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THE IMPACT OF SITUATIONAL FACTORS ON INFORMATION SYSTEM (IS) MANAGERIAL LEADER BEHAVIORS: WHAT INFORMATION SYSTEM EMPLOYEES WANT

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Information systems leadership has evolved dramatically over the past 40 years. Early in the era of computing most attention was focused on the technical skills of IS managers. As IS has become ubiquitous in our organizations and increasingly embedded in our everyday lives, the need for a broader approach to IS management has emerged with an increasing emphasis on non-technical skills in business practices and an appreciation of the impact of organizational culture. Further, information systems managers increasingly find themselves in crisis situations that may require different leadership skills to successfully navigate. These crises may be caused by the physical destruction of computer hardware, the loss of critically sensitive data, sophisticated hacking of company computers, or a coding error in a mission-critical software program. The research on managerial leadership in crisis situations is relatively sparse; however, the research on managerial leadership behaviors for the information systems sector is essentially nonexistent. This research study attempts to fill that gap, finding that there are a few desired managerial leadership behaviors in common between the information systems group and other studied groups, as well as differences and desired shifts in priorities.

INTRODUCTION

Information systems leadership has evolved dramatically over the past 40 years (cf. Benjamin, Dickson, & Rockart, 1985; Brancheau, Janz, & Wetherbe, 1996; Cho, Park, & Michel, 2011). At the beginning of the era of computing and information technology, IS managers needed to be technically skilled (Applegate & Elam, 1992), but the management factor was not considered as important. However, as technology has become ubiquitous in our organizations and increasingly embedded in our everyday lives, the need for a broader approach to IS management has emerged. Information systems managers find themselves in situations that require more than just the expert power that comes from understanding the information systems (Kakabadse & Koka-Kakabadse, 2000). Upper-management today is looking for IS managers who are not only technically savvy but also possess non-technical skills in business practices and an appreciation of the impact of organizational culture (Benjamin, Dickson, & Rockart, 1985; Applegate & Elam, 1992, Cho, et al. 2011). The information systems managers need to be able to influence followers through political, organizational, and communication skills (Rockart, Ball, & Bullen, 1982; Brooks, Carroll, Beard, 2011).

Weick (2003) points out that all systems are prone to entropy and failure. Mitroff and Anagnos (2001) state that "we have created 'complex systems' that are unmanageable precisely because they have unforeseen, and even worse, unforeseeable side effects" (p. 22). Therefore, it should not be surprising that information system (IS) failures (i.e., crises), such as the Bank of America (McKinney & Copeland, 1997), Mandata (Sauer, 1997), IPACS (Iacovou, 1999), the London Ambulance Service's Computer-Aided Dispatch System (LASCAD) disaster (Beynon-Davies, 1999), and the more recent merger between United and Continental Airlines (Krigsman, 2012) have occurred. For example, when the Bank of America was unable to roll out an IBM system that could keep up with the required electronic bank account processes, the net loss was estimated to be well over a million dollars in profits alone (McKinney & Copeland, 1997). The Mandata failure was a similar scenario (Sauer, 1993); the original plan was to automate records and allow the service organization to maintain proper employee records. This program faced challenges in rollout as well as an uphill battle for buy-in from the organizational departments (Sauer, 1993).

The IPACS failure followed a similar pattern—an information system was conceptualized as the solution to information availability and assistance; the customers (in this case, hospital employees) were not satisfied with the system and rejected it almost immediately (Iacovou, 1999). In the case of the LASCAD failure, 20-30 lives may have been lost had proper actions not been taken to recover (Beynon-Davies, 1999). More recently, the integration of the information systems for managing passenger information, flight crew scheduling, service desk representatives, etc. as required for the merger of United Airlines with Continental Airlines has not gone well (cf. Krigsman, 2012). Problems included passenger reservations being cancelled without warning, bags being lost in transit, heated arguments about how to handle pets, among other issues. Charette (2005) and Krigsman (2010) provide numerous additional examples of IS failures.

The concept of "crisis" has been described as a situation involving the diminished function of a complex system due to unknown or complicated causes where an immediate response is required to reduce further breakdown of the

system (Wikipedia, 2012c). Mitroff and Anagnos (2001) define a crisis as an event or situation that has the potential to cause irreversible loss for the organization. In an integrated review of the literature, Pearson and Clair (1998) offer a comprehensive definition of crisis as: "... a low-probability, high-impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly" (p. 60).

Lerbinger (1997) identified several types of crises, including natural disasters, technological crises, confrontation, malevolence, organizational misdeeds (including deception and management misconduct), workplace violence, rumors, and man-made disasters (e.g., terrorist attacks). Pearson and Clair (1998) developed an "array" of over 25 organizational crises, suggesting the variety of "organizational vulnerabilities" (p. 60). In the book Managing Crises Before They Happen, Mitroff and Anagnos (2001) identify information as one of the seven standard methods of experiencing an organizational crisis. These crises can be caused by a number of factors, such as the physical destruction of computer hardware, the loss of critically sensitive data, or a coding error in a mission-critical software program. In fact, an information systems crisis (as well as a more general non-IS crisis) can be triggered by any of the seven organizational crises. Table 1 provides several examples of how each type of crisis has occurred in an information systems context.

TABLE 1

Examples of IT-Related Crises Organized by Major Crises Types/Risks Using Mitroff and Anagnos' (2001) Categories

Economic	Informational	Physical (e.g., loss of key facilities)	Human Resource	Reputational	Psychopathic Acts	Natural Disasters
Dot-com Bubble Burst (Wikipedia, 2012a)	Anonymous named as one of the "People Who Mattered Most in TIME's Person of the Year issue (Dec, 2011)	Denver International Airport Baggage Handling System (DIA Case Study, 2008)	Internal Data Theft (Henry, 2012)	RSA's Secure IDs Hacked (Richmond, 2011)	Cyber War (CBS News, 2010)	Loss of medical research data due to flooding (Berger, 2001; Wikipedia, 2012b)
Hershey & ERP (Stedman, 1999)	Hackers (Hancock, 2001)	Destruction related to 9/11 attacks (Ferrelli, 2003)	High turnover of IT personnel (Southgate, 2002)	Security vulnerabilities of Microsoft Windows (Vijayan, 2003)	Denial of service attacks (Vijayan, 2004)	System backup & redundancy (UNOS, 2003)
System cannot perform to specifications (e.g., IRS) (IRS, 2001)	Theft of personal and/or credit card data (CNN, 2001)	August 14, 2004 blackout originating in Ohio (CNN, 2003)	Internal IT-related crime (Parker, 1998)	Crash of Airbus A320 @ air show in France (Casey, 1993)	Cyberterrorism (Singleton & Singleton, 2004)	Phone system outages (Grant, 2004)

When an information systems crisis occurs, Mason, McKenney, and Copeland (1997) argue that IS leadership must emerge as a response to the crisis. However, the critical question is: What leadership behaviors do the stakeholders who are experiencing the IS crisis want from their Information Systems leaders? It is not enough to understand what management wants from their information systems leaders; we also need to consider what the individual

employees are expecting from their IS leaders. After all, they are the ones who will be following the leader. Research has shown the importance of leadership within organizations, especially in crisis situations (Weick, 2003).

A number of IS researchers (cf., Bannister, 2002; Halverson, Holladay, Kazama, & Quinones, 2004; Weisman, 1999) have speculated about what leadership behaviors are necessary when an IS crisis occurs. For example, Bannister (2002) proposes that three key roles of leadership must evolve during a crisis. First is the recognition that a crisis exists. Second is the role of creating an information technology (IT) solution to crisis. Third is the role of orchestrating the implementation of the IT solution. While this is an interesting proposal, it does not currently have empirical support. Therefore, one goal of this research effort is to move beyond conjecture and propositions to actual empirical evidence of what IS constituencies desire in the form of leadership behaviors when facing an IS crisis.

At the same time, IS leaders do not continually face crises; there are many periods of time when the network and IT systems operate without a crisis. Although security is an on-going concern, there are often weeks and months when the software applications routinely perform their functions without even a hint of a crisis. Safeguard procedures are often developed to insure critical data are protected and no crisis occurs. Numerous reports of successful implementations of new software applications (cf., Brown, 2002; McMahon, 2003) and hardware installations (cf., Fisher & Kenny, 2000; Fincham, 2002) are available in the literature.

The word "crisis" might be used during these routine and stable times; but as suggested in the descriptions above, the temporary difficulties or relatively small-scale events generally do not create a situation that evolves into a crisis, i.e., a level of irretrievable loss. This raises another important question: What leadership behaviors do the stakeholders who are experiencing routine operations of an IS function want from their IS leaders? This is the second research question that informs this study.

The importance of managerial leadership behaviors in times of crisis has received considerable attention since September 11, 2011. Rudy Giuliani, the Mayor of New York City at that time, stresses the need for leaders to control their emotions under pressure, to feel concern but not panic, and not to let themselves be paralyzed by the unexpected situation (Giuliani, 2002, p. xiii). Other guidelines that Giuliani (2002) offers for managing and leading in a crisis include surrounding themselves with great people, having and communicating strong beliefs and a clear purpose, and properly prioritizing things to be done.

Heifetz and Linsky (2002) argue that crises present situations that are adaptive challenges to complex adaptive systems. Examples include not only the terrorist attack of September 11 but also the theft of personal and/or credit card data, and the crash of Airbus A320 at the French air show in 1988. Such adaptive challenges generally require periods of painful adjustment and transition that may last a considerable time. Individuals will experience periods of uncertainty and incompetence, including being asked to reevaluate their beliefs and to give up something in an effort to gain or retain something else. These are the characteristics of situations that IS managerial leaders face in a crisis. Heifetz and Linksy (2002) warn that leadership in such situations is risky and dangerous. The challenge is that the very people the leader is trying to guide through the crisis may turn on or ignore the leader and reject the leadership attempt (cf., the thirteen smokejumpers who perished in a suddenly out-of-control forest fire in August 1949 at Mann Gulch in Montana when they ignored their foreman as the fire turned on them (Maclean, 1993; Weick, 1993, 1996)).

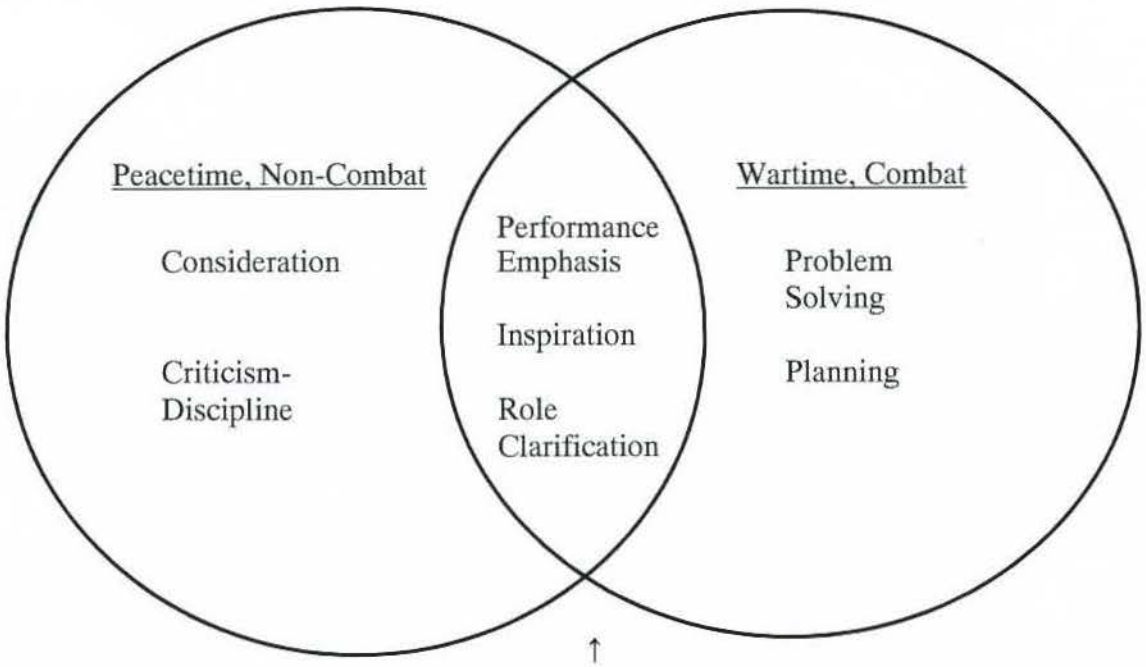
This general leadership advice may be useful for managerial leaders but does not tell us what actual IS managerial leadership behaviors are critical in an information system crisis situation. In a review of past leadership research, Baruch (1998) found that fewer than 10% of the articles dealt with leadership and crisis. Further, database searches found few studies done on information system managerial leaders and crisis situations although a good many on communication in crises situations (see, for example, Pan, Pan, & Leidner, 2012; Gonzalez-Herrero & Smith, 2010; Wakefield, Leidner, & Garrison, 2008; Tulgan, 2007; Schoenberg, 2005).

LITERATURE REVIEW

An early piece of empirical research focusing on leadership behavior in a crisis situation, specifically military combat, was carried out by Yukl and Van Fleet (1982). To identify managerial leadership behaviors of effective leaders, they used two methods (questionnaires and critical incidents) and two situations (combat and non-combat). Their findings, collected from the perspective of the subordinate, are depicted in Figure 1 (Van Fleet & Yukl, 1986).

FIGURE 1

Significant Leadership Behaviors by Situation (Yukl & Van Fleet, 1982)



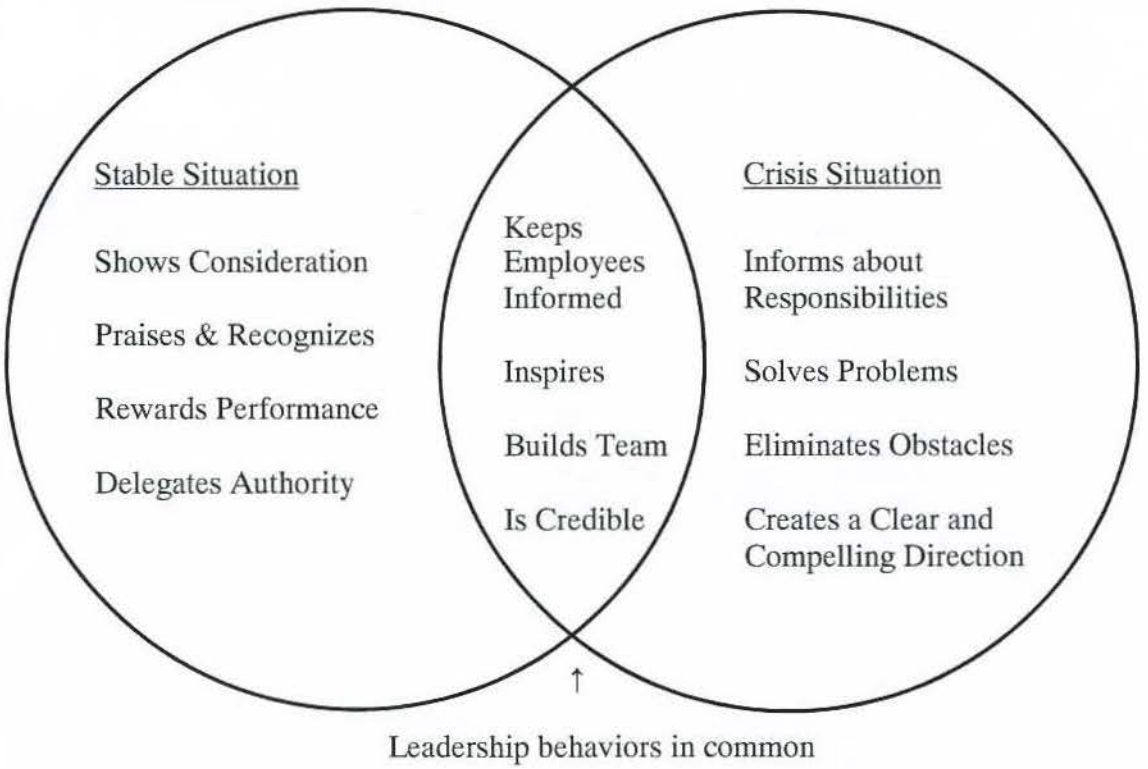
The results indicate that managerial leaders must exhibit three behaviors in both combat and non-combat situations: performance emphasis, inspiration, and role clarification. In addition, they must also exhibit consideration and criticism-discipline in non-combat situations as well as problem solving and planning in combat situations.

These findings, while valuable, have some significant limitations. Baruch (1998) noted that the findings were collected only in a military environment. Thus, while we can generalize to other military units or leaders, we should be careful in generalizing to nonmilitary organizations, situations, or leaders. Combat is unlike the type of crisis that most nonmilitary managerial leaders typically will experience, although it is certainly a crisis situation for the military. The events of September 11 remain etched in everyone's mind, but managerial leaders are less likely to face a terrorist attack than a natural disaster, damage to the organization's reputation, or the loss of a key executive (Mitroff, 2001). Therefore, it is important to continue efforts to extend Yukl and Van Fleet's (1982) research (cf. Peterson & Peterson, 2012; Peterson & Van Fleet, 2003 & 2008; White, 2005; Howell & Higgins, 1990 a & b). These efforts should include nonmilitary organizations, nonmilitary situations, and nonmilitary managerial leaders as well as broader definitions of crisis beyond a combat situation.

Using nonmilitary samples with an expanded definition of crises, Peterson and Van Fleet (2003 & 2008) extended earlier research by including managerial leadership behaviors identified since the Yukl and Van Fleet study (1982). Figure 2 depicts these results, showing the behaviors desired during both crisis and stable situations.

FIGURE 2

Significant Leadership Behaviors by Situation (Peterson & Van Fleet, 2003)



A comparison of Figure 1 and Figure 2 shows that three behaviors are common to the two figures. Both the military and the nonmilitary subjects identified shows consideration in only stable/non-combat situations, inspiration in both stable situations and crisis situations, and problem solving in only crisis/combat situations. The differences between the military and nonmilitary subject pools are more substantial than the similarities. For example, the rewards performance behavior is identified as motivation and is considered critical to the nonmilitary sample, including the IS study, but not to the military sample (see Figure 3). In addition, creating a clear and compelling direction was seen as being critical in crises. This is a behavior added to the taxonomy since the initial Yukl and Van Fleet study (1982). Heifetz (1994) maintains that a clear, shared purpose tends to hold people together during a time of crisis.

As a result, the field of leadership now has two domains to examine. While these findings may be generalized to other military units or military leaders and to nonmilitary units and nonmilitary leaders, we should not generalize them to information system departments or information technology organizations or to IS leaders. Therefore, it is the intent of this study to extend this research to information system departments, information technology organizations, and IS managerial leaders by exploring the following research question: What IS managerial leadership behaviors are critical in crisis and stable situations?

METHODOLOGY

Subjects

As a part of a larger study in two different Southwestern cities, data were collected from 115 working professionals who self-identified that they worked in the information systems sector and had experienced one of the crises identified by Mitroff and Anagnos (2001). Each subject completed a three-page survey instrument on the topic of managerial leadership. While this was a convenience sample, the population does represent working professionals in the information systems sector. The subjects were not from one specific industry or organization. Rather, they represented a cross-section of the information systems sector in two Southwest cities.

Measures

The background and methodology for this paper are extensions of an earlier work (Peterson & Van Fleet, 2008). This research, then, began with the same twenty-five item managerial leadership survey developed originally by

Peterson and Van Fleet (2003), which included the nineteen behaviors in the Yukl and Van Fleet (1982) instrument. This taxonomy, the most inclusive of the possible managerial leadership behaviors, has been researched extensively and validated by Yukl and his associates (Yukl, Wall, & Lepsinger, 1990; Yukl & Nemeroff, 1979). According to Yukl (2002), specific behaviors provide the best basis for developing situational approaches to leadership effectiveness. Table 2 lists the nineteen behaviors.

TABLE 2

Nineteen Managerial Leadership Behaviors

1. Managerial leader **emphasizes** the importance of employee's **performance**, tries to improve productivity, and tries to keep employees working up to their ability.
2. Managerial leader **is friendly**, supportive, and **considerate** in his or her behavior toward employees and tries to be fair and objective.
3. Managerial leader **stimulates enthusiasm** among employees for the work and builds employees' confidence in their ability to perform assignments successfully.
4. Managerial leader **provides praise and recognition** to employees with effective performance, shows appreciation for their contributions, and makes sure the employees get credit for their ideas and suggestions.
5. Managerial leader **rewards** effective employee **performance** with tangible benefits such as a pay increase, promotion, more desirable assignment, better work schedule, or more time off.
6. Managerial leader **consults** with **employees** and otherwise allows them to influence his or her decisions.
7. Managerial leader **delegates authority** and responsibility to employees and allows them to determine how to do their work.
8. Managerial leader **informs** employees **about** their duties and **responsibilities**, specifies the rules and policies that must be observed, and lets employees know what is expected of them.
9. Managerial leader **emphasizes** the importance of setting specific performance **goals** for each important aspect of the employee's job.
10. Managerial leader **determines training needs** for employees, and provides any necessary training and coaching.
11. Managerial leader **keeps employees informed** about developments that affect their work, including events in other work units or outside the organization, and decisions made by higher management.
12. Managerial leader **takes** the **initiative** in proposing solutions to serious work-related problems and acts decisively to deal with such problems when a prompt solution is needed.
13. Managerial leader **coordinates** the **work** of employees, emphasizes the importance of coordination, and encourages employees to coordinate their activities.
14. Managerial leader **obtains** for employees any necessary supplies, equipment, support services, or other **resources** need to complete the work.
15. Managerial leader **establishes contacts** with other groups and important people in the organization, persuades them to appreciate and support his or her work unit, and uses his or her influence to promote and defend the interests of the work unit.
16. Managerial leader **gets employees** to be **friendly** with **each other**, cooperate with each other, and help each other.
17. Managerial leader **restrains employees** from arguing, encourages them to resolve conflicts in a constructive manner, and helps to settle conflicts and disagreements between subordinates.
18. Managerial leader **disciplines** an employee who shows consistently poor performance, violates a rule, or disobeys directions.
19. Managerial leader **plans** the work unit's future objectives and makes contingency plans for potential problems.

In addition, the Peterson and Van Fleet (2003) instrument also included six behaviors that had been identified since the original nineteen items in the Yukl and Van Fleet (1982). One of these behaviors is the result of dividing one of Yukl and Nemeroff's (1979) original behaviors into two separate behaviors. Another is the addition of a control behavior. The four remaining new behaviors were identified in through empirical research since the original instrument was developed. Table 3 lists and briefly describes the new behaviors.

TABLE 3

Six Additional Managerial Leadership Behaviors

1. Managerial leader **eliminates problems** in the work environment and removes other obstacles that interfere with the work.
2. Managerial leader **measures progress** toward the performance goals and provides concrete feedback.
3. Managerial leader **builds** and maintains a strong effective **team** that recognizes the importance share purpose and mutual accountability.
4. Managerial leader **creates** a **clear** and compelling **direction** for the organization to pursue.
5. Managerial leader **identifies** and enforces the **norms** of the organization.
6. Managerial leader has a presence about him or her that **builds trust**, commands attention, is authentic, and credible.

As the use of teams in organizations became increasingly important (Katzenbach & Smith, 1993; LaFasto & Larson, 2001), Yukl (2002) subsequently added teams to his taxonomy (See Item 3, Table 3). The work of Kouzes and Posner (1993, 2002) prompted the development of three additional behavioral statements (as presented in Table 3): Item 4, the development of a strong purpose; Item 5, the development and enforcement of values; and Item 6, building credibility.

Procedure

Following the procedure in earlier studies, a three-page survey instrument was used. The first page listed the 25 managerial leadership behaviors and indicated that all 25 were important in some situations to achieve the organization's purpose. The instructions then asked the participants to identify 10 of the 25 behaviors (40%) that they would prefer to see by their managerial leader during a time when the organization is in a routine or stable time period. The second page listed the same 25 managerial behaviors, noted that they were indeed the same 25 behaviors, and modified the instructions this time to apply only "when the organization is experiencing a crisis" rather than routine, stable conditions. For purposes of this study, crisis was defined as "an urgent situation that required an immediate response due to irreversible losses." The instructions indicated that participants could mark the same or totally different behaviors in the routine/stable period versus the crisis period. The final page of the instrument collected demographic information, including gender, age, education level, and occupation.

Analysis

The Statistical Package for the Social Sciences (SPSS) was used to conduct the analysis. The data set was checked for errors and then, consistent with Tukey's (1977) advice, a series of descriptive and exploratory data analyses were generated to examine the data. We determined outliers, peculiarities in the data set, and unusual values using SPSS's Explore function. Findings were traced back to the original questionnaire and either corrected or eliminated before any further analysis was performed.

Using these exploratory examinations, we examined the frequency of selection for each managerial leadership behavior in both stable situations and crisis situations. Then inferences about a proportion to identify the critical managerial leadership behaviors were explored (Ott, 1984, p. 184). Finally, we examined differences between the stable and crisis situations by using a statistical test that compares two proportions (Ott, 1984, p. 196).

RESULTS

In terms of demographic characteristics, the subject pool ranged in age from 19 to 58 years, with an average of 35 years. Sixty-six percent of the sample were male. All of the subjects worked in the information systems sector. Eighty percent of the subjects held bachelor's degrees, and 44 percent of those also had some graduate education.

Frequency scores for each managerial leadership behavior by stable situation and crisis situation are reported in Table 4. As shown in the table, there are positive values in all cells for both the stable situation and the crisis situation, thus supporting the contention that all the managerial leadership behaviors are considered important by at least some of the participants. If the subjects had felt that all the behaviors were equally important, each of the leadership behaviors would have been selected an equal number of times across the subject population [(115 subjects X 10 marks per subject)/25 behaviors = 46 marks for each behavior]. However, examination of Table 4 shows that this was not true; i.e., not all behaviors were equally selected by the study participants. Therefore, some managerial leadership behaviors were regarded as more critical in one situation than in the other situation.

TABLE 4

Frequency and Percent of Managerial Leadership Behaviors by Situation (n=115)

	Stable Situation		Crisis Situation	
Managerial Leadership Behavior	Frequency	Percent	Frequency	Percent
Emphasizes performance	50	43.5	37	32.2
Is friendly and considerate	72	62.6	52	45.2
Stimulates enthusiasm (Inspires)	59	51.3	50	43.5
Provides praise and recognition	68	59.1	58	50.4
Rewards performance (Motivates)	62	53.9	35	30.4
Builds team	64	55.7	55	47.8
Consults employees	51	44.3	50	43.5
Delegates authority	62	53.9	49	42.6
Informs about responsibilities	49	42.6	53	46.1
Emphasizes goals	21	18.3	20	17.4
Measures progress	42	36.5	38	33.0
Determines training needs	48	41.7	19	16.5
Keeps employees informed	76	66.1	83	72.2
Takes the initiative (Solves problems)	33	28.7	75	65.2
Coordinates the work	25	21.7	46	40.0
Obtains resources	43	37.4	42	36.5
Eliminates obstacles	40	34.8	68	59.1
Establishes contacts	41	35.7	41	35.7
Gets employees to be friendly with each other	18	15.7	26	22.6
Restrains employees from arguing	10	8.7	33	28.7
Disciplines	46	40.0	37	32.2
Plans	34	29.6	34	29.6
Creates a clear and compelling direction	62	53.9	68	59.1
Identifies and enforces the norms	9	7.8	18	15.7
Builds trust (Is credible)	65	56.5	63	54.8

Differentiating the few "critical" managerial leadership behaviors from the larger set of "important" managerial leadership behaviors was the next step. Using Ott's (1984) formula for determining confidence coefficients for proportions, we calculated an upper confidence coefficient set equal to two standard deviations. The test value obtained (.40 + (2 x .046)) was calculated at 49.2%, which was then rounded to a value of 0.50 or 50%, to ensure that only the critical behaviors were included. Therefore, all frequency percent values that equal or exceed 50% are considered critical. The managerial leadership behaviors that meet this criterion (identified in bold type) are shown in Table 5.

TABLE 5

Frequency and Percent of Critical Managerial Leadership Behaviors by Situation (n=115)

	Stable Situation		Crisis Situation		Z Score
Managerial Leadership Behavior	Frequency	Percent	Frequency	Percent	z > 1.65
Is friendly and considerate	**72**	**62.6***	52	45.2	2.69
Stimulates enthusiasm (Inspires)	**59**	**51.3**	50	43.5	1.20
Provides praise and recognition	**68**	**59.1**	**58**	**50.4**	1.34
Rewards performance (Motivates)	**62**	**53.9***	35	30.4	3.64
Builds team	**64**	**55.7**	55	47.8	1.23
Delegates authority	**62**	**53.9***	49	42.6	1.76
Keeps employees informed	**76**	**66.1**	**83**	**72.2**	.14
Takes the initiative (Solves problem)	33	28.7	**75**	**65.2***	5.65
Eliminates obstacles	40	34.8	**68**	**59.1***	3.76
Creates a clear and compelling direction	**62**	**53.9**	**68**	**59.1**	1.13
Builds trust (Is credible)	**65**	**56.5**	**63**	**54.8**	.26

* p<.05

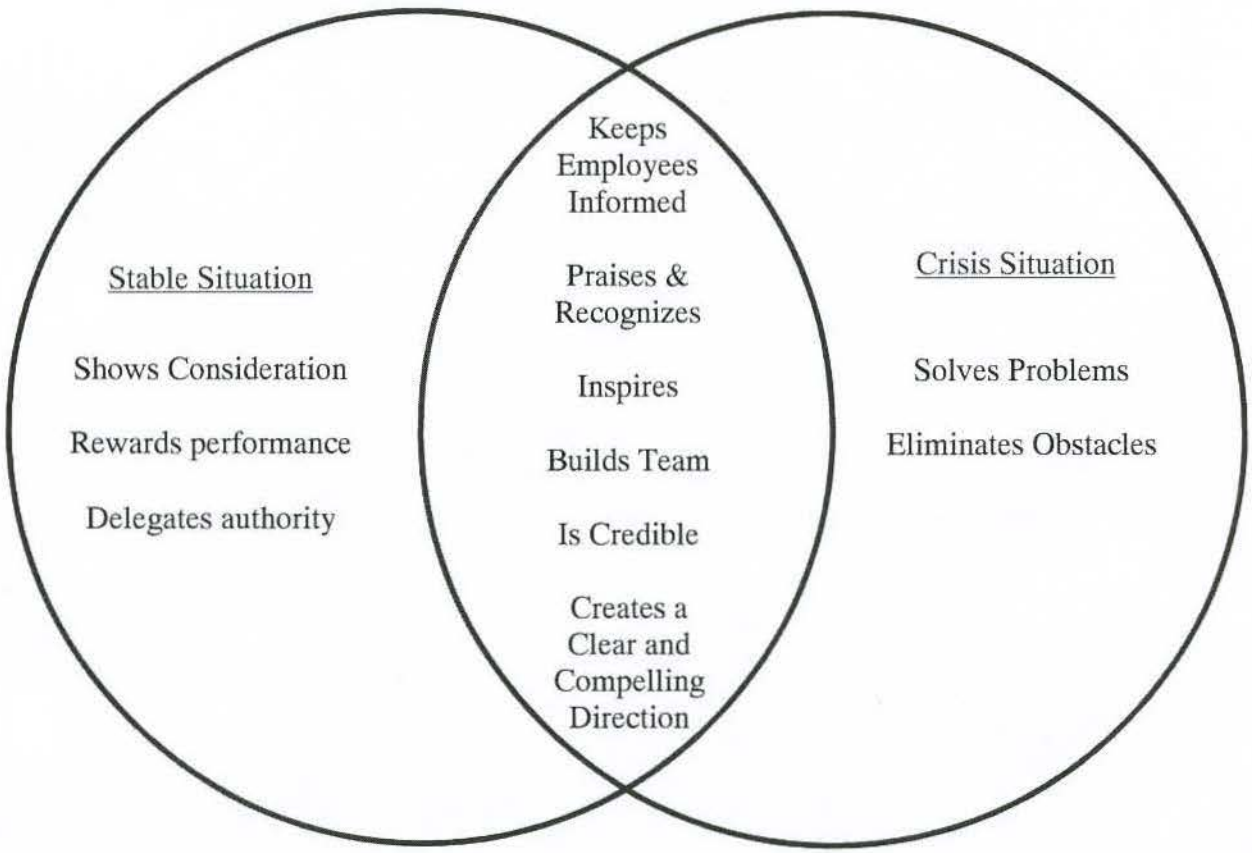
The final analysis consisted of performing a statistical test (Ott, 1984, p. 196) for comparing two proportions for each of the managerial leadership behaviors identified as critical. Those proportions that differ significantly from one another are identified with an asterisk in Table 5; the z scores for each comparison are also reported. In all but two cases, behaviors that were critical in only one of the two situations also were determined to be significantly different from the other proportion. The behaviors (inspires and builds teams) did not show a significant difference between the stable and crisis categories; therefore they have been categorized as being necessary in both stable and crisis situations. Stated another way, in cases where the behavior was identified as critical in both situations, there was no significant difference in these proportions.

DISCUSSION

Figure 3 summarizes the significant managerial leadership behaviors by situation. By comparing Figure 1 (i.e., the results from Yukl & Van Fleet, 1982) and Figure 2 (i.e., the results from Peterson & Van Fleet, 2003) with Figure 3, it is clear that there are three behaviors in common among the three Figures. All three subject groups selected consideration in only the stable/non-combat situation, problem solving in only the crisis/combat situation, and inspiration in both situations. Findings of Yukl, Gordon, and Taber (2002) confirm the importance of consideration during stable or non-combat situations. Employees want to be treated supportively and fairly by a friendly managerial leader who is concerned about them. Thus, information system managerial leaders must exhibit this type of behavior during times of stability to build up idiosyncratic credits (an emotional bank account) to be used in those crisis moments when there is no time to focus on employee relationships.

FIGURE 3

Information Systems Significant Managerial Leadership Behaviors by Situation



The results from Yukl and Van Fleet (1982), Peterson and Van Fleet (2003), and this study suggest that people want a managerial leader who is inspiring. Furthermore, in another survey (Kouzes and Posner, 1993) 64 percent of the 25,000 participants on three different occasions identified inspiration as one of the critical characteristics for establishing a leader's credibility. The implication is clear—employees want an information system managerial leader who has the passion and entheos (i.e., the power-actuating one who is inspired [Greenleaf, 1979] to stimulate enthusiasm and to build confidence and hope in the employees.

After a crisis, people want a return to normal. They want a leader capable of not only solving the problem but also returning the situation to a stable one. Crises make employees anxious and create stress. The most important behavior in regulating such anxiety is a clear-thinking leader (Weiss, 2002). Since there are irreversible losses on the line in crisis situations as defined in this study, both a strong cognitive ability and a strong will to act are important. Both Mitroff (1998) and Heifetz (1994) have found that, in a crisis situation, employees look for managerial leaders who can challenge them to face problems, motivate them to formulate solutions, and inspire them to learn new ways. The implication for information system managerial leaders is that problem solving abilities and skills need to be highly developed.

There are clearly a few similarities among these studies but also important differences. Table 6 provides a matrix of the critical leadership behaviors identified in the three studies to assist in visualizing the similarities and the differences. The rows in the matrix are identified as the behaviors and the columns by the particular study, with each cell indicating whether that behavior in that study was identified as important during stable situations, crisis situations, or both. Blank cells represent a behavior that was not identified as critical in that specific study.

TABLE 6

Managerial Leadership Behaviors Crossed with Three Study Groups and Two Situations

Managerial Leadership Behavior	**Military Group** Yukl & Van Fleet (1982)	**Profit Group** Peterson & Van Fleet (2003)	**Information System Group** (Current Study)
Emphasizes performance	Both		
Is friendly and considerate	Stable	Stable	Stable
Stimulates enthusiasm (Inspires)	Both	Both	Both
Provides praise and recognition		Stable	Both
Rewards performance (Motivates)		Stable	Stable
Delegates authority		Stable	Stable
Builds team		Both	Both
Informs about responsibilities (Role Clarification)	Both	Crisis	
Keeps employees informed		Both	Both
Takes the initiative (problem solving)	Crisis	Crisis	Crisis
Eliminates obstacles		Crisis	Crisis
Disciplines	Stable		
Plans	Crisis		
Creates a clear and compelling direction		Crisis	Both
Builds trust (Is credible)		Both	Both

One important difference for the stable situation is the appearance of the rewards performance behavior for both the for-profit sector and the information system sector but not for the military study. This managerial leadership behavior is defined as "reward(ing) effective employee performance with tangible benefits such as a pay increase, promotion, more desirable assignment, better work schedule, or more time off." Clearly this behavior is a form of extrinsic motivation, which may become a non-issue for the military subjects because they realize their managerial leaders have very little control over these factors.. On the other hand, to both the for-profit and information systems groups, this behavior is critical except when a crisis occurs. Interestingly, the data support the assertion that intrinsic motivation (i.e., praise and recognition) and extrinsic motivation (i.e., tangible rewards) are independent behaviors (Yukl, et al., 2002). For example, praise and recognition were found to be essential in both the for-profit and information system sectors. Intrinsic motivation, on the other hand, appears to be important to information system professionals in both stable and crisis situations while it is important to for-profit employees only in stable situations..

In both the stable and crisis situations, builds the team behavior on the part of the leader was identified as essential. This behavior was not specified by the military subjects as critical; it was added to the taxonomy after the original Yukl and Van Fleet (1982) study. If the military study were replicated today, we think that this behavior might well be rated as critical in the military population as well. Teams must be built during the stable times – not during a crisis -- and then maintained during the crisis. For this reason, Anderson (2002) argues that managerial leaders must be proactive, building their team before the onset of a crisis.

Finally, creating a clear and compelling direction was identified in the for-profit study (Peterson and Van Fleet, 2003) as being critical only during a crisis, but in the current study was identified as being critical in both situations. This behavior was one of the six added to the taxonomy since the Yukl and Van Fleet (1982) study was done. It should not be surprising that the more recent study considered this behavior as critical all the time since, as Heifetz (1994) explains, a clear and shared vision helps keep people functioning together during a time of crisis. Anderson (2002) reasons that a vision-oriented organization has an even greater advantage during a crisis as a clear vision provides a compelling direction on which to focus and from which to draw inspiration.

Limitations

All studies have limitations; this study is no exception. While the sample is an adequate size, limitations exist nevertheless. First, all the subjects were drawn from only two Southwest cities, possibly limiting generalizability of the results. Also, a larger sample would be needed to permit analyses for gender or other demographic effects. Further, the definition of a crisis is much broader than the focus on combat. Therefore, a more comprehensive typology of crises, such as Mitroff and Anagnos' (2001) typology, would be useful to examine differences in desired behaviors by type of crisis. Note that this would require a very large subject population to be conducted successfully. Third, it might be interesting to conduct the study within a single, specific, large information system organization. Each of these additional studies will help identify and triangulate the managerial leadership behaviors that are critical in stable and crisis situations within the information system sector.

Future Research

This research is one step in examining the managerial leadership behaviors that are critical for information system managers in both stable and crisis situations. It builds on the work of Yukl and Van Fleet (1982) and extends the work of Peterson and Van Fleet (2003; 2008). Another avenue for exploring the critical managerial leadership behaviors would be to collect and analyze critical incidents from information system subjects. Still another useful extension of this research stream would be a study using the Mitroff and Anagnos (2001) crisis taxonomy coupled with the managerial leadership taxonomy. Using two independent samples (stable situations versus crisis situations) would help avoid the possible carryover effect that could exist in the current study. Finally, through specific research focused on inspiration, the study and practice of leadership could be significantly advanced so that both motivation and inspiration behaviors are developed in future managerial leaders. Most current management textbooks have at least one chapter on motivation but no chapters on inspiration. This critical research stream needs to be developed.

CONCLUSION

Several crises in recent years have reminded government and private business leaders of the importance of information systems; e.g., two separate terrorist attacks on New York's World Trade Center and the Pentagon, the crash of the International Space Station's command and control computers due to apparent software problems (Oberg, 2007), and the disruption of Houston's medical complex information system due to tropical storm Allison (Berger, 2011; Gilchriest & Wendler, 2012). Consequently, each real or rumored crisis causes information system professionals to become stressed and thus more anxious and uncertain. Subsequent research on the critical managerial leadership behaviors could help build the confidence and lower the anxiety of managerial leaders so they can more effectively manage a crisis and allow the organization to return to normal.

The current research is a first step in the examination of critical managerial leadership behaviors of IS managers in both stable and crisis situations. This study has shown that (1) several of the critical managerial leadership behaviors desired by for-profit and military subjects are the same as those behaviors desired by information system subjects, that (2) there are some differences between military and information system subjects, and that (3) there are some differences in priorities between the for-profit subjects and the information system subjects. In addition, the results show that some new, critical managerial leadership behaviors have been added since the original work by Yukl and colleagues, such as builds the team and is credible. More research is needed in order to advance the knowledge of how leaders should act and react before, during, and after a crisis.

REFERENCES

Anderson, D. (2002). "Leading in crisis." *Executive Excellence*, 19(8), p. 4.

Applegate, L. M. & Elam, J. J. (1992). "New information systems leaders: A changing role in a changing world." *MIS Quarterly*, 16(4), 469-490.

Bannister, F. (2002). "Sustained delivery of value: The role of leadership in long-term IS effectiveness." *Evaluation and Program Planning*, 25(2), 151-158.

Baruch, Y. (1998). "Leadership - Is that what we study?" *Journal of Leadership Studies*, 5(1), 100-124.

Benjamin, R. I., Dickinson, C. J., & Rockart, J. F. (1985). "Changing role of the corporate information systems officer." *MIS Quarterly*, 9(3), 177-188.

Berger, E. (2001). "The Great Flood of 2001; Lab animals drown; Medical research lost." *Houston Chronicle*, June 12, 2001, A1.

Berger, E. (2011). Progress and lessons 10 years after Tropical Storm Allison. *Houston Chronicle*, June 5 (www.chron.com). Retrieved 9-08-2012.

Beynon-Davies, P. (1999). "Human error and information systems failure: The case of the London Ambulance Service computer-aided dispatch system project." *Interacting with Computers*, 11(6), 699-720.

Brancheau, J. C., Janz, B. D., & Wetherbe, J. C. (1996). "Key issues in information systems management: 1994-95 SIM Delphi results." *MIS Quarterly*, 20(2), 225-242.

Brooks, J. M., Carroll, J. S., & Beard, J.W. (2011). "Dueling stakeholders and dual-hatted systems engineers: Challenges, capabilities, and skills in government infrastructure technology projects." *IEEE Transactions on Engineering Management*, 58(3), 589-601.

Brown, J. (2002). "CIO shares secrets of project success," *Computing Canada*, 28, p. 1.

Casey, S. (1993). *Set phasers on stun: And other true tales of design, technology, and human error*. Santa Barbara, CA: Aegean.

CBS News (2010) "Cyber War: Sabotaging the system." http://www.cbsnews.com/2100-18560_162-6568387.html, Accessed April 14, 2012.

Charette, R.N. (2005). "Why software fails." *IEEE Spectrum*, September. http://spectrum.ieee.org/computing/software/why-software-fails, Accessed April 15, 2102.

Cho, J., Park, I., & Michel, J.W. (2011). "How does leadership affect information systems success? The role of transformational leadership." *Information & Management*, 48, 270-277.

CNN (2001). "Hackers access Playboy.com's credit card data." http://articles.cnn.com/2001-11-20/tech/playboy.hacked_1_credit-card-computer-hackers-playboy-com?_s=PM:TECH; Accessed August 22, 2011.

CNN (2003). "Blackout trail leads to Ohio." http://articles.cnn.com/2003-08-16/us/power.outage_1_eastlake-plant-michehl-r-gent-blackout?_s=PM:US; Accessed August 22, 2011.

DIA Case Study, (2008). "Case Study – Denver International Airport Baggage Handling System – An illustration of ineffectual decision making." Calleam Consulting Ltd. http://calleam.com/WTPF/wp-content/uploads/articles/DIABaggage.pdf, Accessed April 14, 2012.

Fisher, B. & Kenny, R. (2000). "Introducing a business information system into an engineering company." *Information Knowledge Systems Management*, 2(2), 207-222.

Fincham, R. (2002). "Narratives of success and failure in systems development." *British Journal of Management*, 13(1), 1-14.

Ferelli, M. (2003). "What has the IT industry really learned from 9/11?" *Computer Technology Review*, 23(9), http://findarticles.com/p/articles/mi_m0BRZ/is_9_23/ai_109082331/?tag= mantle_skin;content; Accessed August 22, 2011.

Gilchriest, L. & Wendler, R. (2012). Tropical Storm Allison 10th Anniversary this Month. *Texas Medical Center News Online*, October 1, 34(18). Retrieved 10-07-2012.

Giuliani, R. W. (2002). *Leadership*. New York, NY: Hyperion.

Gonzalez-Herrero, A., & Smith, S. (2010). Crisis communications management 2.0: Organizational principles to manage crisis in an online world. *Organizational Development Journal*, *28*(1), 97–105.

Grant, P. (2004). "Phone system's weak link: Storms cause greater outages in new fiber-optic networks as BellSouth races to recover." *The Wall Street Journal*, Sept 17, B1, B2.

Greenleaf, R. K. (1979). *Teacher as Servant*. Indianapolis, IN: The Robert K. Greenleaf Center.

Halverson, S. K., Holladay, C. L., Kazama, S. M., & Quinones, M. A. (2004). "Self-sacrificial behavior in crisis situations: The competing roles of behavioral and situational factors." *Leadership Quarterly*, 15(2), 263-275.

Hancock, B. (2001). "Teen hacker suspect disrupts Denver police radios," *Computers & Security*, 20(4), 283-284.

Heifetz, R. (1994). *Leadership without easy answers*. Cambridge, MA: Harvard University Press.

Heifetz, R. A. & Linsky, M. (2002). "Leading with an open heart." *Leader to Leader*, 26(Fall), 28-33.

Henry, S. (2012). "FBI – Internal data theft is the real danger to business." http://blog.veriphyr.com/2012/01/fbi-internal-data-theft-cyber-security.html, Accessed April 14, 2012.

Howell, J. M., & Higgins, C. A. (1990a). Champions of technological innovation. *Administrative Science Quarterly*, 35, 317-341.

Howell, J. M., & Higgins, C. A. (1990b). Champions of change: Identifying, understanding, and supporting champions of technological innovations. *Organizational Dynamics*, 19, 40-55.

Iacovou, C. L. (1999). "The IPACS Project: When IT hits the fan." *Journal of Information Technology*, 14(3), 267-275.

IRS (2001). "Business systems modernization overview and background." Dated Jan 11. http://www.unclefed.com/Tax-News/2001/nrfs01-05.html; Accessed August 22, 2011.

Kakabadse, A. & Koraca-Kakabadse, N. (2000). "Leading the pack: Future role of IS/IT professionals." *Journal of Management Development*, 19(2), pp. 97-155.

Katzenbach, J. R. & Smith, D. K. (1993). *The wisdom of teams*. Boston: Harvard Business School Press.

Kouzes, J. M. & Posner, B. Z. (1993). *Credibility: How leaders gain and lose it, why people demand it*. San Francisco, CA: Jossey-Bass.

Kouzes, J. M. & Posner, B. Z. (2002). *The leadership challenge: How to keep getting extraordinary things done in organizations*, 3rd ed. San Francisco, CA: Jossey-Bass.

Krigsman, M. (2010, December 28). "Ten great software glitches for 2010." http://www.zdnet.com/blog/projectfailures/ten-great-software-glitches-for-2010/11941, Accessed January 20, 2012.

Krigsman, M. (2012, May 24.) "Hollow words: United Airlines CEO talks up 'silver lining' of failure." http://www.zdnet.com/blog/projectfailures/hollow-words-united-airlines-ceo-talks-up-silver-lining-of-failure/15594, Accessed May 29, 2012.

LaFasto, F. & Larson, C. (2001). *When teams work best*. Thousand Oaks, CA: Sage Publications, Inc.

Lerbinger, O. (1997). *The crisis manager: Facing risk and responsibility*. Mahwah, NJ: Erlbaum.

Maclean, N. (1993). *Young men and fire*. Chicago, IL: University of Chicago Press.

Mason, R. O., McKenney, J. L., & Copeland, D. G. (1997). "An historical method for MIS research: Steps and assumptions." *MIS Quarterly*, 21(3), 307-320.

McKenney, J. L & Copeland, D. G. (1997). "Bank of America: The crest and trough of technological leadership." *MIS Quarterly*, 21(3), 321-353.

McMahon, J. (2003). "Five lessons from transitioning to eXtreme programming." *Control Engineering*, 50(3), 59-65.

Mitroff, I. (1998). *Smart thinking for crazy times: The art of solving the right problem*. San Francisco: Berrett-Koehler.

Mitroff, I. I. & Anagnos, G. (2001). *Managing crises before they happen: What every executive and manager needs to know about crisis management*. Saranac Lake York, NY: AMACOM.

Oberg, J. (2007, October 4). "Space station: Internal NASA reports explain origins of June computer crisis". IEEE Spectrum. http://www.spectrum.ieee.org/aerospace/space-flight/space-station-internal-nasa-reports-explain-origins-of-june-computer-crisis. Accessed May 29, 2012.

Ott, L. (1984). *An introduction to statistical methods*, 2nd ed. Boston, MA: Duxbury Press.

Pan, S. L., Pan, G., & Leidner, D. E. (2012). Crisis Response Information Networks. *Journal of the Association for Information Systems,* 13.1.

Parker, D. B. (1998). *Fighting computer crime: A new framework for protecting information*. New York, NY: John Wiley & Sons.

Pearson, C. M. & Clair, J. A. (1998). "Reframing crisis management," *Academy of Management Review*, 23(1), 59-76.

Peterson, T. O. & Peterson, C. M. (2012). What Managerial Leadership Behaviors Do Student Managerial Leaders Need? An Empirical Study of Student Organizational Members. *Journal of Leadership Education*, 11(1): 102-120.

Peterson, T. O. & Van Fleet, D. D. (2008). A Tale of Two Situations: An Empirical Study of Not-For-Profit Managerial Leaders' Behaviors. *Public Performance & Management Review,* 31(4): 503-516.

Peterson, T. O. & Van Fleet, D. D. (2003). "Critical managerial leadership behaviors: An empirical study of crisis and stable environments," presented at Southern Management Association, Clearwater Beach, Florida.

Richmond, R. (2011). "RSA's Secure IDs hacked; What do do." *The New York Times*. http://gadgetwise.blogs.nytimes.com/2011/03/18/rsas-secure-ids-hacked-what-to-do/, Accessed April 14, 2012.

Rockart, J. F., Ball, L. & Bullen, C. V. (1982). "Future role of the information systems executive." *MIS Quarterly*, 6(5), 1-14.

Sauer, C. (1993). *Why information systems fail: A case study approach*. Henley-on-Thames, UK: Alfred Waller Ltd.

Schoenberg, A. (2005). Do crisis plans matter? A new perspective on leading during a crisis. *Public Relations Quarterly, 50*(1), 2–6.

Singleton, T. & Singleton, A. (2004). "Cyberterrorism." *Journal of Corporate Accounting & Finance*, 15(5), 3-12.

Southgate, D. (2002). "Spiking turnover can hinder company growth plans." TechRepublic, http://www.techrepublic.com/article/spiking-turnover-can-hinder-company-growth-plans/5033002 ; Accessed August 22, 2011.

Stedman, C. (1999). "Failed ERP gamble haunts Hershey." *Computerworld*, 33(Nov 1), 1-2.

Tukey, J. W. (1977). *Exploratory data analysis*. Reading: Addison-Wesley Publishing Company.

Tulgan, B. (2007). Finding roles for social-media tools in HR. *Strategic HR Review*, *6*, 3.

UNOS (2003). "Isabel and the Organ Center: The business of preparedness." http://www.unos.org/about/index.php?topic=newsroom&article_id=1631; Accessed August 22, 2011.

Van Fleet, D. D. & Yukl, G. (1986). *Military leadership: An organizational behavior perspective*. Greenwich, CT: JAI Press, Inc.

Vijayan, J. (2003). "Attacks on new Windows flaws expected soon." *Computerworld*, 37(Sept 15), 1,14; http://www.computerworld.com/s/article/84901/Attacks_on_New_Windows_Flaws_Expected_Soon ; Accessed August 22, 2011.

Vijayan, J. (2004). "Mydoom lesson: Take proactive steps to prevent DDoS attacks." *Computerworld*, 38(Feb 6), 14; http://www.computerworld.com/s/article/89932/Mydoom_lesson_Take_proactive_steps_to_prevent_DDoS_attacks; Accessed August 22, 2011.

Wakefield, R. L., Leidner, D. E., & Garrison, G. (2008). A Model of Conflict, Leadership, and Performance in Virtual Teams. Information Systems Research, 19(4): 434-455.

Weick, K. E. (1993). "The collapse of sensemaking in organizations: The Mann Gulch disaster." *Administrative Science Quarterly*, 38(4), 628-650.

Weick, K. E. (1996). "Prepare your organization to fight fires." *Harvard Business Review*, 74(3), 143-148.

Weick, K. E. (2003). "Positive organizing and organizational tragedy." in *Positive organizational scholarship*, K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), pp. 66-80. San Francisco, CA: Berrett-Koehler Publishers, Inc.

Weisman, V. L. (2000). The impact of facilitative leadership: Multi-rater measurement of behavioral outcomes of managerial leaders. Philadelphia, PA: Temple University. Dissertation Abstracts International

Section A: Humanities and Social Sciences. 60(7-A): 2585.

Weiss, R. P. (2002). "Crisis leadership: Since September 11, business leaders have been reassessing how well prepared they are to lead." *Training and Development*, 59(1), 28-33.

White, D. E. (2004). *A study of relationships between selected demographic variables and the principals' self-perception of technology leadership*, Unpublished doctoral dissertation, Illinois State University, USA.

Wikipedia. (2012a). "Dot-com bubble." http://en.wikipedia.org/wiki/Dot-com_bubble, Accessed April 14, 2012.

Wikipedia, (2012b). "Tropical Storm Allison." http://en.wikipedia.org/wiki/Tropical_Storm_Allison, Accessed May 29, 2012.

Wikipedia, (2012c). "Crisis." http://en.wikipedia.org/wiki/Crisis . Accessed August 24, 2012.

Wikipedia, (2012d). "Crisis management." http://en.wikipedia.org/wiki/Crisis_management. Accessed August 24, 2012.

Yukl, G. A. & Van Fleet, D. D. (1982). "Cross-situational, multimethod research on military leader effectiveness." *Organizational Behavior and Human Performance*, 30(1), 87-108.

Yukl, G. A. & Nemeroff, W. F. (1979). "Identification and measurement of specific categories of leadership behavior: A progress report." In *Crosscurrents in leadership*, J.G. Hunt & L.L. Larson (Eds.), pp. 164-200. Carbondale, IL: Southern Illinois University Press.

Yukl, G. A., Wall, S. & Lepsinger, R. (1990). "Preliminary report on validation of the management practices survey." In *Measures of leadership*, K.E. Clark & M.B. Clark (Eds.), pp. 223-237. West Orange, NJ: Leadership Library of America, Inc.

Yukl, G. A. (2002). *Leadership in organizations*. Upper Saddle River, NJ: Prentice-Hall.

Yukl, G. A., Gordon, A., & Taber, T. (2002). "A hierarchical taxonomy of leadership behaviors: Integrating a half century of behavior research." *Journal of Leadership and Organizational Studies*, 9(1), 15-32.

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