



Is the Cube One Framework Sufficiently Resilient to Explain and Predict Organizational Performance during a COVID Environment? Examination of Data Collected over 18 Months

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Abstract

Data are examined for three semesters during the midst of COVID: fall 2020, spring 2021, and fall 2021. Contrary to hypotheses, predictive and discriminant validity was as strong as results obtained from three prior surveys (using identical instrumentation) conducted in three countries. It had been anticipated that the sets of practices that comprise the Cube One Framework would experience declining frequency, as organizations cut back on either effort to raise motivation or ability (enterprise-directed practices); price and quality concerns for products/services (customer-directed practices); or practices designed to increase employee loyalty and satisfaction (employee-directed practices). Overall, there were no declines in the three sets of practices, and moderator analyses examining the posited effects of declines in employment across ten industries showed only one significant effect in twelve analyses. We conclude that, surprisingly, the Cube One Framework remains a robust predictor of organizational performance both before and during the COVID environment.

Keywords: Framework, Organization, Performance, Productivity, Practices, Environment

The Cube One Framework rests on the notion that successful organizations (whether for-profit, nonprofit, or governmental) must simultaneously satisfy the goal of three primary stakeholders: internal customers (employees), external customers, and providers of funding (shareholders, investors in the private sector; donors, grant providers, and taxpayers in the nonprofit/government sectors). Internal customers seek respectful treatment and fair wages, external customers seek advantageous product/service attributes, and sources of funding are benefitted by improved operating efficiency/productivity. This multiple stakeholder approach is, of course, not new. However, multiple stakeholder research has typically been either theoretical (e.g., Freeman and Reed, 1983) or based on a case study (e.g., Pot, Preston, and Sachs (2002).

Extensive empirical research has been conducted regarding enhancing individual, subunit, or organizational performance, but it has largely been devoted to one theoretical discipline (e.g., goal setting with respect to productivity) or adaptive selling behaviors—where there have been more than 150 studies conducted (e.g., the meta-analysis by Franke and Park, 2006). In contrast, the Cube One Framework not only entails multiple stakeholders, it also entails multiple disciplinary fields, including Human Resource Management, I/O Psychology, Operations Management, Supply Chain Management, and Marketing, among others. Unfortunately, there is no unique “home” for research that crosses disciplinary boundaries.

During the past two decades, a fruitful line of research has examined multiple “bundles” of practices—sometimes referred to as “High Performance Work Practices (HPWPs)—and results have been consistently stronger upon examining multiple practices, compared to isolated ones (Combs, Liu, Hall, & Ketchen, 2006). However, these bundles have been predominantly comprised of practices that enhance motivation or ability (e.g., incentives, and systematic employee selection) with a few employee-directed practices thrown in such as concern for employment security. But the bundles have never ventured to include customer-directed practices.

What has been largely missing, in our view, is research that encompasses all three determinants of organizational performance. Researchers and practitioners in marketing and quality management have been concerned with customer satisfaction and brand loyalty; their counterparts in human resource management and organizational psychology focus on such matters as employee satisfaction and turnover; and academics and practitioners in such areas as operations and supply chain management, and industrial psychology (among other

fields) tend to focus on productivity and efficiency. The conceptual basis for a more holistic and comprehensive analysis of the determinants of the determinants of organizational performance has only rarely been articulated and empirically examined.¹

Introducing the Cube One Framework

The Cube One Framework focuses on the frequency of enacted practices in three realms: enterprise-, customer- and employee-directed. It is enacted practices that are assessed, not stated policies or mission statements. Each set of practices consists of practices that have independently been associated with one of the three intermediate determinants of organizational performance: efficiency/productivity; customer satisfaction and loyalty; and employee satisfaction and loyalty. It is not assumed that a specific set of practices will be eternally the best practices; rather practices within each domain are seen as substitutable (i.e., consistent with the notion of equifinality). A given (focal) organization can be High, Middle, or Low in the enactment of each set of practices.

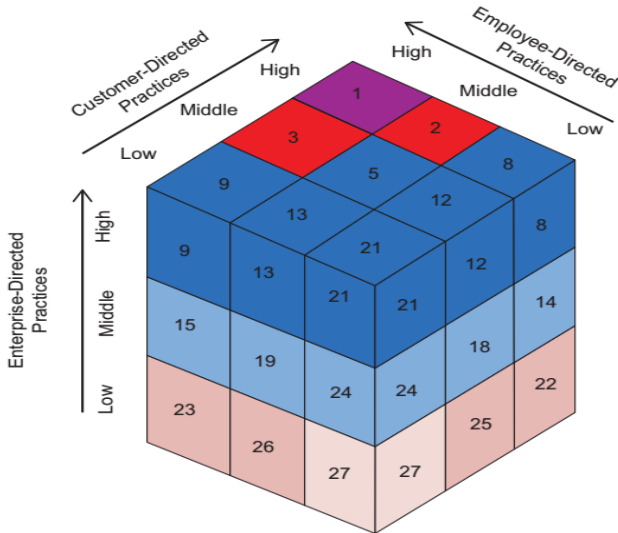


Figure 1: Schematic Representation of the Cube One Framework

Organizations that are rated by employees to be High, High, and High are in Cube One. Organizations rated Low, Low, and Low, are classified in Cube 27. A schematic of the Cube One Framework is provided in Figure 1. The causal model is presented in Figure 2.

Abundant research has been conducted over the past two decades. There have been four survey research projects conducted in three countries. Stock market metrics have been examined using the companies that comprised Fortune Magazine’s list of America’s Most Admired companies. Eight case studies, examining such well-known organizations as Google, Four Seasons, and Mayo Clinic have been interpreted in light of the Cube One framework.

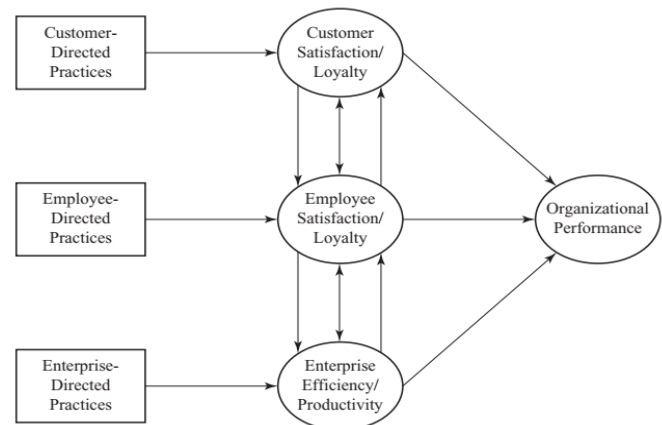


Figure 2: The Causal Model Underlying the Cube One Framework

Evidentiary Support from Survey Data

Three surveys have been conducted over the past decade, using identical instrumentation (reference withheld, 2017). In all studies, the collection of data was conducted on a voluntary and anonymous basis. Organizational performance was measured using three 10-point scales that assessed: the extent to which the organization accomplished its mission and goals; the effectiveness of the focal organization in comparison to similar or competitive organizations; and the degree to which the organization fulfilled 100% of its potential. Rated organizational performance among the organizations located in Cube One exceeded the rated performance of the organizations in Cube 27 by 14.2 Sigma. The hallmark of excellence in quality developed by Motorola is 6 Sigma, which corresponds to about 3 observations in a million cases (0.0000034). Fourteen Sigma adds another 6 zeros and indicates a probability of occurrence due to chance alone of about one in 50 billion.

The 10 items comprising Enterprise-Directed Practices are provided in Table 1a; the 10 items comprising Customer-Directed Practices are shown in Table 1b; and the 10 items comprising Employee-Directed Practices are shown in Table 1c.

Table 1a
Enterprise-Directed Practices

Actual Company Practices

The purpose of this section is to ascertain the actual practices (as distinct from stated or printed policies) in the organization for which you currently work (or most recently worked). If you work in a subsidiary of a larger organization, focus on the local organization where you work (or worked). Please use the following scale to record your responses to the twenty statements that follow:

- 1=Never or Almost Never (or Not Applicable)
- 2=Infrequently
- 3=Occasionally or Sometimes
- 4=Frequently
- 5=Always or Almost Always

- 1) Individuals are held accountable for accomplishing specific (quantifiable) goals. _____
- 2) Individuals receive specific performance feedback that is useful for improving their performance. _____
- 3) Where possible, the performance of individuals and groups is quantifiably measured and monitored over time. _____
- 4) Salary increases (e.g., raises, bonuses) are proportionate to an individual's job performance. _____
- 5) Promotions are based almost entirely on job performance. _____
- 6) Individuals are selected for employment based on objective criteria (e.g., written tests, performance tests, work samples, etc.) _____
- 7) Training is provided for employees who need to upgrade their knowledge and skills. _____
- 8) Organizational performance improvement is financially rewarded by a group incentive plan (e.g., gainsharing, profit-sharing, etc.). _____
- 9) Management encourages the delegation of decision-making authority to lower-level employees (i.e., real empowerment). _____
- 10) Individuals are encouraged to perform a wide variety of tasks whenever possible. _____

Table 1b
Customer-Directed Practices:

Actual Practices

The purpose of this section is to ascertain the actual practices (as distinct from stated or printed policies) in the organization where you work (or most recently worked). If you work in a subsidiary of a larger organization, focus on the local organization where you work (or worked). Please use the following scale to record your responses to the ten statements that follow:

- 1=Never or Almost Never (or Not Applicable)
- 2=Infrequently
- 3=Occasionally or Sometimes
- 4=Frequently
- 5=Always or Almost Always

- 1) **Customers are Surveyed.** Customers are regularly surveyed using an effective format such as "Would you recommend?" to ascertain delight, not mere satisfaction _____
- 2) **In-Depth Analyses are conducted.** Practices such as focus groups, and/or opt-in data bases are used to gain a fuller understanding of customer preferences. _____
- 3) **Consistent High Quality.** The quality of products/services is consistently of high quality, yielding a trusted brand, and lapses are responded to effectively. _____
- 4) **Adopting Best Practices.** The best practices of competitors are studied and adopted, or improved upon, where possible (i.e., benchmarking). _____
- 5) **Customer Satisfaction Drives Operations.** The goal of customer satisfaction importantly influences operational decisions at all organization levels. _____
- 6) **Price Consciousness.** Prices of goods/services are continually reviewed to improve the organization's competitive position. _____

- 7) **Customer Satisfaction Drives Rewards.** Customer satisfaction is an important factor in determining pay increases and other rewards of individuals or departments. _____
- 8) **Employee Latitude.** Employees are granted wide latitude to use their own judgment in order to satisfy customers. _____
- 9) **Innovation is encouraged.** New products/services are introduced. _____
- 10) **Multiple Ways Used to Reach Customers.** Big Data is used, and/or the use of targeted, individualized offerings, and/or use of multichannel marketing. _____

Table 1c
Employee-Directed Practices:

Actual Company Practices

The purpose of this section is to ascertain the actual practices (as distinct from stated or printed policies) in the organization for which you currently work (or most recently worked). If you work in a subsidiary of a larger organization, focus on the local organization where you work (or worked). Please use the following scale to record your responses to the twenty statements that follow:

- 1=Never or Almost Never (or Not Applicable)
- 2=Infrequently
- 3=Occasionally or Sometimes
- 4=Frequently
- 5=Always or Almost Always

- 1) Individuals are held accountable for accomplishing specific (quantifiable) goals. _____
- 2) Individuals receive specific performance feedback that is useful for improving their performance. _____
- 3) Where possible, the performance of individuals and groups is quantifiably measured and monitored over time. _____
- 4) Salary increases (e.g., raises, bonuses) are proportionate to an individual's job performance. _____
- 5) Promotions are based almost entirely on job performance. _____
- 6) Individuals are selected for employment based on objective criteria (e.g., written tests, performance tests, work samples, etc.) _____
- 7) Training is provided for employees who need to upgrade their knowledge and skills. _____
- 8) Organizational performance improvement is financially rewarded by a group incentive plan (e.g., gainsharing,, profit-sharing, etc.). _____
- 9) Management encourages the delegation of decision-making authority to lower-level employees (i.e., real empowerment). _____
- 10) Individuals are encouraged to perform a wide variety of tasks whenever possible. _____

Correlations between the sum of enterprise-directed practices (EntSum), customer-directed practices (Csum) and Employee-Directed Practices (ESum) and Organizational Performance (OP) in the US sample are shown in Table 2a. The median correlation between the three predictors and Organizational Performance was $r = .50; p < .001$. Correlational data from a survey using identical metrics conducted in Brazil are provided in Table 2b. The median correlation was $r = .37; p < .001$. Similarly, correlational data were obtained from a survey distributed in Singapore are provided in Table 2c. The median correlation was $r = .50; p < .001$.

Of particular importance to the interpretation of the validity of a correlation is the matter of discriminant validity. If conceptually unrelated measures are highly associated with a predictor or criterion measure, results might be interpreted as an artifact arising from common method variance, or response-set bias. In the three survey research studies, correlations were examined between Organizational Performance (the criterion variable) and two conceptually unrelated measures: Self-Efficacy (“In general, a person can accomplish whatever he/she sets out to do”); Benign World View (“In the long run, those people who work the hardest achieve the most success in life.”) The median correlation between Organizational Performance and respondents’ Self- Efficacy was $r = 0.07$; the median correlation between ratings of Organizational Performance and respondents’ Benign World View was $r = 0.01$. These correlations appear in Tables 2a,2b, and 2c.

Table 2a
Descriptive Statistics and Correlations with Organizational Performance: US

Variables	M	SD	N	α	Correlation
Enterprise-Directed Practices (EntSum)	33.04	6.90	621	(.77)	.50
Customer-Directed Practices (CSum)	28.25	7.92	621	(.83)	.42
Employee-Directed Practices (ESum)	31.41	7.80	621	(.86)	.52
Organizational Performance (OP)	29.11	5.06	621	(.84)	1.00
Self-Efficacy	3.78	1.04			.07
Benign Worldview	3.35	1.09			.01

Table 2b
Descriptive Statistics and Correlations with Organizational Performance: Brazil

Variables	M	SD	N	α	Correlation
Enterprise-Directed Practices (EntSum)	29.64	6.74	129	(.75)	.37
Customer-Directed Practices (CSum)	27.88	8.51	129	(.84)	.36
Employee-Directed Practices (ESum)	29.40	8.49	129	(.86)	.52
Organizational Performance (OP)	18.81	6.70	129	(.94)	1.00
Self-Efficacy	1.06				.07
Benign Worldview	1.08				-.04

Table 2c
Descriptive Statistics and Correlations with Organizational Performance: Singapore

Variables	M	SD	N	α	Correlation
Enterprise-Directed Practices (EntSum)	36.93	6.90	60	(.77)	.50
Customer-Directed Practices (CSum)	28.25	7.92	60	(.83)	.42
Employee-Directed Practices (ESum)	31.41	7.80	60	(.86)	.52
Organizational Performance (OP)	21.17	4.77	60	(.92)	1.00
Self-Efficacy	1.06				.06
Benign Worldview	1.08				.13

The Present Research

Surveys were completed anonymously and voluntarily during three semesters amidst the COVID pandemic: Fall, 2020, Spring, 2021, and Fall, 2021. Respondents during the first two semesters were graduate students with current or prior full-time work experience. During the Fall, 2021 two-thirds of respondents were graduate students and one-third were undergraduates. Results in the two subsamples were essentially identical and were combined. With respect to data collected in the third semester (Fall, 2021), respondents were explicitly asked to focus their attention on their employment during the 18 months of the COVID period. Wording of instructions was as follows, emphasis in the original: “The purpose of this section is to obtain information on the actual practices (as distinct from stated or printed policies) in the organization of this most recent job held during the covid pandemic (between March 2020 and August 2021). If you work in a subsidiary of a larger organization, focus on the local organization where you work (or worked).”

Three hypotheses were advanced. Hypothesis 1 posited that mean scores of enterprise-, customer-, and employee-directed practices would decline due to environmental uncertainties and in some cases, substantial interruptions in business operations. Hypotheses 2 and 3 followed from Hypothesis 1. If the frequency of the three sets of practices declined, this should be reflected in reduced variance in practices enacted across organizations (Hypothesis 2), and performance—see Nunnally and Bernstein (1994)—reduced correlations with other variables.

Results were entirely unresponsive of the first two Hypotheses. Contrary to prediction, the enactment of Enterprise-Directed Practices *increased* steadily from 30.64 to 31.46 to 32.48. In the original US study, the mean was 31.04 (reference withheld). Similarly, Customer-Directed Practices tended to increase (30.09, 29.56, 32.73) and were far higher than in the original US study, 28.25. Employee-Directed Practices remained consistently higher (35.69, 35.48, and 34.84) compared to the original level of 31.41. Data on Mean levels of Practices during the three focal semesters are provided in Table 3a. Data on correlations between practices and Organizational Performance during the three focal semesters are provided in Table 3b, Table 3c, and Table 3d.

Table 3a
Basic Statistics Over 18 Months

Variables	Fall 2020		Spring 2021		Fall 2021		ANOVA		
	Mean	SD	Mean	SD	Mean	SD	F	Df	p
Enterprise-Directed Practices	30.64	7.08	31.46	6.80	32.48	6.94	1.47	251	0.23
Customer-Directed Practices	30.09	8.46	29.56	8.23	32.73	8.54	3.32	251	0.04
Employee-Directed Practices	35.69	7.42	35.48	7.93	34.84	8.41	0.26	251	0.77
Organizational Performance	21.53	4.96	21.37	4.73	22.05	5.06	0.43	251	0.65

Table 3b
Descriptive Statistics and Correlations – Fall 2020

Variables	M	SD	N	1	2	3
1. Enterprise-Directed Practices	30.64	7.08	88	-		
2. Customer-Directed Practices	30.09	8.46	88	.60***	-	
3. Employee-Directed Practices	35.69	7.42	88	.52***	.47***	-
4. Organizational Performance	21.53	4.96	88	.35***	.44***	.46***

Note: *** $p < .01$,

Table 3c
Descriptive Statistics and Correlations – Spring 2021

Variables	M	SD	N	1	2	3
1. Enterprise-Directed Practices	31.46	6.80	84	-		
2. Customer-Directed Practices	29.56	8.23	84	.58***	-	
3. Employee-Directed Practices	35.48	7.93	84	.62***	.38***	-
4. Organizational Performance	21.37	4.73	84	.49***	.40***	.54***

Note: *** $p < .01$

Table 3d
Descriptive Statistics and Correlations – Fall 2021

Variables	M	SD	N	α	1	2	3	4	5
1. Enterprise-Directed Practices	32.48	6.94	80	.82	-				
2. Customer-Directed Practices	32.73	8.54	80	.88	.66***	-			
3. Employee-Directed Practices	34.84	8.41	80	.90	.52***	.54***	-		
4. Organizational Performance	22.05	5.06	80	.88	.49***	.52***	.51***	-	
5. Benign Worldview	13.21	2.40	80		-.23**	-.14	.04	.03	-
6. Personal Self-Efficacy	4.38	1.59	80		-.29***	-.14	-.22**	.07	.19*

Note: *** $p < .01$, ** $p < .05$, * $p < .10$

The Standard Deviations associate with the practices were slightly higher than in the original study, but the Coefficients of Variation were slightly lower at .22, .27, and .23 (for Enterprise-, Customer- and Employee-Directed practices in the three COVID semesters, respectively) versus .22, .28, and .25, respectively in the original sample. See Table 3a.

The third Hypothesis pertained to the magnitudes of correlations between the three predictor variables and Organizational Performance during the three semesters amidst COVID compared to the original US sample and the samples from Brazil and Singapore. The median correlation between Enterprise-Directed Practices and Organizational Performance was $r = .49$ in the COVID-era samples versus $r = .50$, $r = .37$, and $r = .27$ in the samples from the US, Brazil, and Singapore. The median correlation between Customer-Directed Practices in the focal sample was $r = .44$ versus $r = .42$, $.36$, and $.43$, respectively. With respect to Employee-Directed Practices the median correlation in the focal sample was $r = .51$ versus $r = .52$, $.42$, and $.43$. As an aside, correlations in the focal sample would have been slightly higher had means been calculated after r to z transformations.

The fourth hypothesis pertains of the notions that: (a) mean levels of practices will be particularly reduced in some industries, such as travel and entertainment, that were severely impacted by the COVID pandemic; and (b) that correlations between the three sets of practices and Organizational Performance will likewise be moderated by industry differences in the impact of COVID. Table 6a reports the effects of industry differences in COVID impact with regard to mean levels of the three sets of practices and Organizational Performance. Examination of ANOVA statistics indicates that across-industry differences in COVID impact had no effect of mean levels of the enactment of Enterprise-, Customer-, and Employee-Directed Practices. There was a “hint” of an impact on means levels of Organizational Performance (with $p = 0.15$). The moderator effect was in the predicted direction; the lower the COVID impact, the higher the mean level of Organizational Performance.

Table 6a
Examination of the Moderating Effect of COVID Impact by Industry

COVID Impact	Ent-Directed Practices		Cust-Directed Practices		Emp-Directed Practices		Org. Performance	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
High Impact	32.16	8.20	33.95	8.68	35.47	9.65	22.16	4.15
Moderate Impact	31.85	5.81	32.42	7.43	34.73	8.43	20.65	5.17
Low Impact	33.30	7.29	32.06	9.50	34.73	8.10	23.24	5.28
ANOVA (<i>F</i> , <i>df</i> , <i>p</i> -value)	(0.34, 77, 0.71)		(0.30, 77, 0.74)		(0.05, 77, 0.95)		(1.95, 77, 0.15)	

Table 6b
Moderating Effect of COVID Impact by Industry on Correlation between Practices and Org. Performance

Cube One Dimensions	High Impact		Moderate Impact		Low Impact	
	Correlation	p-value	Correlation	p-value	Correlation	p-value
Enterprise-Directed Practices	.60	.01	.29	.15	.57	.00
Customer-Directed Practices	.66	.00	.45	.02	.55	.00
Employee-Directed Practices	.74	.00	.50	.01	.44	.01

Table 6b reports of the hypothesized moderator effect of across-industry levels of COVID impact on correlations between the three sets of practices and Organizational Performance. Correlations between practices and Organizational Performance were the strongest in industries that had a high COVID Impact. Evidently a high COVID impact magnified the effects of Practices on Organizational Performance. See Table 6b.

A post hoc analysis was also performed with regard to the inter-correlations among the three sets of practices (Enterprise-, Customer-, and Employee-Directed) and the magnitude of correlations between Practices and Organizational Performance. In prior studies there have consistently been high levels of inter-correlations among practices. One interpretation of this phenomenon is that well-managed organizations tend to enact high levels of each set of practices. Data from the three amidst-COVID semesters are partly consistent with this post hoc conjecture.

Median inter-correlations among practices were $r = .52$, $.58$, and $.54$ during the Fall, 2020, Spring 2021, and Fall, 2021. Median correlations between Practices and Organizational Performance were $r = .44$, $.49$, and $.51$, respectively. The partial support is reflected insofar as the lowest median inter-correlations among Practices are associated with the lowest prediction of Organizational Performance.

To reiterate the main finding, high levels of correlations were found between the three sets of practices (Enterprise-, Customer-, and Employee-Directed) and associated levels of explained variance in Organizational Performance. Indeed, correlations were as high as was found in prior survey research before the onset of COVID. Observed correlations were generally at a level that Cohen (1988) described as a Large Effect size ($r = .50$). Hence, there is evidence that the Cube One Framework remains a valid model for explaining and predicting Organizational Performance, even amidst a COVID environment.

Based on comments provided during the presentation of this piece at the Eastern Academy of Management in 2022, it was suggested that results might be more powerfully examined using Qualitative Comparative Analysis (QCA). QCA examines multiple combinations of potential causal variables on a case-by-case basis (Fiss, 2011; Ragin, 2008). The entire sample of respondents during the Fall, 2021 was examined for all respondents who completed all essential components of the Cube One Framework survey ($n = 80$). We performed what can be described as a rudimentary QCA. The frequency of practices deemed associated theoretically with the highest levels of rated organizational performance were compared to the frequency of practices, as described by respondents from six organizations with very low scores. There were zero cases where only the highest rated organizations had 100 percent alignment. So the assumption of equifinality was supported. There are no “silver bullets” of managerial practices that are necessary for excellent organizational performance.

One weakness of the present inquiry is the absence of a measure or metric to gauge the extent to which work was being undertaken on a remote basis amidst the COVID outbreak. It would be good to ascertain if there is a direct (or mediated) association between the extent to which work is performed on a remote basis and: (a) the frequency of the enactment of the three sets of practices, and (b) correlations between practices and Organizational Performance.

ⁱThe service-profit chain research also represents another step toward a more comprehensive model of organizational performance, but typically linkage studies cite and interpret secondary evidence of connections between customer attitudes, employee attitudes, and profitability— For example, see J. L. Heskett, W. E. Sasser, Jr., & L. A. Schlesinger, *The Service Profit Chain: How Leading Companies Link Profit and Growth to Loyalty, Satisfaction, and Value* (New York, NY: Free Press, 1997). Another framework that is conceptually compatible with a multi-dimensional approach toward improving organizational performance is the Balanced Scorecard: R. S. Kaplan and D.P. Norton, *The Balanced Scorecard*, (Cambridge, MA: Harvard Business School Press, 1996). In practice, however, the Balanced Scorecard management system seeks to align strategy with organization activity by developing a unique set of performance metrics for each focal organization. Each program is custom made for a specific organization and strategy, a process that typically entails a 10-step 16-week implementation.

Works Cited

- Cohen, J. (1992). Quantitative methods in Psychology: A power primer *Psychological Bulletin*, 112(1) 155-159.
- Fiss, P. C. (2011). Building better causal theories: A fuzzy set approach to typologies in organization research, *Academy of Management Journal*, 54/2: 393-420.
- Freeman, F. R. & and D. L. Reed, D. L. (1983) Stockholders and Stakeholders: A New Perspective on Corporate Governance, ” *California Management Review*, 25/3: 88-106.
- Heskett, J. L., Sasser, Jr., W. E & L. A Schlesinger, L. A. (1997). *The Service Profit Chain: How Leading Companies Link Profit and Growth to Loyalty, Satisfaction, and Value* (New York, NY: Free Press).
- Kaplan, R. S. D.P. Norton, D. P. (1996). *The Balanced Scorecard*, (Cambridge, MA: Harvard Business School Press, 1996).
- Nunnally, J. C. & Bernstein, I. (2007). *Psychometric Theory* 3rd Ed, NY: McGraw-Hill.
- Post, J. E., Preston, L. E. & Sachs, S. (2002). Managing the Extended Enterprise: The New Stakeholder View, *California Management Review*, 45/1 : 6-28.
- Ragin, C. C. (2008). *Redesigning Social Inquiry: Fuzzy Sets and Beyond*. Chicago: University of Chicago Press