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# Development of a measure to assess organizational change

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**Abstract** *Discusses the use of the act frequency approach methodology to develop and validate a measure of organizational support of revolutionary change. A total of nine unique behaviors, describing three constructs, were viewed by employees as supportive of revolutionary change; and 12 unique behaviors, describing two constructs, were perceived as being non-supportive of revolutionary change. The measures developed were found to have high internal reliability. The measures were also found to be highly correlated with relevant individual and organizational outcome measures. These results provide empirical support for the idea that how an organization supports revolutionary change can have an impact on both the organization and its employees and that contextual variable may not influence perceptions.*

## Introduction

Change is a part of life. Change has intrigued, scared, excited, and mystified us for many centuries and continues to challenge individuals from all walks of life. In recent years within a business context, however, the term “change” has also become synonymous with upheaval and chaos (Pritchett, 1996). As a consequence, it has become critical for companies to understand how to better manage and cope with change.

Nearly all authors who have contributed to the change literature have placed great importance on human factors as being critical to the ultimate success of an organization’s change efforts and especially in situations of revolutionary change. The need to understand revolutionary change better is particularly crucial today as dramatic alterations are underway in the economic, technological, psychological, social, scientific and medical realms that surround our lives (Gersick, 1991). “Turbulent times demand different responses in varied circumstances” (Dunphy and Stace, 1993, p. 905).

The objectives of this research were to:

- (1) develop behaviorally based measures of organizational support and non-support for revolutionary change;
- (2) test these measures for validity and reliability;
- (3) use these measures to evaluate the consequences of supportive and non-supportive behaviors from both an employee and organizational perspective; and



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- (4) examine how context criteria such as gender, department, job type, years of service, and age may influence the way in which employees define organizational support for revolutionary change.

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In other words, to identify organizational actions, or inactions, which employees perceive to support or hinder organizational change efforts and to assess whether the desire for these actions depends on various contextual criteria.

This research is timely in that it provides an empirical examination of the impact of “support” on the revolutionary change process. This is a surprising omission from the literature since both applied (e.g. Hammer and Champy, 1993) and theoretical (e.g. Van de Ven and Poole, 1995) research suggests that the “human element” is a critical success factor for revolutionary or radical organizational change. Tomasko (1993), in fact, has critiqued the revolutionary change and reengineering literatures for their continued focus on the technological rather than the human side of change. Also, Colman and Kilman (1990) indicate that it is important to gain insight into how employees view change efforts. This research takes an important step in each of these directions.

This research is also unique in that it examines the impact of five key contextual criteria (gender, department, job type, years of service, and age) on how employees experience revolutionary change. While such variables are not typically included in research which focuses on revolutionary change, support for their relevance comes from the resistance to change and supportive work environment literatures where researchers have indicated their impact (e.g. Furukawa, 1996; Mamman, 1996; Pollman and Johnson, 1974) as well as the type of support desired or sought (gender: Galinsky and Stein, 1990; Jayaratne *et al.*, 1988; Poulin, 1995, job type: Babin and Boles, 1996; Beehr *et al.*, 1990; Poulin, 1995, and age/years of service: Johnson and Johnson, 1994; Poulin, 1995). This research helps to address this gap in the change literature by analyzing these variables to indicate how they may influence support for revolutionary change.

The balance of this paper is divided into four main sections. Section one provides a brief review of the relevant support literature. Section two outlines the methodology employed in the research with particular attention given to the act frequency approach to scale design. A description of the resulting measures of support and non-support of revolutionary change as well as a discussion of the validity and reliability of the measures are presented in section three. Also included in this section is an examination of the impact of support and non-support of revolutionary change on the employee and the organization as well as data which explores the impact of gender, departmental affiliation, job type, years of service, and age on the developed measures of support. The paper ends with a discussion of key findings and relevant conclusions.

### Literature review

Change has been defined in a variety of ways in the literature. Following an exhaustive review of this literature, Van de Ven and Poole (1995, p. 512) define change as "... an empirical observation of a difference in quality of state over time". The literature identifies a number of theories of change which can be placed along a continuum ranging from incremental to radical change and including change to individuals (micro level change) or groups (macro level change). This paper focuses on how organizations can support employees who are going through revolutionary change[1], defined as a fundamental change that:

- forcefully interrupts the *status quo*;
- happens quickly and abruptly;
- is fundamental and all encompassing; and
- brings about something that is diametrically different than what used to be (Gersick, 1991; Greiner, 1972; Reger *et al.*, 1994).

Elsewhere in the literature, authors have used terms such as "radical change" (e.g. Greenwood and Hinings, 1996; Tushman and Romanelli, 1985), "transformational change" (e.g. Dunphy and Stace, 1993), "second order change" (e.g. Meyer *et al.*, 1993) and "discontinuous change" (e.g. Nadler and Tushman, 1995) to describe essentially the same phenomena. This lack of rigor with respect to terminology has led to overall confusion in this area of the literature.

The literature on resistance to change bridges the literature on revolutionary organizational change and support as it suggests that change management often neglects the "people" aspect of change and how it affects people's ability to change (Evans, 1995). Support has been defined as "information leading the subject to believe that he/she is cared for ... esteemed and valued ... and belongs to a network of communication and mutual obligation" (Cobb, 1974, p. 300). A supportive work environment has been posited to impact resistance to change whereby management is seen as understanding employees and trust is developed or when supervisors, seen to hold a position of "power", help to solidify relationships with front-line employees (Furukawa, 1996; Judson, 1993; Larkin and Larkin, 1994; Nystrom, 1990; Roberts and O'Reilly, 1974).

Tichy and Devanna (1986) identified three reasons for organizational resistance to change, namely: technical barriers (habit and inertia), political reasons (threats to coalitions may signal leadership problems), and cultural reasons (lack of a climate's support of change, regressing to "old days" of operations). Each of these reasons leads directly to the inner day-to-day workings of an organization and is linked to employee support. Judson (1993) and Spotnitz (1969) suggest that resistance must not be overcome but rather be supported until the individual is emotionally educated and comfortable to surrender resistance and organizations can successfully manage change. As Strebel (1992) indicates, this process involves developing a new "relationship" (compact) between employees and the organization.

Research on the construct of support can be found in the psychological, sociological, and organizational literatures. In general, organizational and supervisor support have been measured as independent constructs and, as such, distinguishing the effects of support from the organization versus that attributed to supervisors may be difficult (Kottke and Sharafinski, 1988). While it is recognized that support from an immediate manager is likely important to the change process, the focus in this research is at the organizational level.

Organizational support has been measured through organizational commitment (Mowday *et al.*, 1982; Shore and Wayne, 1993) and perceived organizational support – P.O.S. (Eisenberger *et al.*, 1986). Supervisor support has been measured through perceived support (e.g. Kottke and Sharafinski, 1988), communications content (Beehr *et al.*, 1990), and social support (Beehr *et al.*, 1990). The authors could not, however, find any research that focused specifically on developing a measure of organizational support for revolutionary change.

Understanding how an organization can best support its employees throughout the change process is critical as the research in this area suggests that some of the most common concerns of today's organizations (e.g. low job satisfaction, high stress, burnout, low commitment) appear to be mitigated by a supportive work environment. A review of this extensive body of literature found research which linked support at the organizational and/or supervisor level to:

- *work stress* (e.g. Babin and Boles, 1996; Cohen and Wills, 1985; Himle *et al.*, 1989; House, 1981; Jayaratne *et al.*, 1988; Johnson and Johnson, 1994);
- *job satisfaction* (e.g. Babin and Boles, 1996; Himle *et al.*, 1989; Poulin, 1995);
- *job performance* (e.g. Babin and Boles, 1996; Jackson and Schuler, 1983);
- *work and family balance* (e.g. Galinsky and Stein, 1990; Goff *et al.*, 1990);
- *absenteeism* (e.g. Eisenberger *et al.*, 1986; Jackson and Schuler, 1983);
- *job burnout* (e.g. Himle *et al.*, 1989; Jackson and Schuler, 1983; Jayaratne *et al.*, 1983); and
- *organizational commitment* (e.g. Eisenberger *et al.*, 1986; Kottke and Sharafinski, 1988; Meyer and Allen, 1991; Mowday *et al.*, 1982; Shore and Wayne, 1993).

Thus, it appears that links to these variables must be tested in order to critically evaluate and validate a measure of support for revolutionary organizational change.

While the mechanisms through which support affects change are not well articulated in the change literature, further research suggests that positive actions by the organization and/or its representatives leads to the development of higher quality exchange relationships and hence, more successful change (e.g. Konovsky and Pugh, 1994). Work by Eisenberger *et al.* (1986) can also be

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used to link the construct of support to successful organizational change. Eisenberger and his colleagues suggested that employees form beliefs concerning the extent to which an organization values their contribution (i.e. perceived organizational support (POS)) and employees who perceive high support were found to be more likely to “repay” the company with desirable work related behaviors (Coghlan, 1994).

A number of authors have stated that in today’s work environment successful change can be considered to be an important organizational goal (Nadler and Shaw, 1995; Pfeffer, 1994). As Hutchinson and Garstka (1996, p. 1363) state: “There are specific practices and policies that organizations can implement that will cause employees to feel valued by the organization, and once employees feel valued by the organization, they are more likely to be committed to the organization’s goals”. The objective of this research was to bridge such a gap.

## **Methodology**

### *The research site*

The research was undertaken at a large, North American based, telecommunications company. In recent years the telecommunication industry has been (and is continuing to be) completely transformed owing to a combination of deregulation (i.e. the removal of government regulations limiting competition), technological, legislative, and competitive forces. The organization studied was unionized, had over 14,000 employees, and sales exceeding \$3 billion when the research was conducted between 1997 and 1998.

### *Development of the measures: the act frequency approach*

Based on the work of Buss and Craik (1980, 1981, 1983a,b), the act frequency approach (AFA) was utilized to develop comprehensive behavioral measures of organizational support and non-support for revolutionary change. The AFA posits that, for a given disposition (in this research organizational support and non-support for revolutionary change), the set of behaviors nominated as representing that disposition, constitute a means for estimating the set of behaviors to be displayed in the future (Jaccard, 1974). The AFA views dispositions as “the tendency of individuals to behave in a certain way” (Buss and Craik, 1980, p. 379) and presents summary statements about behavior up to the present – dispositions are not intended to be either causal, or explanatory, and are not predictions (Buss and Craik, 1984). The AFA has been suggested to be particularly effective when there is an absence of measures for the construct in question which is the case here (Cooper *et al.*, 1990). Given the above, the AFA appears to be a valid technique for such exploratory research.

The development and testing of the measures of organizational support, and non-support, of revolutionary change in this study were divided into three distinct stages: act nomination, prototypicality, and testing of the measure. Relevant details on each of these stages are presented below. During all stages, respondents were asked to consider their response in relation to the changes

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involved in transitioning their company from a monopolistic to a competitive environment – revolutionary change (found to be a combination of dialectic and teleological as defined by Van de Ven and Poole (1995) and supported by Gersick (1991)).

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The first stage of the methodology – act nomination – focused on identifying the domain of acts representing the behaviors in question (in this case organizational support/non-support of revolutionary change). A total of 40 telephone and in-person interviews were conducted using a random sample of employees (stratified by department) from throughout the organization. Respondents were asked to indicate what the company in question had done that they considered:

- to be supportive of its change efforts; and
- to be not supportive of its change efforts.

Using the notion of saturation put forth by Glaser and Strauss (1967), and utilized by Barley (1983), the domain of acts was considered cataloged when respondents could no longer evoke any new elements considered to be supportive or non-supportive of revolutionary organizational change.

Stage II involved identifying a key set of prototypical behaviors (i.e. representative) from the full domain of acts nominated in Stage I (i.e. identifying what employees perceive to be the most important behaviors typifying organizational support/non-support of revolutionary change). Prototypically was determined using a questionnaire sent to a random sample of 500 employees (stratified by department). This questionnaire included the full set of unique supportive and non-supportive acts identified in Stage I as well as questions related to demographics (i.e. gender, department, job type, years of service, and age). Respondents were asked to indicate, using a seven-point Likert scale, the extent to which they agreed or disagree that:

- each of the supportive behaviors represented ways in which the company could support revolutionary change efforts; and
- each of the non-supportive behaviors represented ways in which the company could not support (i.e. hinder) revolutionary change efforts.

Stage II data were then used to determine which behaviors, from the total set of behaviors, employees believed represented ways through which their organization could support or hinder revolutionary change efforts. Consensus was determined by examining the means and variance for each of the supportive and non-supportive behaviors. Behaviors with mean scores of 5.0 or greater were deemed to be prototypical (i.e. the majority of respondents agreed that these behaviors typified support and non-support) and included in the third stage.

T-tests and oneway ANOVA testing was used to test between group differences in support/non-support scores with respect to the demographic variables tested. Alpha was set at 0.05 with appropriate adjustments made using the Bonferroni technique.

In Stage III the measures identified in Stage II were examined and tested for validity and reliability. A questionnaire was used to collect the data needed and included the proposed measures, scales to operationalize the organizational and individual outcomes of interest (i.e. outcomes which could be expected to be associated with valid measures of support and non-support of revolutionary change as identified in the literature) as well as demographic variables.

With regard to the measures of support and non-support for revolutionary organizational change, respondents were asked to indicate, using a five-point Likert scale, to what extent they agreed or disagreed that the organization displayed the behaviors identified as prototypical in Stage II of the research. This method is similar to that used by Buss and Craik (1980, 1983a, b) and Dyke (1990). The questionnaire also included measures to operationalize key organizational outcomes (i.e. POS (Eisenberger *et al.*, 1986; Wayne *et al.*, 1997); organizational commitment (Mowday *et al.*, 1982); managerial support (Duxbury and Higgins, 1997)), and individual outcomes (i.e. overall stress (Cohen *et al.*, 1983); burnout (Maslach, 1981); job satisfaction (Quinn and Shepard, 1974)).

The Stage III survey was sent to a sample of 1,150 employees randomly stratified along departmental lines and by job type (i.e. manager versus non-manager). Supportiveness of revolutionary change was determined by analyzing responses to both sets of behaviors. The two groups of critical behaviors (supportive and non-supportive) were then subject to principal factor analysis (PFA) as suggested by Stevens (1995). The testing procedure outlined by Tabachnick and Fidell (1993) was followed (i.e. each behavior was tested for normality using probability plots, factor loadings of less than 0.50 were excluded from further analysis, varimax rotation was used, and only factors with eigenvalues greater than one were retained).

Reliability testing was undertaken, using the Cronbach's Alpha statistic, to determine the internal consistency for both measures of support developed as well as for the organizational and individual outcomes tested. Cronbach Alpha statistics were calculated for each measure and for the composite factors identified in the PFA. Construct validity was tested using the Pearson Correlation Coefficient to determine if the measures were associated with the previously tested and validated outcome measures. Construct validity was also tested using correlation matrices to reveal the strength of the association between the pairs of composite factors.

## Findings

### *Act nomination*

The interviews in Stage I generated an initial list of 139 supportive and 171 non-supportive behaviors. Two company employees and two researchers familiar with the application of the AFA evaluated this list. Behaviors deemed redundant by all evaluators were discarded while those that were deemed to be vague were rephrased for clarity. This evaluation process resulted in a final list of 37 unique supportive and 34 unique non-supportive behaviors.



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*Consensus*

In Stage II, a total of 188 usable questionnaires were returned representing a response rate of 39 per cent (14 returned as undelivered). The demographics of this sample were virtually identical to the characteristics of the organization as a whole: 55 per cent of the respondents were male, 75 per cent worked in frontline departments, 30 per cent were managers, and 40 per cent worked in a location other than at the head office.

A total of nine supportive behaviors and 12 non-supportive behaviors exceeded the cut-off criteria (i.e. had means of 5.0 or greater). The means and standard deviations for each behavior are included in the final measures of support and non-support of revolutionary change as shown in Tables I and II.

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The organization supports change by:	Stage II – importance	
	Mean	SD
Pressuring legislators for fair competition	5.6	1.3
Keeps in contact with its customers to ensure that they are aware of what the company is doing	5.5	1.3
Informing employees regarding change through bulletins/teleconferences	5.3	1.3
Communicating the need for change	5.3	1.4
Paying more attention to the bottom line	5.2	1.4
Providing managers with separation packages	5.1	1.3
Aggressively pursuing emerging business opportunities	5.1	1.5
Developing an understanding that owing to change the competition can be a customer	5.1	1.3
Allying itself with other companies	5.0	1.1

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**Table I.**  
Behaviors included in  
the measure of support  
for revolutionary  
change

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The organization does not support change when it:	Stage II – importance	
	Mean	SD
Does not eliminate the bureaucracy	5.4	1.4
Allows for conflicting departmental missions	5.3	1.4
Allows certain departments to protect themselves from change	5.3	1.5
Does not make managers accountable for change	5.3	1.5
Is slow to react in some competitive environments	5.3	1.5
Does not ask employees if there is a better way to do things	5.2	1.8
Does not recognize where its greatest assets are	5.1	1.6
Does not have a common goal throughout the company	5.1	1.7
Does not allow employees to be flexible in the use of their skill sets	5.0	1.5
Only provides verbal support for change	5.0	1.6
Holds back information on where the company was going	5.0	1.6
Limits employee empowerment	5.0	1.6

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**Table II.**  
Behaviors included in  
the measure of  
non-support for  
revolutionary change

*Impact of context variables*

T-tests and oneway ANOVA testing was undertaken using Stage II data to determine if an employee's perceptions of support and non-support differed depending on their gender, their department, the type of job held, how long they had worked with the company, and their age. For all group differences testing, alpha was set at 0.05 with appropriate Bonferroni adjustments. Consequently, the overall alpha level for multiple comparisons was set at 0.006 (0.05/9) for supportive behaviors and 0.004 (0.05/12) for non-supportive behaviors.

Analysis of the prototypical data revealed few significant between-group differences. With respect to the supportive behaviors, of the 45 individual behavioral differences tested (i.e. five criteria  $\times$  nine behaviors) only one behavior, "providing separation packages to managers" was found to be significantly associated with the context variables tested. Not surprisingly, older managers, who had more years of service in the company, rated this behavior as more important. With respect to the non-supportive behaviors, of the 60 individual behavior differences possible (i.e. five criteria  $\times$  12 behaviors) only one was found to be significantly associated with the context variables tested. Employees located in line departments were more likely than those in staff departments to indicate that the organization did not support change when it did not make managers accountable for revolutionary change.

*Validity and reliability of the measures*

The third objective of this research was to assess the validity and reliability of the developed measures. A total of 422 usable Stage III questionnaires were returned providing for a 37 per cent response rate (12 returned as undelivered). The sample demographics were very similar to the organization as a whole (no significant statistical differences): 52 per cent of the respondents were male, 71 per cent worked in frontline departments, 26 per cent were managers, and 38 per cent worked in a location other than the head office. The majority of the respondents had worked for the organization for a long period of time (47 per cent had been with the company for more than 20 years, 41 per cent had worked for the company for six to 20 years) and had extensive experience in their current jobs (65 per cent had been in the same position for more than two years). These data would indicate that the perceptions of support for revolutionary change held by these respondents has relevance to this research.

Reliability testing was undertaken by calculating Cronbach Alpha statistics for both measures. Coefficient alphas of less than 0.60 are generally considered unsatisfactory (Churchill and Peter, 1984). The measure of support for revolutionary change achieved a reliability score of 0.80 while the measure of non-support achieved a score of 0.91. These results indicate that the two measures have high internal consistency (homogeneity). It should also be noted that the Cronbach Alphas for the outcome measures used in this study were all above 0.60 (POS = 0.93; job satisfaction = 0.82; organizational commitment = 0.87; perceived stress = 0.89; managerial support = 0.92; burnout = 0.72). These findings improve

overall confidence in the data collected and the conclusions drawn regarding the validity of the measures of support and non-support developed.

Two types of validity testing were undertaken: content validity and construct validity. The use of the AFA for item generation is believed to enhance the content validity of the measures developed as the act nomination and the prototypicality ratings of the items nominated helps in establishing content validity (Buss and Craik, 1983b; Dyke, 1990).

Two tests of construct validity were undertaken: principal components factor analysis (PFA) and testing of the relationships between the measures of support and outcome measures which were theoretically associated with support/non-support for revolutionary change in the literature. Pearson Correlation Coefficients were also calculated to determine if the measures of organizational support and non-support of revolutionary change were associated with the organizational and individual outcome measures included in this research (see Table III). The measure of support for revolutionary change was found to be positively correlated with organizational commitment, job satisfaction, POS and managerial support and negatively correlated with perceived stress and burnout. On the other hand, the measure of non-support was found to be negatively correlated with organizational commitment, job satisfaction, POS and managerial support and positively correlated with perceived stress and burnout.

These analyses indicate that the measures of support and non-support for revolutionary change were negatively correlated suggesting that as support of revolutionary change goes up, non-support of revolutionary change goes down and vice versa. The fact that the correlations were both significant and in the direction predicted by the literature provides further evidence that the two measures have high construct validity.

Measure <sup>a</sup>	Mean	Support measure	Non-support measure
Support of revolutionary organizational change	3.79 <sup>b</sup>		-0.366
Non-support of revolutionary organizational change	3.29 <sup>b</sup>	-0.366	
<i>Organizational outcomes</i>			
Organizational commitment	3.95	0.378	-0.430
Perceived organizational support	3.12	0.372	-0.518
Managerial support	3.53	0.354	-0.458
<i>Employee outcomes</i>			
Job satisfaction	3.71	0.243	-0.352
Burnout	2.55	-0.174	0.338
Perceived stress	2.41	-0.186	0.327

**Notes:** <sup>a</sup> All Pearson Correlation Coefficients are significant at alpha < 0.01

<sup>b</sup> Mean scores are the composite of the behavior scores suggesting that respondents were more likely to perceive that the organization behaved in a way that supported change (alpha < 0.01)

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**Table III.**  
Correlation of  
supportive and  
non-supportive  
measures and outcomes

*Factor analysis of the measures*

Factor analysis indicated that both of the measures developed could be segmented into unique, interpretable factors. As shown in Table IV, PFA conducted on the nine supportive behaviors revealed three distinct themes that explained 65 per cent of the total variance. Respondents perceived the organization to be supportive of revolutionary change through:

- communication of change;
- actions to expand the business; and
- financial strategies for change.

Each of these composite factors was determined to have adequate reliability (Cronbach Alphas were: Factor 1 = 0.76; Factor 2 = 0.77; Factor 3 = 0.61).

PFA conducted on the 12 non-supportive behaviors revealed two distinct themes that explained 61 per cent of the total variance (see Table V). Respondents perceived the organization to be non-supportive of revolutionary change when it demonstrated the following types of behaviors:

- inadequate communication with employees and minimal opportunity for employee participation in the change process; and
- bureaucratic resistance and favoritism.

The organization supported change by:	Factor 1	Factor 2	Factor 3	Stage III Mean	Std. Dev.
<i>Communication of change</i>					
Communicating the need for change	0.84			3.92	0.83
Informing employees regarding change through bulletins/teleconferences	0.71			3.90	0.86
Keeps in contact with its customers to ensure that they are aware of what the company is doing	0.55			3.83	0.86
<i>Actions to expand business</i>					
Aggressively pursuing emerging business opportunities		0.77		3.85	0.84
Developing an understanding that due to change the competition can be a customer		0.64		3.85	0.78
Allying itself with other companies		0.56		3.80	0.76
<i>Financial strategies for change</i>					
Paying more attention to the bottom line			0.66	3.82	0.91
Providing managers with separation packages			0.62	3.70	0.89
<i>No loading in factor analysis</i>					
Lobbying to ensure that the company is able to compete on an equal basis with competitors				3.42	1.08

**Table IV.** Factor structure of measure of support for revolutionary change

The organization did not support change when it:	Factor 1	Factor 2	Stage III Mean	Std. Dev.	Development of a measure to assess change	
<i>Inadequate communication and participation</i>						
Did not ask employees if there was a better way to do things	0.78		3.56	1.05	<b>195</b>	
Did not recognize where its greatest assets were	0.77		3.29	1.06		
Did not have a common goal shared throughout the company	0.73		3.27	1.05		
Did not allow employees to be flexible in use of skill sets	0.66		3.14	1.03		
Limited employee empowerment	0.66		3.13	1.05		
Only provided verbal support for change	0.63		2.99	1.04		
Held back information on where the company was going	0.60		2.89	1.11		
<i>Bureaucratic resistance and favoritism</i>						
Allowed for conflicting departmental missions		0.76	3.49	0.96		
Did not eliminate the bureaucracy		0.71	3.47	0.98		
Allowed certain departments to protect themselves from change		0.63	3.39	1.00		
Did not make managers accountable for change		0.63	3.33	0.97		
<i>No loading in factor analysis</i>						
Was slow to react in some competitive environments			3.52	1.04		

**Table V.**  
Factor structure of the measure of non-support for revolutionary change

These two composite factors were determined to have adequate reliability (Cronbach Alphas were: Factor 1 = 0.90; Factor 2 = 0.81).

Correlation analysis was also undertaken to determine the relationship between the factors used to determine the adequacy of the components of the measures (Mason and Bramble, 1989). As can be seen from the data in Table VI, each of the factors from the measure of support for revolutionary change was found to be negatively correlated with the factors from the measure of

	SF1	SF2	SF3	NSF1	NSF2
SF1	–				
SF2	0.542*	–			
SF3	0.270*	0.376*	–		
NSF4	–0.439*	–0.355*	–0.044	–	
NSF5	–0.270*	–0.157*	–0.036	0.586*	–

**Notes:** S = Supportive  
NS = Non-supportive  
\* Significant at alpha < 0.01

**Table VI.**  
Correlation of supportive and non-supportive factors

non-support. All correlations were found to be significant ( $\alpha < 0.01$ ) with the exception of financial strategies for change which was not found to be significantly associated with the two non-supportive factors.

### **Discussion of key findings**

Specific behaviors describing communication of change are found in both the measures developed. This is consistent with the research literature which points to the influence that communication has on an effective change process (e.g. Hall *et al.*, 1993; Larkin and Larkin, 1994; Porras and Hoffer, 1986; Stanton *et al.*, 1993). To date, however, the literature has not been specific in utilizing academic rigor to indicate what types of organizational communication employees perceive to be supportive or non-supportive in times of revolutionary change. This research adds specificity to this body of knowledge by identifying behaviors which are viewed by employees as supportive (i.e. asking employees if there is a better way to do things, sharing common goals, communicating the need for change, communicating with clients, and informing employees of external initiatives) as well as not supportive of revolutionary change (not having a shared common goal, holding back information on where the company is going, providing only verbal support for change).

The data also indicates that actions to expand an organization's business (i.e. strategic alliances with other companies, pursuing new opportunities, and changing its view of its competitors) are perceived by employees as supportive of revolutionary change. These types of support have been included within the "initiation" phase of various process models of organizational change (e.g. Connor and Lake, 1994; Hinings and Greenwood, 1988). Authors in the reengineering literature also place strong emphasis on these issues as a means to not only expand business opportunities but also to "rationalize" the businesses organizations are involved in (e.g. Adair and Murray, 1994).

The literature has generally perceived the behaviors associated with financial strategies for change as outcomes of revolutionary change (e.g. Hammer and Champy, 1993; Hunt, 1993; Morris and Brandon, 1993). This research suggests that financial strategies for change may be more appropriately viewed as a way of internally supporting revolutionary change (paying more attention to the bottom line and providing separation packages).

Respondents identified behaviors such as allowing departments to shield themselves from change, allowing for conflicting departmental missions, not eliminating the bureaucracy, and not reacting quickly to competitive situations as being non-supportive of revolutionary change. These findings are consistent with the literature which has suggested that trust and empowerment can be a key to creating an effective corporate culture or moving the organization towards an achievable change goal (e.g. Manganelli and Klein, 1994; Tomasko, 1993).

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## Conclusions

This research fills a significant void in the revolutionary organizational change and the support literature through the development of measures of organizational support and non-support of revolutionary change. The development of these measures has led to nine observable behaviors of organizational support for revolutionary change and 12 observable behaviors of non-support for revolutionary change. Both measures have been found to be strongly linked to both organizational outcomes (organizational commitment, job satisfaction, and managerial support) and employee/individual outcomes (stress, burnout, and perceived organizational support). The measures have also been shown to have high internal reliability and strong content and construct validity suggesting developmental strength.

This research has demonstrated that when behaviors that are supportive of revolutionary change are undertaken (i.e. communication of change, financial strategies for change, and actions to expand the business) there can be a positive impact on critical outcome variables (i.e. organizational and employee related). Conversely, when behaviors perceived as non-supportive are undertaken (i.e. inadequate communication and participation in change and bureaucratic resistance and favoritism) there can be a decidedly negative impact on both the organization and the employee. These data would also suggest that employees may share a relatively common view of what organizations can do to support revolutionary change and what is considered to be non-supportive. This would suggest that an organization may not have to tailor how it demonstrates support for revolutionary change based on the group(s) that it is working with.

The measures developed should be of benefit to both academics and human resource practitioners by allowing for a greater understanding of how an organization can best support employees through revolutionary organizational change as well as aiding human resource practitioners to evaluate readiness for revolutionary change. The main limitation of this research, however, concerns its generalizability as only a single entity has been used in the determination of the measures developed. As Stace (1996) states, however, organizational change is difficult to separate from the context of the business it is in. The generalizability of this research may be limited to the organization or those organizations that operate within its industry. The organization studied, however, is considered an industry leader and is heavily sought after for benchmarking not only by competitors but also by firms looking to compare to the "best in class". Thus, although the revolutionary change process within this company may have been unique, we would expect that many organizations could learn from these experiences and benefit from the development of such a measure.

Given the strict methodology followed in the AFA and the precautions taken therein, every effort has been made to minimize the limitations noted above. As Glauser and Strauss (1967) indicate, domain saturation, as utilized in Stage I of the AFA, provides greater confidence that the measures developed are

Development of  
a measure to  
assess change

grounded in a theoretically sound methodology. Further research is required to test the measures developed in other industries to further validate its usefulness. As well, further validation of the measures can be undertaken using other organizational or individual outcome measures.

#### Note

1. This research focuses on revolutionary change, understanding that the measures developed may be applicable to other forms of change. Using Van de Ven and Poole's (1995) typology, revolutionary forms of change may be considered teleological or dialectic in form and, as such, take place over 'short' periods of time. Given the rapid speed of change, focusing on shorter-term forms of change appears to be more in-line with the forms of change occurring in organizations (i.e. not, primarily, evolutionary and life cycle).

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