The Effects of Leader Communication on Worker Innovation

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INTRODUCTION

Increasingly, an organization's competitive advantage depends on human capital, especially on knowledge workers who innovate intellectual goods. This shift has occurred as the global economy has generated more demand for specialized areas of intellectual services including technology transfer, especially from highly developed countries such as the U.S. In response, successful organizations must develop, sustain, and market high levels of innovation throughout their infrastructures if they want to maintain their industry leadership (Robbins, 2003). To encourage this requisite innovative pace, organizations can no longer rely on a few key individuals to develop creative ideas. Instead, every worker's inventive capabilities must be tapped (Amabile, et. al, 1996; Hamel & Skarzynski, 2001; Langerak, et. al, 1999). Equally important, leaders play a key role role in these efforts (Argyris, 1986; Capelli, 2000; Graen, 1995), and must continually search for new methods to enhance worker innovation (Hamel & Skarzynski, 2001; Markides, 1998). Promising, but underexplored, methods for enhancing worker innovation are strategic leader communication techniques. This article discusses an exploratory investigation into how leader verbal communication strategy can potentially improve worker innovation. Our findings show a positive and significant link between a leader's communication ability (as measured by the motivating language scale) and worker innovativeness.

This bridge holds great potential for innovation enhancement and leader training, since most organizational creativity research has focused on worker or environmental variables(Amabile, et. al, 1996; Shaley, Gilson, & Blum, 2000). Relatively few studies have examined a leader's role in this process (Dundon & Pattakos, 2001; Harborne & Johne, 2001; Nam & Tatum, 1997; Stoker, et. al, 2001). Furthermore, this neglect is unfortunate since a leader's capacity for learning and training opens new avenues for practical innovation improvement (Goleman, 2000). In addition, this route appears to be a desirable alternative to the frequently daunting task of altering environmental factors. Also, comprehensive worker training can be expensive due to time, lost productivity, and instruction cost. In comparison, leader training can achieve a greater impact on the practices of a larger number of workers at less cost (Cascio, 1998).

These possibilities will be more fully explained as we present the results of our study in the following sections: A review of motivating language theory, relevant innovation literature, methodology, and finally, implications for research and the workplace.

MOTIVATING LANGUAGE

Motivating language (ML) theory is a well developed model of the leader-subordinate communication process (Mayfield, & Mayfield, & Kopf, 1995; Sullivan, 1986; Zorn, & Ruccio, 1998) that has been found to be significantly related to a number of relevant organizational outcomes (Mayfield, Mayfield, & Kopf, 1998; Zorn, & Ruccio, 1998). We propose that this model provides a useful framework for examining the relationship between leader communication and worker in-

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novation. Furthermore, model applications also build leader communication training interventions that will enhance worker innovativeness (Sullivan, 1986; Zorn & Ruccio, 1998). The remainder of this section will give more detailed information on ML theory and its relevance to optimal worker behavior.

Motivating language theory was originally conceptualized by Sullivan (1988) as a comprehensive leader communication framework. With ML, leader communication is composed of three mutually reinforcing factors: direction giving, empathetic, and meaning making language. Sullivan proposed that a leader's use of these three factors would significantly effect a wide range of worker outcomes such as performance, job satisfaction, turnover, and motivation (Mayfield, Mayfield, & Kopf, 1998; Sullivan, 1988). Initially, Sullivan's model allowed for each factor to influence these outcomes independently. However, later empirical work (Mayfield, Mayfield, & Kopf, 1998; Zorn & Ruccio, 1998) and Sullivan's own model elaborations (1988), contend that a combined use of these factors will have a synergistic effect on worker outcomes. In other words, a leader's strategic communication is only expected to have a positive and significant impact when all three factors are used in a coordinated effort.

Subsequent studies have supported the motivating language model and its companion scale through both quantitative and qualitative means (Mayfield, Mayfield, & Kopf, 1995; 1998; Zorn & Roccio, 1998). Quantitatively, both factor analytic and structural equation modeling have validated ML's basic premises and expected relationships with such worker outcomes as performance and job satisfaction (Mayfield, Mayfield, & Kopf, 1995). In a complimentary fashion, discourse analysis has broadly been used to substantiate the original model while adding further refinements to leader communication strategy. These studies have also shed greater light on how motivating language influences worker outcomes (Zorn & Roccio, 1998). The findings predict that leaders who use ML appropriately can expect their workers to perform more than 10% better than when ML is absent. Similarly, workers have been shown to be far more satisfied with their jobs when leaders use high levels of motivating language (Mayfield, Mayfield, & Kopf, 1998).

Overall, these studies have contributed new insights about how leader's conscious application of speech can positively influence worker behavior. More specifically, leaders use direction giving language to clarify worker job duties, goals, and responsibilities (Sullivan, 1988). Empathetic language forges interpersonal bonds between a leader and subordinate, by sharing a leader's humanity with a worker and extending beyond the simple work-pay exchange process. The third ML component, meaning-making language, transmits cultural norms and expectations to workers, thus helping to better align a worker's orientation and performance to each unique work place environment (Mayfield, Mayfield, & Kopf, 1995; Sullivan, 1988).

Based on these precedents, we expected when leaders strategically communicated with ML to see significantly improved worker innovation. Previous research indicates that the these three types of leader speech in the motivating language model will help facilitate worker innovation through a combination of improved intrinsic motivation and understanding of task requirements, reward-performance policies, organizational goals, and culturally acceptable risk-taking methods. Congruent with ML theoretical evolution, we also expect that all factors must be used in a coordinated, cohesive manner in order to achieve the highest levels of worker innovation.

INNOVATION IN ORGANIZATIONS

There are numerous innovation theories available. One of the most universally accepted comes from Zaltman et. al. (1973). These authors defined innovation as any "idea, practice, or material artifact" that was adopted by a person, group, or organization in a conscious effort towards change. Within this framework, relevant types of innovations will vary depending on the level of focus (Ahuja, 2000; Amabile, et. al, 1996; Langerak, et. al, 1999; Nam & Tatum, 1997). Innovation at the organizational level tends to occur in the areas of strategy, structure, market development, and product selection. Groups direct innovation initiatives in such areas as product development, processes, and administrative procedures. Individual innovations tend to occur more in the areas of process efficiency, methods for accomplishing individual work goals, and meeting new work requirements (Stoker, 2001).

These categories of innovations have remained fairly constant since their formal study began (Stoker, et. al, 2001). In contrast, the business environment's innovate demands have increased markedly, in terms of quantity and rapidity (Amabile, Hadly, & Kramer, 2001; Hamel & Skarzynski, 2001; Markides, 1998). The speed of business change has generated both a heightened demand for new processes and products at all organizational levels. More importantly, there is acute pressure for innovation that is directed towards workers at lower organizational levels (Amabile, Hadley, & Kramer, 2001; Hargadon & Sutton, 2000). This new emphasis has occurred because of competitive requirements and value added by flatter organizational structures. As a result, many workers assume more diverse and loosely structured tasks, and must draw on more creative policies and technologies as coping mechanisms (Amabile, Hadley, & Kramer, 2001; Robbins, 2003).

These challenges have been addressed by a number of studies. This body of research has identified a

growing number of relevant factors that support employee innovation. These factors include individual abilities and aptitudes, reward systems, organizational culture, and leader behaviors (Amabile, et. al, 1996; Amabile, Hadley, & Kramer, 2001; Langerak, et. al. 1999; Robbins, 2003). The last variable may well hold the most promise for cost-effective intervention strategies. Leader behavioral change has the potential to influence more workers at less expense and lost production time when compared to the other methods that all rely on directly changing the behavior of many individuals or systems (Cascio, 1998).

Previous research on the link between leadership and worker innovation has consistently shown that leader behaviors such as initiating structure, consideration, charisma, and leadership behavioral style are all positively associated with the amount and presence of effective worker creativity (Dudon & Pattakos, 2001; Harborne, & Johne, 2001; Markides, 1998; Nam, & Tatum, 1997; Shalley, Gilson, & Blum, 2000; Stoker, Fisscher, & de Jong, 2001; Zaltman, Duncan, & Holbeck, 1973). Similarly, preliminary work has indicated that leader communication plays a role in fostering higher levels of productive innovation in organizations (Lievens, Moeneart, & S'Jegers, 2001). To date, these insights have not been organized into a strong framework for consistently analyzing leader communications in the context of nurturing innovations. This gap is filled by the motivating language theory which offers a comprehensive schema for analyzing all types of leader oral communication with workers. Furthermore, the factors in the ML framework are very strongly and explicitly tied to the expression of specific leader behaviors which positively impact innovation (such as initiating structure, consideration, and cultural transmission) (Sullivan, 1988).

METHODOLOGY

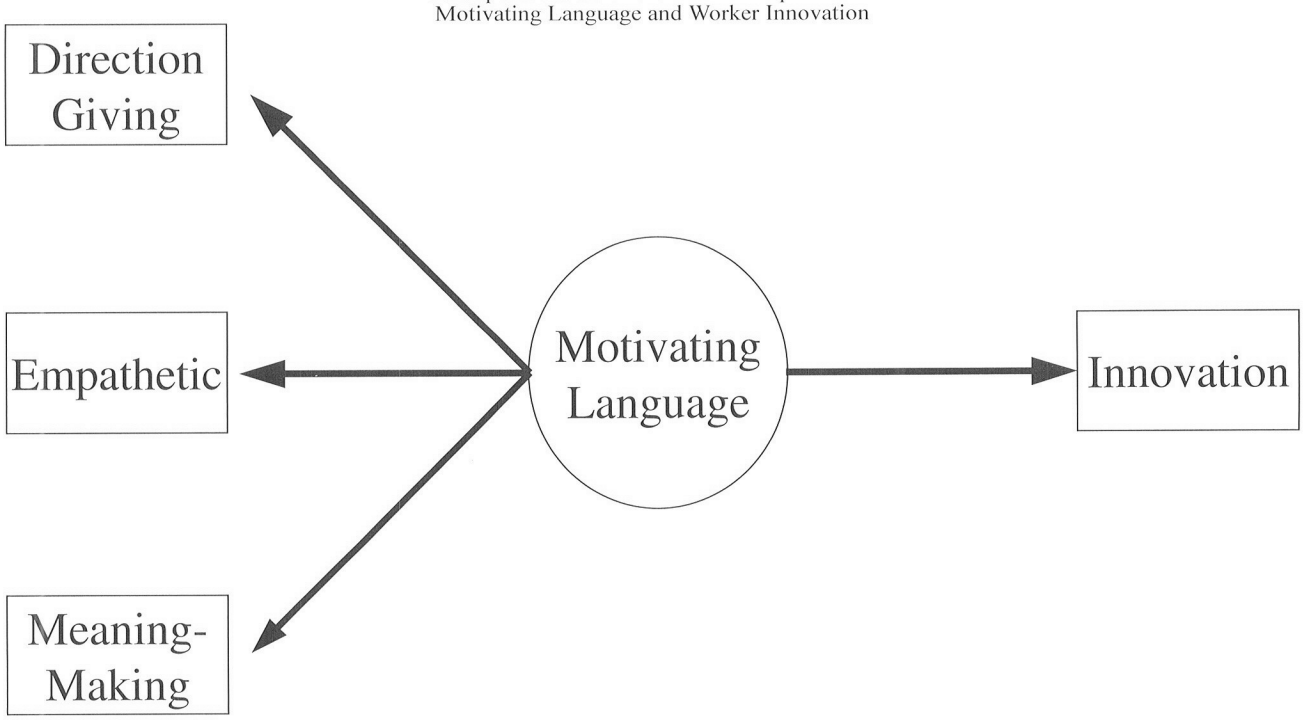
Hypothesized Model Relations

Based on the previous literature review, we expect that leader motivating language use will be significantly and positively related to worker innovation. Also based on relevant literature, we expect that motivating language will be composed of direction giving, empathetic, and meaning-making language. These hypotheses are formally stated below.

- H1: Leader motivating language will be significantly and positively related to worker innovation.
- H2: Leader motivating language will be significantly and positively related to direction giving language.
- H3: Leader motivating language will be significantly and positively related to empathetic language.
- H4: Leader motivating language will be significantly and positively related to meaning-making language.

A model of the proposed relationships is presented in Figure 1 below, and this model leads to the following hypothesis.

FIGURE 1
Conceptual Model of the Relationship Between Motivating Language and Worker Innovation



H5: The proposed ML – Innovation model will provide a good fit to the data.

Statistical Analysis Methods

Structural equation techniques were used to test the proposed model. Structural equation modeling (SEM) allows researchers to simultaneously test for the strength and significance of variable relationships and to determine how closely a theoretical model fits actual data. Also, such an analytical technique is consistent with previous motivating language research, and is well-suited to explore behavioral interactions including the hypothesized synergistic relationships between ML's components (Shumaker, & Lomax, 1996).

The model analyzed is shown in Figure 1. The latent motivating language factor is measured by the indicants of each ML sub-scale, and worker innovation is expected to be strongly influenced by leader motivating language.

Measures Used

Study variables were measured with two scales. Motivating language and its components were evaluated with the motivating language scale (Mayfield, Mayfield, & Kopf, 1995). This instrument has been tested for reliability and validity in a number of studies, and has proven to be robust across in a number of settings (Mayfield, Mayfield, & Kopf, 1995; 1998). The scale is composed of three sub-scales that measure each of ML's components. Each of these sub-scales showed a high level of reliability (Churchill, 1979), with all measures having a Cronbach's alpha of .92 or better. Innovation was measured using Ettie and O'Keefe's (1982) twenty item innovation scale. This scale also showed high levels of reliability, with a Cronbach's alpha of .90.

Information on the relationships between these scales is presented in Table 1, and descriptive statistics for these measures are presented in Table 2.

Sample Characteristics

This study was composed of a sample of graduate and undergraduate students enrolled in management courses at a medium sized university located in the southwestern United States. This university has a large number of non-traditional, students who are either in full time work situations, or have returned to campus with a substantial amount of work experience. Participation was voluntary, with survey completion not effecting student grades. However, those who completed the survey were given feedback information on how their results corresponded to their personal workplace situations. The majority of students chose to participate. Only 20 of 162 total students declined to participate in the study. Also, 9 more students were subsequently eliminated from the analysis due to a lack of work experience. These reductions left the researchers with a total of 133 usable surveys, or an 82% response rate.

The average respondents age was 25.12, with an average of 7.37 years of total work experience and 4.95 years of full time work experience. A variety of job categories were represented in the sample, with 52% of respondents classifying themselves as skilled workers, 33% as professional or managerial workers, and 14% as non-skilled workers. The majority of respondents were female, with 58% choosing this gender classification. Also, the majority of respondents were U.S. citizens (80%) with the remainder of the respondents being from Mexico (8%), India (6%), and Canada (6%).

Analysis Results

Model results indicate a good fit between the hypothesized model and the data. The goodness-of-fit index was .99 (out of a possible 1.00) with an adjusted goodness-of-fit index of .94. Similarly, the chi-square test showed no significant discrepancy between the hypothesized model and the sample data. Model fit statistics are presented in Table 3.

TABLE 1
Variable Relationships

	Direction Giving	Empathetic	Meaning-Making	Innovation
Direction Giving	.92	.82	.73	.17
Empathetic	.69	.92	.65	.19
Meaning Making	.59	.46	.93	.25
Innovation	.22	.22	.27	.90

Correlations are in the lower diagonal, covariances are in the upper diagonal, and scale reliabilities are presented on the diagonal.

TABLE 2
Variable Descriptives

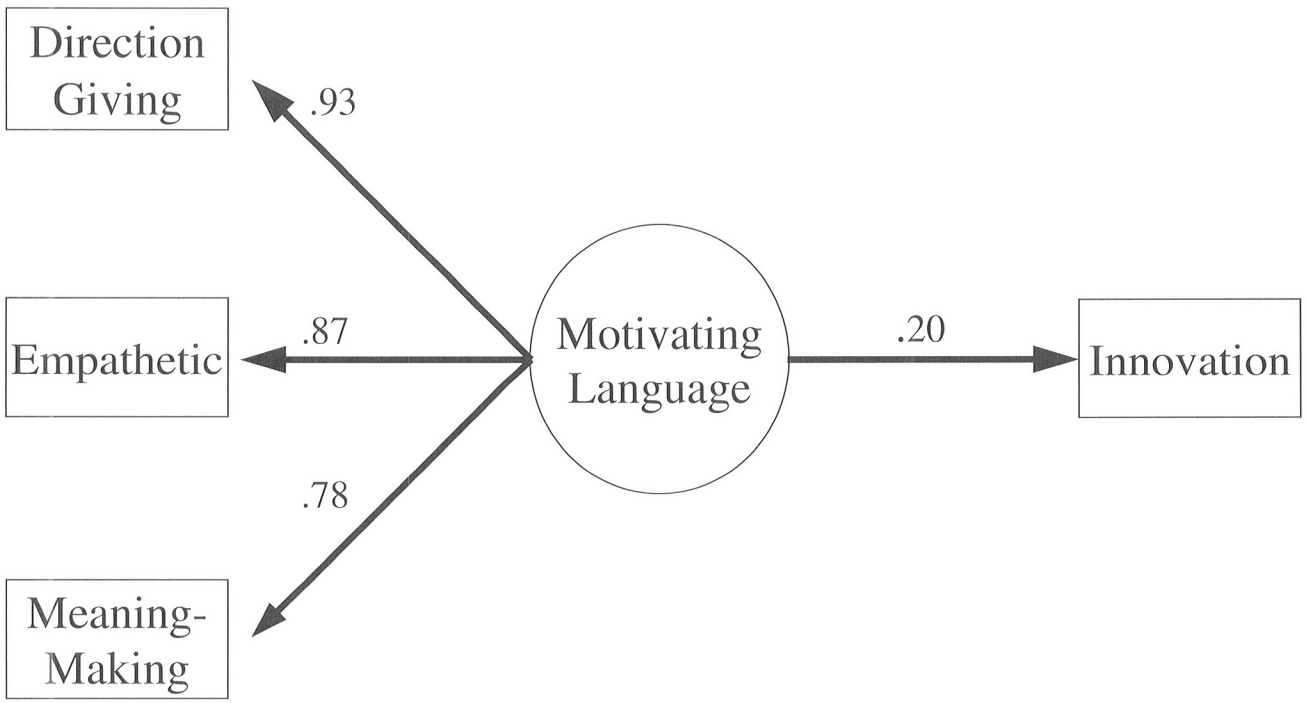
	Direction Giving	Empathetic	Meaning-Making	Innovation
Mean	3.15	3.30	2.59	3.47
Standard Deviation	1.03	1.15	1.20	.75
Upper Quartile	4.00	4.00	3.50	4.00
Median	3.00	3.50	3.00	3.50
Lower Quartile	2.50	2.50	1.50	3.00

TABLE 3
Model Fit Statistics

Goodness-of-Fit index	=	.99
Adjusted Goodness-of-Fit index	=	.94
RMSEA index	=	.07
Model Chi-Square	=	3.26 with 2 d.f., p = 0.19
Chi-Square/DF Ratio	=	1.63

Model results also supported hypotheses 1 to 4. Leader motivating language use is significantly and positively related to worker innovation, with a parameter estimate of .27. In other terms, it can be expected that for every 10% increase in ML use there would be a 2.7% percent increase in worker innovation. Also, direction giving, empathetic, and meaning-making language all tested out as significant components of ML. The parameter estimates ranged from .91 (for direction giving language) to .64 (for meaning-making language). Parameter estimates for the model are presented in Figure 2.

FIGURE 2
Path Estimates of the Relationship Between
Motivating Language and Worker Innovation



CONCLUSIONS

Study results show a strong and significant link between leader communication and worker innovation. The structural equation analysis indicated a good fit between the hypothesized model of motivating language use and worker innovation. Results from the structural equation model predict an expected 2.7% increase in worker innovation for every 10% increase in leader motivating language. These discoveries hold promise for the development of useful intervention methods to improve leader communication practice that foster worker innovation. Equally important, these results contribute to the leadership-innovation research stream by providing a valuable communication framework and set of corresponding guidelines.

The ML leader communication framework is multifaceted and interactive. ML concurrently offers a basis for diagnosis and evaluation to guide leaders with their influence on worker creativity. Such interventions should also be an efficient way of improving worker innovation since leaders often have many subordinates, and stand to gain a multiplier impact.

On the other hand, further research needs to be done in order to determine how to best implement such training programs. Similarly, future studies need to be conducted to identify moderating and limiting factors in the ML-innovation relationship. These studies should examine such effects as overall organizational strategy, culture, reward systems, structure, the general creative environment, and worker ability. By examining these factors and their influences, practitioners can better determine motivating language implementation methods that optimize worker innovation.

These insights are critical to managers in today's rapidly changing business environment. New technological improvements and increased competitive pressures have created a burgeoning demand for innovation that permeates all organizational levels. These rapidly growing requirements are accompanied by

much greater worker responsibility for problem-solving creativity in many facets of their daily tasks. If an organization aspires to excellence, its leaders can offer the paths that help workers meet these innovative requirements. Motivating language is one such avenue that may be advantageously applied to attain these goals.

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