and Economics, 26*(June): 301-325.

Festinger, L. 1954. A theory of social comparison processes. *Human Relations, 7*(2): 117-140.

Fich, E., 2005. Are some outside directors better than others? Evidence from director appointments by Fortune 1000 firms. *Journal of Business, 78*(5): 1943–1971.

Haunschild, P. 1993. Interorganizational imitation: The impact of interlocks on corporate acquisition activity. *Administrative Science Quarterly, 38*: 564-592.

Hermalin, B. E., & Weisbach, M. S. 1988. The determinants of board composition. *RAND Journal of Economics,* 19(1): 589-606.

Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. 2003. *Strategic management (concepts): Competitiveness and globalization* (5th edition). Cincinnati, OH: Southwestern College Publishing.

Horner, S. V. 2006. Director ties, board experience, and firm strategic outcomes: Board experience effects on post-acquisition performance. (Unpublished doctoral dissertation), University of Missouri, Columbia.

Horner, S. V. 2015. CEOs as Corporate Directors: A Human Capital Perspective. *Academy of Strategic Management Journal, 14(*1): 30-42.

Jensen, M., & Zajac, E. J. 2004. Corporate elites and corporate strategy: How demographic preferences and structural position shape the scope of the firm. *Strategic Management Journal, 25*(6): 507-524.

Johnson, J. L., Daily, C. M., & Ellstrand, A. E. 1996. Boards of directors: A review and research agenda. *Journal of 22*(3): 409-438.

Krause, R., Semadeni, M., & Cannella, Jr., A. A. 2013. External COO/presidents as expert directors: A new look at the service role of boards. *Strategic Management Journal, 34*(13): 1628-1641.

Lorsch, J. W., & MacIver, E. 1989. *Pawns or potentates: The reality of America's corporate boards.* Boston, MA: Harvard Business School Press.

Milliken, F. J., & Martins, L. I. 1996. Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review, 21*(2): 402-433.

Mintzberg, H. 1988. Opening up the definition of strategy. In Quinn, J. B, Mintzberg, H., & James, R. M. (eds.), *The Strategy Process: Concepts, contexts, and cases.* (pp. 13-20). Englewood Cliffs, NJ: Prentice-Hall.

Pfeffer, J. & Salancik, G. R. 1978. *The external control of organizations: A resource dependence perspective.* New York: Harper & Row.

Tian, J., Haleblian, J., & Rajagopalan, N. 2011. The effects of board human and social capital on investor reactions to new CEO selection. *Strategic Management Journal, 32*(7): 731-747.

Useem, M. 1984. *The inner circle: Large corporations and the rise of business political activity in the U.S. and* York: Oxford University Press.

Walster, E., Berscheid, E. and Walster, G. W. 1973. "New directions in equity research." *Journal of Personality and Social Psychology, 25*(2): 151-176.

Westphal & Zajac, 1997. Defections from the Inner Circle: Social Exchange, Reciprocity, and the Diffusion of Board U.S. Corporations. *Administrative Science Quarterly, 42*(1): 161-183.

Zahra, S. A. & Pearce, J. A. 1989. Boards of directors and corporate financial performance: A review and integrative *management, 15*(2): 291-334.

STRUCTURAL COMPARISON OF MANAGEMENT APSECTS OF COMMUNITY HEALTHCARE CENTRES IN EUROPE WITH SPECIAL FOCUS ON GERMANY

Dr. Fabian Renger, Community Health Center Consulting & Research
Dr. Attila Czirfusz, Elisabeth University

ABSTRACT

Advances in pharmaceutical research and increased medical treatments allow individuals on a worldwide scale, especially in the developed countries to have a higher average life expectancy. Although positive individually, sets this phenomenon healthcare systems under enormous pressure to provide affordable and efficient healthcare for citizens in urban and rural areas as well. Beside central steered management undergoing's in central healthcare systems, decentralized approaches for inter-medical professional cooperation, here Community Healthcare Centers (CHC) promise to be more effective by utilizing systematic network effects. Within this article we try to compare CHC instances within the EU, with a special focus on the German instance of CHC, the MVZ (Medizinisches Versorgungszentrum), which seem to prove the expectancy of a higher individual management effectiveness by fostering the use of dashboards and KPI based scorecards.

INTRODUCTION

The provision of high quality health care at an affordable cost is a major challenge for health care systems all over the world. In many countries, the bulk of annual spending growth is due to increases in the prices of health care goods and services, and the availability of ever more new, often high-cost medical products and treatments. As a result, health care providers are facing ever greater pressure to reduce operational costs without affecting the level and quality of their services (Kaplan & Haas, 2014). In this context, hospitals are of particular interest as they make up the largest cost component in the health care system. Typically, all these health care resources are scarce and so the challenge lies in synchronizing their availability with the needs for care. Taking a broader context, logistics is also concerned with patient flows. Planning, coordinating, and controlling the resources involved in material as well as in patient flows are the functions performed by operations management (OM). Hence, similarly to industrial settings, logistics and OM are also two intertwined areas in a hospital, together, they account for a sizeable portion of a hospital's budget. In the area of information technology, focus has been given to the development of modern hospital information systems (HIS) (Baerwolf, 2010). These systems are designed to deal with all aspects of information processing in a hospital. In particular, they enable the collection, storage, management, and retrieval of data related to the clinical, administrative, and financial aspects of providing services within the hospital.

HEALTHCARE SYSTEMS

In most countries in the European Union, governments are responsible for health policy and legislation (Commission, 2016). Overall the government's plays supervisory roles among the numerous actors involved in health care, with several functions being shared with or delegated.

General Task, Bodies and Aims

- Insurance provides free access to a package of services; services not included in this package may require
- Upfront payments by patients, or co-payments. Direct payments are also made when using benefits that are
- not covered by the package or that are delivered through physicians not employed by the respective social
- Health insurance fund. Exemptions from co-payment exist for specific categories of patients (chronically ill, below a certain income level, etc.).

Provincial authorities are specifically responsible for the implementation of hospital care, the maintenance of hospital infrastructure, health promotion and prevention services; social welfare benefits and services are the responsibility of local governments (districts, statutory cities and municipalities). Access to health services is not regulated, in that patients are not obliged to enroll with one specific physician and physicians do not play a gate-keeping role. Patients may thus also access outpatient departments of hospitals without referral. Outpatient care is provided through physicians (some self-employed), outpatient clinics, privately owned or belonging to the social health insurance funds, other specialists and outpatient departments of hospitals. Physicians usually have a contract with the social health insurance funds.

Healthcare in the European Union

Different countries in the European Union have different system of healthcare services, examples are as outlined in the following countries diversified by size of members within the healthcare system.

Germany: Example Large Healthcare System

At the central level, the Federal Assembly, the Federal Council and the Federal Ministry of Health are responsible for legislative and supervisory functions. The federal legal framework regulates governance, services to be provided and the funding mechanisms of the health system. Policy-making for health care is shared between the federal government, the counties, and a large number of civil society organizations. These organizations are self-governing bodies representing the various existing sickness funds and the doctors' associations, i.e. the payers and the providers. The 16 counties are responsible for ensuring hospital care. In particular, the states' health care responsibilities include hospital planning, hospital financing investments, disease and drug abuse prevention, and vaccination. They are also responsible for medical education and for ensuring public health services such as the prevention of transmissible diseases or environmental hygiene, although these tasks have mostly been delegated to the local level (municipalities). Since 2009, health insurance has been mandatory. Individuals are covered by Statutory Health Insurance (SHI) on the basis of their income (some 88% of the population being covered by SHI) (BAEK, 2013). High earners may choose to be covered by Private Health Insurance (PHI), which also applies to civil servants and the self-employed (some 10% of the population being covered by PHI). Special regimes apply to other categories, such as soldiers and policemen. As at March 2010, insurance was provided by some 169 quasi-public sickness funds for SHI and 46 private insurance companies for PHI, though these numbers continuously change, the market being competitive.

Belgium: A Medium Sized Healthcare System

Health care is determined by three levels of government: the federal government, the federated authorities (three regions and three communities) and, to a minor extent, the local governments (provinces and municipalities) (Eeckloo, 2007). The division of responsibilities for health care reflects the structure of the country as, since the 1980s, some responsibilities have been devolved to the three communities (Flemish, French, and German). The federal level, through the Ministry of Social Affairs and Public Health, is responsible for the regulation and financing of compulsory health insurance, pharmaceutical policy and hospital legislation. Responsibilities of the federated authorities are mainly on 'health promotion and prevention; maternity and child health care and social services; different aspects of community care; coordination and collaboration in primary health care and palliative care; the implementation of accreditation standards and the determination of additional accreditation criteria; and the financing of hospital investment.

Estonia: A Small Sized Healthcare System

The health care system is administered by the Ministry of Social Affairs. The organizational structure of the system consists of several bodies including, among others: various agencies under the Ministry for Social Affairs; the Estonian Health Insurance Fund (EHIF), as an independent, public legal entity; private primary care units and hospitals established as limited companies or foundations, but mostly owned or controlled through supervisory boards by local governments; and various non-governmental organizations and professional associations. Responsibilities for the financing and management of public health services are at the central level (EU, 2015). The Ministry for Social Affairs, structured into four main departments (Health Care, Public Health, Health Information and Analysis and eHealth), is responsible for health and health care policy formulation, regulation, planning, and monitoring, as well as regulation and funding of ambulance services and emergency care services for uninsured people. The EHIF (Haigekassa) is accountable to the Ministry of Social Affairs through the chair of its Supervisory Board. At county level, county governments, representing the state regionally, are responsible for the planning, supervision and administration of primary care within the county.

Decentralized Private Bodies in EU/Germany

Ownership in hospitals had co-shareholders, been open to governmental entities, not-for profit organizations (in particular church affiliated charities) and private or publicly listed for-profit investors. In order to slowly overcome the internationally strict separation between the inpatient and the outpatient sector and in order to open the latter for investors, a new legal form, the Medizinisches Versorgungszentrum ('MVZ') was introduced by the German legislator with effect as of 2004 (MVZ, 2015). MVZ are licensed outpatient medical service providers who may employ physicians and who may be owned by any person or entity entitled to render any (other) services or sell products within the SHI – such as hospitals but also physiotherapist service provider entities, medical appliance shops amongst other things. By 2010, approximately 1,500 MVZ had been established and 20 per cent of them were owned by others than doctors or hospitals. At the end of 2009, the then newly elected government aimed at prohibiting new MVZ being established unless doctors had a majority stake in them. Only hospitals had been envisaged to become an eligible co-owner but it was initially expected that they would be limited to a minority stake.

Management Dimensions of German CHC: MVZ

MVZs run by doctors will only show further clear growth in the individual form of branch MVZs or as an MVZ chain whereas individual MVZs run exclusively by doctors may possess fewer opportunities for influence. It has become clear in recent years from the developments in the healthcare sector that in Germany the MVZ has definitely achieved a certain status.

Figure 1
MEDICAL ACTORS WITHIN AN CHC/MVZ (OWN ILLUSTRATION)

The management of the MVZs varies between the three MVZ categories as follows:

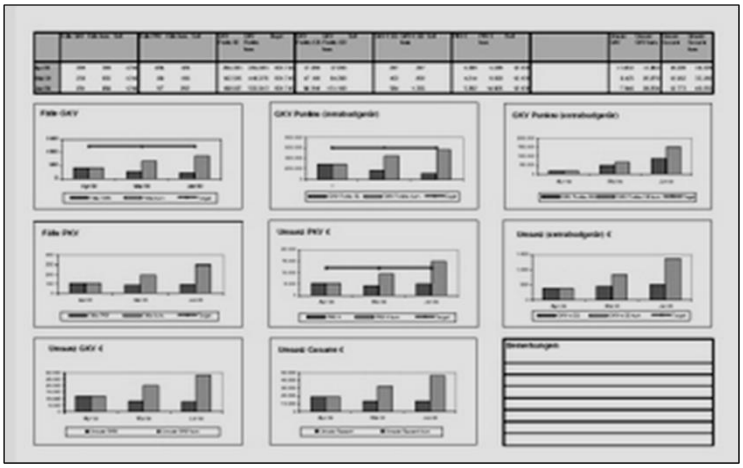
- In the case of a usual MVZ partnership it is necessary for the lead doctor to have sufficient free time to keep up the management within the MVZ.
- In the case of a usual MVZ company limited by shares it is important for the executive director to be able to carry out his management operations to the best of his ability, for example, by working with appropriate tools.
- In the case of an MVZ corporation current management instruments such as, for example, in the case of business management operations, integrated management systems, are centralized for the board or the executive

The MVZ partnership has the important goal of offering the best care to patients and ensuring patient satisfaction with them. In the case of the MVZ Company limited by shares it is of great importance that it is able to fulfill its care responsibility.

CHC Related Business Processes and KPI Scorecards

There are very different approaches to how management is handled within MVZs. Depending on the category of MVZ, management will be based on the staff available and their qualifications and on the structure of the organization.

Figure 2
KPI SCRORECARD AS AN AUXILIARY TO STEER (BAERWOLF, 2010)



Even the legal form (in which the MVZ is established) consequently also affects the MVZ management structure. Taxation factors affecting the MVZ such as, for example, a potential local business tax or value added tax liability have an effect on the way an MVZ is directed, even where such perspectives are only partially expressed. KPI based scorecards as an auxiliary for the related business process can be used to support to steer the organization operationally on figure oriented basis.

Cooperation Instead of Central Steering

Changes to the parameters underlying healthcare – such as, for example, social change, the break-up of traditional social and family networks, demographic developments, the altered range of illnesses, the heightened complexity of care, the limited financial and staffing resources and the changed attitudes of those within the profession and patients towards themselves – mean that new health concepts are necessary, as is an adjustment of the cooperation structures between the different health professions. In economically underdeveloped regions, in particular in the former East Germany, there are also bottlenecks evident in region wide outpatient care by doctors.

CONCLUSION

Community Healthcare Centers, as acting medical entities, positioned within the healthcare domain between an hospital and a doctors single practice seem to be an increased attractive organizational form within the EU, especially within the large healthcare system Germany (Here: the MVZ). Different Subject Matter Experts (SME), in the role of different medical experts, decentralized working in a single legal entity seems to mine special efficiencies based on their relative small structure. Although the management of these entities require a complete end-2-end management of processes, also covered by much larger healthcare entities, like hospitals. A strict operational business management, using current business process supporting IT systems seems to be relevant for the mid-term surviving of these organizations.

OUTLOOK AND FUTURE RESEARCH

Based on the results of the current article it became obvious, that a deeper knowledge is necessary in regards to a better understanding of the multi-dimensional aspects of the pan-European comparison. Therefore additional dimensions have to be included in future research efforts.

- Dimension 1 (D1): Business Process Management (BPM) Level 1-3
  In order to understand the in-depth procedures of both, clinical pathways and administrative procedures within a CHC thorough analysis of each single process steps need to be undertaken and modeled in a comparable form, e.g. in a BPMN (Business Process Modeling Notation) (OMG, 2015) process description language.
- Dimension 2 (D2): Key Performance Indicators
  Comparing structures in regards of effectiveness and efficiency using a standardized, quantitative approach seem to be most plausible. Therefore a set of Key Performance Indicators (KPI), mostly focusing on the General & Administration (G&A) processes, e.g. "Time-to-get-an-appointment" could enhance the impact of the study.
- Dimension 3 (D3): Influence-Matrix to national healthcare regulations
  Furthermore the impact of the (still very national) specific gestalt of the healthcare system, on the structure of a CHC needs to be enhanced. Factors, like payment scheme, legal-approval status of the facility or maximum, legal approval status for the personnel should be analytical standardized and then be compared in a common matrices based view.
- Dimension 4 (D4): Information-Systems (IS) strategy
  In regards of efficacy of the facility also the usage of underlying IT infrastructure, how the CHC business process are relying on (cp. To D1 dimension) must be better understood, especially in regards to the D3, the national regulatory procedures. Are they more centrally provided, by a state or region, or, decentrally under the authority of the facility and only data exchange e.g. via the HL7 schema (HL7 Organization, 2016).

REFERENCES

Baerwolf, Sabine. "IT as Sucessfactor in Care Management in a MVZ (DE)." Netzwerk Gesundheit: Vortrag Frau Baerwolff. Polikum Gesundheitszentrum, 13 Dec. 2010. Web. 25 Jan. 2016. <http://de.slideshare.net/sibbev/vortrag-frau-baerwolff6122010>.

BAEK. "Healthcare System." German Association of Doctors (BAEK). Http://www.bundesaerztekammer.de/weitere-sprachen/english/healthcare-system/, 01 Mar. 2013. Web. 25 Jan. 2016. <http://www.bundesaerztekammer.de/weitere-sprachen/english/healthcare-system/>.

Commision, EU. "European CommissionPublic Health." *Policy*. European CommissionPublic Health, Feb. 2013. Web. 25 Jan. 2016. <http://ec.europa.eu/health/strategy/policy/index_en.htm>.

Eeckloo, Kristof. "The Belgian Healthcare System." *Healthcare Managers and Development Tools for Organisations*. Health Management Organisation (HMO), Cyprus, 2007. Web. 25 Jan. 2016. <https://healthmanagement.org/c/hospital/issuearticle/the-belgian-healthcare-system-2>.

EU Commision. "Health Insurance - Estonia for Researchers." EURAXESS Estonia. EURAXESS Research in Motion, 2015. Web. 25 Jan. 2016. <http://euraxess.ee/incoming-researchers/health/health-insurance/>.

HL7 Organisation. "Introduction to HL7 Standards." Introduction to HL7 Standards. Health Level Seven International, 2016. Web. 25 Jan. 2016.

OMG Group. "Documents Associated with Business Process Model and Notation™ (BPMN™) Version 2.0." BPMN 2.0. Object Management Group, 2015. Web. 25 Jan. 2016.

Kaplan, Robert, and Derek Haas. "How Not to Cut Health Care Costs." Harvard Business Review. Harvard Business Review, Dec. 2014. Web. 01 Jan. 2016. <https://hbr.org/2014/11/how-not-to-cut-health-care-costs>.

"MVZ." *MVZ Structure*. Wikimedia Foundation, 17 Aug. 2015. Web. 25 Jan. 2016. <https://de.wikipedia.org/wiki/Medizinisches_Versorgungszentrum>.

STRATEGIC RESPONSES OF NON-PROFIT ORGANIZATIONS TO THE ECONOMIC CRISIS: EXAMINING THROUGH THE LENSES OF RESOURCE DEPENDENCY AND RESOURCED-BASED VIEW THEORIES

Murat Arik, Middle Tennessee State University
Leigh Anne Clark, Middle Tennessee State University
Deana M. Raffo, Middle Tennessee State University

ABSTRACT

This study examines strategies used by the nonprofit sector in response to the 2008 economic crisis. Drawing on resource dependency and resource-based view theories as frameworks for analysis, we explore the impact the use of numerous strategies on nonprofit organizational performance during this time. We analyzed 280 surveys from the Nashville MSA where nonprofits reported on their strategic response to the economic crisis. Survey items were used to calculate human resource capacity, levels of resource dependency, firm performance, and a visibility index. Findings indicated that nonprofits that had fewer funding sources were more likely to have a lower level of strategic response. However, a website presence and visibility of a board of directors were significantly related to a nonprofit reporting that its resources stayed the same or increased. Experience in the market and firm size did not appear to be significant predictors of the strategic response level. Implications of the findings for how nonprofits can position themselves with the best strategic responses during an economic crisis and recommendations for future research are discussed.

INTRODUCTION

Nonprofit Sector in the US

Nonprofit organizations include charitable, educational and religious organizations and have been around for thousands of years (Hall, 2010). They range vastly in terms of size, resources, influence and purpose but each has at its core some defined purpose to make a difference. In the United States, this general category of nonprofit organizations have emerged over time to fill gaps in services provided by government or business, to address problems others have not or cannot tackle or to solve the most complex and daunting of the world's challenges (Worth, 2012).

In the United States, at the time of this research, there are more than 1.41 million nonprofits recognized by the federal government as meeting the 501(c)(3) legal requirements for federal tax exemption (McKeever, 2015). However, there are more nonprofit organizations created to meet a public purpose than those that file for federal tax exemption in the U.S. For example, religious organizations with less than $50,000 in yearly revenue are exempt from registering with the federal government. Furthermore, the economic impact of this sector is significant, employing more than 9% of all workers in the U.S. and contributing more than 5% of the Gross Domestic Product (National Center for charitable Statistics, 2015). The largest nonprofits includes health and

education systems such as public hospitals and universities.

Historically, nonprofits were funded by private donors and were seen as a creative vehicle for wealthy individuals to meet an obligation or duty to take care of others. Nonprofits flourished during the Industrial Revolution as some individuals' incomes burgeoned. The Industrial Revolution also generated a lot of social need due to poor worker conditions, child labor issues, and long hours. Following the Great Depression and the federal government's action to provide direct services, nonprofits often partnered with the government directly to receive federal grants to deliver services. This dependence on private support and the government were the mainstays of funding for nonprofits for many decades (Hall, 2010; Worth, 2012).

A change in government funding philosophy delivered a jolt to the nonprofit sector in the 1980s. Under the leadership of President Reagan, the federal government reduced and privatized funding for many social programs. Many nonprofits were heavily dependent on government funding to support their work (Hall, 2010). Nonprofits that were receiving government grants to deliver services could no longer count on that steady stream of income. The privatization of social programs often meant that less service were funded or provided which increased the request for services that nonprofits offered. The nonprofit sector had to adjust to compete for privatized government grants in this new landscape as well as develop new ways to rise funding (Hall, 2010).

Other changes involved a heightened demand for accountability and transparency. For many years, most nonprofits were evaluated for their mission and the good that they set out to do, rather than by their measurable impact. In the 1990s, there was a shift related to the funding source for nonprofits. The technology boom made some people wealthy, and a new donor emerged that was younger, outcome focused, and wanted to view their donation as an investment. They expected a return on that investment and required nonprofits to demonstrate their success and impact. At the same time, there were some scandals in the nonprofit sector that led to a call for accountability. The nonprofit sector was pushed, and often mandated, to adopt business operating procedures to provide evidence of results and accountability to deep pocket donors and the general public (Hall, 2010; Worth, 2012).

Most recently, there has been a growth in social innovation by for-profit companies addressing traditional "nonprofit" challenges in innovative, sustainable ways anchored around a for-profit or hybrid model. Some government and private grants are allowing these new organizations to compete with nonprofits on an even playing field. Nonprofits have to adjust to increased competition and a continuing demand for more accountability (Salamon, 2010).

This call to operate more like a business included a push to be more strategic, to conduct long-range as well as short-range planning, to diversify funding sources, and determine its unique competitive advantage (Hall, 2010). Large, established nonprofits adopted business principles more quickly, but even the medium to small nonprofits have done so. The nonprofit sector today is continuing to become more sophisticated in its use of strategy, marketing, and management tools to achieve its mission.

Economic Crisis 2008-2011

In 2008, the U.S. economy experienced a severe crisis largely attributed to the burst of a real estate bubble. Risky mortgage loans, coupled with questionable banking policies and

practices, led to a large increase in foreclosures which precipitated this economic crisis (Gerardi, Lehnert, Sherlund & Willen, 2008). Mortgages were granted to individuals without the means to pay them back, bankers benefited from bonuses based on volume rather than stability of profits, and "too big to fail" was born (Acharya & Richardson, 2009). This resulted in a global recession with record stock market losses, business downsizing or shut downs, high unemployment rates, and financial uncertainty on the largest scale we have seen since the Great Depression (Bansal, Jiang & Jung, 2015). Furthermore, it is expected that the consequences from the economic decline will continue to have an effect on the nonprofit sector due to job losses, slow income growth, retirement account losses, and uncertainty in donor confidence, and continued undercurrents of anxiety and skepticism during the recovery period (Zietlow, 2010).

During the economic downturn, nonprofit organizations felt the impact perhaps more acutely than for-profit businesses because they dealt with not only shrinking resources, but with an increased demand for services. The recession came at a time when charitable giving hit an all-time high of $306 billion in 2007, up from $295 billion in 2006 (Reed & Bridgeland, 2009) then falling 3.6% in 2009 which was the steepest decline in charitable giving since tracking began in 1956 (The Center on Philanthropy at Indiana University, 2010). Individual donations decreased (Casey, 2012) and businesses reduced their corporate giving (Banasal, Jiang & Jung, 2015). Key findings from one study indicated that 83% of nonprofits reported fiscal stress with close to 40% reporting "severe" or "very severe" fiscal stress and approximately half (51%) reporting declining revenues (Salamon, Geller, & Spence, 2009). A 2011 survey reported that 85% of nonprofits have continued to expect an increase in service demand (Nonprofit Finance Fund, 2011) even as the U.S. Economy has been in a recovery stage since 2010 and nonprofits reported they were still feeling the effects of the economy's decline in 2012 (Pettijohn, Boris, & Farrell, 2014).

Yet even while the U.S. was in an economic recession and nonprofits experienced declining revenues, this sector experienced growth. This was driven partly by the Obama administration's economic stimulus package known as the American Reinvestment and Recovery Act (Casey, 2012) and other governmental policies (Salamon, Geller, & Spence, 2009). Despite the economic challenges the nonprofit sector was able to adapt and apply strategic and innovative approaches to a changing environment. More than two-thirds of nonprofits reported that they were "successful" or "very successful" in coping with the financial crisis (Salamon, Geller, & Spence, 2009).

Nonprofits handled the economic hardship and uncertainty using a host of management strategies to survive, from diversifying their revenue sources to expanding their human capacities. Human resources strategies varied and sometimes involved cuts such as reducing staff, furloughs, pay reductions, salary freezes, and postponing new hires. Conversely, strategies to expand human capacities included reassignments, shifting roles geared toward fundraising, strengthening relationships with boards and other alliances and external associations, and relying more heavily on volunteers were used (Casey, 2012; Mosley, Maronic, & Katz, 2012). Financial strategies ranged from cuts to innovative partnerships. Fiscal safeguarding often involved cutting operational expenses with downsizing or reducing waste. Yet this was also a time where nonprofits added programs to generate revenue streams, competed for grants when they would not have otherwise, created innovative fundraising efforts, collaborated or initiated joint ventures to share or expand resources, found new funding sources from governmental agencies, and created innovative marketing strategies and entrepreneurial activities (Mosley, Maronic, &Katz, 2012; Salamon, Geller, & Spence, 2009) .

Strategic planning with both conventional and innovative tactics in the nonprofit sector saw positive results during the economic downturn. This study explores the impact that the use of these strategies has on nonprofit organizational performance during this time. Specifically, we aim to answer three questions:

1) What were the strategic responses of nonprofits to the economic crisis?
2) Which nonprofit factors determined a stronger level of strategic responses?
3) Which strategic responses were related to overall financial growth of the nonprofit?

To answer these questions, this paper draws on two widely used strategic management theories that complement each other in a unique way in explaining nonprofit strategies and performance. Resource Dependency Theory (RDT) and Resource-Based View (RBV) are used to understand a nonprofit's strategic responses in the face of the economic crisis.

THEORETICAL FRAMEWORK

Some of the best management theorists have put forth their beliefs on why organizations come to be and what makes them successful. Within this body of work, are two well-known theories of the firm: Resource Dependency Theory and a Resource-based View of the Firm Theory. It is through the lens of each of these theories that we examine the strategic responses nonprofits took during the economic crisis to determine how well they explain why some nonprofit organizations were more successful than others.

Resource Dependency Theory

The resource dependence perspective is based on power dynamics and has grown from the work of Pfeffer and Salancik (see The External Control of Organizations: A Resource Dependence Perspective, 1978). At its basic level, the resource dependence theory explains that organizations are a collection of power relations based on the exchange of resources (Ulrich & Barney, 1984). To be successful, organizations modify their structure and patterns of behavior to best secure needed external resources. An organization gains overall power by having resources that others need and decreasing its dependence on others for resources crucial to its own needs.

The Resource Dependency Theory has the following three main parts as explained by Ulrich & Barney (1984, p. 472):

First, organizations are assumed to be comprised of internal and external coalitions. Coalitions emerge from social exchanges that are formed to influence and control behavior. Second, the environment is assumed to contain scarce and valued resources essential to organizational survival. Third, organizations are assumed to work towards two related objectives within their environment: (1) to acquire control over resources that minimize their dependence on other organizations and (2) to acquire control over resources that maximize the dependence of other organizations on themselves.

The environment is a source of uncertainty for the organization as the organization must always try to develop the relationships to maximize its power and reduce the uncertainty. Organizations limit uncertainty by building coalitions, formal and informal relationships, or bringing some resources internally to have better control (Ulrich & Barney, 1984).

Pfeffer and Leong (1977) explored the power relationships of nonprofit agencies participating in the United Fund coalition (now known as the United Way). They identified that

community needs and the services provided would be sure of uncertainty as well as the amount of funds raised through the United Fund efforts. They found that nonprofit organizations had more power within the United Fund if they were visible to others and more established because they were able to attract outside resources. In a similar study, Provan, Beyer, and Kruytbosch (1980) explored the influence that nonprofits receiving funding from the United Way had over the United Way organization because of the individual nonprofits' strong ties to the community and ability to meet community needs. The researchers did not find a significant relationship between strength of community ties and the amount of funding provided explaining that those power gains may not be exercised except when they are needed by a nonprofit -- for example during an economic downturn. With a funding agency such as the United Way, an economic crisis will increase the dependence of a nonprofit on the United Way and will increase the United Way's dependence on all existing nonprofits to convey the need to the community to continue supporting the United Way.

One resource for the nonprofit organization is its board of directors. The board of directors of a nonprofit organization is very important in terms of governance and access to resources (Mwenja & Lewis, 2009). The members of the board are a source of relational capital linking the organization to different social networks and additional financial resources (Hilman & Dalziel, 2003; Mwenja & Lewis, 2009). Board members also have skills and expertise themselves that are useful to the organization which is referred to as human capital (Brown, 2005; Mwenja & Lewis, 2009). In the area of governance, board members use their experience, reputation, and knowledge to guide the organization. Furthermore, larger boards generally have more contact with the public, which facilitates fundraising and other externally driven activities (Olson, 2000). Board size does not necessarily increase board performance (Bradshaw, Murray, & Wolpin, 1992), but larger boards are more adept at monitoring nonprofit function and providing resources (Brown, 2005). By having a resourceful and experienced board, a nonprofit organization is better able to counter the impact of external uncertainty.

An internet presence is another valuable resource in the nonprofit sector. There are many uses for having a web presence for nonprofits including soliciting funds, building a brand, information disbursement, and networking (Gomes, 2001). Levine and Zahradnik (2012) found that nonprofits with a greater online presence (measured by number of media, donor, and volunteer pages coupled with number and variety of communication tools and links) improved their financial viability. Similarly, Schnieder (2003) reported that nonprofits that lack these web resources may fall short in their pursuit to acquire the resources and support that their programs need. Despite the need for nonprofits to have a web presence, it appears that the current focus in information technology research and nonprofits is trending toward studying social media (e.g. Facebook, Twitter) as the nonprofit sector works to build and nurture their relationships (e.g. Kent, Taylor, & White, 2003; Waters & Fenely, 2013).

Resource-Based View of the Organization

Prior to 1984, researchers focused on an organization's product-market exchange to explain why firms exist. For example, Coase's transaction cost theory centered on minimizing opportunity costs in market exchanges (1937). Wernerfelt (1984) first proposed a shift in how organizations were analyzed moving from a product-market focus to a resource position focus. He defined resource to be "anything which could be thought of as a strength or weakness of a given firm" (p. 172). These resources which included in-house technology, efficient procedures, or

connections to others could over time are a source of a distinct advantage for the organization.

Over the next decade, the resource-based view theory gained support mainly due to a Harvard Business Review article published in 1990 by Prahalad and Hamel. In this article, the authors translated the theory into a meaningful concept for most business leaders – they termed it the core competence of the corporation. They urged business leaders to identify an organization's portfolio of competencies rather than their business units. They explained that "core competencies are the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technologies" (Prahalad & Hamel, 1990, p. 4). Unlike a physical resource, a core competence does not lessen when it is used.

The resource-based view of the firm states that organizations have internal strengths and weaknesses. These strengths are a source of resources including but not limited to tangible, physical resources. These strengths can be a competitive advantage for the organization over its competitors. If these strengths are repeated and sustained, they may be a core competence for the organization. Successful firms have core competencies that are rare, hard to imitate, and valuable to others (Wernerfelt, 1984; Prahalad & Hamel, 1990).

An example of an internal resource of a nonprofit organization that could over time serve as its core competence would be in the area of strategic human resource management (Akingbola, 2013). A nonprofit organization that does a better job than others to target, recruit, manage, and promote volunteers to live, breathe, and implement its mission would be an example of a nonprofit organization that has a core competence that will be hard to replicate.

Nonprofits are also unique from for-profit firms because they do not distribute their profits to owners or stockholders but rather reinvest those revenues back into the nonprofit to further their mission. Nonprofits that do this extremely well may also have a core competence. Frumkin and Andre-Clark (2000) suggested that nonprofits have a potential competitive advantage over for-profits because they could focus on the values-driven strategy over operational efficiency than their for-profit counterparts.

HYPOTHESES

Any organization, including nonprofits, is concerned with having sufficient resources to meet the purpose of the organization. For the U.S. nonprofit sector (McKeever & Pettijohn, 2014), the revenue comes from the following sources:

Fees for services and goods from private sources:	50.0%
Fees for services and goods from government sources:	23.1%
Private contributions:	12.9%
Government grants:	9.2%
Other income:	1.2%

An economic downturn impacts many of these revenue sources for different reasons and causes great uncertainty for the nonprofit organization. Once the realization of the economic crisis settles into the population, government, business, and nonprofit leaders are expected to prepare for and adjust to an anticipated decrease in revenues. The resource dependency theory posits that organizations will examine their power relationships and make adjustments to have more control over resources for which they depend and for which are surrounded by more uncertainty. For example, an organization will take steps to reduce its dependency on a resource that is likely to decrease. This theory leads us to also posit that an organization will capitalize on the power gained

for a resource it controls that others now need. We expect to organizations take strategic steps to adjust their power relationships.

H1 Nonprofit organizations strategically respond to reduce the effect of external uncertainties because of economic crisis.

The resource-based view of the firm suggests that in times of uncertainty, organizations that have a core competence that benefits them in this new environment will be more successful than those that do not. During difficult, changing, uncertain times, Hall, Beck, Lengnick-Hall (2011) theorized that organizations with developed strategic human resource capacity have a competency that would make the organization resilient during challenging times. They defined organizational resilience as "a firm's ability to effectively absorb, develop situation-specific responses to, and ultimately engage in transformative activities to capitalize on disruptive surprises that potentially threaten organization survival" (p. 244).

H2 Human resource capacity of the firm is positively related to the level of strategic responses to the external uncertainties.

Also with the rapidly changing environment, organizations that are able to capture, transfer and use their experience and knowledge are at an advantage over those organizations that are new or unable to do so (Weldy, 2009). For some organizations, the ability to manage their knowledge is a source of competitive advantage.

Some researchers have found that firm age is related to firm survival during challenging times. They explain that new organizations need time to develop and identify their capabilities. During stress, these new organizations are more likely to falter (Esteve-Perez & Manez-Castillejo, 2008). More established firms are better able to weather difficult times. Building on the knowledge-based resource, an older firm would likely have more experience and knowledge to access to adjust to the changing environment.

H3 The age of the firm is positively related to the financial performance of the firm during a period of financial external uncertainties.

Ronald Coase (1937) proposed the transaction cost theory in The Nature of the Firm as a way to explain why firms exist and to predict the size of a firm. He noted previous research had focused solely on the concept that price determination was the main determinant of firm existence and size. His theory introduced the idea that it is the coordination function of exchanges that interact with the price determination that was essential. Coase explained "the main reason why it is profitable to establish a firm would seem to be that there is a cost of using the price mechanism" (p. 390).

Ulrich and Barney (1984) explained that the transaction cost theory had evolved into an efficiency theory. Transactions are any exchange of services or goods that can occur within or outside the organization between economic actors. A successful firm is able to manage its transaction costs internally and externally to maximize the price mechanism. Firms have to balance the internal costs of performing or producing something in-house with the external costs of having another economic entity perform or provide a product or service.

There are many factors that impact transaction costs which include the level of uncertainty,

governance mechanism, and transaction characteristics. Uncertainty in the market is another factor that makes entering into a contract to manage the uncertainty important to keeping the price predictable (Coase, 1937). There has been limited exploration of transaction cost theory to the nonprofit firm but Valentinov (2008) provided some of that history. He explained that much of the focus has been centered on explaining how the nonprofit firm is a type of legal form and is explained by cost theory. Characterizing the research in the nonprofit area in two strands, he suggested that most have focused on incentive alignment. The nonprofit arrangement minimizes opportunism and maximizes the establishment of trust.

His article focused on what he refers to as the Coasean approach which would not focus on the nonprofit firm's structure as limiting opportunism but would instead focus on the nonprofit's ability to limit costs in terms of "reducing the cost of searching for, processing, and communicating information" (p. 7). Valentinov summarized this approach to the nonprofit sector as follows:

Nonprofit firms arise to economize on this transaction cost by reducing the number of contracts that needs to be made among the participants of utility-driven production, by replacing short-term contracts with long-term ones, and by reducing the cost to the participants of searching for opportunities of involvement in this production (p. 16).

One way that nonprofit organizations reduce the cost of transactions is becoming efficient in information exchange. Most nonprofit organizations have some sort of website and many are able to raise funds through the website (Waters, 2007). A website also makes information readily available to others which prevent a staff person from having to provide that information directly. Organizations that are able to provide the right information, to the right people, in an effective way may be able to develop a competitive advantage over other organizations that are unable to do so.

The nonprofit board of directors is also a valuable resource to the nonprofit organization. As explored earlier in the paper, the members of the board are a source of relational capital linking the organization to different social networks and additional financial resources (Hilman & Dalziel, 2003; Mwenja & Lewis, 2009). A nonprofit organization that provides information about its board of directors on its nonprofit website is allowing additional connection points for potential donors, volunteers, and other stakeholders to access the organization. By doing so, the nonprofit is efficiently providing more information about the organization that helps others judge the quality and stability of the organization (Miller-Millesen, 2003). We posit that these judgments will impact the support given to the organization by others.

H4 *The level of visibility of the firm is positively related to the financial performance of the firm during a period of financial external uncertainties.*

It is common for a nonprofit organization to take part in strategic planning and use a three- to five-year strategic plan to guide the nonprofit in meeting its mission (Bryson, 2010). Strategic planning has yielded positive organizational results but for some nonprofits is a cumbersome undertaking. One of the benefits of strategic planning is to align the organizational resources with the goals and objectives of the nonprofit to better reach the stated purpose. Bryson urges nonprofits to view strategic planning beyond the creation of a plan but to rather integrate strategic decision making as a practice within the organization. By doing so, the nonprofit focuses on the implementation of the strategy in all aspects of the organization. The plan becomes alive and is integral to all the activities of the nonprofit.

The recent economic crisis has been characterized as the largest economic crisis since the Great Depression of the 1930's. It created great uncertainty for many who rely on nonprofits for services and for nonprofit organizations in terms of their financial stability. Management experts advise organizational leaders that their strategy has to be about "constantly adapting to change in an every changing landscape" (Matai, 2011). Organizations are encouraged to respond quickly as the environment is rapidly changing and a slow response may cause an organization to fail.

Marrying these two lines of thought suggests that nonprofits faced with the severe uncertainty presented by the economic crisis must react quickly in a manner consistent with their strategy. For the past few decades, nonprofit organizations have heeded the call to become more business-like (Maier, Meyer & Steinbereithner, 2016). Diversification makes longevity and sustainability more likely by reducing risk and leads to greater stability during economic volatility. Leaning too heavily on a primary revenue source (grant, earned income, donations) increases risk and there are limitations with dependence on single funding resources (Besel, Williams & Klak, 2011). When faced with the financial crisis, nonprofits that were not very diversified were predicted to respond to the financial uncertainty by seeking greater diversity in their sources of funding theorizing that that diversification of funding would help a nonprofit survive times of financial uncertainty such as the economic crisis (Froelich, 1999; see also Reed & Bridgeland, 2009; Chikoto & Neely, 2014).

H5: The level of strategic responses to the external uncertainties is positively associated with the financial performance of the firm during a period of financial external uncertainties.

RESEARCH METHOD

Methods and Sample

The Nashville metropolitan statistical area (MSA) has 2,045 nonprofit organizations with revenue of $25,000 and over according to database obtained from Urban Institute's National Center for Charitable Statistics Core Files (NCCSCF). In 2012, a sample of 1,086 nonprofit organizations in the Nashville MSA was sent a request to complete a survey to assess their contribution to the Nashville MSA economy. An e-mail survey was sent to 635 nonprofit organizations for which an e-mail address was available while an additional 521 were invited to complete the survey in hard copy format through a mail solicitation. The list of nonprofits was extracted from both NCCSCF and Nashville Center for Nonprofit Management databases. We received a total of 306 responses with 280 surveys usable for this analysis. See Table 1 for the survey response rate data.

The 22-item survey asked for demographical data, information about employees and volunteers, expenditures and revenues, and perceived economic crisis impact and strategic management responses. Survey respondents were asked for specific information about the steps they took during the economic crisis and for financial information for 2008 and the current year 2010. Data was also collected from the Urban Institute's National Center for Charitable Statistics Core Files and Individual IRS Form 990 Files for some missing data. The initial 22-item survey was designed to measure economic impact of nonprofit organizations on the Nashville MSA.

Table 1

SURVEY RESPONSE RATE						
	Response	**No Response**	**Dropped (Undeliverable, misclassification, etc.)**	**Total in Sample**	**Net total in Sample**	**Response Rate**
Email Sample	230	399	10	635	625	36.22%
Mail Sample	76	385	60	521	461	16.49%
Total Sample	306	784	70	1156	1086	28.18%

Level of Strategic Response Variable

Survey respondents were asked specifically about their strategic response to the economic crisis. Two questions in particular allowed for additional responses to be provided in open-ended other category.

> Q19. What was your organization's response to the economic crisis? (Check all that apply)
> Q20. In response to the economic crisis, has your organization attempted to use any of the following strategies (please check all that apply)?

The responses to these two questions created more than 50 separate responses. The researchers collapsed the responses into 17 overall categories and then had an expert panel review the overall categories. The 15-member expert panel consisted of nonprofit sector leaders, strategic management faculty, social science faculty, and public sector professionals. Each expert was sent an online questionnaire that asked "based on your expert opinion and using a scale of -10 through 10, how would you rate reach of the following survival strategies during an economic crisis period?" The expert responses were combined and yielded a hierarchy of the effective strategic responses in an economic crisis. Each nonprofit organization's strategic response scores were then aggregated to create a continuous strategic response variable. The strategic response category scores ranges from -4 to 6 based on expert panel coding (see Figure 1).

Human Resource Capacity

To calculate how strong of a resource a nonprofit has available in terms of its human capacity, we used three variables: the number of full time employees, the number of part-time employees, and the total number of weekly volunteer hours the nonprofit receives. Part-time employment and volunteer hours are converted to the full-time employment equivalency.

$$\text{Human Resource Capacity Index (HRCI)} = FT + \frac{PT}{3} + \frac{WVH}{40} \quad (1)$$

Where FT= Number of full-time employees
PT= Number of part-time employees weighted by 3
WVH= Weekly volunteer hours weighted by 40.

Figure 1

Level of Resource Dependency

To measure the level of resource dependency, this study used the Shannon-Weaver Diversity Index (Shannon and Weaver, 1949) which was calculated using 7 different self-reported revenue sources.

$$DI = \sum \rho_i \mathrm{Xln}(\rho_i) \tag{2}$$

Where DI= Diversity index
pi= Funding share of each funding source
ln(pi)= Natural log of pi

Nonprofit funding sources: (1) admission fee, sale of services, membership; (2) contributions and grants from individuals; (3) contributions and grants from businesses; (4) contributions and grants from foundations; (5) contributions and grants from government; (6) investment income; and (7) all other sources.

Diversity index is further standardized using the following normal distribution function:

$$f(DI, \mu, \sigma) = \frac{1}{\sqrt{2\pi\sigma}} e - \left[\frac{(DI - \mu)^2}{2\sigma^2} \right] \tag{3}$$

Where DI= Organization's diversity index score

μ= Average diversity index score
σ= Standard deviation of diversity score

Each organization's dependency score is then calculated as

Dependency Score =1-Standardized Diversity Index

Higher the index value, more dependence on a single revenue source.

Firm Performance

The evaluation of firm performance was determined by a self-report response to the question "how has the recent economic crisis affected organization's revenue?" A categorical variable was used: decreased revenue (0) remained the same (1) or increased revenue (2).

Visibility Index

To calculate the nonprofit organization's visibility index, the researchers reviewed the internet to see whether each responding nonprofit had a website coded as yes (1) or no (0). Then, the researchers also looked to see if there was information available on the website about the organization's board of directors and looked for information about the size of the board of directors.

An index score was created from these three values: Having a website (1,0); having a board (1,0); and size of the board of directors. To create the index, first, board size was standardized to have a value between 1 and 0; 1 being the largest, and 0 being the smallest.

$$f(Size, \mu, \sigma) = \frac{1}{\sqrt{2\pi\sigma}} e - \left[\frac{(Size - \mu)^2}{2\sigma^2} \right] \quad (4)$$

Where $Size$= Board size
μ= Average board size
σ= Standard deviation of board size distribution

Second, a visibility index is calculate as

Visibility Index = Average (Web Presence, Board Presence, Standardized Board Size)

Higher the visibility index, higher the nonprofit organization's outreach activities.

Models

To test the hypotheses advanced in this paper, we used two models: multiple regression analysis and multinomial logit regression analysis.

Model 1: The multiple regression analysis specified as

$$STR = \alpha_1 + \beta_1 DS + \beta_2 HRCI + \beta_3 EXP + \beta_4 FS + \varepsilon \quad (5)$$

Where STR= Strategic response score
DS= Dependency score
$HRCI$= Human resource capacity index [in natural log]
EXP= Firm's experience in market [in natural log]
FS= Firm's size measured as total revenue [in natural log]

Model 2: The multinomial logistic regression analysis specified as

$$PI = \alpha_1 + \beta_1 HRCI + \beta_2 EXP + \beta_3 STR + \beta_4 Visibility + \varepsilon \quad (6)$$

Where PI= Performance indicators that take one of the three values [0=decreased revenue; 1=remained the same; and 2=increased revenue]
STR= Strategic response score
$HRCI$= Human resource capacity index [in natural log]
EXP= Firm's experience in market [in natural log]
$Visibility$= Visibility index score

This study used the multinomial logistic regression analysis instead of the logistic regression analysis because the dependent variable (performance indicator) included more than two discrete values.

RESULTS

What determined the level of strategic response to the economic crisis? To answer this question, we specified a multiple regression model using the strategic response score (STR-dependent variable) as a function of human resource capacity index (HRCI), dependency score (DS), experience (EXP) and firm size (FS). Table 2 presents descriptive statistics used in the model.

Table 2
MODEL 1: THE MULTIPLE REGRESSION ANALYSIS: DESCRIPTIVE STATISTICS

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Strategic Response Score (STR)	225	42.90	-7.20	35.70	15.18	9.58
Dependency Score (DS)	280	0.93	0.04	0.97	0.49	0.31
Human Resource Capacity Index (HRCI) [in natural log]	280	12.59	-3.69	8.90	2.35	1.70
Firm Size (FS) [in natural log]	280	9.72	10.22	19.94	13.06	1.78
Experience (EXP) [in natural log]	277	4.10	1.10	5.20	3.09	0.84
Valid Number of Observations	224					

The Pearson correlation matrix is presented in Table 3 suggests a strong correlation between human resource capacity index and firm size. However, since the absolute value of correlation is less than 0.85, we included both dependent variables in the model.

Table 3

MODEL 1: THE PEARSON CORRELATION MATRIX				
	ln(HRCI)	ln(FS)	DS	ln(EXP)
Human Resource Capacity Index (HRCI) [in natural log]	1.000			
Firm Size (FS) [in natural log]	.740	1.000		
Dependency Score (DS)	-.089	-.062	1.000	
Experience (EXP) [in natural log]	.284	.383	-.070	1.000

Table 4 shows that model is significant.

Table 4
MODEL SUMMARY

Model	R	R Square	Adjusted R	Std.
1	.402[a]	.161	.146	8.84315

a. Predictors: (Constant), ln(HRCI), ln(FS), DS, ln(EXP)

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3296.084	4	824.021	10.537	.000[b]
	Residual	17126.07	219	78.201		
	Total	20422.15	223			

a. Dependent Variable: Strategic Response Score (STR)
b. Predictors: (Constant), ln(HRCI), ln(FS), DS, ln(EXP)

The multiple regression results (see Table 5) show that human resource capacity index and dependency score are statistically significant predictor of the strategic response level to the economic crisis. Experience in the market and firm size does not appear to be significant predictor of the strategic response level.

Table 5
MODEL 1: THE MULTIPLE REGRESSION COEFFICIENTS[a]

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.	Beta		
(Constant)	12.305	5.676		2.168	0.031
Human Resource Capacity Index (HRCI) [in natural log]	1.457	0.526	0.255	2.769	0.006
Firm Size (FS) [in natural log]	0.247	0.507	0.047	0.487	0.626
Dependency Score (DS)	-8.395	2.049	-0.255	-4.098	0.000
Experience (EXP) [in natural log]	-0.081	0.764	-0.007	-0.105	0.916

a. Dependent Variable: Strategic Response Score (STR)

H1 *Nonprofit organizations strategically respond to reduce the effect of external uncertainties because of economic crisis.*

H2 *Human resource capacity of the firm is positively related to the level of strategic responses to the external uncertainties.*

To test hypotheses 1 and 2, we ran a linear regression analysis to see if there was a significant relationship between the level of strategic response, the dependent variable and the independent variables of resource dependency, age of the organization, and the human resource capacity index. The model yielded a significant fit (p=.000) with an adjusted R value of .146.

The relationship between the level of resource dependency and the level of strategic responses was significant but in the opposite direction than was predicted. We posited that a nonprofit that had a higher dependency score (more dependent on a few sources of revenue) would have a higher level of strategic responses. The results indicate that a nonprofit with a lower dependency score (more diverse in its funding sources) had a higher level of strategic response. In fact, standardized beta coefficient shows that a 1 standard deviation change in dependency score results in -0.255 standard deviation decline in the strategic response score. The nonprofits relying on a few sources as their revenues were less aggressive in their responses to the economic challenges.

There was a positive relationship between the increase in the level of the human resource capacity index and the level of strategic responses as predicted. H2 was supported. Indeed, for a 1 standard deviation increase in human resource capacity index, we expect to see 0.255 standard deviation increases in strategic response scores to economic crisis.

H3 *The age of the firm is positively related to the financial performance of the firm during a period of financial external uncertainties.*

H4 *The level of visibility of the firm is positively related to the financial performance of the firm during a period of financial external uncertainties.*

H5 *The level of strategic responses to the external uncertainties is positively associated with the financial performance of the firm during a period of financial external uncertainties.*

What determines the self-reported performance level of nonprofit firms during the economic crisis period? For the remaining three hypotheses, we ran a multinomial logistics regression (see Model 2). Model variables and descriptive statistics are presented in Table 6.

Table 6

MODEL 2: THE MULTINOMIAL REGRESSION ANALYSIS (DESCRIPTIVE)

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Strategic Response Score [STR]	225	42.90	-7.20	35.70	15.18	9.58
Human Resource Capacity Index (HRCI) [in natural log]	280	12.59	-3.69	8.90	2.35	1.70
Experience (EXP) [in natural log]	277	4.10	1.10	5.20	3.09	0.84
Visibility Index	280	0.95	0.05	1.00	0.69	0.29
How has the recent economic crisis affected your Organization's revenue? [PI]	261	2.00	0.00	2.00	0.75	0.74
Valid N (list wise)	224					

Dependent variable in Model 2 is the self-reported performance indicator during the financial crisis. As highlighted in Table 7, there are 224 valid cases, of which 49% reported decreased revenue; 34% remained the same; and 17% increased revenue.

Table 7
MODEL 2: DEPENDENT VARIABLE SUMMARY

		N	Marginal Percentage
How has the recent economic	decreased [0]	110	49.1%
crisis affected your organization's	remained the same [1]	76	33.9%
revenue?	increased [2]	38	17.0%
Valid		224	
Missing		56	100.0%
Total		280	

A number of diagnostic tools suggest that model is significant, and we have a good fit with some indicators being statistically significant (see Table 8).

Table 8
MODEL 2: MODEL FITTING INFORMATION AND SIGNIFICANCE

Model	Model Fitting Criteria			Likelihood Ratio		
	AIC	BIC	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	459.58	466.41	455.58			
Final	444.68	478.80	424.68	30.90	8	.000

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	456.16	438.00	0.27
Deviance	424.68	438.00	0.67

Likelihood Ratio Tests

Effect	Model Fitting Criteria			Likelihood Ratio Tests		
	AIC of Reduced Model	BIC of Reduced Model	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	445.33	472.63	429.33	4.65	2	.098
Strategic Response Score [STR]	455.65	482.94	439.65	14.96	2	.001
Human Resource Capacity Index (HRCI) [in natural log]	441.28	468.57	425.28	0.59	2	.743
Visibility Index	454.16	481.46	438.16	13.48	2	.001
Experience (EXP) [in natural log]	445.83	473.12	429.83	5.15	2	.076

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

By looking at Table 9, we can extract a couple of pieces of information. First, reference category for the analysis is decreased revenue. This means that in interpreting the regression results, we should look at the covariates' influence on "remained the same" and "increased" revenue relative to decreased revenue. Second, Wald values suggest that visibility index, strategic response scores and experience are statistically significant.

Table 9

MODEL 2: THE MULTINOMIAL LOGISTIC REGRESSION: PARAMETER ESTIMATES

How has the recent economic crisis affected your organization's revenue?[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Lower Bound	95% Upper Bound
remained the same [1]	Intercept	.630	.680	.858	1	.354			
	Human Resource Capacity Index (HRCI) [in natural log]	.009	.105	.008	1	.929	1.009	.822	1.240
	Visibility Index	1.960	.590	11.030	1	.001	7.097	2.233	22.558
	Experience (EXP) [in natural log] Strategic Response Score [STR]	-.455	.207	4.834	1	.028	.634	.423	.952
		-.067	.019	13.175	1	.000	.935	.901	.969
increased [2]	Intercept	-1.285	.856	2.250	1	.134			
	Human Resource Capacity Index (HRCI) [in natural log]	.095	.126	.566	1	.452	1.100	.858	1.409
	Visibility Index	1.471	.722	4.147	1	.042	4.353	1.057	17.930
	Experience (EXP) [in natural log]	-.261	.242	1.159	1	.282	.771	.480	1.238
	Strategic Response Score [STR]	-.013	.022	.328	1	.567	.987	.946	1.031

a. The reference category is: decreased [0].

What do these results mean? Table 10 illustrates what the sign of parameters means in the model as summarized in three points. First, the negative coefficient values mean that age of firm and strategic response scores have smaller values within the "remained the same" performance category relative to "decreased" performance category. In other words, nonprofits reporting decreased revenues are likely to be older firms and have a higher strategic performance scores. Second, a zero (0) coefficient suggests that firms reporting the "remained the same" performance category and "decreased" performance category are not that different from each other with respect to the human resource capacity index score. And third, positive coefficients suggest that visibility index scores have higher values with the "remained the same" performance category relative to "decreased" performance category. In other words, nonprofits reporting decreased performance are less likely to be visible in the market relative to the "remained the same" performance category firms.

Table 10

MULTINOMIAL LOGISTICS REGRESSION RESULTS
HOW HAS THE RECENT ECONOMIC CRISIS AFFECTED YOUR ORGANIZATION'S REVENUE? THE REFERENCE CATEGORY IS: DECREASED.

Covariates	Remained the Same Relative to Decreased Coefficients (B)	Remained the Same Relative to Decreased Exp (B)	Increased Relative to Decreased Coefficients (B)	Increased Relative to Decreased Exp (B)
Human Resource Capacity Index (HRCI) [in natural log]	0	1	+	>1
Visibility Index	+	>1	+	>1
Experience (EXP) [in natural log] Strategic Response Score [STR]	-	<1	-	<1
	-	<1	-	<1

Coefficient values are presented in Table 11. They indicate the following two points.

(1) Remained the same performance category relative to decreased performance category: Three independent variables are significant: visibility index, experience, and strategic response score. **Visibility index score:** Findings show that visibility index scores for the nonprofit firms in the "remained the same" performance category are 7.097 times higher than the firms in "decreased performance" category. What does this mean? The firms with higher visibility scores are more likely to be in the "remained the same" performance category than the "decreased performance" category**. Experience**: Findings suggest somewhat significant relations between nonprofit performance categories and the age of nonprofit firms measured in natural log. Exp(B) value suggests that if a nonprofit firm were to increase its age by one unit, the relative risk for reporting remained the same performance to decreased performance would be expected to decrease by a factor of 0.634 given human resource index, visibility index, and strategic response scores are held constant. **Strategic response score:** Strategic response score is significant with a negative sign suggesting that the nonprofit firms with higher strategic response score is more likely to be in decreased performance category than the remained the same performance category. Other variables are held constant, one unit increase in a firm's strategic response score is expected to decrease the relative risk for reporting the remained the same performance category to decreased performance category by a factor of 0.935.

(2) Increased performance category relative to decreased performance category: Only one independent variable is significant: visibility index. **Visibility index score:** Findings suggest that if a nonprofit firm were to increase its visibility score by one units, the relative risk for reporting increased performance category to decreased performance category would be expected to increase by a factor of 4.353 given all other independent variables are held constant.

Table 11

MULTINOMIAL LOGISTICS REGRESSION RESULTS HOW HAS THE RECENT ECONOMIC CRISIS AFFECTED YOUR ORGANIZATION'S REVENUE? THE REFERENCE CATEGORY IS: DECREASED.				
Covariates	**Remained the Same Relative to Decreased**		**Increased Relative to Decreased**	
	Coefficients (B)	**Exp (B)**	**Coefficients (B)**	**Exp (B)**
Human Resource Capacity Index (HRCI) [in natural log]	Not Significant		Not Significant	
Visibility Index	1.96	7.097	1.471	
Experience (EXP) [in natural log]	-0.455	0.634	Not Significant	4.353
Strategic Response Score [STR]	-0.067	0.935	Not Significant	

DISCUSSION

Implications for Theory

There has been limited research on nonprofits related to the resource dependency theory and resource based view of the firm in the past decade and virtually none since the economic crisis. Examining the role of resources for nonprofits in an overarching strategic framework helps bridge

the gap between for-profit theory and non-profit theory. This study is an attempt to fill the gap in the literature.

One of the most important findings was that there was an inverse relationship between the dependency score and the level of strategic response. Nonprofits that had fewer funding sources were more likely to have a lower level of strategic response which was counterintuitive given the mantra that nonprofits must diversify funding to survive. But this finding is not totally without explanation and supports another stream of nonprofit research.

There have been studies that have found focusing on a few revenue sources is better in terms of overall revenue growth than diversifying as suggested by the diversification voices. Foster and Fine (2007) shared their findings focused on the largest nonprofits in terms of financial resources. They reported that those at the top often focused on a limited number of funding sources rather than on diversification. They did explain that within a type of funding source, for example, government grants, the very large nonprofits were diversified within that category receiving government funds from many different sources. Chikoto and Neely (2014) also shared their support for the revenue concentration theory finding a relationship between greater nonprofit financial capacity and decreased funding diversification. The data used for their study was prior to the financial crisis.

It is also possible that the high dependency score being related to a lower level of strategic response can be explained by need versus action analysis. According to diversification theory, a high dependency score would suggest that the nonprofit needs to diversify its funding to better control its environment just as a higher BMI suggests a person needs to exercise and decrease their calorie intake to better control negative health consequences. Neither one indicates that the recommended action will be taken.

We also explored what factors predicted better financial performance during the economic crisis based on a self-report of our finances decreased, remained the same, or increased. The resources of website presence and a board of directors available to people outside the organization on the website were significantly related to a nonprofit reporting that its resources stayed the same or increased. There was a relationship between nonprofits reporting that their finances decreased and a lower visibility score.

When we compared the data for nonprofits that reported a decrease in financial resources to the data for nonprofits that stayed the same, we found that there was a significant difference in the areas of age of the nonprofit, level of strategic response, and visibility index. Firms that stayed the same, which is a positive outcome in times of an economic crisis of the level they experienced, had higher values for all three variables. Likewise, when we compared the data for nonprofits that reported a decrease in financial resources to the data for nonprofits that increased in resources, only the visibility index level made a significant difference. Those results suggest that there is something important and powerful about the visibility resource.

Implications for Practice

The results of this study have several implications for nonprofits going forward. First, nonprofits need to view their website presence as a valuable resource that needs to be developed, maintained, and used strategically to draw in other resources. For nonprofits that are able to develop a web or digital presence better than others, the visibility becomes a core competence and may develop into a competitive advantage. But to get to that level of a resource, a nonprofit is going to have to stay ahead of the curve and invest in the needed knowledge and technology to remain a market leader.

The study also suggests to nonprofit organizations that there is value in sharing information about their board of directors on their websites. Nonprofits should be cautious of hiding board members away for fear they will be bothered, put rather should put them into the public eye as an extension of the organization. Of course, nonprofits need to recruit the right board members to serve in that capacity and willing to have their information shared in that manner.

Another important implication for the nonprofit sector is that diversification of funding may not always be the right way to go. There is enough evidence to suggest nonprofits pause and explore whether it is more valuable to focus on a few sources of revenue and diversifying within the stream of funding.

Limitations and Future Research

Additional research is needed to provide better guidance to nonprofits on whether diversifying resources is the better advice or is it preferable to centralize resources. It would be interesting to compare financial data obtained during the recent financial crisis compares to the data used by Chikoto and Neely (2014) which was gathered prior to the crisis.

Some of the main variables were gathered through the self-report survey which always has its limitations. The self-report data does not capture information from nonprofits that did not survive the economic downturn to provide the data. This is an important piece of the full picture. Future research could compile financial data from organization's Form 990s and be used as a separate performance measure to determine whether revenues increased or decreased.

The visibility and human capacity indices proved promising so further research can explore the use of these variables in predicting financial performance or survival is needed. The visibility index could be expanded to include an evaluation on the level of website presence and level of social media and other digital presence to develop a richer visibility index. Further work on investigating additional ways to calculate human capacity of a nonprofit as a resource may add to the explanatory value of similar studies.

CONCLUSION

Management experts advise nonprofit organizations that in times of crisis it is usually best to do something, and nonprofit organizations should diversify their financial resources so not to have all their eggs in one basket. The recent economic crisis presented unique challenges to nonprofit organizations as predictable, reliable funding sources were no longer certain and reliable, and the demand for their services increased as the economic downturn caused more need. Little research in the past decade has examined the strategic responses to the economic crisis in the nonprofit sector and this study acts as an attempt to fill this gap. From studying this situation through the lenses of two resource theories, we can now provide some guidance to nonprofit organizations of how to respond during similar times. Nonprofits need to ensure they have strong visibility, strong human resource capacity, and should increase their level of strategic responses. This study is just the start to understanding which strategic responses are the right ones for a nonprofit organization to weather a similar financial storm.

Acknowledgements:

Initial research is conducted by Business and Economic Research Center through a contract with Nashville Center for Nonprofit Management.

REFERENCES

Acharya, V. V., & Richardson, M. (2009). Causes of the financial crisis. *Critical Review, 21*(2-3), 195-210. doi: 10.1080/08913810902952903.

Bansal, P., Jiang, G. F., & Jung, J. C. (2015). Managing responsibly in tough economic times: strategic and tactical CSR during the 2008–2009 global recession. *Long Range Planning, 48*(2), 69-79. doi:10.1016/j.lrp.2014.07.002.

Besel, K., Williams, C. L., & Klak, J. (2011). Nonprofit sustainability during times of uncertainty. *Nonprofit Management and Leadership, 22*(1), 53-65. doi:10.1002/nml.20040.

Bradshaw, P., Murray, V., & Wolpin, J. (1992). Do nonprofit boards make a difference? An exploration of the relationships among board structure, process, and effectiveness. *Nonprofit and Voluntary Sector Quarterly, 21*(3), 227-249.

Bryson, J. M. (2010). The future of public and nonprofit strategic planning in the United States. *Public Administration Review, 70* (Supplement to Volume 70: The Future of Public Administration in 2020), S255-267.

Coase, R.H. (1937). The Nature of the Firm. *Economica, 4*(16), 386-405.

Chikoto, G.L. & Neely, D. G. (2014). Building nonprofit financial capacity: The impact of revenue concentration and overhead costs. *Nonprofit and Voluntary Sector Quarterly, 43*(3), 570-588.

Esteve-Perez, S. & Manez-Castillejo, J. A. (2008). The resource-based theory of the firm and firm survival. Small Business Economics, 30(3), 231-249.

Foster, W. & Fine, G. (2007). How nonprofits get really big. *Stanford Social Innovation Review, 5*(2), 46-55.

Froelich, K. A. (1999). Diversification of revenue strategies: Evolving resource dependence in nonprofit organizations. *Nonprofit and Voluntary Sector Quarterly, 28*(3), 246-268.

Frumkin, P. & Andre-Clark, A. (2000). When mission, markets, and politics collide: values and strategy in the nonprofit human services. *Nonprofit and Voluntary Sector Quarterly*, *29*(1), 141-164.

Gomes, R., & Knowles, P. A. (2001). Strategic internet and e-commerce applications for local nonprofit organizations. *Journal of Nonprofit & Public Sector Marketing, 9*(1/2), 215.

Gerardi, K., Lehnert, A., Sherlund, S. M., & Willen, P. (2008). Making sense of the subprime crisis. *Brookings Papers on Economic Activity*, *2008*(2), 69-159. doi:10.1080/08913810902952903

The Center on Philanthropy at Indiana University, Giving USA Foundation. (2010). *Giving USA 2010: The Annual Report on Philanthropy for the year 2009*.

Hall, P. D. (2010). Historical perspectives on nonprofit organizations in the United States. *The Jossey-Bass handbook of nonprofit leadership and management*, *3rd Ed.* 3-38.

Kent, M. L., Taylor, M., & White, W. J. (2003). The relationship between website design and organizational responsiveness to stakeholders. *Public Relations Review, 29*(1), 63-77.

Lee, T. E., Chen, J. Q., & Zhang, R. (2001). Utilizing the Internet as a competitive tool for non-profit organizations. *The Journal of Computer Information Systems, 41*(3), 26.

Levine, H., & Zahradnik, A. G. (2012). Online media, market orientation, and financial performance in nonprofits. *Journal of Nonprofit & Public Sector Marketing*, *24*(1), 26-42.

McKeever, B. S. & Pettijohn, S. L. (2014, October). *The Nonprofit Sector in Brief 2014: Public Charities, Giving and Volunteering.* The Urban Institute.

Maier, F., Meyer, M. & Steinbereithner, M. (2016). Nonprofit organizations becoming business-like: A systematic review. Nonprofit and Voluntary Sector Quarterly, 45(1), 64-86.

Matai, D.K. (2011, March 30). What is the key to survival in a constantly changing environment? *Business Insider*. Retrieved on Feb. 24, 2016 from http://www.businessinsider.com/what-is-the-key-to-survival-in-a-constantly-changing-environment-2011-3

Miller-Milesen, J. L. (2003). Understanding the behavior of nonprofit boards of directors: A theory-based approach. *Nonprofit and Voluntary Sector Quarterly, 32*(4), 521-547.

Mosley, J. E., Maronick, M. P., & Katz, H. (2012). How organizational characteristics affect the adaptive tactics used by human service nonprofit managers confronting financial uncertainty. *Nonprofit Management and Leadership, 22*(3), 281-303.

Mwengja, D. & Lewis, A. (2009). Exploring the impact of the board of directors on the performance of not- for-profit organizations, *Business Strategy Series, 10*(6), 359-365.

National Center for Charitable Statistics (2015). *Quick Facts About Nonprofits*. Retrieved from http://nccs.urban.org/statistics/quickfacts.cfm.

Nonprofit Finance Fund. (2011). *America's nonprofits struggle to meet fast-climbing demand for services*. Retrieved from http://www.nonprofitfinancefund.org/announcements/2011/nonprofit-finance-fund-survey-americas- npos-struggle-to-meet-fast-climbing-demand.

Pettijohn, S. L., Borris, E. T., & Rarrell, M. R. (2014). *National Study of Nonprofit-Government Contracts and Grants 2013: State Profiles.*

Pfeffer, J. & Leong, A. (1977). Resource allocations in United Funds: Examination of Power and Dependence. *Social Forces*, *55*(3), 775-790.

Pfeffer, J. (1978). The micropolitics of organizations. In M.W. Meyer & Associates (Eds.), *Environments and Organizzations.* San Francisco: Jossey-Bass, 29-50.

Pfeffer, J. & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective.* The Stanford University Press.

Provan, K. G., Beyer, J. M., & Kruytbosch, C. (1980). Environmental linkages and power in resource-dependence relations between organizations. *Administrative Science Quarterly*, *25*(2), 200-225.

Reed, B., Bridgeland, J., McNaught, M., & Dunkelman, M. (2009). *The quiet crisis: The impact of the economic downturn on the nonprofit sector.* A Report by Civic Enterprises and Democratic Leadership Council. Kellogg Foundation.

Salamon, L., Geller, S. L., & Spence, K. L. (2009). Impact of the 2007-2009 economic recession on nonprofit organizations. *The John Hopkins Listening Post Project*, *14*.

Salamon, L. M. (2010). The changing context of nonprofit leadership and management. *The Jossey-Bass Handbook of Nonprofit Leadership and Management*, *3*, 77-100.

Shannon, C. E. and Weaver, W. (1949). *The Mathematical Theory of Communication.* University of Illinois Press, Urbana, Illinois, 144.

Schneider, J. A. (2003). Small, minority-based nonprofits in the information age. *Nonprofit Management and Leadership, 13*(4), 383-399.

Soto-Acosta, P., Loukis, E., Colomo-Palacios, R., Lytras, & Miltiadis D. (2010). An empirical research of the effect of internet-based innovation on business value. *African Journal of Business Management, 4*(18), 4096-4105.

Ulrich, D. & Barney, J. B. (1984). Perspectives in organizations: Resource dependence, efficiency, and population. *The Academy of Management Review, 9*(3), 471-81.

Valentinov, V. (2008). The transaction cost theory of the nonprofit firm: Beyond opportunism. *Nonprofit and Voluntary Sector Quarterly* 37(1), March 2008, 5-18.

Waters, R. D. (2007). Nonprofit organizations' use of the internet: A content analysis of communication trends on the internet sites of the philanthropy 400. *Nonprofit Management and Leadership, 18*(1), 59-76.

Waters, R. D., & Feneley, K. L. (2013). Virtual stewardship in the age of new media: have nonprofit organizations' moved beyond Web 1.0 strategies? *International Journal of Nonprofit and Voluntary Sector Marketing, 18*(3), 216-230.

Weldy, T.G. (2009). Learning organizations and transfer: Strategies for improving performance. *The Learning Organization, 16*(1), 58-68.

Worth, M. J. (2012). *Nonprofit Management: Principles and Practice, 2nd edition.*

Zietlow, J. (2010). Nonprofit financial objectives and financial responses to a tough economy. *Journal of Corporate Treasury Management, 3*(3).

PERSON-ORGANIZATION FIT RELATIONSHIP WITH JOB SATISFACTION AND TURNOVER: THE MEDIATING INFLUENCE OF LEADER-MEMBER EXCHANGE

Renaud Jutras, Université du Québec à Trois-Rivières
Cynthia Mathieu, Université du Québec à Trois Rivières

ABSTRACT

Work environment is composed of many intricate mechanisms potentially influencing employee's attitudes and behaviors. In this regard, leader-member exchange theory's (LMX) impact on job outcomes, presented as an individual dyadic relationship, has been a burgeoning subject of interest in the past years and a now well studied alternative path on traditional leadership research. Moreover, person-organization fit (P-O fit) literature seems to also have considerably focused on the relevance of P-O fit as a predictor of employee's job outcomes, notably potential turnover. However, LMX and P-O fit's relationships with job satisfaction, turnover intention and actual turnover are largely independently studied. Accordingly, few scholars have tried to combine both frameworks in order to comprehend the intertwined dynamics of those two theories in the workplace. This study presents a comprehensive review of theories as well as the results and a discussion about the possible mediating influence of LMX quality on P-O fit- Job satisfaction and turnover relationship.

KEYWORDS: Leader-Member Exchange, Person-Organization Fit, Perceived Leadership, Job Satisfaction, Turnover

INTRODUCTION

Leader-member exchange (LMX) research suggests that, through a dyadic relationship, leaders develop a differentiated and unique relationship with each of their followers (Harris, Li, & Kirkman, 2014). These relationships, of variable quality, influence follower's attitudes and behaviors in the workplace (Vidyarthi, Liden, Anand, Erdogan, & Ghosh, 2010). Furthermore, a perceived good fit with the direct supervisor helps shape followers' organizational outcomes (E.g. job satisfaction, turnover intention) (Tak, 2011). However, a sense of congruity with organization is also believed to have an impact on followers' organizational outcomes; Person-organization fit (P-O fit) being extensively studied by academics (Hoffman & Woehr, 2006). Both LMX and P-O fit relationships with job outcomes are widely studied independently. Yet, supervisors tend to be, on a daily basis, representatives of head management and organization (Eisenberger, Stinglhamber, & Vandenberghe, 2002). As such, we propose that both perceived LMX and P-O fit are interwoven in the eyes of employees. We believe that it is crucial to study

both frameworks simultaneously in order to understand their full effect on employees' overall satisfaction and turnover.

The goals of this theoretical study are twofold. Firstly, this article is originally designed as a review of both Leader-Member Exchange (LMX) and Person-Organization fit (P-O fit) literature in relationship with job satisfaction, turnover intention and actual turnover. Therefore, we synthetized knowledge in both theoretical frameworks independently. Secondly, we hope to shed light on the relationship between both LMX and P-O fit relationships with job satisfaction, turnover intention and actual turnover by a comparative study of their respective theoretical frameworks. Both LMX and P-O fit relationships with job satisfaction, turnover intention and actual turnover relationship have been the subject of sustained focus by academics but, to our knowledge, very few comparative studies have tried to incorporate both theoretical frameworks.

However, we suggest that considering both theories may give an interesting insight on how employee's perception of one's leader and organization (i.e. LMX and P-O fit) may influence overall job satisfaction and turnover. Therefore, we suggest that this study may provide possible future avenues for academics aspiring to take a holistic approach into understanding organizational factors influencing the said outcomes. LMX and P-O fit represents real life aspects of jobs for employees, and thus, influence attitudes and behaviors in the workplace. The last goal of this study is to propose a possible interactive relationship between LMX and P-O fit in regards to expected outcomes. Our main argument, in partial accordance with Jung & Takeuchi's (2014) findings, is that both LMX and P-O fit are interrelated when it comes to employees' attitudes and behaviors. We therefore suggest that not only both LMX and perceived P-O fit affect job satisfaction, turnover intention and actual turnover but also that LMX may act as a mediator influencing P-O Fit-Job satisfaction, turnover relationship. The originality of the present theoretical article lies in the fact that we combine two theories that have, so far, been studied independently.

H.1 LMX and P-O fit have an interactive influence on overall Job Satisfaction and Turnover

LEADER-MEMBER EXCHANGE (LMX), JOB SATISFACTION AND TURNOVER

LMX-Job Outcomes Framework: Key Components Overview

Leader-member exchange theory's (LMX) impact on job outcomes, presented as an individual dyadic relationship, has been a burgeoning subject of interest in the past years and a now well studied alternative path on traditional leadership research. LMX, as a theory, suggests that outcomes of the dyadic relationship between a leader and a follower are predicted at an individual, group and organizational level, depending on the quality of the relationship (Gerstner & Day, 1997). Moreover, followers and leaders alike, in LMX theory, tend to adjust their behaviors, in order to meet each other's expectations (Chen, Wang, Chang, & Hu, 2008). Accordingly, many job outcomes such as turnover intention, actual turnover and job satisfaction, are extensively studied as outcomes of LMX and are now arguably generally accepted as being correlated with the latter (Gerstner & Day, 1997; Harris, Wheeler, & Kacmar, 2009; Mardanov, Maertz, Jr, & Sterrett, 2008). In fact, studies show that LMX is a "key variable in explaining employee attitudes and behaviors" (Erdogan & Enders, 2007, p.327). LMX, as a multidimensional concept, is comprised of underlying dimensions, notably contribution and affect, both having a distinct influence on specific LMX-subordinate-related work outcomes, such as organizational commitment and job satisfaction (Bhal, Gulati, & Ansari, 2009).

LMX theoretical framework also proposes that a high quality relationship between a follower and a leader may prevent employees from leaving their organization (Morrow, Suzuki, Crum, Ruben, & Pautsch, 2005). Additionally, supervisors, in order to achieve high quality LMX must increase employees' commitment and help enhance both self-efficacy and team mean efficacy (Walumbwa, Cropanzano, & Goldman, 2011). Furthermore, communicating consideration, respect and support is also believed to foster higher-quality relationships (Jacques, Garger, Thomas, & Vracheva, 2012). Nonetheless, high-quality LMX often implies that influence and support from the leader go beyond basic requirements (Zacher, Rosing, Henning, & Frese, 2011), leading to a high-quality relationship with expected mutual exchange (Yukl, O'Donnell, & Taber, 2009).

To understand the implications of the relationship between LMX and job outcomes, such as turnover intention and actual turnover, it is therefore important to address both the leader and the member's perceptions of the relationship, which may differ, in order to understand the "true dyadic nature" of the relationship (Sherman, Kennedy, Woodard, & McComb, 2012). In other words, LMX gives a framework for the study of follower's contributions to the relationship. This focus on the interrelation between the follower and the leader, often an employee and his or her manager, helps to understand the outcomes of this relationship.

LMX Quality, Job Satisfaction and Turnover

Not surprisingly, when reviewing existing literature on LMX-job outcomes relationship, the first arguably striking observation is the impressive number of studies that have been carried to understand how LMX relationship quality influences job satisfaction, turnover intention and actual turnover. In fact, it is generally accepted that LMX is linked to job satisfaction (Stringer, 2006). Yet, LMX-job satisfaction relationship is believed to be reciprocal with job satisfaction also potentially affecting the quality of LMX (Volmer, Niessen, Spurk, Linz, & Abele, 2011). Moreover, LMX and turnover are believed to be fully mediated by job satisfaction (Han & Jekel, 2011).

Implicit leadership profile could be regarded as employees' expectations toward their leader (Stock & Özbek-Potthoff, 2014). Employees' perception of differences between this implicit leadership profile, and the actual profile of their leader, is argued to translate into lower quality LMX, thus in turn indirectly affecting employees' attitudes and well-being (Epitropaki & Martin, 2005). On the other hand, being satisfied with one's supervisor is also believed to be associated with lower levels of turnover intention (Vecchio & Norris, 1996). Moreover, the quality of the relationship between an employee and his or her direct supervisor is believed to positively influence work engagement and innovative work behaviour and to be negatively related to turnover intention (Agarwal, Datta, Blake-Beard, & Bhargava, 2012). Accordingly, LMX, as a construct, is proposed to play a critical role in both employee's organizational commitment and their commitment to their career.

Kim, Lee, and Carlson (2010) propose that LMX may be negatively related with turnover intention, regardless of status and position within the organization. However, the relationship between LMX quality and turnover intention seems to be reinforced in the case of individuals with high political skills (Harris, Harris, & Brouer, 2009). Furthermore, Harris, Wheeler, & Kacmar (2009) propose those employees' empowerment acts as a moderator between LMX and outcomes such as job satisfaction, turnover and job performance. Furthermore, the authors

suggest that empowerment level may be negatively correlated with the importance of LMX to the outcomes.

LMX Differentiation, Job Satisfaction and Turnover

LMX differentiation is a critical notion in LMX Theory. It refers to the fact that a leader will develop differentiated and unique relationships with each of his or her followers (Le Blanc & González-Romá, 2012). These varying exchanges (i.e. LMX differentiation) may foster higher or lower levels of LMX among employees, leading to varied consequences (Steiner, 1997). The social environment and perceived comparison between individuals within a group may provide a point of reference for a group member and affect one's perceived LMX relationship with his or her leader (Henderson, Wayne, Shore, Bommer, & Tetrick, 2008).

As proposed by Henderson, Liden, Glibkowski, & Chaudhry (2009), "the influence of organizational-level cultural prescriptions on LMX differentiation patterns is mediated by work group-level cultural norms and values" (p.524). Furthermore, lower mean levels of LMX, in case of high differentiation, may results in a higher rate of conflicts among teammates, by creating competition and problems derived from perceived inequity (Boies & Howell, 2006). As a matter of fact, employees' behaviors are believed to be influenced by their perceived relationship with their leader, in comparison with others within their group (Vidyarthi, Liden, Anand, Erdogan, & Ghosh, 2010).

Furthermore, LMX, as a dyadic and individualized relationship between a follower and a leader, seems to be affected by a number of factors outside of the direct relationship between a follower and a leader (e.g. perceived job alternatives, organizational culture). Accordingly, Harris, Li, & Kirkman (2014) propose that in order to understand the effects of LMX, it is important to not only focus on the dyadic relationship, per se, but also on the context in which these relationships take place. A position also shared by Omilion-Hodges & Baker (2013), who further argue that "while leader–member exchange (LMX) has evolved, a richer understanding continues to evade scholars due to the sustained focus on the leader–member dyad" (p.935).

PERSON-ORGANIZATION FIT (P-O FIT), JOB SATISFACTION AND TURNOVER

P-O Fit-Job Outcomes Framework: Key Components Overview

The fit between individuals and their environments has been extensively studied over decades. One of the main assessment of fit theory is that the initial overall perceived fit between an employee and his or her environment (P-E fit) seem to disembody in many fits over time (e.g. Person-Organization fit, Person-Job fit, Person-Group fit and Person-Person fit), these fits then independently influencing employees potential job outcomes (Edwards & Billsberry, 2010). Person-Environment Fit is therefore a "time-dependent process" (Schmitt, Oswald, Friede, Imus, & Merritt, 2008). Furthermore, fits seem to be constantly influenced by a "dynamic reciprocity" between the environment and the individual (Wille, Beyers, & De Fruyt, 2012). One of these underlying fits, namely person-organization fit (P-O fit), has been defined by Kristof (1996) as "the compatibility between people and organizations that occurs when: (a) at least one entity provides what the other needs, or (b) they share similar fundamental characteristics, or (c) both" (p.4-5). Moreover, P-O fit is known to depend on many intricate factors such as "self-selection, organizational selection, socialization, personal and work experiences, perceptions, personality, attitudes and type of organization" (Nicol, Rounding, & MacIntyre, 2011, p.897). P-O fit is also

argued to be intertwined with numerous behavioral outcomes, to be an important predictor of employee turnover (Hoffman & Woehr, 2006) and to minimize the risk of upcoming conflicts between employees and their organization (Sun, Wang, & Wu, 2008).

P-J Fit and P-O Fit Impact on Job Satisfaction and Turnover

In order to understand the relationship between P-O fit, job satisfaction and turnover, it is important to consider person-environment fit theory as a construct with many underlying dimensions. In this regard, P-O Fit's influence on job outcomes is to be taken has one component of the fit theory; P-J fit also having an impact on the outcomes. P-O Fit and P-J Fit influence on overall job satisfaction and turnover are, therefore, intertwined in the workplace. Sekiguchi & Huber (2011) have described person-job fit as "the assessment of the match between job requirements and qualifications of job candidates in terms of their knowledge, skills, and abilities (KSA's)" (p.203). Both P-J fit and P-O fit are believed to be independently affecting job satisfaction and turnover intentions, having a "unique impact" on these outcomes (Lauver & Kristof-Brown, 2001). The assertion that different fits may simultaneously impact job outcomes also seem to be shared by Boon, Den Hartog, Boselie, & Paauwe (2011), proposing that perceived human resource practices (HR practices), through both perceived P-J fit and P-O fit, impact employees outcomes.

Tak (2011) suggest that a mismatch between a newcomer and his job (P-J fit mismatch) could be related to turnover intentions early on. Nonetheless, it is also argued that these intentions could be intensified, should the individual later realise that his values don't match those of the organization (P-O fit), potentially finally resulting in turnover (Tak, 2011). Accordingly, in the case of a newcomer in an organizational context, Saks & Ashforth (1997), propose that P-O fit could be related to actual turnover whereas P-J fit would be associated with job attitudes. The authors further assess that it is possible to change job, thus making P-J fit variable within the very same organization, in opposition to P-O fit, directly addressing the fit between an individual and the organization.

However, according to Wheeler, Gallagher, Brouer, & Sablynski (2007), P-O fit seems to indirectly influence turnover intentions through job satisfaction. Furthermore, Alniaçik, Alniaçik, Erat, & Akçin, (2013), estimate that P-O fit could have a significant moderating effect on job satisfaction and turnover intention. Moreover, Gregory, Albritton, & Osmonbekov (2010) argue that high P-O fit foster a sense of autonomy and authority over one's work outcomes, leading to job satisfaction and performance. Accordingly, Autry and Daugherty (2003) have suggested that lower levels of job satisfaction are associated with an increase in turnover intention.

P-O Fit as an Early Predictor of Job Satisfaction and Turnover

Not surprisingly, P-O fit literature, in the past years, seems to have focused on the relevance of P-O fit as a predictor of employee's job outcomes, notably potential turnover. However, from a practitioner's perspective concerning job outcomes, P-O fit seems to have been studied largely as a potential decision-making tool in selection. Regardless, Swider, Zimmerman, & Barrick (2014, p.1) state that it seems that "much is known about the outcomes of applicant PO fit with a specific organization at one point in time but a lack of knowledge exists regarding when and how applicants develop and modify these perceptions over the course of recruitment".

Concerning selection process, perceived P-O fit by individuals actively looking for employment is also believed to affect organization's attractiveness (Cable & Judge, 1996).

Perceived P-O fit therefore may influence potential candidate attitudes toward the organization before they even begin the selection process. It is also proposed that pre-hiring interviews could potentially influence perceived P-O fit value congruence of interviewee based mostly on his or her perceptions of interviewer's general behaviors and interview procedures (Kutcher, Bragger, & Masco, 2013). Coldwell, Billsberry, Van Meurs, and Marsh (2008) hypothesize that "misfits between individual ethical orientations and corporate ethical reputations generate negative attitudes and behaviours among potential recruits" (p.620). It thus seems that, from both the candidate's and the recruiters' perspectives, perceived P-O fit can affect the selection process, perhaps even employee job attitudes early on.

McCulloch and Turban (2007) propose that valid P-O fit measures prior to hiring could be used by organizations to estimate turnover risk for candidates. However, Arthur Jr., Bell, Villado, & Doverspike (2006) suggest that P-O fit tests should be used cautiously during selection process (i.e. pre-hiring) as P-O fit does not seem to be directly linked to job performance. This assertion seems to, at least partially, contrast with Gregory, Albritton, & Osmonbekov (2010) proposition that P-O fit could lead to performance through perceived autonomy and authority over work's outcomes. However, Sekiguchi & Huber (2011) propose that a low P-O fit is relatively tolerated during selection process, hypothesizing that P-O fit may have "less legal support" to justify a selection decision than P-J fit.

LMX MEDIATING EFFECT ON P-O FIT-JOB SATISFACTION AND TURNOVER RELATIONSHIP

LMX and P-O Fit: Comparative Overview

Wide arrays of studies on LMX-job outcomes and P-O fit-job outcomes relationships have been conducted. However, little is known on the mechanisms through which LMX and P-O fit combined affect job outcomes and job attitudes. Logically, leaders and/or direct supervisors, embody organization's culture and values to the followers. Even though this statement may seem like common sense, our understanding of the role of LMX on the P-O fit-outcomes is still in its infancy.

Leader-member exchange theory (LMX) and person-organization fit (P-O fit) theory are often independently studied (Jung & Takeuchi, 2014), only very few comparative studies being available. One of the reasons for the lack of comparative studies between LMX and P-O fit, and job outcomes, may be due to the existence of the person-supervisor fit (P-S fit) component of the fit theory. It is proposed that, "in the case of LMX, the emphasis is on the nature of the relationship that develops between leaders and followers not the match of their underlying psychological characteristics" (Kristof-Brown, Zimmerman, & Johnson, 2005, p.287), albeit both theories take a dyadic approach.

Furthermore, Van Vianen (2000) argues that perceived P-O fit of newcomers, in early organizational socialization context, may be influenced by available information about the organization, often given by peers and supervisors. In this regard, Leung & Chaturvedi, (2011, p.399), propose that:

"*An individual's subjective judgment of PO fit is an extrapolation of an indirect assessment of fit which consider individuals' values and their perception of their organization's values, which in turn is influenced by the fit between the perceived organizational values and those espoused by management representatives".*

Leader's Interactive Role in LMX and P-O Fit Relationship with Job Satisfaction and Turnover

Top leaders shape organizations to fit with their own personality and values, by a process of organizational homogenization, in which they surround themselves over time with individuals sharing their own values (Giberson, Resick, & Dickson, 2005). Moreover, value congruence, in P-O fit literature, is believed to be positively related to employee's organizational commitment, thus potentially diminishing turnover intention (Johnson & Jackson, 2009). Followers and leaders in LMX theory, as a reciprocal and dyadic relationship, tend to adjust their behaviors, to an extent, in order to meet each other's expectations about the relationship (Chen, Wang, Chang, & Hu, 2008). In other words, leaders try to maintain individuals with perceived value congruence in the organization, while employee's perception of value congruence with the organization is an incentive to stay within the organization. This may create homogenization over time within the workforce. However, it is suggested that the level of trust in direct supervisors affects employees' level of trust toward senior management (Kannan-Narasimhan & Lawrence, 2012).

Furthermore, followers are more likely to embrace their leader's goals when they are perceived as congruent with organization's priorities (Krishnan, 2002). Similarity between employee and supervisor's moral values is also suggested to have a positive influence on their relationships (Dose, 1999).

Perceived supervisor support (PSS) may influence, over time, perceived organizational support (POS) (Eisenberger, Stinglhamber, & Vandenberghe, 2002). However, it is also argued that when employees feel supported by their organization, they will likely become more attentive to supervisor and organization's objectives, through a sense of felt obligation toward management (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). This felt obligation may be reinforced, should employees favorably perceive organization's valuation of them, through discretionary actions (i.e. actions taken without external constraints) (Eisenberger, Cummings, Armeli, & Lynch, 1997). Moreover, employees are believe to go seek organizational support when supervisor's support is perceived as lacking, a minimum of support being necessary in the workplace, in order to avoid risk of turnover (Maertz, Griffeth, Campbell, & Allen, 2007). Furthermore, the relationship between P-O fit and job outcomes is indirectly influenced by perceived social exchange, P-O fit and perceived social exchange being moderated by LMX quality (Kim, Aryee, Loi, & Kim, 2013). Supervisors play a non-negligible role in building bridges between employees and organizations. For this reason, we propose that more research should be done on the relationship between LMX and P-O fit in regards to job outcomes, the absence of data presently being an important shortcoming in both LMX and P-O fit literature.

LMX Authenticity Impact on P-O Fit-Job Satisfaction and Turnover Relationship

Individuals' subjective P-O fit may be based on complementary or supplementary characteristics, either by adding complementary features to organization's environment as a whole or having similar characteristics to the said environment (Piasentin & Chapman, 2007). Both supplementary and complementary components being associated individually with increased overall P-O fit (Yu-qin, 2011). Furthermore, both sharing similarities and differences with co-worker and work environment in general may foster organizational commitment

(Mehtap & Alnıaçık, 2014). Overall, it seems that individuals in the workplace tend to prefer to work in a surrounding where they can be themselves (Tett & Murphy, 2002).

Authenticity in the follower-leader relationship is also believed to be influenced by personal histories and antecedents of both followers and leaders (Hinojosa, McCauley, Randolph-Seng, & Gardner, 2014). Leader's support may be a key component for followers during stressful situations (Hinojosa, McCauley, Randolph-Seng, & Gardner, 2014). Accordingly, authenticity at work, or the possibility to work in line with one's personal values and beliefs, is negatively related to stress and positively related to well-being and outcomes associated to it, such as work engagement and job satisfaction (Bosch & Taris, 2014).

However, trust toward leader is of the utmost importance when inquiring into the dyadic relationship between followers and a leader, namely in what has been referred to by Liborius (2014) as "the worthiness of being followed" (WBF). Employees' trust in their supervisor is also believed to promote motivation and engagement, while the level of trust in supervisor is influenced by perceived authenticity of leader, among other things, through consistency between words and actions (Wang & Hsieh, 2013).

LMX as a Mediator of P-O Fit-Job Satisfaction, Turnover Relationship

We have pointed out that LMX relationship may influence perceived P-O fit of employees, and thus have an impact on job outcomes associated with perception of fit with organization. Although operating under different frameworks, both theories seem to be interactive in the workplace. Moreover, our general proposition seems to be in partial accordance with one of the few research combining both LMX and P-O fit theory with job outcomes. In fact, Jung & Takeuchi (2014) reported:

"*employees who had a low quality of LMX with their immediate superiors and who were in a 'weak' situation in the workplace tended to demonstrate a strong relationship between P–O fit and job satisfaction, while those with a high quality of LMX, who were thus in a 'strong' situation in the workplace, tended to show a weak relationship between P–O fit and job satisfaction*" (p.36).

In the light of this review, we propose that LMX quality is linked to P-O fit's impact on job satisfaction, turnover intention and actual turnover, acting as a mediator of this relationship. Very few studies seem to have incorporated both LMX and P-O fit literature. Theoretical findings however partially support Jung & Takeuchi (2014) empirical observations, while few other articles seem to have incorporated both LMX and P-O fit in a comparative study regarding job outcomes. Present knowledge about both frameworks indicates LMX as a possible mediator of the P-O fit-job satisfaction, turnover relationship.

Toward a comprehensive model of P-O fit and LMX intertwined dynamics in the workplace

As aforementioned, leadership is one of the most studied subjects in business literature. Although traditional research tends to focus on the leaders (Meindl, 1995), LMX has become an interesting alternative path into understanding the relationship between leadership and job outcomes (Gerstner & Day, 1997). Academics, to this day, do not seem to have reached a consensus on how to define followership (Crossman & Crossman, 2011). However, LMX, as a key theory in followership research, suggests that leaders develop dyadic and unique

relationships with their followers (Harris, Li, & Kirkman, 2014), thus influencing their attitudes and behaviors in the workplace (Vidyarthi, Liden, Anand, Erdogan, & Ghosh, 2010). Albeit a growing focus on LMX's importance pertaining to job outcomes, few studies seem to have taken into account how LMX may also help shape followers' perceptions of their organization. Yet, some researchers suggest that, to the employees, supervisors are perceived as daily reprentatives of head management (Eisenberger, Stinglhamber, & Vandenberghe, 2002).

Our understanding of the relationship between P-O fit and LMX in is still in its infancy. While it is proposed that employes assess perceived fit based on organizational values (Tak, 2011), it is still unclear how exactly direct supervisors, as perceived by the employees, may help shape these perceptions. While both LMX and P-O fit litterature independently suggest a linkage between the two theories, very few studies, to our knowledge, have incorporated both frameworks, in order to provide a comprehensive model.

The reason why both frameworks are so often independently studied in regards to job outcomes could reside in the fact that they seem to have each been originally designed to offer a comprehensive model on their own. However, supervisors seem to embody, to an extent, the organisation in the eye of the employees. We therefore propose this article as not only a comprehensive review of both P-O fit and LMX relationships with job outcomes, but also as a theoretical basis for future research pertaining to the possible mediating influence of LMX in the P-O fit-job outcomes relationship.

DISCUSSION AND CONCLUSION

LMX and P-O fit's relationships with job satisfaction, turnover intention and actual turnover are independently largely studied. However, few scholars have tried to combine both frameworks in order to comprehend the intertwined dynamics of those two theories in the workplace. Work environment is composed of many intricate mechanisms potentially influencing employees' attitudes and behaviors. In furtherance of Jung & Takeuchi (2014) empirical study, we propose that both LMX and P-O fit are too considered in order to understand employees' overall job satisfaction, turnover intention and actual turnover. Our comparative review of both frameworks leads us to believe that leader's influence may affect job outcomes not only by his or her relationship with a follower (LMX), but also by the potential impact of this relationship on employees' perceived fit with the organization (P-O fit). We propose that, from a follower's perspective, LMX quality may be associated with perceived organizational fit, direct supervisors embodying organization to the followers.

From an academic standpoint, we inquire that further researches combining LMX and P-O fit frameworks could be done. Both theories are largely independently studied. However, as stated by Harris, Li, & Kirkman (2014) and Omilion-Hodges & Baker (2013), social context needs to be taken into account when inquiring into the LMX relationship with job outcomes. It is still unclear if LMX and P-O fit compensate each other's in regard to job satisfaction, turnover intention and actual turnover, our review only pointing out at LMX as a possible mediator of P-O fit-job satisfaction turnover relationship. However, it is clear that both these dimensions of employee's environment have an interactive role in the workplace.

From a practitioner's perspective, our theoretical findings suggest that direct supervisor's relationship with employees may have a non-negligible impact on how employees perceive their organization. These perceptions may translate in shift of attitudes and behaviors, thus potentially being directly related to job outcomes, namely job satisfaction, turnover intention and actual

turnover. Direct supervisors are, to an extent, daily representatives of head management. We propose that values and behaviors transmitted by direct supervisors are perceived as a reflection of organizational values, to the face of employees. Our theoretical results suggest that focusing on leader's relationship quality with employees may therefore influence employees' perceptions of their organization, thus influencing job outcomes.

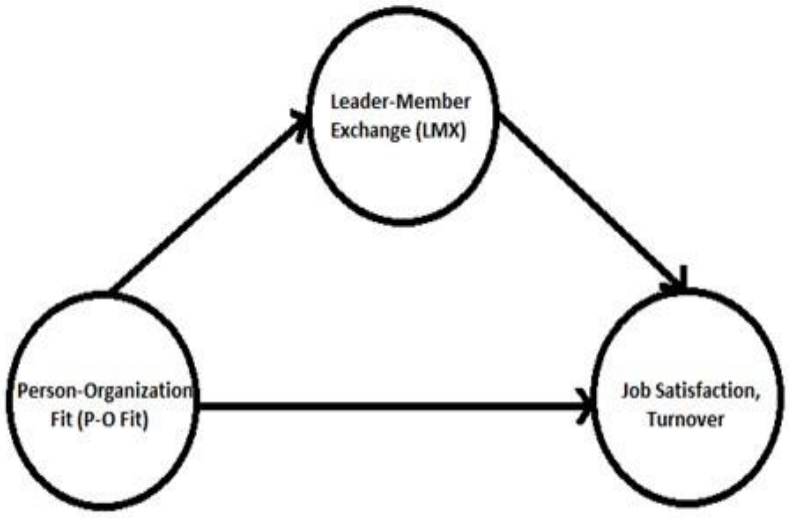
LIMITATIONS

Some limitations need to be taken into account when questioning the outcomes proposed in this article. As a comparative and exploratory review of the principles inherent to both LMX and P-O fit theories, this article is mostly based on theoretical assumptions. The first limitation therefore comes from the lack of empirical evidences to defend some of our hypothesis. We think that future research should empirically test our propositions; in order to validate or refute what has been advanced in this paper.

The second limitation, despite our best efforts to bring an exhaustive review of the principles of both LMX and P-O fit theories, is that that some elements of literature may be missing. Combining both LMX and P-O fit brings a massive amount of literature, and thus, it is possible that some key components of literature concerning the theoretical influence of LMX and P-O fit on outcomes may not have been analysed properly.

The last significant limitation of this study comes from its exploratory nature. We acknowledge that this article is largely exploratory. Some propositions, based on comparative theoretical assumptions, may be refuted in short term by empirical observations. Working with two different frameworks may also lead to contradictions, albeit our best efforts to make coherent hypothesis.

Figure 1
PROPOSED MODEL



REFERENCES

Agarwal, U. A., Datta, S., Blake-Beard, S., & Bhargava, S. (2012). Linking LMX, innovative work behaviour and turnover intentions. *Career Development International, 17(3)*, 208-230.

Alniaçik, E., Alniaçik, Ü., Erat, S., & Akçin, K. (2013). Does person-organization fit moderate the effects of affective commitment and job satisfaction on turnover intentions? *Social and Behavioral Sciences, 99*, 274-281.

Arthur Jr., W., Bell, S. T., Villado, A. J., & Doverspike, D. (2006). The use of Person-Organization Fit in Employment Decision Making: An Assessment of Its Criterion-Related Validity. *Journal of Applied Psychology, 91(4)*, 786-801.

Autry, C. W., & Daugherty, P. (2003). Warehouse Operations Employees: Linking Person-Organisation Fit, Job Satisfaction, and Coping Responses. *Journal of Business Logistics, 24(1)*, 171-197.

Bhal, K. T., Gulati, N., & Ansari, M. (2009). Leader-member exchange and subordinate outcomes: test of a mediation model. *Leadership & Organization Development Journal, 30(2)*, 106-125.

Boies, K., & Howell, J. (2006). Leader-member exchange in teams: An examination of the interaction between relationship differentiation and mean LMX in explaining team-level outcomes. *The Leadership Quarterly, 17(3)*, 246-257.

Boon, C., Den Hartog, D., Boselie, P., & Paauwe, J. (2011). The relationship between perceptions of HR practices and employee outcomes: examining the role of person–organisation and person–job fit. *The International Journal of Human Resource Management, 22(1)*, 138-162.

Bosch, R. v., & Taris, T. (2014). Authenticity at Work: Development and Validation of an Individual Authenticity Measure at Work. *Journal of Happiness Studies, 2014, 15(1)*, 1-18.

Cable, D. M., & Judge, T. (1996). Person-Organization Fit, Job Choice Decisions, and Organizational Entry. *Organizational Behavior and Human Decision Processes, 67(3)*, 294-311.

Chen, C.-H. V., Wang, S.-J., Chang, W.-C., & Hu, C.-S. (2008). The Effect of Leader-Member Exchange, Trust, Supervisor Support on Organizational Citizenship Behavior in Nurses. *Journal of Nursing Research, 16(4)*, 321-328.

Coldwell, D. A., Billsberry, J., Van Meurs, N., & Marsh, P. (2008). The Effects of Person-Organization Ethical Fit on Employee Attraction and Retention: Towards a Testable Explanatory Model. *Journal of Business Ethics, 78*, 611-622.

Crossman, B., & Crossman, J. (2011). Conceptualising followership-a review of the literature. *Leadership, 7(4)*, 481–497.

Dose, J. J. (1999). The Relationship Between Work Values Similarity and Team-Member and Leader-Member Exchange Relationships. *Group Dynamics: Theory, Research, and Practice, 3(1)*, 20-32.

Edwards, J. A., & Billsberry, J. (2010). Testing a Multidimensional Theory of Person-Environment Fit. *Journal of Managerial Issues, 22(4)*, 476-493.

Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P., & Rhoades, L. (2001). Reciprocation of Perceived Organizational Support. *Journal of Applied Psychology, 86(1)*, 42-51.

Eisenberger, R., Cummings, J., Armeli, S., & Lynch, P. (1997). Perceived Organizational Support, Discretionary Treatment, and Job Satisfaction. *Journal of Applied Psychology, 82(5)*, 812-820.

Eisenberger, R., Stinglhamber, F., & Vandenberghe, C. (2002). Perceived Supervisor Support: Contributions to Perceived Organizational Support and Employee Retention. *Journal of Applied Psychology, 87(3)*, 565-573.

Epitropaki, O., & Martin, R. (2005). From Ideal to Real: A Longitudinal Study of the Role of Implicit Leadership Theories on Leader–Member Exchanges and Employee Outcomes. *Journal of Applied Psychology, 90(4)*, 659-676.

Erdogan, B., & Enders, J. (2007). Support From the Top: Supervisors' Perceived Organizational Support as a Moderator of Leader–Member Exchange to Satisfaction and Performance Relationships. *Journal of Applied Psychology, 92(2)*, 321-330.

Gerstner, C. R., & Day, D. (1997). Meta-Analytic Review of Leader-Member Exchange Theory: Correlates and Construct Issues. *Journal of Applied Psychology, 82(6)*, 827-844.

Giberson, T. R., Resick, C., & Dickson, M. (2005). Embedding Leader Characteristics: An Examination of Homogeneity of Personality and Values in Organizations. *Journal of Applied Psychology, 90(5)*, 1002-1010.

Gregory, B. T., Albritton, D., & Osmonbekov, T. (2010). The Mediating Role of Psychological Empowerment on the Relationships between P-O Fit, Job Satisfaction and In-role Performance. *Journal of Business Psychology, 25*, 639-647.

Han, G. H., & Jekel, M. (2011). The mediating role of job satisfaction between leader-member exchange and turnover intentions. *Journal of nursing management, 19(1)*, 41-49.

Harris, K. J., Harris, R., & Brouer, R. (2009). LMX and Subordinate Political Skill: Direct and Interactive Effects on Turnover Intentions and Job Satisfaction. *Journal of Applied Social Psychology, 39(10)*, 2373-2395.

Harris, K. J., Wheeler, A., & Kacmar, K. (2009). Leader-member exchange and empowerment: Direct and interactive effects on job satisfaction, turnover intentions, and performance. *The Leadership Quarterly, 20*, 371-382.

Harris, K. J., Wheeler, A., & Kacmar, K. (2011). The mediating role of organizational job embeddedness in the LMX-outcomes relationships. *The Leadership Quarterly, 22(2)*, 271-281.

Harris, T. B., Li, N., & Kirkman, B. (2014). Leader-member exchange (LMX) in context: How LMX differentiation and LMX relational separation attenuate LMX'S influence on OCB and turnover intention. *The Leadership Quarterly, 25(2)*, 314-328.

Henderson, D. J., Liden, R., Glibkowski, B., & Chaudhry, A. (2009). LMX differentiation: A multilevel review and examination of its antecedents and outcomes. *The Leadership Quarterly, 20*, 517-534.

Henderson, D. J., Wayne, S., Shore, L., Bommer, W., & Tetrick, L. (2008). Leader-Member Exchange, Differentiation, and Psychological Contrat Fullfillment: A Multilevel Examination. *Journal of Applied Psychology, 93(6)*, 1208-1219.

Hinojosa, A. S., McCauley, K., Randolph-Seng, B., & Gardner, W. (2014). Leader and follower attachment styles: Implications for authentic leader–follower relationships. *The Leadership Quarterly, 25(3)*, 595-610.

Hoffman, B., & Woehr, D. (2006). A quantitative review of the relationship between person–organization Wt and behavioral outcomes. *Journal of Vocational Behavior, 68*, 389-399.

Jacques, P. H., Garger, J., Thomas, M., & Vracheva, V. (2012). Effects of early Leader-Member Exchange perceptions on academic outcomes. *Learning Environments Research, 15(1)*, 1-15.

Johnson, R. E., & Jackson, E. (2009). Appeal of organizational values is in the eye of the beholder: The moderating role of employee identity. *Journal of Occupational and Organizational Psychology, 82(4)*, 915-933.

Jung, Y., & Takeuchi, N. (2014). Relationships among leader–member exchange, person–organization fit and work attitudes in Japanese and Korean organizations: testing a cross-cultural moderating effect. *The International Journal of Human Resource Management, 25(1)*, 23-46.

Kannan-Narasimhan, R., & Lawrence, B. (2012). Behavioral Integrity: How Leader Referents and Trust Matter to Workplace Outcomes. *Journal of Business Ethics, 111(2)*, 165-178.

Kim, B. P., Lee, G., & Carlson, K. D. (2010). An examination of the nature of the relationship between Leader-Member-Exchange (LMX) and turnover intent at different organizational levels. *International Journal of Hospitality Management, 29(4)*, 591-597.

Kim, T.-Y., Aryee, S., Loi, R., & Kim, S.-P. (2013). Person–organization fit and employee outcomes: test of a social exchange model. *The International Journal of Human Resource Management, 24(19)*, 3719-3737.

Krishnan, V. R. (2002). Transformational Leadership and Value System Congruence. *International Journal of Value-Based Management, 15(1)*, 19-33.

Kristof, A. L. (1996). Person-Organization Fit: An Integrative Review of its Conceptualizations, Measurement, and Implications. *Personnel Psychology, 49(1)*, 1-49.

Kristof-Brown, A. L., Zimmerman, R., & Johnson, E. (2005). Consequences of Individuals' Fit at Work: A Meta-Analysis of Person-Job, Person-Organisation, Person-Group, and Person-Supervisor Fit. *Personnel Psychology, 58*, 281-342.

Kutcher, E. J., Bragger, J., & Masco, J. (2013). How Interviewees Consider Content and Context Cues to Person–Organization Fit. *International Journal of Selection and Assessment, 21(3)*, 294-308.

Lauver, K. J., & Kristof-Brown, A. (2001). Distinguishing between Employees' Perceptions of Person-Job and Person-Organization Fit. *Journal of Vocational Behavior, 59*, 454-470.

Le Blanc, P. M., & González-Romá, V. (2012). A team level investigation of the relationship between Leader-Member Exchange (LMX) differentiation, and commitment and performance. *The Leadership Quarterly, 23(3)*, 534-544.

Leung, A., & Chaturvedi, S. (2011). Linking the fits, fitting the links: Connecting different types of POfit to attitudinal outcomes. *Journal of Vocational Behavior, 79(2)*, 391-402.

Liborius, P. (2014). Who Is Worthy of Being Followed? The Impact of Leaders' Character and the Moderating Role of Followers' Personality. *The Journal of Psychology: Interdisciplinary and Applied, 148(3)*, 347-385.

Maertz, C. P., Griffeth, R. W., Campbell, N. S., & Allen, D. G. (2007). The effects of perceived organizational support and perceived supervisor support on employee turnover. *Journal of Organizational Behavior, 28*, 1059-1075.

Mardanov, I. T., Maertz, Jr, C., & Sterrett, J. (2008). Leaer-Member Exchange and Job Satisfaction. *Journal of Leadership Studies, 2(2)*, 63-82.

McCulloch, M. C., & Turban, D. (2007). Using Person–Organization Fit to Select Employees for High-Turnover Jobs. *International Journal of Selection and Assessment, 15(1)*, 63-71.

Mehtap, Ö., & Alnıaçık, E. (2014). Can dissimilar be congruent as well as the similar? A study on the supplementary and complementary fit. *Procedia - Social and Behavioral Sciences, 150*, 1111-1119. Meindl, J. R. (1995). The Romance of Leadership as a Follower-Centric Theory: A Social Constructionnist Approach. *The Leadership Quarterly, 6(3)*, 329-341.

Morrow, P. C., Suzuki, Y., Crum, M., Ruben, R., & Pautsch, G. (2005). The role of leader-member exchange in high turnover work environments. *Journal of Managerial Psychology, 20(8)*, 681-694.

Nicol, A. A., Rounding, K., & MacIntyre, A. (2011). The impact of Social Dominance Orientation and Right-Wing Authoritarianism on the relation between Person–Organization fit with commitment, satisfaction, and turnover intentions. *Personality and Individual Differences, 51*, 893-898.

Omilion-Hodges, L. M., & Baker, C. (2013). Contextualizing LMX within the workgroup: The effects of LMX and justice on relationship quality and resource sharing among peers. *The Leadership Quarterly, 24(6)*, 935-951.

Piasentin, K. A., & Chapman, D. (2007). Perceived similarity and complementarity as predictors of subjective person-organization fit. *Journal of Occupational and Organizational Psychology, 80*, 341-354.

Saks, A. M., & Ashforth, B. (1997). A Longitudinal Investigation of the Relationships between Job Information Sources, Applicant Perceptions of Fit, and Work Outcomes. *Personnel Psychology , 50(2)*, 395-426.

Schmitt, N., Oswald, F., Friede, A., Imus, A., & Merritt, S. (2008). Perceived fit with an academic environment: Attitudinal and behavioral outcomes. *Journal of Vocational Behavior, 72(3)*, 317-335.

Sekiguchi, T., & Huber, V. (2011). The use of person-organization fit and person-job fit information in making selection decisions. *Organizational Behavior and Human Decision Processes, 116(2)*, 203-216.

Sherman, K. E., Kennedy, D., Woodard, M., & McComb, S. (2012). Examining the "Echange" in Leader-Member Exchange. *Journal of Leadership & Organizational Studies, 19(4)*, 407-423.

Steiner, D. D. (1997). Attributions in Leader Member Exchanges: Implications for Practice. *European Journal of Work and Organizational Psychology, 6(1)*, 59-71.

Stock, R. M., & Özbek-Potthoff, G. (2014). Implicit leadership in an intercultural context: theory extension and empirical investigation. *The International Journal of Human, 25(12)*, 1651-1668.

Stringer, L. (2006). The Link Between the Quality of the Supervisor-Employee Relationship and the Level of the Employee's Job Satisfaction. *Public Organization Review, 6(2)*, 125-142.

Sun, J., Wang, Z., & Wu, S. (2008). Person-Organization Fit: Validation of Three Type Model and its Relations with Individuals' Outcome. *2008 4th International Conference on Wireless Communications, Networking and Mobile Computing*, 1-5.

Swider, B. .., Zimmerman, R., & Barrick, M. (2014). Searching for the Right Fit: Development of Applicant Person-Organization Fit Perceptions During the Recruitment Process. *Journal of Applied Psychology*, 1-14.

Tak, J. (2011). Relationships between various person-environment fit types and employee withdrawal behavior: A longitudinal study. *Journal of Vocational Behavior, 78(2)*, 315-320.

Tett, R. P., & Murphy, P. (2002). Personality and Situations in Co-Worker Preference: Similarity and Complementarity in Worker Compatibility. *Journal of Business and Psychology, 17(2)*, 223-243.

Van Vianen, A. E. (2000). Person-Organization Fit: The Match between Newcomers' and Recruiters' Preferences for Organizational Cultures. *Personnel Psychology, 53(1)*, 113-149.

Vecchio, R. P., & Norris, W. (1996). Predicting Employee Turnover from Performance, Satisfaction, and Leader-Member exchange. *Journal of Business and Psychology, 11(1)*, 113-125.

Vidyarthi, P. R., Liden, R., Anand, S., Erdogan, B., & Ghosh, S. (2010). Where Do I Stand? Examining the Effects of Leader-Member Exchange Social Comparison on Employee Work Behaviors. *Journal of Applied Psychology, 2010, 95(5)*, 849-861.

Volmer, J., Niessen, C., Spurk, D., Linz, A., & Abele, A. (2011). Reciprocal Relationships between Leader-Member Exchange (LMX) and Job Satisfaction: A Cross-Lagged Analysis. *Applied Psychology: An International Review, 60(4)*, 522-545.

Walumbwa, F. O., Cropanzano, R., & Goldman, B. (2011). How Leader-Member Exchange Influences Effective Work Behaviors: Social Exchange and Internal-External Efficacy Perspectives. *Personnel Psychology, 64,* 739-770.

Wang, D.-S., & Hsieh, C.-C. (2013). The Effect of Authentic Leadership on Employee Trust and Employee Engagement. *SOCIAL BEHAVIOR AND PERSONALITY, 41(4),* 613-624.

Wheeler, A. R., Gallagher, V., Brouer, R., & Sablynski, C. (2007). When person-organization (mis)fit and (dis)satisfaction lead to turnover: The moderating role of perceived job mobility. *Journal of Managerial Psychology, 22(2),* 203-219.

Wille, B., Beyers, W., & De Fruyt, F. (2012). A transactional approach to person-environment fit: Reciprocal relations between personality development and career role growth across young to middle adulthood. *Journal of Vocational Behavior, 81(3),* 307-321.

Yukl, G., O'Donnell, M., & Taber, T. (2009). Influence of leader behaviors on the leader-member exchange relationship. *Journal of Managerial Psychology, 24(4),* 289-299.

Yu-qin, X. (2011). The Content of Person-Organization Fit: A Multidimensional Framework. *2011 International Conference on Management Science & Engineering 18th Annual Conference Proceedings,* 483-488.

Zacher, H., Rosing, K., Henning, T., & Frese, M. (2011). Establishing the Next Generation at Work: Leader Generativity as a Moderator of the Relationships Between Leader Age, Leader-Member Exchange, and Leadership Success. *Psychology and Aging, 26(1),* 241-252.

HAS SWOT OUTLIVED ITS USEFULNESS?

Michael D. Meeks, Louisiana State University

ABSTRACT

SWOT has been a cornerstone of strategic management analysis since first introduced by Ken Andrews in 1964. SWOT has also been widely adopted by other disciplines such as Marketing and Decision Sciences. It is argued in this paper that SWOT has outlived its usefulness because it was developed as a static "fit" model at a time when market conditions remained relatively stationary for long periods of time. Such a model is inappropriate for our current dynamic marketplace, and should only be used as a cursory tool for elementary or preliminary analysis, and then only when its limitations are fully understood.

Utilizing a triangulated study, data is collected from published text books, focus groups, interviews, and an online survey to examine SWOT's origins, evolution, advances, and criticisms. Findings reveal that despite SWOT's shortcomings, authors and instructors continue to promote SWOT as a keystone of strategic management and planning. The author recommends abandoning SWOT altogether except in the most elementary and preliminary analyses, and then only to inform more extensive and appropriate strategy analytics.

INTRODUCTION

Strategic planning has been shown to lead to improved firm performance (Prahalad and Hamel, 1990; Miller and Cardinal, 1994; Christensen, 2001) and SWOT has become a foundational methodology of strategic analyses (Mintzberg, Ahlstrand, and Lampel, 1998). SWOT analysis is a tool commonly used to identify and examine a company's Strengths and Weaknesses, as well as the Opportunities and Threats present in the firm's environment. Everett (2014: 61) found that "SWOT was cited over 2100 times in academic journals between January 2000 and March 2014," that a "Google search on the term SWOT Analysis produced over 3 million hits!" and that "98.8% of all mentions of SWOT in the literature have been made since the year 2000." Henry Mintzberg et al. (1998: 28) when referring to strategic management submit that "most standard textbooks continue to use the SWOT model as their centerpiece." A survey of Strategic and Competitive Intelligence Professionals found SWOT analysis to be the third-most widely used intelligence analytic technique, surpassed only by competitor profiling and financial analysis (Fehringer, 2007). Clearly, SWOT continues to remain popular.

Criticisms abound when it comes to SWOT. Dating back to Porter (1981: 610), a major criticism of SWOT is its lack of help in identifying and assessing the SWOT components, arguing this is "left to the practitioner." Piercy and Giles (1989: 5) conclude "SWOT analysis has suffered from familiarity breeding contempt and that the technique is normally used very badly and to little effect." While some authors argue that SWOT's power for strategic analysis lies in its simplicity and clarity (Coman and Ronen, 2009), others suggest the downfall of SWOT is its lack of clearly defined application tools (Hill and Westbrook, 1997; Valentin, 2001). Pickton and Wright (1998: 101) argue "If used simplistically, the SWOT framework is a 'naive' tool which may lead to strategic errors." In 'high-velocity' environments, strategic decisions must be made

swiftly. In the absence of data or prior precedent (Eisenhardt, 1989), and SWOT's focus on a current static picture and its objective to fit an organization to its current environment, SWOT is ineffective in times of change. Everett (2014: 58) finds "…a major problem with SWOT Analysis is that the texts used in business schools to teach this tool are, with a couple of exceptions, either insufficient in their presentation of SWOT or just plain wrong!" Finnegan (2010), surveying more than 100 managers found substantial distrust in SWOT. Fleisher and Bensoussan (2002) evaluated twenty-four strategy analytics and ranked SWOT poorly.

Origins of SWOT

Kenneth Andrews, a Harvard Business School policy professor, is correctly credited with formulating and developing SWOT in the early 1960s (Hofer, 2015), and published in the *Business Policy: Text and Cases* book by Learned, Christensen, Andrews, and Guth (1965). Andrews and his coauthors (Learned et al., 1965: 20) suggest the principal subactivities when deciding strategy, "…include identifying opportunities and threats in the company's environment and… [appraising] the company's strengths and weaknesses… which results from a matching of opportunity and corporate capability." The writings of Mintzberg et al. (1998) highlight Andrews' early impact on what Mintzberg (1990) refers to as the "Design School" of strategy, which holds SWOT as its cornerstone (Ansoff, 1991).

For many, however, the actual origins of SWOT remain somewhat a mystery. Some argue incorrectly (Hofer, 2015) that Albert Humphrey, a Stanford professor, developed SWOT in the 1960s, although there appears to be no evidence to support this claim (Friesner, 2014). Panagiotou (2003) argues SWOT actually began in the early 1950s with Harvard professors Roland Christensen and George Smith Jr. and their investigations into how firms tie their strategies to their environments. Andrews was not only a colleague to Christensen at Harvard, but they coauthored several Business Policy texts, and the sharing, nurturing, and melding of intellectual concepts during that period is understandable (Hofer, 2015). By the early 1960s, it was common practice in business policy classrooms to examine how an organization's strengths and weaknesses fit the opportunities and threats found in the environment (Learned et al., 1965). In 1963, during a business policy conference at Harvard, "SWOT was widely discussed and seen as a major advance in strategic thinking" (Panagiotou, 2003: 8), with the SWOT conversation at that conference lead by Andrews (Hofer, 2015). Although the Harvard Business School faculty did address "fit" in the 1950s and early 1960s, it was Andrews who actually tied "fit" to the SWOT model (Hofer, 2015).

Several authors have published improvements to SWOT over the years (e.g. Houben, Lenie, and Vanhoof, 1999; Brown, Bush, and Norberg, 2001; Agarwal, Grassl, and Pahl, 2012), but for the most part it remains the same vague and simplistic overview of a firm and its environment that was proposed back in the 1960s. While simplicity is often beneficial, critics argue SWOT fails to offer the return needed to justify the investment in resources and time (Panagiotou, 2003).

SWOT: A Fit Model

SWOT is undeniably a "fit" model (Learned et al., 1965), suggesting the better an organization can align its internal strengths and weaknesses to an environment's opportunities and strengths, the greater probability for organizational success or improved performance (Venkatraman and Prescott, 1990; Zajac, Kraatz, and Bresser, 2000; Garlichs, 2011). The key is

not individual strengths, weaknesses, opportunities, or threats, but rather how well the organization fits the current marketplace. Fit then reigns supreme in this analytical equation. Beer, Voelpel, Leibold and Tekie (2005: 447) extend the concept of fit, arguing "[o]rganizational fit suggests that for an organization to perform effectively, its business strategy must be aligned with its environment, its organizational capabilities with its strategy, its organizational design and culture with its capabilities, and its leadership behavior with its organization design." Venkatraman, (1989; 1990) argues that fit is classified as reductionistic with matching, moderation, and mediation perspectives, or as holistic with gestalts, covariation, and profile deviation perspectives. Each of these perspectives is likely to result in much different outcomes when adopting or utilizing SWOT. More importantly, lack of clarifying a specific perspective, or having SWOT team participants conversing while holding different and undisclosed perspectives can not only derail efforts and lead to shoddy results, but can frustrate and alienate organizational participants and members.

To enhance fit, once environmental opportunities and threats are accurately identified, organizational actors may then assign resources and allocate time to the pursuit of reinforcing strengths and correcting for weaknesses. A challenge with such an undertaking is that the process takes time, and during this time, particularly in hypercompetitive or highly dynamic environments, the marketplace to which we are attempting a better fit, changes. In essence, while an organization has identified a target and is assigning resources in such a way to ensure a perfect strike on that target, the target moves.

Applying the same argument made by D'Aveni (1994) suggesting that sustainable competitive advantage is simply no longer possible because of the now rapidly changing nature of the marketplace, SWOT, as a static fit model, is ineffective. From a historical perspective, SWOT can provide analysts explanations as to past market behavior and organizational performance, but cannot effectively provide a forward-looking analytic lens. Unfortunately, strategic leaders and members of top management teams in today's highly dynamic environment must be more concerned with capitalizing on incipient or currently unforeseen future opportunities.

In regard to fit, researchers and practitioners must strive to more clearly conceptualize and better operationalize the construct (Venkatraman, 1989; Drazin and Van de Ven, 1985), and to design their analyses around issues arising from underlying assumptions of fit. SWOT, like many other popular theories and models, are "…at their core, even more complex and unresolved systems of contingency propositions" (Drazin and Van de Ven, 1985). With appropriate conceptualization in hand, strategists need to forward orient the process, anticipating changes and future states and opportunities. Inadequate attention to conceptual awareness and precision, and to the specifying the form of fit may seriously exacerbate the problem (Drazin and Van de Ven, 1985).

Wayne Gretzky, considered by many the best hockey player in history, when asked to what he attributes his success is reported as responding, "While others skated after the puck, I always skated toward where the puck was going to be." The ability to anticipate the future is crucial in today's hypercompetitive landscape – a firm must possess the ability to adapt to rapidly evolving circumstances (D'Aveni, 1994). "Success in dealing with rapidly changing environments is not solely about an organization aiming to align its strategy with its environment, and its design, culture and leadership with its strategy (fit), but also about its ability to learn and adapt to changing circumstances (fitness)" (Beer et al, 2005:447). Unfortunately,

SWOT was not designed to apply under these conditions of uncertainty and accelerated change, nor it is a fitness model.

Conceptualization Challenge: Internal versus External

SWOT's simplicity, while providing cognition and efficiency benefits, may also prove a limitation because those using the tool may over-embrace its simplistic nature and overlook or fail to understand the true "fit" underpinnings of SWOT. In doing so, opportunities or threats may mistakenly be identified as internal components; similarly, strengths or weaknesses incorrectly identified as external to the organization. Not only does this confound and compromise the analysis, but it may also send a clear signal of incompetence to those with SWOT expertise. Such a signal to critical stakeholders may seriously undermine or derail a strategic planning initiative, and possibly worse, permanently damage an individual's or a firm's credibility and reputation. Due to the ubiquity of social media and other online network technologies, such damage may be immediate, irreversible, and far-reaching.

Today versus Tomorrow

At its very core, strategic planning is a forward thinking process (Learned et al., 1965). It serves as a means to cognitively engage the future by identifying our future goals and objects, and then problem solving our path back to the present. SWOT, on the other hand, is mired in today's snapshot in time. A SWOT analysis, by its very nature, focuses on the current environment while strategic planning endeavors to imagine the future (Mintzberg, 1994). Focusing on current opportunities and threats in the marketplace and addressing fit of an organization's current strengths and weaknesses places an unnecessary and possibly insurmountable burden on the overall process. SWOT analysis may etch a detrimental stagnant cognitive image into the minds of those involved in the necessarily forward looking strategic planning process.

A Static Model in Dynamic Environments

The global marketplace has transitioned in overall nature from agrarian, to industrial, to informational, and now to a knowledge-based system where firms acquire, create, integrate, apply, and disseminate knowledge (Grant, 1996a, 1996a; Nelson and Winter, 1982), and change is coming at an accelerated pace (D'Aveni, 1994; Wiggins and Ruefli, 2005; Pascale, 1999), particularly in high velocity environments (Brown and Eisenhardt, 1997). Some argue that in today's rapidly changing environment, knowledge is the fundamental factor driving continuous competitive advantage (Drucker, 1993; Reich, 1992). Powell and Snellman (2004: 215) document through patent data, the transition from a marketplace "based on natural and physical inputs to one based on intellectual assets," and tie the trend to "…the development of new industries, such as information and computer technology and biotechnology." In this dynamic world of knowledge, any knowledge-based approach to strategic management must, as argued by Spender (1996: 60), view strategists as "nodes of imaginative leadership and influence in the complex heterogeneous emotionally and politically charged knowledge systems which comprise our socially constructed reality."

SWOT is too superficial in nature, and anchored in a positivist and overly simplistic static foundation that is inappropriate for today's complex and rapidly changing knowledge-

based marketplace. SWOT's inability to account for change renders it increasingly useless for strategic analysis. Haberberg (2000) in his critique of SWOT argues "One final gap in SWOT's radar relates to the dynamic aspects of strategy – the fact that every organization's strategy is an attempt to hit a target that is not just moving, but following a highly unpredictable path at an uncertain speed." "SWOT analysis only matches current strengths and weaknesses with current opportunities and threats, which may have worked decades ago, but no longer fulfills the needs of a much more dynamic and volatile business climate" (Agarwal et al, 2012).

Signals Amateur

SWOT is an elementary tool at best. While it may serve as an effective brainstorming ice-breaker, it provides no meaningful strategic analysis. For the uninformed, SWOT's fifty-year popularity carries with it unwarranted cachet. But for those in the know, the bantering about of SWOT as a strategic tool signals to stakeholders that the process is driven by unqualified, poorly trained, and possibly incompetent leadership. Bringing SWOT to a strategic planning endeavor as a foundational component is akin to showing up at the Tour de France with training wheels. One might as well wear a dunce cap labeled neophyte. Again, while to the uninformed observer a SWOT initiative signals a laudable level of knowledge and expertise, knowledgeable stakeholders will immediately receive a clear message of amateurism. While this may not be an issue among employees unfamiliar with SWOT or strategic planning, and even with those stakeholders insufficiently or inappropriately trained in strategic management; an enlightened participant could quickly render the entire planning process a useless waste of time should they articulate the true shortcomings of SWOT.

Some scholars, primarily those with extensive experience with SWOT as a practitioner, use SWOT as a platform for more comprehensive analyses and decision-making processes. Van der Heijden (1996) uses a very structured SWOT – for example, classifying weaknesses as symptoms, hygiene, or structural – as the foundation of in-depth scenario planning. Interestingly, Ghazinoory, Abdi, and Azadegan-Mehr (2011) in their review of SWOT-oriented papers published since 1982, found that only 7% of all publications were in the fields of business management, or closely related fields (37 of the total 530 publications identified and reviewed). Nearly 17% were agriculture publications, over 12% were related to health and healthcare, 6% were marketing manuscripts, and more than 7% were about tourism. For a tool developed by business policy strategists as a cornerstone of strategic analysis, scholars central to strategic theory and the development of practitioner tools fail to see it as such.

SWOT: So What?

Critics of SWOT often cite an overemphasis on the negative Threats and Weaknesses identified by the analysis, arguing a more appropriate focus would be the Strengths and Opportunities side of SWOT (Cooperrider and Srivastva, 1987; Bushe, 2007). While internal weaknesses cannot be ignored, or even glossed over, allowing a planning process to be bogged down in negative weaknesses will stymie enthusiasm, innovation, and creative problem solving (Harvey, 2014; Woodman, Sawyer, and Griffin 1993; Baer, 2012). Similarly, while it is necessary to identify and acknowledge the Threats lurking in one's environment, to dwell on these perils can paralyze the entire planning process, and derail any attempt at organization-wide buy-in. The SOAR approach (Stavros and Hinrichs, 2009), based on appreciative inquiry (Cooperrider and Srivastva, 1987; Bushe, 2007; Powley, Fry, Barrett, and Bright, 2004;

Hammond, 1998), is a SWOT alternative that focuses on Strengths and Opportunities, as well as Aspirations and Results. Whereas SWOT's Lewinian (Lewin, 1951) analytic attempt to build structure from strategy (Chandler, 1962) by "fitting" a firm's distinctive competence to its external expectations (Selznick, 1957) can stall the initiative in negative spirals around Weaknesses and Threats, SOAR's use of Appreciative Inquiry blends social constructionism and action-oriented positive imagining to provide strategic planners a forward thinking framework that more readily engage and stimulate the entire firm (Stavros and Hinrichs, 2009). Merely describing SWOT by its four acronym components, or even delving slightly deeper by fitting the internal firm components to the external environmental components, may psychologically or subconsciously signal an equal level of importance to each component. With the typical resource constraints and time limitations faced by most organizations, focusing equally on strengths, weaknesses, opportunities, and threats may prove unnecessarily costly. More importantly, if the strategic analysis endeavor has undue time or budget constraints, or if clouded with parallel on-going data collection and analyses, extensive evaluation of threats and weaknesses may cause the entire effort to exceed a tipping point of information overload or overwhelm and potentially lead to the team missing key conclusions regarding the often more important strength and opportunity components of the analysis.

Unconscious Incompetence

Unconscious Incompetence refers to the phenomenon occurring when an individual lacks knowledge or skill, and is unaware they are deficit these attributes (Maslow, 1970; Robinson, 1974; Gilovich, 1991; Gilovich, Griffin, and Kahneman, 2002). We often do not know what we don't know, and this too often results in illusory superiority (Hoorens, 1993) – thinking that we actually do know. This may be caused by several factors, including (1) educators achieving a tremendously high level of knowledge and understanding in one specific narrow field of study and incorrectly assuming a transference of that deep level of understanding to adjacent areas of study, (2) educators trained in one field assuming a transference of their level of understanding to entirely unrelated fields of study, and (3) long time educators who have not stayed current with the literature. To fully understand SWOT, and thus be qualified to teach SWOT, one must understand the history of strategic management, have critically read and synthesized the seminal works of the field, such as Selznick (1957), Chandler (1962), Mintzberg (1978, 1994), Andrews (1971), Hofer and Schendel (1978), Porter (1979, 1980, 1985, 1996), Barney (1991; 1995) and others, and remain knowledge-current by reflecting on recent criticisms and developments of SWOT, and related strategic analysis tools.

The Dunning-Kruger effect suggests a person is an inaccurate judge of how their abilities compare to others, overestimating one's own ability or knowledge relative to their true understanding or skill level (Kruger and Dunning, 1999, 2002; Krueger and Mueller, 2002). Confucius argued, "Real knowledge is to know the extent of one's ignorance." Socrates stated, "I know that I know nothing." Daniel Boorstin suggests, "The greatest enemy of knowledge is not ignorance, it is the illusion of knowledge." People who think they know, but really don't, relay incorrect information or make decisions on incorrect perceived facts. Participants in a SWOT process must be knowledgeable in SWOT and its shortcomings to be effective in the greater strategic analysis process. Any false sense of knowledge – illusory superiority (Hoorens, 1993) – may substantially impede, and possibly derail the entire endeavor.

Some business school educators not trained specifically in strategic management, but rather in related areas such as general management, human resources, organization theory, and

organization behavior, somehow believe they understand the strategic management body of knowledge well enough to teach SWOT in their classrooms. While many of these educators have seen SWOT presented in their own undergraduate and MBA education, and some may have completed a course in Strategic Management, very few have immersed themselves in the literature to fully understand the development of SWOT, its theoretical underpinnings, and its limitations. Impressionable students taking coursework from these educators accept their uninformed teachings of and about SWOT as gospel, and thus further propagate the SWOT allure and cachet. These ill-advised students then carry their unconscious incompetence into the business world.

Even worse than a management scholar who is untrained in strategic management, and who is teaching SWOT, is the educator who is not trained in management, but rather an entirely unrelated field, such as marketing, project management, decision sciences, finance, economics, or accounting. It is commonplace for marketing scholars to employ and teach SWOT analysis to their students. A review of 41 marketing text books revealed that 40 of the 41 included teachings of SWOT. It is not uncommon for students in our strategy classes to incorrectly describe SWOT based on what they had learned in a marketing class. The marketing educators often do not know what they don't know when it involves SWOT, resulting in students with a false sense of knowing.

Another challenge to the teaching of SWOT is the prevalence of long-time educators who received their SWOT education during their undergraduate, MBA, or doctoral studies back in the 1960s and 1970s, a time when the marketplace was much more static, and thus more SWOT-appropriate. Many of these high-ranking tenured professors in our business schools have their understanding of SWOT mired in research completed in the 1950s and 1960s, with superficial personal knowledge upgrades in the 1960s and 1970s. And many of these educators – especially those who are no longer active in scholarly publication – are unfamiliar with the tools currently available or with the scholarly critiques of SWOT. Nonetheless, these educators teach their students just as they taught them decades ago, perpetuating the unconscious incompetence mentioned previously.

Improvements to SWOT

Several attempts have been made to improve SWOT. Panagiotou (2003) introduced a "Telescopic Observations" framework which maps SWOT components against PESTEL-like criteria. Weihrich (1982) expanded SWOT in his situational TOWS model, which incorporates a time dimension, interaction effects, as well as tactics and actions. TOWS incorporates planning for alternative strategies and an interaction matrix to evaluate fit. Takahashi and Maeno (2011) develop a "Causal SWOT" analysis that incorporates Causal Loop and Leverage Point concepts of Systems Thinking. The Causal SWOT approach emphasizes the causal-and-effect relationship between internal variables. Based on implementing SWOT in a university strategic planning setting, Dyson (2004) added the prioritizing of factors generated, emphasizing the need for iterative feedback in SWOT as a process. Coman and Ronen (2009), in their "Focused SWOT" framework, distil SWOT components into core competencies and core problems, which are then mapped onto competence and reality trees, and finally linked to an action plan. Dealtry (1992), a management consultant, has enhanced SWOT by adding a series of activities such as shock analysis, development dashboard, metrics building, and application of threshold issues to deliver an executive action plan.

Some authors have applied sophisticated mathematics to SWOT. Lu (2010) applies Maximum Subarray and Fuzzy Mathematics to derive heuristic rules and identify the most influential SWOT factors. Kurttila, Pesonen, Kangas, and Kajanus (2000) develop a hybrid model, A'WOT, utilizing an Analytic Hierarchy Process to determine the relative importance of SWOT factors, to mitigate the problem of subjective factor scores and weights without a consistency test. Based on the concept of Grand Strategy Matrix (Christensen, Berg, and Salter, 1976), Chang and Huang (2006) create a quantified SWOT analytical method by including Multiple Attribute Decision Making and an Analytic Hierarchy Process to "calculate the internal and external weight score… and determine the benchmarking value," thus allowing enterprises to be appropriately placed on a four-quadrant competitive situation grid. Raimundas and Vytautas (2006) apply Fuzzy Cognitive Mapping to SWOT to provide a dynamic system analysis.

Mayer and Vambery (2008) combine SWOT with a Product Life Cycle analysis, which includes an internal and an external change variable to incorporate dynamism into the overall analysis. Morris (2005) has built an opportunity model to provide for improved opportunity recognition within SWOT. In arguing that tools for analyzing external opportunities and threats has progressed much more rapidly than those that evaluate their internal SWOT counterparts, Barney (1995: 60) applies a resource-based approach positing that internal strengths and weaknesses must be evaluated with regard to resources being "valuable, rare, and costly to imitate."

Brown et al. (2001) merge SWOT and Balanced Scorecard to produce a fast and effective strategy map aimed at aligning the business to its strategic context, tie the present to future challenges and opportunities, while adopting a holistic approach to achieve the firm's vision. Houben et al. (1999) developed a knowledge-based SWOT analysis built upon expert system technology, resulting in more objective output, higher quality analysis, and substantial time savings.

Of all the changes and improvements to SWOT published in the last fifty years, none appear as promising as the Meta-SWOT developed by Agarwal et al. (2012: 19) to "reinvent SWOT analysis in a substantially altered form by retaining its basic approach." Meta-SWOT incorporates a Resource-Based View (Barney, 1991, 1995; Conner, 1991) approach utilizing the VIRO framework (Barney, 1991) to prioritize internal resources and capabilities targeted at providing value via exploitation of external opportunities or neutralizing of environmental threats. The assessment of value serves to operationalize strategic fit (Barney, 1991). This Meta-SWOT development then evaluates value factors to environmental factors with a PESTEL review (Aguilar, 1967; Carpenter and Sanders 2007), which then provides a preliminary strategic action plan. This "new method removes many of the shortcomings of SWOT by being more future-oriented, accurate, resource-centered, objective, useful, and timely… [and thus] Meta-SWOT wants to change and amend SWOT analysis and in this sense replace it" (Agarwal et al, 2012: 19-20). Unfortunately, Meta-SWOT is not now published in strategy textbooks; it is not known by instructors who teach SWOT and who are not trained in strategic management; nor is it known by strategic management scholars who fail to remain current with the literature.

RESEARCH DESIGN

The fundamental research question in this research study is whether SWOT has outlived its usefulness as a strategic analytical tool? Secondary questions investigate the origins and history of SWOT, how SWOT is being used in education, and the criticisms and revisions made

to the original SWOT model. To most effectively complete this research undertaking, an across-methods (Denzin, 1978) triangulated design (Jick, 1979) was chosen, with inductive grounded theory (Glaser & Strauss, 1967) as its primary research philosophy. The study includes a comprehensive literature review of SWOT, a review of strategic management text books, a historical investigation into the origins of SWOT, student focus groups, open-ended interviews, and a pretest-posttest online survey.

Triangulation was chosen because it provides enhanced validation (Campbell & Fiske, 1959), "capture[s] a more complete, holistic, and contextual portrayal of the unit under study" (Jick, 1979: 603), and reduces the chances of "methodological artifact" (Bouchard, 1976: 268). Triangulation illuminates elements of the context and thus, "triangulation may be used not only to examine the same phenomenon from multiple perspectives, but also to enrich our understanding by allowing for new or deeper dimensions to emerge" (Jick, 1979: 603-604). While triangulation enhances validity and meaning, grounded theory protocol furnishes a specific process to capture a deeper understanding about the target phenomenon.

Grounded theory (Glaser & Strauss, 1967) provides a structured research process; one that is explicitly emergent in nature, which allows for a robust and deeper understanding of a phenomenon or situation (Charmaz, 1983). At the core of grounded theory is the concept of iterative data collection and constant comparison, which dictates evaluation of a variety of data, collected via theoretical sampling (Glaser, 1978), allowing the "next" data sample to be informed by coding, comparison, and memoing. In each constant-comparison data evaluation along the data chain, memoing is used to make visible potentially important attributes and relationships. Appropriately, literature reviews, interviews, focus groups, and quantitative survey data are collected and intermingled throughout the grounded theory process in this study.

Data

This research study involves a comprehensive literature review of SWOT, the examination of 54 strategic management textbooks to explore how SWOT is presented in business education, and a historical verification of SWOT. The text books were reviewed to identify what percentage of strategic management textbooks include SWOT, and of those that do, what percentage of the text is devoted to SWOT in relation to other materials. In addition, the textbooks were reviewed as additional overall iterative constant-comparison data within the context of the grounded theory process to understand SWOT and its evolution. Four student focus groups were held at the beginning of the semester immediately after an undergraduate or MBA capstone class session to delve deeper into the students' experience, knowledge, and impression of SWOT. Eighteen separate open-ended interviews were conducted to learn how SWOT is perceived, where it was learned, and how it is used. The interview respondents include eight business students, six chief executives, and four management consultants. A questionnaire with two single item measures and twenty quiz questions was developed and administered to 228 students of a strategic management capstone course asking them to rate their current overall level of understanding of strategic management and SWOT; and to then answer quiz questions to measure their knowledge of SWOT and Strategic Management. This survey was administered at the beginning and again at the end of a semester that provided students extensive instruction of SWOT and Strategic Management. Pursuant to grounded theory protocol, data was collected using theoretical sampling. Data collection was concluded when theoretical saturation was achieved; that is, when additional data provided no new substantive insights.

RESULTS

Fifty-four strategic management textbooks were randomly selected. Each text book was scanned looking for any and all presentation of SWOT. The total number of pages allocated to SWOT was recorded. Results are found in Table 1.

Table 1
SWOT MATERIALS IN TEXTBOOKS

	Total pages of SWOT materials					
	0	1	2-3	4-6	7-9	10+
Number of textbooks	5	14	16	10	5	4
Average percentage of entire book dedicated to SWOT	0%	0.20%	0.50%	1.74%	1.85%	4.16%

One MBA and three undergraduate business student focus groups were conducted via protocol suggested by Morgan (1997). Each participant was a member of one of the author's capstone business courses in strategic management, and each focus group was moderated by the author. Each group was asked to discuss their understanding of SWOT, to share where it was they were taught about SWOT, their impression of SWOT as an analytical tool, and any other thoughts they may have regarding SWOT. The groups had 7, 9, 11, and 7 student members, and met for 27, 35, 44, and 23 minutes respectively, with the first group being comprised of MBA students. By a show of hands, all MBA students, and all but two of the undergraduates, were familiar with SWOT. The MBA students reported learning of SWOT in their undergraduate marketing or strategic management course, while all undergraduate participants learned of SWOT in one of their marketing courses. In each of the four focus groups, there was general consensus that SWOT was an extremely valuable tool, and participants overall were very confident in using and understanding how to use SWOT. This author, as the moderator, felt, however, based on the remarks and interaction of participants, their level of understanding was minimal at best, and certainly inadequate to conduct a competent SWOT analysis. When asked how important SWOT was to any strategic analysis, each student group enthusiastically argued that it was one of the most valuable tools in the arsenal available to a strategist, if not "the" most valuable. Many of the students had performed a SWOT analysis as part of a classroom exercise, but none had used SWOT, or observed it being used, in a business work environment.

In total, eighteen open-ended interviews were conducted. The participants included three MBA students, five undergraduate business students, six CEOs, and four management consultants. Like the focus groups, the theme of the interviews was an inquiry into the participant's knowledge, experience, and overall impression of SWOT. The average interview lasted slightly over 17 minutes. The information from the students correlated closely with that of the student focus groups, although in much more depth and with much more detail. Again, these students felt they had a very strong understanding of SWOT and the ability to appropriately use the tool. The CEOs, on the other, provided a much different perspective. Although interviewed individually, they spoke with a singular voice, arguing that it is a popular, yet very overrated and essentially meaningless tool. Their criticisms include those discussed earlier in this paper, such as SWOT's inability to appropriately address change or dynamic environments, that fit is now fleeting in nature, that in today's chaotic marketplace executives must live in the world of

tomorrow and thus forecast forward, that SWOT was too superficial and elementary to be meaningful, that suggesting SWOT in an expert setting would signal amateurism, and that threat and weaknesses are much less important to a strategist than are strengths and opportunities – with opportunities being much more important and valuable than strengths. Each of the chief executives interviewed felt strongly that SWOT has outlived its usefulness. The four management consultants also seemed to speak with a single voice, but provided a much different perspective than did the CEOs. For the management consultants, they felt that overall, SWOT was useless; however, it was valuable as a platform from which to launch a host of other strategic techniques, such as scenario planning, six sigma process improvement initiatives, value chain analysis, PESTEL reflection, a McKinsey 7-S plot, and BSG Matrix mapping. The consultants also felt that many clients fail to understand the true shortcomings of SWOT. In addition, these consulting professionals felt, like the CEOs, that fit is detrimental because agility and adaptability are so needed in today's fast changing marketplace. To be clear, they argued that the simplicity of SWOT often provided an opening conversation from which a detailed analytical plan could be formed, but in the end, the actual SWOT analysis information provided essentially zero value.

To capture perceived acumen, and based on the work of Kruger and Dunning (1999, 2002), data was collected from 228 West Coast state university business undergraduate students who were enrolled in the author's capstone course – a course designed fundamentally around strategic management theory, and which extensively covered the history of SWOT, as well as SWOT's evolution, strengths, shortcomings, and criticisms as a strategic analytical tool. As a small portion of an extensive mandatory online "student satisfaction" pretest-posttest survey, students were asked, at the beginning of the semester, to (1) assess their current level of skill and understanding in the areas of strategic management and SWOT on a 5-point balanced Likert-type scale from very poor to very good, and (2) complete 10 challenging questions about strategic management and 10 challenging questions about SWOT. For each of the quiz questions, students were instructed that each correct, each "I don't know," and each incorrect answer would yield 10, 0, and minus 5 points respectively; and the resulting score would determine the amount of extra credit points added to their course grade. The pre-test survey was administered at the beginning of the semester prior to any lectures or presentation of theoretical material. A matching post-test survey was administered at the conclusion of the semester, containing the same questions as the pre-test; however additional questions included single-item questions asking students to reflect back and reassess their strategic management and SWOT acumen at the beginning of the semester. Because completion of the surveys was mandatory, 100% participation was achieved, representing approximately 10% of all undergraduate capstone students in the business school. All pre-test data collected from students who dropped the course during the semester was discarded.

As a study built on grounded theory and triangulation, there is no pretense of hypothetico-deductive testing or related multiple regression and correlation standards; however, means tests and correlation analyses of the aforementioned survey data are nonetheless used to further inform our fundamental research question regarding the usefulness of SWOT. A means comparison between the pre-test and post-test items related to perceived acumen in the areas of strategic management and SWOT show significance with student respondents initially scoring their acumen high in SWOT, and show a dramatic and significant increase in perceived SWOT acumen at semester's end (see table 2). Also, the students perceived their SWOT acumen

significantly higher than their strategic management acumen at the beginning of the semester, and that relationship reversed at semester's end.

Table 2
PRE/POST-TEST PERCEIVED ACUMEN: T-TEST STATISTICS

	N	Mean	Std. Dev	SE Mean	t	df	Sig 2-tail	Mean Diff	95% CI of Diff	
									Lower	Upper
SM1	228	1.522	.5969	.0395	13.20	227	.001	0.522	0.444	0.600
SWOT1	228	3.364	.7763	.0514	45.98	227	.001	2.364	2.263	2.465
SWOT1-SM1	228	2.842	.8028	.0532	34.65	227	.001	1.842	1.737	1.947
SM2	228	4.013	.5096	.0337	89.27	227	.001	3.013	2.947	3.080
SWOT2	228	4.684	.4658	.0308	119.42	227	.001	3.684	3.623	3.745
SWOT2-SM2	228	0.681	.6908	.0457	14.67	227	.001	0.671	0.581	0.761

A paired samples T-test of the pre-test and post-test items finds significant change at the 0.001 level, with the mean increase in perceived acumen of SWOT lower than that of strategic management (see table 3). The gain in perceived strategic management acumen was significant, and less than the gain in perceived SWOT acumen.

Table 3
PAIRED SAMPLES TEST OF SUBJECT MATTER PERCEIVED ACUMEN

	Paired Differences									Paired Correlations		
	Mean	Std. Dev	S.E. Mean	95% CI of Difference		t	df	Cohen d Effect	Sig. 2-tail	N	Corr- elat-ion	Sig.
				Lower	Upper							
P1: SM1, SM2	-2.49	.7420	.0491	-2.588	-2.394	-50.69	227	3.36	.001	228	.108	.105
P2: SWOT1, SWOT2	-1.32	.6691	.0443	-1.407	-1.233	-29.79	227	1.97	.001	228	.514	.000
P3: SWOT1, SM1	1.84	.8028	.0491	1.737	1.947	34.65	227	2.29	.001	228	.339	.001
P4: SWOT2, SM2	0.67	.6908	.0443	0.581	0.761	14.67	227	0.97	.001	228	-.001	.988

The quizzes were graded by summing the correct, "I don't know," and incorrect answers each receiving ten, zero, and minus five points respectively resulting in a maximum score of 100 points and a minimum of minus 50 points. *Cohen's d* coefficients demonstrate strong effects, and each paired samples test was significant (see Table 4).

Table 4
PAIRED SAMPLES TEST OF SUBJECT MATTER QUIZ SCORES

	Paired Differences									Paired Correlations		
	Mean	Std. Dev	S.E. Mean	95% CI of Difference		t	df	Cohend Effect	Sig. 2-tail	N	Correlat-ion	Sig.
				Lower	Upper							
P5: SMquiz1, SMquiz2	-84.69	13.95	.9239	-86.51	-82.87	-91.67	227	6.07	.001	228	-.059	.379
P6: swotQ1, swotQ2	-95.31	10.55	.6989	-96.68	-93.93	-136.37	227	9.03	.001	228	-.058	.387
P7: SMquiz1, swotQ1	6.69	11.65	.7717	5.17	8.21	8.67	227	0.57	.001	228	.325	.000
P8: SMquiz2, swotQ2	-3.92	9.07	.6004	-5.12	-2.74	-6.54	227	0.43	.001	228	.115	.083
P9: SMquiz1-swotQ1, SMquiz2-swotQ2	10.61	15.22	1.008	8.63	12.60	10.53	227	0.70	.001	228	-.065	.327

As expected in a classroom setting, the quiz score means increased dramatically. Also, and again as expected, the difference between the actual acumen quiz scores for both SWOT and strategic management were similar, significant, and with a large effect size (see Table 5). The students assessed their perceived acumen in SWOT and strategic management at the beginning of the semester, before they would be expected to understand the subject matter. They were then asked at the end of the semester to reflect back and reassess their SWOT and strategic management acumen at day one of the semester. The difference between how the respondents originally scored themselves and how they later viewed their initial acumen might demonstrate an overestimation in their original assessment. For SWOT this difference was dramatic, changing from 3.36 (between Fair and Good acumen) to 1.27 (Very Poor to Poor), while results for perceived strategic management acumen changed only 0.25. See Table 5.

Table 5
PRE/POST-TEST ACUMEN QUIZ SCORES: T-TEST STATISTICS

	N	Mean	Std. Dev	SE Mean	t	df	Sig 2-tail	Mean Diff	95% CI of Diff	
									Lower	Upper
SM-Quiz1	228	8.004	11.159	.739	10.83	227	.000	8.004	6.548	9.461
SM-Quiz2	228	92.697	7.745	.513	180.73	227	.000	92.697	91.687	93.708
SWOT-Quiz1	228	1.316	8.566	.567	2.32	227	.021	1.316	.198	2.434
SWOTQuiz2	228	96.623	5.690	.377	256.41	227	.000	96.623	95.880	97.365
SMQ2-SMQ1	228	84.693	13.951	.924	91.67	227	.000	84.693	82.873	86.514
swotQ2-swotQ1	228	95.307	10.553	.699	136.37	227	.000	95.307	93.930	96.684
SM reflection	228	-.250	.566	.037	-6.69	227	.000	-.250	-.324	-.176
SWOT reflection	228	-1.706	.983	.065	-26.21	227	.000	-1.706	-1.834	-1.578
SM1-SMreflection	228	.250	.566	.037	6.67	227	.000	.250	.176	.324
swot1-swotReflectn	228	1.706	.983	.065	26.21	227	.000	1.706	1.578	1.834

CONCLUSION

The most fundamental and potentially damaging aspect of SWOT is its reliance on an unchanging business environment (Fehringer, 2007). SWOT was developed during a period of relative stability in the marketplace, which means an organization could devote an extended period of time to the strategic planning process with reasonable assurance that the environment would not only remain relatively constant throughout the months or years of planning, but well into the future. This is clearly no longer the case. In today's business world companies are rewarded for their agility and ability to respond rapidly with efforts to seize nascent and incipient market opportunities. Imagine for a moment the effort necessary to fully engage a firm's stakeholders and to achieve consensus around a realistic strategy to fit the organization's distinctive or core competencies with the current or emerging market opportunities. Now imagine the emotional backlash and withdrawal experienced when those same stakeholders realize after a herculean effort on their part, the market has substantively changed, rendering the new strategy impotent.

Static fit, as the foundational force behind SWOT, is in fact, its downfall. In a static world, fit and the cost to identify and achieve fit, yields laudable returns, at least until competition based imitation occurs. Unfortunately, in a dynamic marketplace, especially in an environment where change is accelerating, fit serves as an impediment to performance because in dynamic situations, fit is at best, fleeting in nature. The stronger a firm's fit – which often requires a substantial investment in resources and time – the more anchored the organization becomes to its strategy. This leads to a level of organizational inertia that prohibits the organization from altering course and pursuing new market opportunities.

Hofer (2015) suggests a dynamic SWOT-fit model where a series of past, current, and projected future snapshots of SWOT analyses are examined to paint a more realistic positioning image of a firm within its environment. This solution, although it does overcome the tendency to anchor one's mindset and strategic thinking in a fleeting picture of today's organization-environment fit analysis, is not published in current academic textbooks, presented in popular press media, nor verified by evidence presented in peer-reviewed articles. The widespread acceptance of SWOT as a popular and effective strategic planning tool, coupled with the limitations presented herein, lead to no other conclusion than SWOT has, in fact, outlived its usefulness.

RECOMMENDATIONS

Strategy scholars, educators, and practitioners should abandon the use of SWOT analysis altogether, except as an elementary icebreaker exercise, or during the very early stages of a strategic planning process involving novice and uninformed participants. This should prevent or greatly reduce a false confidence in an inappropriate and outdated tool. Educators, particularly those not trained specifically in the field of strategy, should immediately cease the teaching of SWOT to their students, unless they update their knowledge base and present a more accurate and comprehensive account of SWOT. In addition, educators trained in management or strategy between 1960 and 1985 – a period during which the literature was based on empirical data collected during relatively static environments – should either stop teaching SWOT as a viable strategic tool, or should update their own personal knowledge regarding the limitations of SWOT in the new millennium. Moreover, because the inappropriate teaching of SWOT to impressionable students continues to be widespread, educators should warn their students about the misuse of SWOT, and teach them why SWOT is no longer appropriate. This is necessary because many of our students upon graduation may be placed in the awkward situation of being

asked by a supervisor to conduct a SWOT analysis, and it may be inappropriate for that employee to claim doing so would be an exercise in futility. Nonetheless, we want our graduates to be informed and current.

Strategy at its core is forward thinking. Any strategically based planning process must begin with a look into the future. Participants must enter the planning exercise with a forward-looking mindset. As mentioned earlier, SWOT anchors this cognitive exercise in the present, and allows participants to easily slip into the historical past as they justify their interpretation of the present. Driven by a firm's mission and vision, it is recommended that SWOT be replaced with exercises focused on the future, and particularly examinations into the changing nature of a company's value chain, knowledge assets, and PESTEL components (Aguilar, 1967; Brown et al, 2001). As Tovstiga and Aylward (2008) point out, "In carrying out a PEST or PESTLE analysis it is all too easy to produce a list of factors, many of which may be of little or no importance in developing strategy… Developing a clear understanding of the cause-and-effect relationships between the factors in the PESTLE model is more challenging."

We must be more cognizant of the message we send when teaching the simplistic SWOT model. As Tversky, (2005, 14) contends, "Graphics have an advantage over language in expressiveness; graphics use elements and relations and graphic space to convey elements and relations in real or metaphoric space. As such, they allow inference based on the visuospatial processing that people have become expert in as part of their everyday interactions with space. As cognitive tools, graphics facilitate reasoning, both by externalizing, thus by offloading memory and processing, and by mapping abstract reasoning into spatial comparisons and transformations. Graphics organize and schematize spatial and abstract information to highlight and focus the essential information. Like language, graphics serve to convey spatial and abstract concepts to others." Offering to impressionable students a graphic model of SWOT comprised of equal sized S-W-O-T components, erroneously suggests equal value provided by each component. Instructors should make clear the true weighted value of a firms strengths and weaknesses as well as the opportunities and threats present in the environment.

RESEARCH LIMITATIONS

Like any research, this study has its limitations. First and foremost among these is the use of student respondents for the survey data. This raises concerns about generalizability to the greater business community. A second, and almost equally concerning shortcoming of the study, is the convenience sample of students chosen for the focus groups and the online questionnaire. The students in the focus groups volunteered and thus self-selected into the sample. As such, the sample may not be representative of the entire capstone class, and clearly, because the students were those enrolled in the author's business capstone course, those students may not be representative of all students at the university. Further, students at this particular university may not be, and likely are not, representative of all business students. As for the questionnaire data, there was 100% participation, and thus no sampling error; however, the aforementioned generalizability concerns remain.

REFERENCES

Agarwal, R., Grassl, W., & Pahl, J. (2012). Meta-SWOT: Introducing a new strategic planning tool. *Journal of Business Strategy*, 33(2), 12-21.

Aguilar, F.J. (1967). *Scanning the business environment*. New York: The Macmillan Company.

Andrews. K.R. (1971). *The concept of corporate strategy*. Homewood, IL: Irwin.

Ansoff, H.I. (1991). Critique of Henry Mintzberg's the design school: Reconsidering the basic premises of strategic management. *Strategic Management Journal*, 12(6), 449-461.

Baer, M. (2012). Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journa*l, 55(5), 1102-1119.

Barney, J.B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.

Barney, J.B. (1995). Looking inside for competitive advantage. *Academy of Management Perspective*, 9(4), pp. 49 – 61.

Beer, M., Voelpel, S.C., Leibold, M., & Tekie, E.B. (2005). Strategic management as organizational learning: Developing fit and alignment through a disciplined process. *Long Range Planning*, 38(5): 445–465.

Bouchard, Jr., T.J. (1976). Unobtrusive measures: An inventory of uses. *Sociological Methods and Research*, 4, 267-300.

Brown, S.L., & Eisenhardt, K.M. (1997). The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations. *Administrative Science Quarterly*, 42(1): 1–34.

Brown, T.S., Bush, P., & Norberg, L. (2001). Building executive alignment, buy-in, and focus with the balanced scorecard SWOT. *Balanced Scorecard Report*, 3(3), 14-16. Cambridge: Harvard Business Publishing.

Bushe, G. R. (2007). Appreciative inquiry is not (just) about the positive. *Organization Development Practitioner*, 39(4), 30-35.

Campbell, D.T., & Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56: 81-105.

Carpenter, M.A., & Sanders, W.G. (2007). *Strategic management: A dynamic perspective*. Upper Saddle River, NJ: Prentice Hall.

Chandler, A.D. (1962). *Strategy and structure: Chapters in the history of the American industrial enterprise*. Cambridge MA: MIT Press.

Chang, H.H., & Huang, W.C. (2006). Application of a quantification SWOT analytical method. *Mathematical and Computer Modeling*, 43(1), 158–169.

Charmaz, K. (1983). The grounded theory method: An explication and interpretation. In R.M. Emerson (Ed.), *Contemporary Field Research: A Book of Readings*. Boston: Little, Brown.

Christensen, R., Berg, N., & Salter, M. (1976). *Policy formulation and administration*. Homewood, Ill: Richard D. Irwin.

Christensen, C.M. (2001). The past and future of competitive advantage. *MIT Sloan Management Review*, 42(2), 105-107.

Coman, A., & Ronen, B. (2009). Focused SWOT: diagnosing critical strengths and weaknesses. *International Journal of Production Research*, 40(20), 5677–5689.

Conner, K.R. (1991). A historical comparison of resource-based theory and five schools of thought within Industrial organization economics: Do we have a new theory of the firm? *Journal of Management*, 17(1), 121-154.

Cooperrider, D.L., & Srivastva, S. (1987). Appreciative inquiry in organizational life. *Organizational Change and Development*, 1, 129-169.

D'Aveni, R.A. (1994). *Hypercompetition*. New York: Free Press.

Dealtry, T. R. (1992). *Dynamic SWOT Analysis.* Dynamic SWOT Associates, Birmingham.

Denzin, N. (1978). *The research act: A theoretical introduction to sociological methods*. New York: McGraw Hill.

Drazin, R., & Van de Ven, A.H. (1985). Alternative forms of fit in contingency theory. *Administrative Science Quarterly*, 30, 514-39.

Drucker, P. (1993). *Post-capitalist society*. New York: Harper Business.

Dyson, R.G. (2004). Strategic development and SWOT analysis at the University of Warwick. *European Journal of Operational Research*, (152), 631–640.

Eisenhardt, K. (1989). Making fast strategic decisions in high-velocity environments. *Academy of Management Journal*, 32(3), 543–76.

Everett, R.F. (2014). A crack in the foundation: Why SWOT might be less than effective in market sensing analysis. *Journal of Marketing and Management*. 1(1) 58-78.

Fehringer, D. (2007). Six steps to better SWOTs. *Competitive Intelligence Magazine*, 10(1), pp. 54-57.

Finnegan, M.F. (2010). *Evaluating SWOT's value in creating actionable, strategic intelligence*. MSc thesis, Mercyhurst College, Erie, PA.

Fleisher, C.S., & Bensoussan, B.E. (2002). *Strategic and competitive analysis: Methods and techniques for analyzing business competition*. Upper Saddle River, NJ: Prentice Hall.

Friesner, T. (2014). *History of SWOT analysis*. http://www.marketingteacher .com/history-of-swot-analysis/

Garlichs, M. (2011). *The concept of strategic fit*. Hamburg: Diplomica Verlag.

Ghazinoory, S., Abdi, M., & Azadegan-Mehr, M. (2011) SWOT methodology: A state-of-the-art review for the past, a framework for the future, *Journal of Business Economics and Management*, 12(1), 24-48.

Gilovich, T. (1991). *How we know what isn't so: The fallibility of human reason in everyday life*. New York: The Free Press.

Gilovich, T., Griffin, D.W., & Kahneman, D. (Eds) (2002). *Heuristics and biases: The psychology of intuitive judgment*. New York: Cambridge University Press.

Glaser, B.G. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*. Mill Valley, CA: Sociology Press.

Glaser, B.G., & Strauss, A.L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine Publishing Co.

Grant, R.M. (1996a). Prospering in dynamically competitive environments: Organizational capability as knowledge integration. *Organization Science*, 7 (4), 375-387.

Grant, R.M. (1996b). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(10), 109-122.

Haberberg, A. (2000). *Swatting SWOT, strategy*, (Strategic Planning Society), September. Retrieved Feb 24, 2015 from http://www2.wmin.ac.uk/haberba/SwatSWOT.htm

Hammond, S. (1998). *The thin book of appreciative inquiry*. Bend, OR: Thin Book Publishing Company.

Harvey, S. (2014). Creative synthesis: Exploring the process of extraordinary group creativity. *Academy of Management Review*, 39(3), 324-343.

Hill, T., & Westbrook, R. (1997). SWOT analysis: It's time for a product recall. *Long Range Planning*, 30(1), 46–52.

Hofer, C.W. 2015. *The Origins of SWOT: A Conversation with Charles W. Hofer*, March 1, 2015.

Hofer, C., & Schendel, D. (1978). *Strategy formulation: Analytical concepts*. St. Paul, MN: West Publishing.

Hoorens, V. (1993). Self-enhancement and superiority biases in social comparison. *European Review of Social Psychology* (Psychology Press), 4(1), 113–139.

Houben, G., Lenie, K., & Vanhoof, K. (1999). A knowledge-based SWOT-analysis system as an instrument for strategic planning in small and medium sized enterprises. *Decision Support Systems*, (26)2, 125-135.

Jick, T. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly*, 24(4), 602-611.

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, 77, 1121-1134.

Kruger, J., & Dunning, D. (2002). Unskilled and unaware—but why? A reply to Krueger and Mueller. *Journal of Personality and Social Psychology*, 82, 189-192.

Krueger, J., & Mueller, R.A. (2002). Unskilled, unaware, or both? The better-than-average heuristic and statistical regression predict errors in estimates of own performance. *Journal of Personality and Social Psychology*, 82, 180-188.

Kurttila, M., Pesonen, M., Kangas, J., & Kajanus, M. (2000). Utilizing the analytical hierarchy process (AHP) in SWOT analysis—a hybrid method and its application to a forest-certification case. *Forest Policy and Economics*, 1(1), 41–52.

Learned, E.P., Christensen, E.R., Andrews, K.R., & Guth, W.D. (1965). *Business policy: Text and cases*. Homewood, IL: Irwin.

Lewin, K. (1951). *Field theory in social science*. London: Tavistock Publications.

Lu, W. (2010). Improved SWOT approach for conducting strategic planning in the construction industry. *Journal of Construction Engineering and Management*. 136(12), 1317-1328

Maslow, A.H. 1970. *Motivation and personality* (2nd ed.), New York: Harper & Row.

Mayer, P., & Vambery, R.G. (2008). Aligning global business strategy planning models with accelerating change. *Journal of Global Business and Technology*, 4(1), 31-48.

Miller, C.C., & Cardinal, L.B. (1994). Strategic planning and firm performance: A synthesis of more than two decades of research. *Academy of Management Journal*, 37(6), 1649–1665.

Mintzberg, H. (1978). Patterns in strategy formation. *Management Science*, 24, 934-948.

Mintzberg, H. (1990). The design school: Reconsidering the basic premises of strategic management. *Strategic Management Journal*, 11(3), 171-195.
Mintzberg, H. (1994). *The rise and fall of strategic planning*. New York: Prentice Hall.
Mintzberg, H., Ahlstrand, B.W., & Lampel, J. (1998). *Strategy safari: a guided tour through the wilds of strategic management*. New York: Free Press.
Morgan. D.L. (1997). *Focus Groups as Qualitative Research*. (Second Edition). Thousand Oaks, CA: SAGE Publications.
Morris, D. (2005). A new tool for strategy analysis: The opportunity model. *Journal of Business Strategy*, 26(3), 50-56.
Nelson, R.R., & Winter, S.G. (1982). *An evolutionary theory of economic change*. Cambridge, MA: Belknap Press.
Panagiotou, G. (2003) Bringing SWOT into Focus, *Business Strategy Review*, 14(2), 8-10.
Pascale, R.T. (1999). Surfing the edge of chaos. *Sloan Management Review*, 40(3), 83-94.

Pickton, D.W., & Wright, S. (1998). What's SWOT in strategic analysis? *Strategic Change*, 7, 101-109, 105-106.
Piercy, N., & Giles, W. (1989). Making SWOT analysis work. *Marketing Intelligence & Planning*, 7(5), 5-7.
Porter, M.E. (1979). How competitive forces shape strategy. *Harvard Business Review*, 57(2), 113–145.
Porter, M.E. (1980). *Competitive Strategy*. New York: Free Press.
Porter. M.E. (1981). The contributions of industrial organization to strategic management. *Academy of Management Review*, 6(4), 609-620.
Porter M.E. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press: New York.
Porter M.E. (1996). What is strategy? *Harvard Business Review*, 74(6): 61–78.
Powell, W.W., & Snellman, K. (2004). The knowledge economy. *Annual Review of Sociology*, 30(1), 199–220.
Powley, E.H., Fry, R.E., Barrett, F.J., & Bright, D.S. (2004). Dialogic democracy meets command and control: Transformation through the appreciative inquiry summit. *Academy of Management Executive*, 18(3), 67-80.
Prahalad, C.K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, 68(3), 79-91.
Raimundas, J., & Vytautas, P. (2006). Dynamic SWOT analysis as a tool for system experts. *Engineering Economics*, 5, 33-35.
Reich, R.R. (1992). *The work of nations: Preparing ourselves for 21st century capitalism*. New York: Vintage Books.
Robinson, W.L. (1974). Conscious competency - The mark of a competent instructor. *The Personnel Journal*, v53: 538-539.
Selznick, P. (1957). *Leadership in administration: A sociological interpretation*. Evanston IL: Row Peterson.
Spender, J.C. (1996). Making knowledge the basis of a dynamic theory of the firm. *Strategic Management Journal*, 17, 45-62.
Stavros, J.M., & Hinrichs, G. (2009). *The thin book of SOAR: Building strengths-based strategy*. Bend, OR: Thin Book Publishing.
Takahashi, K., & Maeno, T. (2011). The causal SWOT analysis using systems thinking as a tool for situational analysis workshop. *Proceedings of the 55th Annual Meeting of the ISSS*, 978-993.
Tovstiga, G., & Aylward, M. (2008). Strategic direction. Study guide. *Henley Business School*.
Tversky, B. (2005). Visuospatial reasoning. In K.J. Holyoak & R.G. Morrison (Eds.), *The Cambridge Handbook of Thinking and Reasoning*. Cambridge: Cambridge University Press.
Valentin, E.K. (2001). SWOT analysis from a resource-based view. *Journal of Marketing Theory and Practice*, 9(2): 54-68.
Van der Heijden, K. (1996). *The art of strategic conversation*. Chichester, England: John Wiley & Sons.
Venkatraman, N. (1989). The concept of fit in strategy research: Toward verbal and statistical correspondence. *Academy of Management Review*, 14(3), 423-444.
Venkatraman, N. (1990). Performance implications of strategic coalignment: A methodological perspective. *Journal of Management Studies*, 27(1), 19-41.
Venkatraman, N., & Prescott, J.E. (1990). Environment-strategy coalignment: An empirical test of its performance implications. *Strategic Management Journal*, 11(1), 1-23.
Weihrich, H. (1982). The TOWS matrix-A Tool for situational analysis. *Long Range Planning*, 15(2), 54–66.
Wiggins, R.R., & Ruefli, T.W. (2005). Schumpeter's ghost: Is hypercompetition making the best of times shorter? *Strategic Management Journal*, 26(10): 887–911.
Woodman, R.W., Sawyer, J.E., & Griffin, R.W. (1993). Toward a theory of organizational creativity. Academy of *Management Review*, 19(2), 293-321.

Zajac, E.J., Kraatz, M.S., & Bresser, R.K.F. (2000). Modeling the dynamics of strategic fit: A normative approach to strategic change. *Strategic Management Journal*, 21(4), 429-453.