

LEADERSHIP FOR INNOVATION: A GLOBAL CLIMATE SURVEY

-

A CRU TECHNICAL REPORT

Hans J. L. Akkermans
Department of Business and Economics
VLEKHO University for Science and Art, Brussels

Scott G. Isaksen
Creativity Research Unit
The Creative Problem Solving Group, Inc.

Erik J. Isaksen
Manager of Database Operations
The Creative Problem Solving Group, Inc.

Introduction

The Creativity Research Unit of CPSB launched a collaborative research project with Hans Akkermans during August of 2007. The aim of the project was to improve our understanding of the role leadership plays in creating a climate for innovation. We have been conducting research on the climate for innovation, creativity, and change for the past 25 years. Our efforts build on the work of Göran Ekvall, who has been studying climate for more than 50 years (Isaksen & Ekvall, 2007).

We know that leadership plays an important role in establishing a climate for innovation, and that climate also influences organizational innovation. Climate, therefore, plays an intervening role between a variety of influences that affect it, and a number of key outcomes like innovation, job satisfaction, and well-being. There is not as much certainty regarding the specific leadership behaviors that can influence (both positively and negatively) the creation of the climate.

Hans was instrumental in producing our updated technical manual for the Situational Outlook Questionnaire® (SOQ), and a number of other improvements. Due to his passion for the topic and the unique opportunity for him to work on a Masters Thesis, we were able to design a collaborative study to reaffirm the links among leadership, climate and innovation, and dig into some new territory to identify specific leadership behaviors that help or hinder the creation of a climate conducive to innovation.

Hans successfully defended his thesis in May of 2008, receiving the highest grade ever given by his university. After graduating with great honors, he visited CPSB to help write this technical report. We are pleased to be able to share the highlights from this study. Should you desire even more detail, you can acquire the full thesis by contacting Hans (hans.akkermans@cpsb.com).

The Creativity Research Unit Team
The Creative Problem Solving Group, Inc.
September, 2008

Executive Summary

This research project was completed as part of a Masters Thesis done by Akkermans (2008) with support from the Creativity Research Unit (CRU), and was designed to explore the relationship between leadership behavior and innovative productivity with organizational climate as the pivotal variable (See Figure 1). Past attempts to gain an understanding of how leadership behavior affects innovative productivity have shown that leaders influence innovation. Other attempts have shown that the climate is very different for organizations that are innovative versus those that are stagnated. Few studies have been aimed at uncovering the specific leadership behaviors that help or hinder innovation.

Figure 1: Purpose of the Study



Much of the research done in the past has been based on analyzing works of great innovative leaders. As Deschamps (2003:816) stated: *"The phenomenon of innovation*

leadership thus remains terra incognita from a research viewpoint, being partially known primarily from some (auto) biographies of famous innovation leaders.” Since leadership is such a broad topic, this study focused specifically on leadership for innovation, and the leadership behaviors related to the creation of a climate that supports or inhibits innovation.

The study used a multi method approach (both quantitative and qualitative) utilizing a modified online measure called the Situational Outlook Questionnaire® (SOQ). The link between leadership and organizational climate has been the topic of extensive research, and has been well established. Simply, leadership behavior exerts a strong influence on the climate for innovation, creativity, and change. Many studies have also investigated the relationship between organizational climate and organizational productivity. Therefore, this research was aimed at confirming these relationships and ascertaining specific behaviors that leaders can utilize (and avoid) in order to boost an organizational climate for innovation and productivity.

A high level synopsis of the results from this study include:

- A significant relationship between perceived Leadership Support of Innovation (LSI) and climate was reaffirmed.
- A significant relationship between perceived Innovation and the climate was reaffirmed.
- Although a significant relationship was confirmed between Leadership and Innovation, when climate was removed, there was a severe drop in this relationship. This reaffirmed the important influence of climate as an intervening variable.
- Specific leadership behaviors that help and hinder the creation of an organizational climate that supports innovation were identified.

This study clearly confirmed that there is indeed a strong relationship between leadership and innovative productivity. Furthermore, a leader must focus on the creation of a climate for creativity and innovation in order to truly achieve the innovative outcomes desired. In order to do so, we must be able to know what leadership behaviors help and hinder. This study was an initial attempt to discover these behaviors.

Table of Contents

INTRODUCTION	2
EXECUTIVE SUMMARY	3
TABLE OF CONTENTS	5
BACKGROUND.....	6
Innovation is critical for organizational survival and growth.....	6
The key role of leadership in innovation.....	6
Organizational climate as the pivotal variable	7
OUR APPROACH	9
THE KEY FINDINGS	11
Climate and innovation are clearly linked.....	11
Leadership and climate are clearly linked	13
Climate as an intervening variable between leadership and innovation	14
Leadership behaviors that help or hinder innovation.....	16
IN CONCLUSION	21
REFERENCES	23
RESEARCH FELLOWS OF THE CREATIVITY RESEARCH UNIT.....	26

Background

The previous literature was reviewed extensively in the full thesis. This technical report outlines some of the relevant conclusions from this review for the areas of innovation, leadership and organizational climate.

Innovation is critical for organizational survival and growth

There has been much research into organizational innovation and organizational performance. Much of the research done to date has been focused on the link between the two concepts and how they interact with each other. Several researchers have found a direct link between innovation and how organizations measure their performance. For example, Barsh, Capozzi, & Davidson (2008) utilized a survey for a McKinsey study and found that 70% of senior executives identified innovation as one of their top three strategic drivers for their companies.

The key role of leadership in innovation

There has been a great deal of research into the relationship between leadership and organizational climate; however, the linkage between organizational climate and creativity and innovation has not received the same amount of attention (Kozlowski & Doherty, 1989). For example, Scott and Bruce (1994) found that leaders' behavior did indeed predict climate for innovation within organizations through the Leader Member Exchange Theory (LMX). Their study showed that the higher the level of interaction between leaders and subordinates the higher the perceived climate for innovation. Kazama et al. (2002) confirmed these findings by demonstrating that the actions of leaders have implications for the climate for innovation.

Reiter-Palmon and Illies (2004) found it was unlikely that creative outcomes could be achieved without a large amount of support from organizations and organizational leaders.

Leadership has also been identified by Zhu, Chew & Spangler (2005) as one of the key driving forces for improving firm performance since leaders have a key decision-making role in determining the development and deployment of organizational resources. Studies by Thamain (1990, 1996, 2003) and McDonough (1993) found that innovative performance is strongly influenced by leadership, managerial style, and professional attitude.

Organizational climate as the pivotal variable

Many different definitions have been put forward to describe the concepts of organizational climate and organizational culture. Denison (1996) evaluated ten years of organizational climate and culture literature in order to assess and summarize the differences. Denison defined organizational culture as: “[...] the deep structure of organizations, which is rooted in the values, beliefs, and assumptions held by organizational members.” (Denison, 1996: 624). These deeply embedded values, beliefs and assumptions are very hard to change. Organizational climate on the other hand is easier to change in the short run, or as Thomson (1998: 240) stated: *“Changing the culture of an organization by tackling it head on as a single facet of organizational life is really, really tough. To go deep into cultural change you have to be talking about beliefs and values, and these go to the very soul of the organization and its people. It is much easier to change the climate and language of the business.”*

Isaksen & Ekvall (2007) also came to similar conclusions about the differences between organizational climate and culture, and that it is preferable to focus on climate as the lever for change. Table 1 summarizes these differences.

Mumford & Gustafson (1988) argued that organizational innovation depends on the climate for innovation. “[E]ven when individuals have developed the capacity for innovation, their willingness to undertake productive efforts may be conditioned by beliefs concerning the consequences of such actions in a given environment.” (Mumford & Gustafson, 1988: 37).

Table 1: Organizational culture and climate

CULTURE	CLIMATE
The values, beliefs, history, traditions, etc., reflecting the deeper foundations of the organization.	Recurring patterns of behavior, attitudes, and feelings that characterize life in the organization.
<i>What the organization values</i>	<i>What organization members experience</i>

SOURCE: Isaksen, S. G., & Ekvall, G., (with contributions from Akkermans, H., Wilson, G. V., & Gaulin, J. P.) (2007). *Assessing your context for change: A technical manual for the SOQ – Enhancing performance of organizations, leaders and teams for over 50 years (2nd Ed.)*. Orchard Park, New York: The Creative Problem Solving Group, Inc.

Many factors can influence organizational climate. The external environment and marketplace the organization is in, its culture, strategy, structure and size, among other factors can influence the patterns of behavior within the organization. The climate, in turn, influences a variety of organizational and psychological processes. These exert an influence on individual and organizational performance and well-being.

One of the factors influencing climate that has received some attention in the literature is leadership behavior and style. Ekvall (1997) reported that leadership behavior accounts for anywhere from 40 to 80% of the variance in many of his studies investigating factors that influence organizational climate. Uniquely, this present study did not use a predefined taxonomy to specify leadership behaviors. Instead, open-ended questions asking respondents to describe specific actions or behaviors that their leader or manager did to either help or hinder innovation were analyzed. This resulted in a bottom-up approach based on specific incidents, rather than a top-down approach starting with a hypothetical framework.

Our approach

This study used a multi-method approach to examine the relationship among leadership behavior, organizational climate, and innovative productivity – both quantitative and qualitative approaches were used. The findings gained through examining the narrative comments from participants elaborated, supplemented or clarified the quantitative results. Isaksen & Ekvall (2007) maintain that by using these two methodologies in harmony, the overall strength of the insights and meaning of the results increases.

In order to use a multi-method approach, this study included 56 closed-ended questions and two open-ended questions. By employing this approach, qualitative techniques such as constant comparison (Leech & Onwuegbuzie, 2008) and quantitative techniques such as analysis of variance can be used together to provide a richer understanding of which specific leadership behaviors help or hinder the creation of an organizational climate for innovation.

The sample for this international study consisted of 140 subjects from 103 different companies, and was represented by 31 different industries. The countries represented in this study included:

- United States
- France
- Netherlands
- Germany
- Belgium
- United Kingdom
- Denmark
- Spain
- Tunisia
- Canada

The Situational Outlook Questionnaire[®] (SOQ) was used to measure organizational climate for this study. The SOQ is the result of over 50 years of research and development, which was started by Göran Ekvall in the 1950's. In 2001, after nine different versions, The Situational Outlook Questionnaire[®] version 6 was developed which has more than adequate evidence of reliability and validity (Isaksen, 2007; Isaksen & Ekvall, 2007).

The SOQ measures nine dimensions of organizational climate. These are summarized below.

Table 2: The nine SOQ Dimensions defined

SOQ Dimensions	High Level Definition
Challenge/Involvement	The degree to which people are involved in daily operations, long-term goals, and visions.
Freedom	The degree of independence shown by the people in the organization.
Trust/Openness	The emotional safety in relationships.
Idea-Time	The amount of time people can, and do, use for elaborating new ideas.
Playfulness/Humor	The spontaneity and ease displayed within the workplace.
Conflict	The presence of personal and emotional tensions (a negative dimension – in contrast to the debate dimension).
Idea-Support	The way new ideas are treated.
Debate	The occurrences and disagreement between viewpoints, ideas, experiences, and knowledge.
Risk-Taking	The tolerance of uncertainty and ambiguity.

Besides using the SOQ, this study used three additional closed-ended questions to quantify the variables of leadership and innovative productivity. These three questions used a four-point Likert-type scale ranging from 0 to 3, and were formulated as follows:

- Leaders and managers I observe are effective in creating an environment that supports innovation (this was labeled as “*Leadership in support of innovation – LSI*” in this study).
- We are successful in implementing new ideas to obtain results in my work unit (this was labeled as “*Proximal Innovation – PI*” in this study).
- In general, my organization has been successful at innovation (which was labeled as “*Omnibus Innovation – OI*” in this study)

The reason for asking respondents about *observed* leadership behavior in the LSI-question was partially based on the work of Kozlowski & Doherty (1989). They stated that decisions made at higher levels are likely to be mediated by local leadership behavior. They indicated that: “[...] *an individual's immediate supervisor is the most salient, tangible representative of management actions, policies, and procedures. Thus, the nature and quality of interactions with supervisors may be a key filter in the interpretations that provide the basis for subordinates' climate perceptions*” (1989: 547).

The key findings

Table 3 below presents the descriptive data from the entire sample responding to the invitation to participate in the survey.

Table 3: Overall Descriptive Statistics

Closed-ended Questions / SOQ Dimensions	Mean	Std. Deviation	Range	
			Min.	Max.
Question 54 – LSI	1.79	0.92	0	3
Question 55 – PI	2.00	0.82	0	3
Question 56 – OI	1.93	0.84	0	3
Challenge/Involvement	228.33	51.06	71	300
Freedom	197.84	69.50	0	300
Trust/Openness	191.43	60.08	40	300
Idea-Time	167.15	75.94	0	300
Playfulness/Humor	193.22	65.65	17	300
Conflict	87.53	70.87	0	300
Idea-Support	196.57	69.61	20	300
Debate	213.80	57.42	33	300
Risk-Taking	167.71	65.90	20	300

n= 140 for all three questions and nine dimensions

When interpreting the SOQ averages, it is important to remember that the Conflict dimension is the only negatively scaled dimension (less is generally better).

Climate and innovation are clearly linked

In order to investigate if organizational climate has a significant effect on the perceived level of innovation, two, one-way analyses of variance (ANOVA) were computed using the nine SOQ dimensions as dependent factors and the two closed-ended innovation questions (PI & OI) as the sorting factors. The results of these analyses are presented in Table 4 and Table 5 below.

Table 4: Analysis of Variance–SOQ Dimensions and Proximal Innovation

SOQ Dimensions	ANOVA	Proximal Innovation							
		Not at all successful (n = 4)		Successful to some extent (n = 35)		Fairly successful (n = 58)		Successful to a high degree (n = 43)	
	F	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Challenge/ Involvement	24.523*	146	69	201	48	221	44	269	28
Freedom	10.054*	188	80	153	64	200	66	233	59
Trust/Openness	14.844*	130	20	164	49	181	57	233	51
Idea-Time	11.853*	88	80	130	58	162	70	213	73
Playfulness/ Humor	17.630*	113	9	156	62	187	61	239	46
Conflict	10.925*	175	117	116	68	95	70	46	44
Idea-Support	23.064*	95	44	148	56	197	63	246	50
Debate	6.529*	209	42	190	53	207	59	243	49
Risk-Taking	15.976*	110	26	129	50	162	65	213	54

* All differences were significant at $p < .0001$

Table 4 presents the analysis of variance for Proximal Innovation as the sorting factor. This table clearly shows that across all nine SOQ dimensions, the SOQ means differ significantly across all four PI response possibilities. The higher the perceived degree of success in proximal innovation (innovation at the work unit level), the better the organizational climate.

These results showed, with a high degree of certainty, that respondents who indicated that their work unit was successful in implementing new ideas to obtain results reported higher mean scores on the eight positive SOQ dimensions (and lower means scores on the Conflict dimension). This shows that a meaningful relationship exists between organizational climate and proximal innovation.

The same statistical technique was used to investigate the difference in SOQ mean across the four different response possibilities for the OI-question (innovation at the organizational level). The results are presented in **Table 5** below.

Table 5: Analysis of Variance–SOQ Dimensions and Omnibus Innovation

SOQ Dimensions	ANOVA	Omnibus Innovation							
		Not at all successful (n = 4)		Successful to some extent (n = 42)		Fairly successful (n =54)		Successful to a high degree (n = 40)	
	F	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Challenge/ Involvement	14.774*	204	79	200	54	226	43	264	31
Freedom	11.671*	171	120	158	49	201	69	238	60
Trust/Openness	13.663*	130	60	169	51	182	56	235	50
Idea-Time	15.197*	59	75	128	52	170	67	215	77
Playfulness/ Humor	11.717*	154	97	159	60	192	62	235	50
Conflict	6.257*	167	83	108	69	90	74	55	52
Idea-Support	23.514*	110	62	150	57	201	58	248	55
Debate	8.548*	175	101	190	57	210	45	247	54
Risk-Taking	22.900*	100	33	124	52	169	57	219	54

* All differences were significant at $p < .0001$

The analyses indicated that individuals who perceived their organization to be more successful at innovation reported significantly higher mean scores on the eight positive SOQ dimensions (and significantly lower means scores on the Conflict dimension). This shows that there is also a meaningful relationship between organizational climate and omnibus innovation.

Leadership and climate are clearly linked

In order to investigate if the perceived effectiveness of leaders' ability to support innovation (LSI) has a significant effect on the perceived organizational climate, a one-way analysis of variance (ANOVA) was computed, which is presented in **Table 6** below.

Table 6: Analysis of Variance–SOQ Dimensions and Leadership in Support of Innovation

SOQ Dimensions	ANOVA	Leadership In Support of Innovation							
		Not at all effective (n = 12)		Effective to some extent (n = 40)		Fairly effective (n = 53)		Effective to a high degree (n = 35)	
	F	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Challenge/ Involvement	20.382*	165	60	205	50	239	39	260	32
Freedom	9.439*	144	91	171	69	206	58	235	54
Trust/Openness	17.179*	130	41	166	53	197	54	234	50
Idea-Time	14.333*	100	67	135	67	172	61	220	74
Playfulness/ Humor	16.290*	136	56	161	68	199	55	240	46
Conflict	18.333*	174	76	120	67	69	60	50	45
Idea-Support	41.767*	100	53	151	58	216	51	252	41
Debate	7.335*	178	69	193	56	218	50	243	52
Risk-Taking	25.992*	95	33	127	60	185	52	213	53

* All differences were significant at $p < .0001$

The results indicated, with a high degree of certainty, that the means (presented in **Table 6**) are significantly different from each other. The respondents who perceived their leader to be more effective, reported a significantly better organizational climate. This suggests that there is a meaningful relationship between the ways that individuals perceive their organizational climate and how they observe their leader’s ability to support innovation, and confirms that leaders have a significant impact on the perceived organizational climate.

Climate as an intervening variable between leadership and innovation

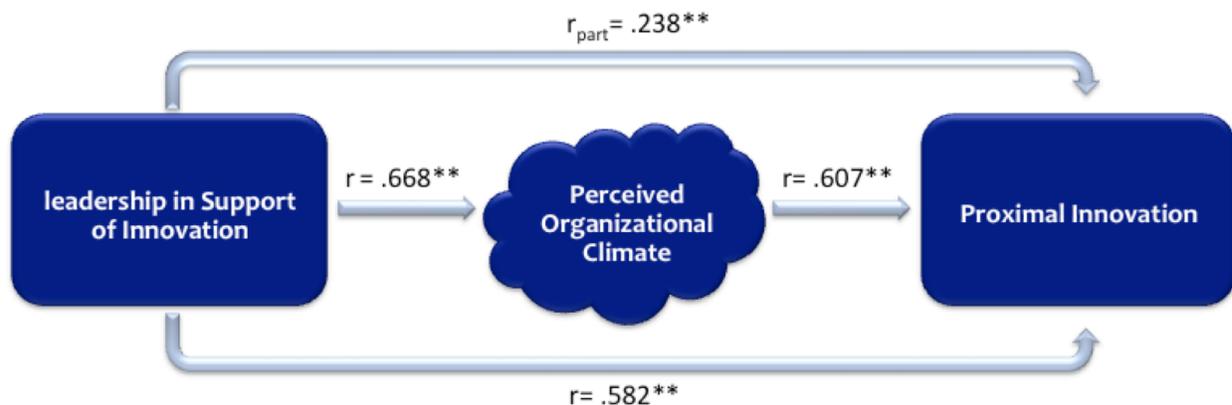
In order to determine if organizational climate plays an intervening role between leadership behavior and innovative productivity, partial correlations were computed. Partial correlation measures the degree of association between two random variables (in this case LSI & PI in

Figure 1, and LSI & OI in Figure 2), with the effect of a random variable (in this case Organizational Climate) removed.

First, correlations between LSI, organizational climate and PI (Pearson r) were calculated in order to establish the linear relationship between all three constructs to get an indication of the degree of influence. Partial correlations (r_{part}) between LSI and PI, with organizational climate constant, were then calculated in order to establish pure relations between LSI and PI. The results are shown in Figure 1.

The results indicated that there is a significant and meaningful correlation between leadership in support of innovation and proximal innovation (.582). However, when the influence of organizational climate is removed, a decrease in the strength of the relationship resulted (from .582 to .238). These results indicated that leadership effectiveness influences, to a large extent, innovative productivity through organizational climate, which reinforces its intervening role.

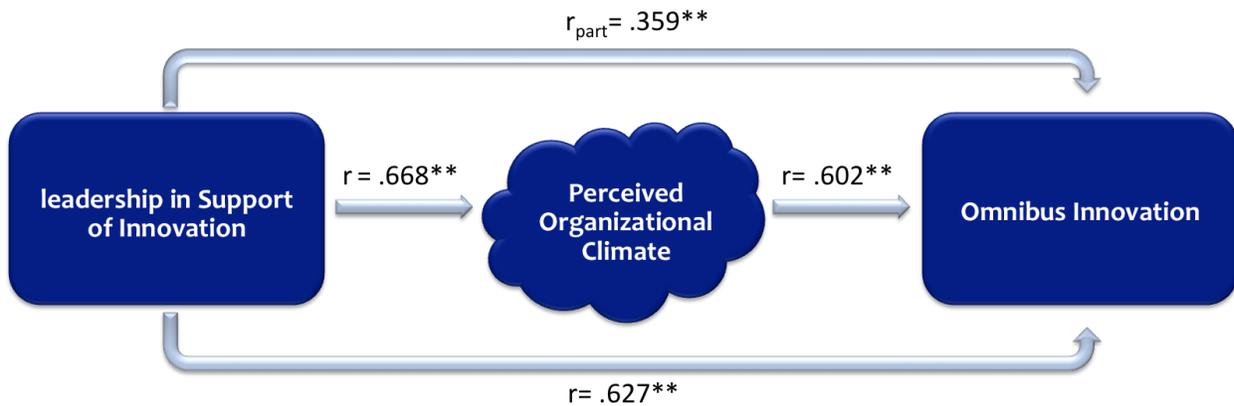
Figure 1: Correlations and partial correlation between LSI, Climate and PI



** Correlations are significant at $p < 0,01$ (2-tailed)

Overall, the same finding resulted when examining the relationships among leadership, climate and omnibus innovation. The correlation analysis revealed a significant correlation between leadership effectiveness and omnibus innovation. However, when the influence of organizational climate was removed, a decrease in the strength of the relationship results (from .627 to .359). These results are displayed in Figure 2 below.

Figure 2: Correlations and partial correlation between LSI, Climate and OI



** Correlations are significant at $p < 0,01$ (2-tailed)

These outcomes clearly support the assertion that organizational climate is an intervening variable between leadership behavior and innovative productivity (at the work unit level and the organizational level). Ekvall & Ryhammer (1998) found even stronger evidence for the intervening role of organizational climate when investigating leadership style and organizational outcome. They concluded that: “A further step, [...], would mean that the leadership style affects organizational results only through influencing the social climate [...]” (Ekvall & Ryhammer, 1998: 129).

Leadership behaviors that help or hinder innovation

Since leadership’s role in establishing a climate for innovation has been reaffirmed, the next question was: What specific behaviors do leaders provide to help or hinder the creation of such a climate?

Much of the literature starts with a predefined or predetermined model or taxonomy to indicate what leaders might need to do in order to encourage innovation. This study broke with this top-down tradition and, instead, took a bottom-up approach based on open-ended questions. These two questions were included in the web-based questionnaire:

- Consider a real and recent situation in which your project leader, manager or supervisor did something that really **helped** you and your colleagues move

innovation forward. In the space below, please describe the specific action or behavior this leader or manager did to **help** innovation.

- Consider a real and recent situation in which your project leader, manager or supervisor did something that **provided a barrier** to you and your colleagues in moving innovation forward. In the space below, please describe the specific action or behavior this leader or manager did to **hinder** innovation.

These two questions included a modified critical incidents approach. Flanagan (1954) described critical incidents as stories that reflect especially good or bad performance on a job. Bycio & Allen (2004: 87), based on Bownas & Bernardin (1988), explained that: *“[i]deally, [these stories] [...] are specific, describing what the incumbent did, the context of the behavior, and its consequences. When large numbers of critical incidents are collected for a target job (e.g., college instructor), the information aids in the development of management tools including job descriptions, training materials, and performance-appraisal systems.”*

The questions requested that the respondent consider a real and specific situation, and then identify the actual behavior of their leader, manager, or supervisor. Since the two questions were designed to identify actions leaders took to both help and hinder innovation, Lewin’s (1951) force field analysis theory was used. This approach allows the examination of forces that are either driving movement toward a goal (helping forces) or blocking movement toward a goal (hindering forces).

The first open-ended question (the *“helps question”*) was used to get insights into specific leadership behaviors (factors, forces) that positively influence organizational climate. The second question (the *“hinders question”*) was used to see which factors or forces block the creation of an organizational climate that supports innovation.

In all, 280 narrative responses (140 responses to the *“helps question”* and 140 responses to the *“hinders question”*) resulted. Qualitative data reduction techniques were applied deriving 32 themes (16 *“help themes”* and 16 *“hinder themes”*). Additional analysis was conducted to look across the helps and hinders themes, resulting in eight macro-themes presented in **Table 7**.

By using Lewin’s (1951) force field analysis, the likelihood of finding such overarching macro themes was higher because respondents indicated which forces are helping to drive movement toward a goal (innovation in this study) and which forces are hindering this same movement.

Table 7: Qualitative macro themes

Leaders <u>help</u> innovation by...	Leaders <u>hinder</u> innovation by...
Macro theme 1: Controlling resource availability	
deliberately provide and ensure resources (financial, people, space and time) <ul style="list-style-type: none"> • <i>provide additional “man power” to free up time for creativity and innovation</i> 	are allowing the current work load pressure to absorb all available time and resources without considering the need for flexibility and novelty <hr/> arbitrarily assign limited resources
Macro theme 2: Delivering creativity and innovation training	
provide opportunities for learning about creativity and innovation	ignore the need for deliberate creativity training and learning <hr/> talk about innovation as a priority but show a lack of understanding about creativity and innovation
Macro theme 3: Fostering new ways of doing things	
encourage new thinking that leads to new ways of doing things <ul style="list-style-type: none"> • <i>Openly support new ideas through communication</i> • <i>encourage networking</i> 	refuse to consider problems, new ideas and opportunities <hr/> are assigning resources without regard to new and different ways of getting things done
actively protect new ways of doing against negative outside influences	
create opportunities where diversity of people, knowledge and capabilities lead to new and exciting results <ul style="list-style-type: none"> • <i>allow the use of outside experts</i> 	focus solely on short term operations and business results <hr/> focus solely on ideas that are in line with business as usual
attract and value diversity (in people, knowledge, capabilities)	apply the same evaluation metrics to innovation as they do to business as usual

Table 7: Qualitative macro themes (continued)

Leaders <u>help</u> innovation by...	Leaders <u>hinder</u> innovation by...
Macro theme 4: Providing structure	
deliberately provide flexible structures to implement the results of new thinking <ul style="list-style-type: none"> • <i>create teams deliberately focused on innovation</i> • <i>create idea contest and competitions</i> • <i>dedicate time for off-site meetings</i> 	provide too much structure and direction on new initiatives
adjust deadlines and workload for novelty to occur	
make effective judgment on when and how to provide guidance and direction to innovation project teams	
Macro theme 5: Sharing information	
make sure new and relevant information is available	deliberately limit information flow regarding new initiatives and projects
Macro theme 6: Approaching mistakes and failures	
see failures and mistakes as learning opportunities	impose heavy restrictions and penalties on those who want to take initiative
support positive, open, inclusive interaction of diverse viewpoints <ul style="list-style-type: none"> • <i>ask, questions, and acquire input from many sources</i> 	allow ambiguity to slow down new initiatives
Macro theme 7: Including others in decision making	
actively invite input in order to make informed and better decisions	force ideas on others without consulting them in the decision making process
help to identify barriers and stimulate new thinking to circumvent them deliberately take action which shows trust in people's knowledge, expertise and experience	ignore requests and needs for feedback and information
Macro theme 8: Focusing priorities	
set high expectations/goals that maintain high levels of engagement/motivation	focus on their own career advancement

Specific leadership behaviors can be found that either help or hinder the creation of an organizational climate that supports innovation under each theme. For instance: Macro-theme 6 is called “Approaching mistakes and failure“. Leaders who want to address this issue can find on the one hand, specific behaviors that will help to move their organization’s innovation forward by creating a climate that supports it, and on the other hand behaviors that will hinder the creation of an organizational climate that supports innovation.

There were multiple individual responses that created each theme. To illustrate, **Table 8** presents an example of one of the “help“ themes accompanied by the individual narrative responses that led to the creation of this theme.

Table 8: Theme and narrative illustration

Macro theme 4: Providing structure
Leaders help innovation when they adjust deadlines and workload for novelty to occur
Global NPD Manager took a project OFF the launch schedule, because the invention addressing the technical challenges had not been addressed within the time frame needed to successfully meet a commercialization schedule.
She allowed me to make time changes in the schedule of a workshop, since the teachers (participants) have a good degree of knowledge on the subject, so I thought it wasn't necessary to have them go through long hours of unnecessary work.
Empower his people to present a project they themselves developed in partnership with other departments.
Flexible time – lines were key to the success of this project
We implemented a new pay for performance system. The President discussed the change several months ago in an open forum. He recently discussed the general idea and asked if there were general questions. He then told everyone managers and HR would be meeting with their people to discuss the specifics of the new program. This helped the effort succeed.
Provided support and time to conduct and carry out idea. Support to test idea.
Ultimately, when a colleague and I informed our supervisor we could not take any work and instead had to focus on the tasks at hand, we were able to focus and adapt a product with better results than we would have had otherwise.
They were able to consolidate fields into one manageable file and decreased the amount of time it took to deliver ad hoc information to the client.

In conclusion

Leaders seeking to meet the innovation challenge must do so in large part by creating the work environment that supports creativity.

This study's findings are in line with previous research. Isaksen & Lauer (2001) investigated the SOQ's ability to discriminate among different levels of self-reported perceived level of support for creativity. They found statistically significant differences existed between the respondent's reports of perceived support for creativity and the scores of all nine SOQ dimensions. Similarly, this study found that statistically significant differences existed between perceived leadership effectiveness, perceived proximal innovation, perceived omnibus innovation and the nine SOQ dimensions. This implies that people who reported that their leader was more effective in creating a climate for innovation, reported a significantly better organizational climate. Respondents who perceived their work unit to be innovative (proximal innovation) also perceived a significantly higher organizational climate. The same results were found for perceived level of innovation at the organizational level (omnibus innovation).

The partial correlation analyses found clear support for the intervening nature of organizational climate similar to previous research done by Ekvall & Ryhammer (1998). Although much of the literature points to the importance of leadership for innovation, when you take climate out of the equation, the direct influence of leadership drops. The implication of these findings is that leadership must play the key role in establishing the opportunity for innovation. They must do so by providing behaviors that help, and avoiding behaviors that hinder innovation. As these more helpful patterns of behavior become established, and are experienced, the climate can be created to obtain innovation.

The practical implications of these findings are that leaders should focus on deliberately creating a climate for innovation instead of directly trying to influence their organization's level of innovation. Since leadership behavior has such a profound impact on the climate for creativity and innovation, it is essential that leaders become aware of how to utilize specific behaviors in a manner that achieves the desired innovative outcomes. Therefore leadership development for innovation is critical for an organization's survival and future growth. This study began to compile the necessary knowledge for training and development that organizations will need to capitalize on for innovation in the future.

However, more confirmatory research will be necessary in order to generalize and strengthen these results. Future research should consequently use more objective measures to

assess leadership effectiveness and innovative productivity. Also, multiple points of reference should be used to measure these variables in order to confirm the initial findings of this study.

As more research is done in the future, organizations will become more aware of the importance of organizational climate when dealing with innovation and the important role their leaders play in managing and creating this climate for innovation. This exploratory study has contributed meaningful and initial insights helping to unravel the importance of leadership in the creation of an organizational climate for innovation.

References

Adler, N. J. (1991). *International dimensions of organizational behavior*. 2nd edition, Boston, PWS-KENT Publishing.

Akkermans, H. (2008). *Organizational climate as an intervening variable between leadership behavior and innovative productivity: An exploratory study*. Unpublished Masters Thesis. Department of Business and Economics, Vlekhoe, Brussels.

Barsh, J., Capozzi, M. M. & Davidson, J. (2008). Leadership and Innovation. *The McKinsey Quarterly*, 1, 37-47.

Bownas, D. A. & Bernardin, H. J. (1988). Critical incident technique. In: S. Gael (ed.), *The job analysis handbook for business, industry and government* (pp. 1120-1137). New York, Wiley.

Bycio, P. & Allen, J. S. (2004). A Critical Incidents Approach to Outcomes Assessment. *Journal of Education for Business*, 80, 86-92.

Denison, D. R. (1996). What is the Difference between Organizational Culture and Organizational Climate? A Native's Point of View on a Decade of Paradigm Wars. *Academy of Management Review*, 21, 619-654.

Deschamps, J. P. (2003). Innovation and Leadership. In: L. V. Shavinina (ed.), *The International Handbook on Innovation* (pp 815-831). Oxford, Elsevier Science Ltd.

Ekvall, G. (1997). Organizational conditions and levels of creativity. *Creativity and Innovation Management*, 6, 195-205.

Ekvall, G. & Ryhammer, L. (1998). Leadership style, Social Climate And Organizational Outcomes: A Study of a Swedish University College. *Creativity and Innovation Management*, 7, 126-130.

Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin*, 51, 327–358.

Isaksen, S. G. (2007). The Situational Outlook Questionnaire®, Assessing the context for change. *Psychological Reports*, 100, 455-466.

Isaksen, S. G. & Lauer, K. J. (2001). Convergent Validity of the Situational Outlook Questionnaire®, Discriminating Levels of Perceived Support for Creativity. *North American Journal of Psychology*, 3, 31–40.

Isaksen, S. G., & Ekvall, G., (with contributions from Akkermans, H., Wilson, G. V., & Gaulin, J. P.) (2007). *Assessing your context for change, A technical manual for the SOQ*. 2nd Edition, Orchard Park, New York, The Creative Problem Solving Group, Inc.

Kazama, S., Foster, J., Hebl, M., West, M. & Dawson, J. (2002). Impacting climate for innovation: Can CEOs make a difference? *Paper presented at the 17th Annual Conference of the Society for Industrial and Organizational Psychology*, Toronto, Canada.

Kozlowski, S. W. J. & Doherty M. L. (1989). Integration of Climate and Leadership, Examination of a Neglected Issue. *Journal of Applied Psychology*, 74, 546-553.

Leech, N. L., Onwuegbuzie, A. J. (2008). An array of qualitative data analysis tools, A call for data analysis triangulation. *School Psychology Quarterly*, 22, 557-584.

Lewin, K. (1951). *Field Theory in Social Science*. New York, Harper and Brothers.

McDonough E. (1993). Faster New product development, Integrating the Effects of Technology and the Characteristics of the Project Leader and Team. *Journal of Product Innovation Management*, 10, 241-250.

Mumford, M. D. & Gustafson, S. B. (1988). Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin*, 103, 27–43.

Reiter-Palmon, R. & Illies, J.J. (2004). Leadership and creativity: Understanding leadership from a creative problem-solving perspective. *The Leadership Quarterly*, 15, 55-77.

Scott, S. G. & Bruce, R. A. (1994). Determinates of innovative behavior, A path model of individual innovation in the workplace. *Academy of Management Journal*, 137, 580-607.

Thamain H. J. (1990). Managing Technologically Team Efforts towards product Success. *Journal of Product Innovation Management*, 7, 5-18.

Thamain H. J. (1996). Managing Self-Directed Teams Efforts toward Innovative Results. *Engineering Management Journal*, 8, 31-39.

Thamain H. J. (2003). Managing Innovative R&D Teams. *R&D Management*, 33, 297-311.

Thomson, K. (1998). *Emotional capital, Maximising the intangible assets at the heart of brand and business success*. Oxford, Capstone.

Zhu, W., Chew, I. K. H. & Spangler, W. D. (2005). CEO transformational leadership and organizational outcomes, The mediating role of human–capital-enhancing human resource management. *The Leadership Quarterly*, 16, 39-52.

Research Fellows of the Creativity Research Unit

Dr. Göran Ekvall
Professor Emeritus, Industrial and Organizational Psychology
University of Lund – Sweden

-

Dr. Scott G. Isaksen
Founder and President
The Creative Problem Solving Group, Inc. – USA

-

Dr. Geir Kaufmann
Professor, Organizational Psychology and Leadership
Norwegian School of Management – Norway

-

Dr. Kenneth W. McCluskey
Associate Professor of Education
University of Winnipeg – Canada

-

Dr. Ruth B. Noller
Distinguished Service Professor of Creative Studies, Emeritus
Center for Studies in Creativity – USA
(In Memoriam)

-

Dr. Guido Prato-Previde
Founder
Decathlon Consulting – Italy

-

Dr. Edwin C. Selby
Adjunct Professor, Graduate School of Education
Fordham University – USA

-

Dr. Donald J. Treffinger
President, Center for Creative Learning
Professor Emeritus, Center for Studies in Creativity – USA

