Toward a "Warm and Fuzzy"Approach to Behavior Analysis and Improved Organizational Performance

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Abstract

For more than two decades researchers in the field of behavior analysis have lamented thatthey [managers, educators, etc.] are"not using our good stuff" more often. During the past few years six strategies have been advanced to expand the use of behavior analysis. The present behavior-based research model incorporates all six suggested strategies: it employs a more resonant format; it entails the enactment of"warm and fuzzy" behaviors; it offers an easily understood framework;it permits evidence-based management; it incorporatesa more contemporary and sophisticated message; and it is scalable. To date, research on the Cube One frameworkhasemployed a molar analysis of summated enterprise-, customer-, and employee-directedmanagerial practices (behaviors). At the molar level, organizations enacting high levels of these managerial behaviors are far more successful than those that enact a low level—results found equally applicable to for-profit and nonprofit/government organizations.The present research, using data from 609 respondents examines30 management practicesat a granular level. Organizational performance is measured both using a comprehensive rating and a behavior-based scale. Item means of managerial practices (i.e., behavior frequencies) can be used for diagnostic purposes, and cut points are provided for organizations with 25, 50, and 100 respondents. Based on diagnostic assessments, organizations can undertake interventions. Ways to modify the present research to more closely parallelthe traditional behavior analysis paradigm are described.

Keywords: enterprise-, customer-, and employee-directed behaviors, Cube One framework; organizational performance, granular analysis

Toward a "Warm and Fuzzy," Behavior Analysis: Application of a Granular Version of the Cube One Framework

For more than two decades there has been widespread disappointment regarding the minimal application of behavior analysis to address important matters in human affairs. Writing in The Behavior Analyst, William Heward and Richard Malott (1995) noted that despite the impressive evidence of the efficacy of applied behavior analysis to dramatically address real-world problems, the approach has been rarely used in practice. Heward and Malott lamented: "Why aren't they (educators, managers, etc.) using our good stuff more often? Can't they see how it can solve the important problems that exist today?" (p. 69).

Clearly, the lamented state of affairs has persisted, viz. there has remained limited adoption of applied behavior analysis. This led David Freedman (2015) to suggest three strategies for improving the public perception of behavior analysis. The strategies included reframing behaviorism to have a more resonant format; demonstrating that an intervention is evidence-based; and playing up the "warm and fuzzy" side of behavior analysis.

In 2016 Julie Smith added three additional strategies. These were: creating a cohesive, easily understandable framework; communicating a more contemporary, sophisticated message; and using technology to achieve scale of application.

More recently, Dixon et al. (2018) commented that "Skinner would despair over the limited impact behavioral analyses had had on solving the world's most pressing problem"(p.242). Clearly they started the clock, so to speak, with Skinner(1987), "Why are we not acting to save the world?"They might also have referencedBaer et al.'s (1987) observation about the long-term failure to adopt research-based practices. This phenomenon even pertained to fields in which behavior analysts had produced powerful interventions (cf. Slocum et al., 2014).

The present research describes how all six of the above-mentioned strategies for increasing the adoption of behavior analysis can be accomplished. A granular approach to the (behavior- based) Cube One framework can provide a basis for increasing the application of applied behavior analysis. In the discussion section, we notehow the Cube One framework can capture the key elements of applied behavioranalysis using a traditional paradigm

The Cube One framework: a Molar Exposition

For almost a decade the Cube One framework has been used to explain organizational performance (e.g., Kopelman, 2010, 2013, 2020);Kopelman, Chiou, Lipani, & Zhu, 2012); Kopelman & Prottas, 2010; 2012; 2017; Letzler; Kopelman & Prottas, 2013; Massimino, Kopelman, & Joseph, (2015).Before addressing a granular examination of specific managerial behaviors, it is useful to present the Cube One framework as originally formulated in a molar fashion.

The Cube One framework posits that successful organizations enact high levels of three sets of practices (i.e., managerial behaviors): those that areenterprise-, customer-, and employed-directed. Enterprise-directed practices (which include goal setting, feedback, and incentives), are intended to improve employee motivation and ability, which are seen as precursors to organizational performance. Likewise, customer-directed practices (such as providing competitive prices and consistently improving product/service quality) enhance customer purchases and loyalty, precursors to organizational performance. Employee-directed practices (such as sharing information, minimizing status differences, and providing some measure of employment security) enhance employee commitment and loyalty, precursors to organizational performance.

With respect to each of the three sets of practices, the frequency of enactment can empirically be observed and classified asoccurring at high, middle, or low levels. Thus, an organization that is High in the frequency of all three sets of practices is categorized in Cube One (High, High, High). Organizations that enact Low levels of all three sets of practices (Low, Low, Low) are classified in Cube 27. A schematic representation of the Cube One framework appears below in Figure 1.

Figure 1. Schematic Representation of the Cube One Framework
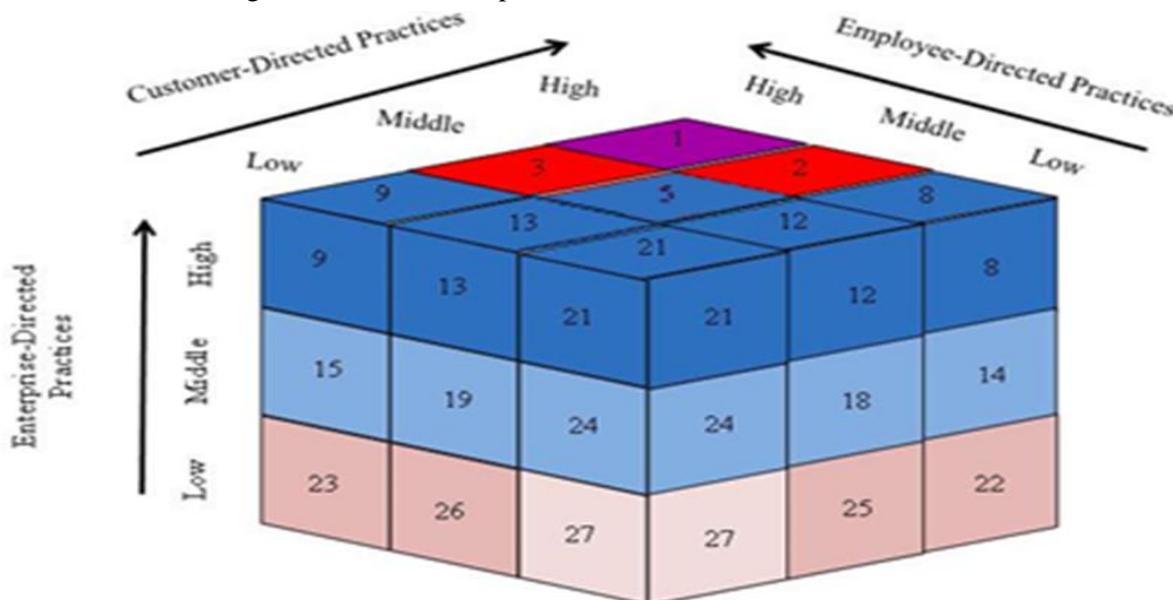
Using a comprehensive, content valid measure of organizational performance—one that is pertinent to organizations in all three sectors: for-profit, nonprofit, and government—there is abundant evidence that the Cube One framework is valid. Organizations in Cube One have been found to be 14.2 standard errors higher in rated performance compared to organizations in Cube 27.Interestingly, results have been slightly stronger in the nonprofit/government sectors compared to the for-profit sector. Discriminant validity analyses indicate that the findings are not spurious or artifactual (Kopelman &Prottas, 2012).

It might be noted that the highly acclaimed difference of 6 Sigma corresponds to a probability of 3.4 occurrences in a million observations (.000034). A difference of 14.2 Sigma adds four additional zeroes, and is .00000000256; hence, the likelihood of the observed difference being attributable to sampling error (or chance) is less than one in 10 billion. Median correlations between summated scores of enterprise-, customer-, and employee-directed practices and organizational performance have averaged .37, .42, and .43 using data from five samples collected from threecountries. When the three sets of practices are examined in concert (by multiple regressions) the associations were .54, .48, and .58. across four countries (Kopelman &Prottas, 2017)

The Cube One framework: a Granular Exposition

Each of the 30 managerial practices (i.e., behaviors) has been found to be significantly associated with organizational performance. Using a sample of data from 597 U.S. organizations, means for each of the 10 enterprise-directed behaviors are provided in Table 1. Also included in Table 1 are cut points for organizations with 25, 50, and 100 respondents. Likewise, means for the 10 customer-directed behaviors are presented in Table 2, including cut points for the same three sample sizes. Means pertinent to the 10 employee-directed behaviors and also cut points, are presented in Table 3.

Table 1Means and Cut Points for Enterprise-Directed Behaviors

Managerial Behaviors (Practices)	M	SD	M n=100	M n=50	M n=25
Individuals are held accountable for accomplishing specific (quantifiable) goals.	3.89	1.01	3.75	3.65	3.55
Individuals receive specific performance feedback that is useful for improving their performance.	3.34	1.12	3.18	3.07	2.96
Where possible, the performance of individuals and groups is quantifiably measured and monitored over time.	3.30	1.19	3.13	3.01	2.90
Salary increases (e.g., raises, bonuses) are proportionate to an individual's job performance.	2.90	1.33	2.71	2.58	2.45
Promotions are based almost entirely on job performance.	3.14	1.21	2.96	2.85	2.73
Individuals are selected for employment based on objective criteria (e.g., written tests, performance tests, work samples, etc.)	2.65	1.28	2.47	2.34	2.22
Training is provided for employees who need to upgrade their knowledge and skills.	3.29	1.19	3.12	3.00	2.89
Organizational performance improvement is financially rewarded by a group incentive plan (e.g., gainsharing, profit-sharing, etc.)	2.24	1.58	2.01	1.86	1.71
Management encourages the delegation of decision-making authority to lower-level employees (i.e., real empowerment).	2.69	1.17	2.52	2.41	2.30
Individuals are encouraged to perform a wide variety of tasks whenever possible.	3.61	1.05	3.46	3.36	3.26

Analysis of Means of 609 Individuals for Enterprise Directed Practices	3.11	0.696	3	2.94	2.87

Table 2Means and Cut Points for Customer-Directed Behaviors

Items	M	SD	M n=100	M n=50	M n=25
Customers are regularly surveyed via questionnaire regarding their satisfaction with products and/or services.	2.59	1.77	2.34	2.17	2.00
Focus groups (i.e., in-depth interviews) are regularly held with customers to gain a fuller understanding of wants and/or needs.	2.27	1.26	2.09	1.97	1.85
Products and/or services are continually upgraded as part of an ongoing program of quality improvement.	3.32	1.15	3.15	3.04	2.93
The best practices of competitors are studied and adopted, or improved upon, where possible (i.e., benchmarking).	3.01	1.22	2.83	2.72	2.60
The goal of customer satisfaction importantly influences operational decisions at all organization levels.	3.47	1.18	3.30	3.18	3.07
Prices of goods/services are continually reviewed to improve the organization's competitive position.	3.06	1.36	2.86	2.73	2.60
The quality of products/services is regularly assessed by an independent organization as part of a continuing audit.	2.64	1.58	2.41	2.26	2.11
Customer satisfaction is an important factor in determining pay increases of individuals or departments.	2.25	1.24	2.07	1.95	1.83
Employees are granted wide latitude to use their own judgment in order to satisfy customers.	3.00	1.20	2.82	2.71	2.59
Product or service innovations are regularly sought and budgeted for on a continuing basis.	2.91	1.15	2.74	2.63	2.52
Analysis of Means of 609 Individuals for Customer-Directed Practices	2.9	0.8	2.73	2.66	2.58

Table 3Means and Cut Points for Employee-Directed Behaviors

Items	M	SD	M n=100	M n=50	M n=25
Open, two-way communication is employed. All employees are informed about new developments and encouraged to express their ideas and complaints.	3.06	1.11	2.90	2.79	2.68
Distinctions between hierarchical ranks are minimized. Management downplays status symbols (e.g., executive dining rooms and other perks).	2.83	2.14	2.52	2.31	2.11
Employee layoffs are avoided where possible, by first attempting to place employees in other jobs within the organization.	3.26	2.45	2.91	2.67	2.44
Employee growth is encouraged by providing in-house training and/or reimbursements for outside training/educational programs.	3.46	2.42	3.11	2.88	2.65

Work-family conflicts are minimized by adopting such policies as flexible work hours, day care assistance, and encouraging managerial tolerance.	**2.76**	**1.28**	**2.57**	**2.45**	**2.33**
The organization responds to employee concerns by taking appropriate actions, not just by words.	**2.82**	**1.06**	**2.67**	**2.56**	**2.46**
Managerial integrity is demonstrated in dealing with employees. All employees are given the same information; promises are kept.	**2.98**	**1.32**	**2.79**	**2.66**	**2.54**
Employees are treated with respect and as mature adults. Communications are straight-forward, not condescending or patronizing.	**3.41**	**1.18**	**3.24**	**3.12**	**3.01**
Employees know they can make (a few) mistakes. Management attempts to minimize the role of punishment and fear.	**3.43**	**1.09**	**3.27**	**3.17**	**3.06**
Management encourages employees to feel that they are part of a team.	**3.59**	**1.14**	**3.42**	**3.31**	**3.21**
Analysis of Means of 609 Individuals for Employee-Directed Practices	**3.2**	**0.86**	**3.03**	**2.95**	**2.87**

Upon collecting anonymous data from employees in anorganization or from one or more subunits (e.g., divisions or departments), the next stepis to ascertain the level of inter-rater agreement regarding the frequency of practices (e.g., $r_{wg(j)}$)—see James, Demaree, and Wolf (1984); also Lindell, Brandt, & Whitney (1999) who describe the calculation of $r^*_{wg(j)}$. It is generally accepted that analyses should only include groups with r_{wg} scores of .70 or higher. It is essential that inter-rater agreementbe established in order to demonstrate that there isevidence of shared perceptions. Using $r^*_{wg(j)}$—a more "gentle" approach to assessing inter-rater agreement—higher scores (of $\geq .80$)—are needed to beconsidered acceptable; see Lindell (2001) .

The thirdstep would entail conducting an organizational diagnosis, predicated on establishing adequate levels of inter-rater agreement. As a start, means of each set of practices should be compared. If, for example, means for enterprise-, customer-, and employee-directed practices are 42, 39 and 22, respectively, there would be a clear need to increase the frequency of enactment of employee-directed behaviors. Drilling down to examine specific practices, item means could be compared to norms from the large U.S. sample.

Step four would be to initiate a program to implementpractices identified as deficient (non-occurring or too infrequently occurring) by the diagnosticprocess. It must be recognized that implementation of planned change is an endeavor fraught with obstacles. A normative, 8-component model pertinent to the implementation of planned change has been elucidated by Kopelman (1986). Along these lines, Kotter and Cohen (2002) in *The Heart of Change*and Kotter (2008) in *A Sense of Urg*ency describe an eight-step model toward implementing change. They claim that all eight steps are essential to enact change. However, As Kotter and Whitehead (2010) caution, proposing a solid approach that entails implementingclearly needed changes is not sufficient to ensurechanges are enacted. There are four strategies for shooting down a proposal, regardless of its merits. These include spreading fear about possible negative outcomes; sowing confusion by referencing (possibly obscure) competing ideas; creating barriers that produce death by delay; and ridiculing the proposal and by implication its supporters. It is important that advocates of change are prepared to counter the (sometimes subtle) threats to implementingchange.

Changes can be implemented simultaneously in multiple subunits, or alternatively at different times using a multiple baseline design. After the passage of time, repeated measures of the frequency of enacted behaviors should be ascertained. It is posited that scores will increase with respect to the targeted managerial behaviors; and scores in organizational performance should also improve.

The Six Suggestions

A granular version of the Cube One framework directly addresses all six suggested strategic shifts. It is notable that the focal model changes both the traditional levels of unit of analysis and unit of measurement. It also focuses on managerial behaviors that can be viewed as discriminative stimuliempirically related to observed levels of organization performance.

1. The granular formulation of the Cube One framework *achieves a friendlier, moreresonant format*. Practices are couched in terms of familiar managerial behaviors that are related to employee performance, customer satisfaction and employee satisfaction, and in concert, ultimately to organizational performance. Adopting managerial practices and organizational performance as the units of observation and analysis will make sense to people who are in the business of, say, manufacturing mattresses or providing meals to the homeless. As noted by Hantula (2019) the unit of analysis in behavior research can range from the cell—to at higher levels an organ, organism, organization, and society. For decades, most operant analyses have been conducted at the level of the organism(Goltz, 2003). To be sure, managers are interested in modifying the work behaviors and performance of a particular individual(s). However, managers are fundamentally responsible for improving the performance of a work unit, and many are accountable for "bottom line" results. The latter metric pertains to organizational performance, which coincides with one of the two units of observation and measurement of the Cube One framework.

2. With regard to providing a *cohesive, easily understood framework*, the Cube One framework is cohesive insofar as managerial practices in three arenas (the enterprise, customers, and employees) are seen as effecting organizational performance. There is no need to invoke constructs that albeit relevant, are not necessary for understanding the model. It is true that managerial behaviors can be seen as discriminative stimuli, and may become conditioned reinforcers. But studies that invoke these concepts or others such as schedules of reinforcement, resistance to extinction, not to mention mands and tacts, will not speak to the aforementioned company that manufactures mattresses or the agency that provides meals for the homeless.   What will the mattress manufacturer ornonprofit agency do in light of highly technical behavioral results?   Based on 30 years of evidence, the answer is probably nothing.

3. With regard to *playing up the "warm" and "fuzzy side* of behavior analysis, the Cube One framework is fully responsive. For example, the employee-directed managerial behaviors include such practices as treating employees with respect; demonstrating managerial integrity; minimizing hierarchical status differences; and mitigating work/family conflicts.   These are just three of 10 such practices plus there are those that relate to customers. What can be warmer or fuzzier thanthe behaviors included in Table 3? Additionally, some of the customer-directed practices can also be characterized as people-friendly. However, some behavior analysis researchers may see the above-mentioned managerial practices as introducing a subjective level of mentalism that, by definition, is unobservable (Burgos & Killeen, 2019). To address this concern, it is essential to establish that perceptions of practices are consistently shared by independent observers—hence, the critical requirement that inter-rater agreement is demonstrable. Given high inter-rater agreement about the phenomena of managerial behaviors it is possible to demonstrate that they serve to influence (i.e., empirically "control") organizational performance.

4. With regard to *communicating a more contemporary, sophisticated message,*the Cube One framework adopts the notion of equifinality. That is to say, practices are substitutable. Further, there is no single set of best practices (or "silver bullets") that will be eternally ideal. It is recognized that new enterprise-, customer-, and employee-directed practices emerge over time. Therefore, the 30 practices included in Tables 1-3 have been updated and are included in a recently published book (Kopelman, 2020). All three sets of practices can benefit from the use of more contemporary techniques: e.g., the use of "big data" to predict customer demand; conducting voice of the customer analyses; using social media to identify target groups, and so forth. Because new managerial and marketing techniques are continually being developed, the Cube One framework facilitates examination of new and sophisticated practices. More specifically, there is no necessity to limit managerial behaviors to just 30 practices.

5. *Demonstrating that an intervention is evidence-based* is a centralstrength of the Cube One framework. Organizational diagnoses and actions can be thoroughly based on empirical evidence. Speaking in broad terms about science, Ed Lawler has noted that theories without data are pure fantasy; data without theory is complete chaos (Lawler, 1971). Theory-based hypotheses pertinent to the Cube One framework have been tested and consistently supported by data in five samples drawn from three countries. In one U.S. sample virtually identical results were found for large and small organizations and also among for-profit companies as compared to nonprofit/government organizations. Not only has there been consistent support (and multiple replications) the results have been of the magnitude that Cohen (1992) classified as Medium and Large effect sizes. The field of behavior analysis has been characterized as needing increased transparency and independent replications (Hales, Wesselmann, and Hilgard, 2019). These issues are not pertinent to the body of research on the Cube One framework.

6. The sixth suggestion calls for *using technology to increase scalability*. Because the Cube One framework is a survey-based methodology, scale can easily be expanded.

~~7.~~6. _____ The two U.S. samples totaled respondents from about 1,500 organizations. Obtaining a sizable number of respondents is not a problem. Nor is it a problem to prepare "a visually compelling graphical display"—to use the terminology of Hales, et al.)—of changes in managerial behaviors and in organizational performance.

Discussion and Conclusion

The Cube One framework relies on measuring the frequency with which three sets of managerial behaviors (i.e., practices)—those that that are enterprise-, customer-, or employee-directed—are enacted. A granular version of this model identifies specific managerial/marketing behaviors, and is fully responsive to the six suggestions advanced to make behavior analysis more congenial to people who are not engaged in the conduct of behavior science. It is virtually indisputable that implementing two-way communication; minimizing hierarchical status differences; being respectful, and demonstrating integrity are "warm and fuzzy."

A traditional advocate of behavior analysis will, rightly, question whether perceived managerial behaviors are truly (factually) discriminative stimuli—and "real"-- or just random verbal behaviors. The establishment of intersubjective agreement serves, epistemologically, to ground perceptions of managerial practices as measurable and real phenomena.

Another aspect of the granular formulation of the Cube One framework that may be off-putting to traditional behavior analysis researchers is that the observable behavior of interest is management practices, and the unit of analysis is the organization. The behaviors of individual employees and customers are not directly measured. In a sense, they might be viewed, statistically, as latent variables.

In the granular formulation of the Cube One framework, initial enactment levels are not controlled by the researcher. Rather, they are the organic result of extant practices in a particular work unit (department, division, organization).

To make the granular Cube One framework more closely aligned with the traditional behavior analysis paradigm, researchers need be able to control the enactment of changes in managerial practices—in both their magnitude and timing. For example, four divisions in an organization might be characterized as having different levels of summated enterprise, customer- and employee-directed practices. Three division might have two Middle levels and one Low level—e.g., LMM, MLM, MML—and the fourth division might have all middle levels of enactment (M,M,M). Changes in practices might be implemented in the three divisions with a Low level at the same time, or at multiple times. Repeated measures of practices after the passage of a year, should show increases in three divisions where changes were implemented, but not in the (control) division where no changes were enacted. Likewise, measures of organizational performance should show increases in three divisions, but not the fourth.[2]Graphs of changes in levels of enacted practices and in levels of organizational performance should provide a compelling depiction of the extent to which experimental control was established.

The proposed research paradigm constitutes a substantial change in the conduct of behavior science. It might, though, be highly congenial to potential users, who are not in the business of conducting research on behavior analysis. This would include companies that make products such as mattresses or import jewelry. In brief, the suggestions of Freedman and Smith can actually be implemented using a granular version of the Cube One framework.

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Footnote

[1]Organizational performance has been measured both by a comprehensive rating and by a behavior-based scale. The behavior-based scale is a modified and abbreviated 5-item version of the behavior-based instrument developed by Griffin, Neal and Parker (2007). Predictions of organizational performance were

consistently superior using the behavior-based scale compared to the comprehensive rating scale (Kopelman & Prottas, 2017).

More specifically, correlations with enterprise-, customer-, and employee-directed practices rose from .39 to .45, .36 to .44, and .42 to .53, respectively. The multiple regression coefficient (R) rose from .48 to .58.

[2]Because a test of a granular version of the Cube One framework would most aptly be conducted in a field setting with extent organizations, the use of a reversal design (ABA) would most likely be dismissed as impractical.