

## Contingency Approaches Applied to the Implementation of Strategic Decisions

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### ABSTRACT

Contingency theory contends that a match of approach to situation improves the prospect of success. To test this premise, the outcomes of strategic decisions were examined to determine how context influences the success of implementation approaches. The explanatory variables in the study were made up of implementation approaches used by managers and contextual factors that describe time constraints, importance, resources, source of pressure to change, and the power and position of the implementing manager. The contextual factors were included to find conditions under which an implementation approach tends to be used and successful. The findings indicate that the most successful implementation approach, intervention, was not subject to contextual influences, raising questions about the need to select an approach according to the contextual factors considered in this research.

*Keywords: Implementation; Contingency approaches*

## I. INTRODUCTION

Implementation is viewed by managers and researchers alike as an important issue that merits study (Daft, 1995). As Gray (1996) points out, implementation difficulties represent one of the greatest sources of frustration and disappointment for top executives. There has been considerable speculation about factors that inhibit or facilitate implementation, but little work is exploring these factors with actual decision-making episodes. Despite the absence of empirical fieldwork, several widely cited contingency models have been proposed that call for managers to select an implementation approach according to situational demands (Lippitt and Mackenzie, 1976; Nutt, 1989; Vroom and Jago, 1978; Vroom and Yetton, 1973). This study explores the basic premise of these models, examining whether success depends on matching implementation approaches to the demands of the situation.

Several contextual factors are believed to limit their chance of success when managers attempt to implement strategic decisions. Key organizational members may oppose or support a change. Crisis situations, that provoke urgency, and origin of the pressure for change, also seem important. Crises and external pressures are apt to make implementation easier. Level or position power suggests leverage. Position power may increase adoption prospects and coax the powerful to take decisive action when under time pressure. Together these factors are thought to create a contingency network that skilled managers must learn to read and tailor their selection of implementation approaches accordingly.

Exploring the value of contingency models poses questions that are best answered by a field-based study of decision making, attempting to find out how implementation is managed by practitioners facing situations given by key contextual factors (Huber, 1990). Actual decisions made by organizations are required to provide this type of field-testing. External validity, clear generalizability to practice, seems crucial, even if this emphasis results in a loss of classification rigor (Beyer and Trice, 1978). With actual decision, success can be addressed and abstractions, such as measuring college students' role-playing reactions, can be avoided. Actual decisions also allow outcomes to be measured and consequences determined.

Analysis of the decisions provides an opportunity to explore several questions thought to be crucial in developing a deeper understanding of decision implementation. First, how do top managers go about implementing strategic decisions? Second, do top and lower level managers use the different implementation approaches, and do they use them in similar proportions? Third, how successful are these implementation approaches? Answers to these questions depend, in part, on conditions given by contextual factors that are encountered during an implementation attempt. Factors indicating the urgency, importance, resources, origin of problems/issues, and the implementator's power and level

identify contingencies under which an implementation approach can be more or less successful. Success will be determined by the extent to which strategic decisions are adopted, their value, and implementation time. To test the premise of contingency models, interactions between the implementation approaches and the contextual factors are examined to find whether these factors influence the success of implementation approaches.

## II. THE IMPLEMENTATION OF STRATEGIC DECISIONS

Several case studies that show how managers go about implementing decisions and factors that influence their success can be found in the literature (Beyer and Trice, 1978; Bower, 1970; Cyert and March, 1963; Soelberg, 1967; Witte, 1972). Mintzberg et al. (1976) studied 25 strategic decisions in which implementation was attempted, finding an authorization stage in which a decision proponent searched for approval. Authorization unfolded as a form of argumentation that sought to win over people who can block the decision and those who must approve it. This conception of implementation is similar to that offered by Churchman (1975) and his followers (Ginzberg and Schultz, 1987). People with expertise argue for the adoption of decisions that bring with them the prospects of improving organizational performance.

Quinn (1990) studied implementation in 10 major corporations finding that a blend of analysis, behavioral techniques, and power politics were used to bring about desired changes. Steps to create awareness, symbol management, legitimize viewpoints, compromise, politics, creating flexibility, and trials were inferred from the decision episodes. These steps were applied in an implementation process that allows for systematic waiting and intentional incrementalism.

Hickson, et al. (1986, 1987) and Cray et al. (1988) provide detailed accounts of 150 decisions (5 episodes carried out in 30 organizations), developing the notion of "interests." The management of interests that arose during decision development and its installation was particularly important in what were called vortex-sporadic and fluid decision situations. In a vortex-sporadic decision, a weighty and controversial matter draws in many players. Implementation occurred in situations that were politically charged. Fluid decision situations were more controllable than the vortex-sporadic, but have a pattern of diffusion through the organization and a novelty that can also draw in players.

Luthans (1989) investigated the implementation ideas of Likert (1967) finding empirical justification for his categories of exploitive autocratic, benevolent autocratic, participative, and democratic. Benevolent autocrats created a rationale for action in the minds of key stakeholders (e.g., Leavitt, 1987). Stakeholders were also seen as an excellent source of ideas so groups were used as design teams or sounding boards, to create "political sensitivity." Leavitt finds

that transformational leaders use incentives but also clarify what needs to be done to reach new and vaster aspirations, and the value of such a reach.

Beyer and Trice (1982) reviewed 27 empirical studies of decision episodes, identifying three types of approaches that have been used for implementation. Informational approaches create a link between experts and potential adopters. The expert is expected to take a liaison role, much like that of a sales representative, to develop awareness through rational arguments, drawing on knowledge of bargaining and persuasion to promote adoption (Churchman, 1975). Bonding approaches attempt to deal with the feelings of stakeholders and try to win them over. These approaches involve potential users in shaping important features of the decision to enhance the prospect of their acceptance (Coch and French, 1948; Likert, 1961). Control approaches took action to see that useful ideas are adopted (Chandler, 1962; Thompson, 1967). The implementing manager then looked for feedback describing results to verify use and value.

Four approaches to decision implementation seem to emerge from these studies. Persuasion seems to capture the steps that Mintzberg, et al. (1976) identified in their cases as well as the research of Churchman (1975), Huysmans (1970), Doctor and Hamilton (1974), Schultz and Slevin (1975), and Ginsberg and Schultz (1987). Persuasion tactics are evident in the prescriptions of Quinn (1990), some of the cases described by Hickson, et al. (1986, 1987), and the "informational" approaches identified by Beyer and Trice (1982). The involvement of stakeholders was observed in many of the studies of practice and in some decisions explored by Hickson, et al. (1986) and Cray, et al. (1988) that describe how high interest decisions were managed. Power is also prevalent. Quinn (1990) seems to argue that power must be applied incrementally to gradually push the recalcitrant and uninformed toward acceptance of a decision. Strategic moves are made to serve some interests and not others. Although, often disguised as negotiations, discussions, bargains and the like, this approach to implementation shares many of the features of the "control" approach noted by Beyer and Trice (1982) and the autocratic approach identified by Likert (1967). When power is applied by legitimate authority figures, it often takes the form of an edict that dictates actions or expectations (Nutt, 1986). An intervention approach follows from the transformational ideas of Leavitt (1987), the benevolent autocratic role suggested by Likert (1967), and my work (Nutt, 1986; Nutt, 1989). The strategic leader intervenes to create a need for change in the minds of stakeholders and key players.

Other approaches to implementation research have looked for the underlying dimensions on which an implementation may vary, such as compliance, identification, or internalization. Such studies explore the features of an implementation approach. For instance, edicts are seen as high on compliance and low on internalization and persuasion high on internalization low on identification. This approach was avoided for several reasons. First, it says little

about how to carry out implementation. Managers would seem more interested in how to create compliance than to hear about identification and internalization. Second, managerial research focused on what works seems more valuable than making fine-tuned distinctions that seldom add up to anything. The “course gained” distinctions used in this research seem more practical, but do lose some precision in measurement. This seems to be an acceptable trade-off of rigor to get the relevance one should expect of management research.

Implementation research has provided many interesting insights, but has yet to address several questions. The nature of intervention, persuasion, participation, and edict as applied by managers is far from clear. More details that describe how each is carried out would be valuable. How managers select among these implementation approaches, given conditions that must be confronted is also of interest. The frequency of use and success of these implementation approaches also merits study. To offer prescriptions, success must be addressed. To assess practice, the frequency with which successful and unsuccessful approaches are used must be determined and the outcomes of an implementation attempt must be evaluated by applying criteria that reveal the extent of success.

#### **A. The Role of Contextual Factors**

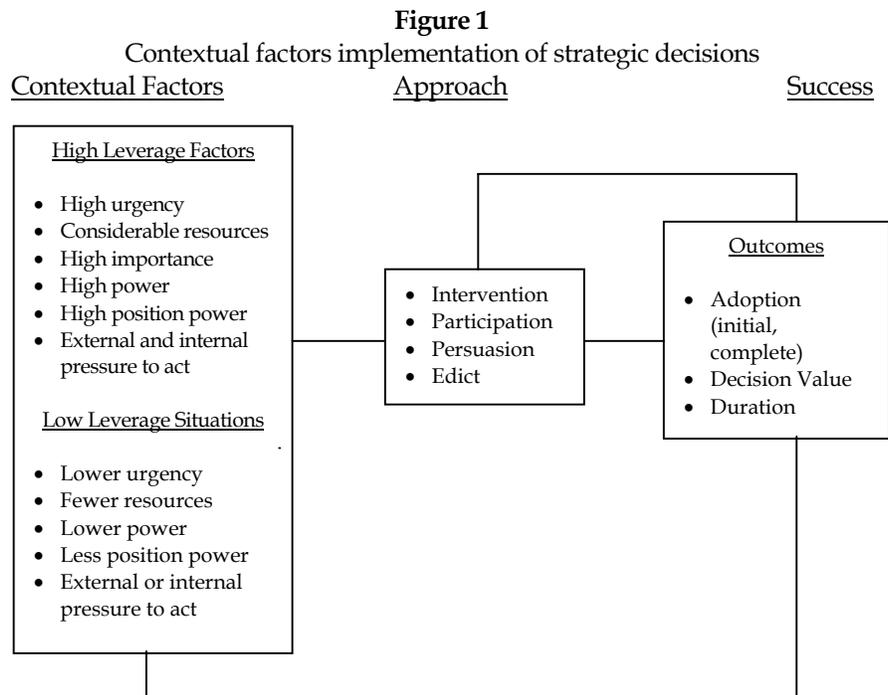
Situational factors can influence implementation success (Schultz and Ginzberg, 1984; Skivington and Daft, 1991; Zand and Sorenson, 1975). Some researchers find that factors describing context have more impact on success than the actions of an authority figure (Cohen, et al. 1976; Huber, 1990; Weick, 1979). Contextual factors also identify conditions under which a particular implementation approach can be successful. The implementing manager may have leverage, given by position power or organizational role, that enhances the prospect of success when particular implementation approaches are applied (Bower, 1970; Bryson and Cullen, 1984; Hickson, et al. 1986). Time constraints, importance, resources, and the source of pressure to act can also render some implementation approaches more or less effective (Boal, et al. 1987; Bryson, et al. 1990; Griener, 1970; Schultz and Slevin, 1975).

Contingency approaches (Hickson, et al. 1986; Nutt, 1989; Vroom and Yetton, 1973) claim that high and low leverage situations indicate when to use a unilateral approach and when to select a more participature approach (see Figure 1). In high leverage situations, implementors have the power and resources to act and face situations with high urgency and considerable importance that have internal and external pressures to act. High leverage situations call for quick and decisive action. When implementors have power and resources and rapid action is needed, unilateral action (e.g., edict) can be justified. In low leverage situations, the implementor lacks resources and power. This calls for implementation

approaches that build commitment, such as participation. These contentions have yet to be verified with a field test.

The theoretical model shown in Figure 1 suggests three plausible outcomes on such a test. Implementation approaches could work independently of the decision situation. A “context free” finding would question the value of contingency models and draw practice-based prescriptions from the more and the less effective implementation approaches used in practice. A second plausible outcome could find that context dominates. The more difficult decision (e.g., low power and resources, high urgency and importance, and multiple pressures to act) may have less success no matter what approach is used. Finally, the implementation approach and situation may interact, creating “approach-context” interaction effect.

To explore the theoretical model, the study identifies implementation approaches used by managers in strategic decision-making and their success. Three research questions are addressed. First, what implementation approaches were used by managers to install strategic decisions? Second, what is the frequency of use and the success record of these approaches? Third, what is the impact of context on success? Finally, what is the influence of context on the success of each implementation approach?



### III. METHODS

To address the research questions a database of 376 decisions was examined that described attempts to implement strategic decisions in a variety of organizations. Crucial methodological concerns include the approach used to collect the data on decisions, the identification and classification of implementation approaches, measurement contextual factors and success indicators, and data analysis.

The decisions examined in this research have been collected from 376 organizations across the United States. Table 1 provides some descriptive information about the decisions, the types of organizations included in the study, and the informants who provided information. Table 2 lists some of the organizations and decisions in the database. The diversity of decision types and organizations suggest that a broad range of decision-making practice was represented in the database. An initial failure rate of 37% suggests that both good and less desirable practice have been included. As a result, the study's findings should be broadly descriptive of strategic decision implementation.

To begin the research effort, people holding key positions in organizations were contacted and asked to participate in a study to investigate strategic decision making. The purpose of the study was presented as a long-term project to accumulate a sufficient number of strategic decisions to allow an evaluation of the practices used at key points in the decision making process. A decision was defined as an episode, beginning when the organization first became aware of a need or opportunity and ending with an attempt to implement. A recycle, after a failure, was treated as a new case. The contact person was asked to select a decision that had strategic importance to the organization. Allowing the contact person to select the topic insured both interest and first hand knowledge.

#### A. Case Data Collection

To initiate data collection, the contact person was asked to identify the strategic decision to be profiled and three people who were involved with it that could be interviewed, including the manager who had primary responsibility for its implementation. In most cases, the contact person suggested a strategic decision for which he/she was responsible and became the primary informant.

The use of retrospective data in which people reconstruct events is the best way to get close to the phenomena of interest: managerial implementation. However, retrospective data can have problems of self-justification, memory lapses, and logical inconsistencies. To cope with these problems, two informants were interviewed to uncover the steps taken to make each strategic decision. An interview procedure was devised to deal with the dual problems of what people remember and choose to tell in an interview. An interview procedure suggested by Denzin (1989) was adapted for this purpose. First, the nature of the decision to

be implemented was documented (e.g. building construction, MRP system, etc.) and then steps followed to make the decision were uncovered. The informant was asked to recall what first captured his/her attention. Questioning proceeded from this point by asking, "what happened next?" For instance, after an informant described what had attracted his/her attention, he/she was asked why this seemed important or called for action. Questioning proceeded in this way, taking cues from the last response to fashion the next question. An additional interview was carried out with one other informant, following the same procedure. This information was used to corroborate the information provided by the primary informant—the individual responsible for implementation (Lincoln and Guba, 1985; Yin, 1993).

**Table 1**  
Profile of case database

Decision Types	Number	Percent
Service/Product	114	30%
Support services <sup>a</sup>	69	18%
Personnel policy <sup>b</sup>	19	5%
Technology <sup>c</sup>	70	19%
Reorganizations <sup>d</sup>	35	9%
Controls <sup>e</sup>	54	14%
Domains <sup>f</sup>	<u>15</u>	<u>4%</u>
Total	376	100%
<u>Organizational Setting</u>		
Public	84	22%
Private	126	33%
Third-Sector (private, non-profit)	<u>166</u>	<u>44%</u>
Total	376	100%
<u>Implementing Manager</u> <u>(primary informant)</u>		
Top managers (CEO, COO, CFO)	230	61%
Middle managers	<u>146</u>	<u>39%</u>
Total	376	100%
<u>Secondary Informants</u>		
Subordinate	424	57%
Superior	266	35%
Task force member	<u>62</u>	<u>8%</u>
Total	752	100%

<sup>a</sup> e.g., data processing, purchasing; <sup>b</sup> e.g., wages and salary, benefits, retirement, dismissal; <sup>c</sup> e.g., equipment, construction; <sup>d</sup> e.g., mergers, buy outs, restructuring; <sup>e</sup> e.g., planning, staffing, financial management; <sup>f</sup> e.g., marketing

**Table 2**  
**Illustrations of decisions and organizations in the cases**

Decision	Organization*
1. Scheduling in an OR	500 bed children's hospital
2. Creation of retirement center	Large urban city
3. Purchase an information system	Limited, Inc.
4. CAD/CAM system	American Electric Power
5. Robotic assemblers	General Motors
6. New product	Bethlehem Steel Co.
7. Staff cut back	Korean Airlines
8. Billing and collections procedures	Huntington Bank
9. Creation of a businesses plan	DNR in state government
10. MRP	American Telephone & Telegraph
11. Cash flow management plan	NCR
12. Add a lithotripsy service	400 bed acute care urban hospital
13. Budgeting procedures	Nationwide Insurance
14. TQM teams	McDonnal-Douglas
15. Select a radiation treatment simulator	575 bed acute care urban hospital
16. Modify bonus policy	Dunning Lathrup Insurance
17. Initiate a joint venture	Two small fast food companies
18. Purchase a magnetic resource imager	1000 bed university hospital
19. Add a pulmonary treatment program	343 bed acute care hospital
20. Locate a half way house for the deaf	City health department
21. Purchase a new computer	Bank One
22. Add a open heart program	500 bed acute care urban hospital
23. Provide helicopter transportation service	1000 bed acute care urban hospital
24. Scheduling raw material	G.E. Superabrasives
25. Create a De-Tox Unit	250 bed rural acute care hospital
26. Intimate apparel	Lane Bryant, Inc.
27. Devise a reference library	For-profit abstracting company
28. Cost Reduction	Mead Paper Company
29. Create a marketing program	A large company
30. Inventory Control System	Delco, Electronics
31. New product	A. Thomas Candy
32. Improved system access	Compuserve
33. Customer service system	Hertz-Penske Rental

\*Some organizations requested anonymity.

To improve reliability, a procedure called triangulation was used (Denzin, 1989; Lincoln and Guba, 1985; Patton, 1990). A narrative (usually 20 pages) describing the decision and the decision-making steps was prepared by the author after each interview. The narrative was then checked by each informant to confirm that it captured what was said. Next, informants were told to make any changes they believed were warranted. Also, documents such as notes, proposals, or files that still existed were reviewed. A comparison of existing documents (when available) and the narratives identified inconsistencies and gaps in the steps undertaken to make a decision. These inconsistencies and gaps were explored in a follow-up interview with the primary informant. In this interview, attempts were made to reconcile differences and fill in gaps (Huber and Power, 1985). Thus, method and two types of informant triangulation were used to test the reliability of each decision description. A clear picture agreeable to the primary informant had to emerge from this last interview to include the decision in the database. Twenty cases were discarded because of continuing disagreements, or lack of clarity in what was done.

## **B. Identifying Implementation Approaches**

The decision narratives were summarized by the author to make list of steps that were carried out, beginning with need recognition and ending with use or abandonment of the decision. When searching for actions dealing with implementation, all steps were considered to avoid assumptions about when implementation would occur. This was done because implementation activities may arise at any point in a strategic decision process.

Explanation building as suggested by Yin (1989, 1993) was followed. To identify and classify implementation approaches, the author reviewed the summaries, looking for steps that dealt with decision installation by dealing with social and political concerns provoked by the implementation attempt. Steps taken to promote use by insuring cooperation, acquiescence, compliance, and the like were highlighted.

The author sorted summaries, placing each with others that engaged in similar activities. After sorting, a code number was placed on the back of the decision summary, the categories labeled, and conclusions recorded. This sort was then repeated, working back and forth between the decisions and the initial categories, attempting to evolve the categories (Patton, 1990). Each new sort found new categories and challenged existing ones. Category names were then modified or new ones created. To improve intra rater reliability, these steps were repeated until there was a complete agreement between the current and previous classifications of implementation approaches. Inter rater reliability was determined by asking a colleague to review the decision summaries and identify the implementation approach that was used. The second rater was given

descriptions that emerged for each implementation approach and asked to match the cases to the descriptions. A comparison of the two raters' classifications found 99% agreement.

### **C. Contextual Factors**

Values for contextual factors were collected with a questionnaire, and were filled out by the two secondary informants. The format of the questionnaire is presented in Table 3. The primary informant was excluded to avoid self-serving assessments of the motivation to act (Huber and Power, 1985). The survey procedure called for informants to reconsider their initial views using the estimate-discuss-estimate procedure (Nutt, 1992). Involving several informants increased the chance of a balanced assessment, one that captured both motivations and the decision's value to the organization. Also, Podsakoff and Organ (1986) recommend averaging responses over several informants to disrupt the association of success and context assessments. These steps were taken to improve informant recall and data precision.

The questionnaire asked the secondary informants to characterize the decision's urgency, importance, and resources, as well as implementing manager's power and to identify the location of the impetus for action. Informants checked along an anchored rating scale to describe urgency, importance, resources and power. The scale anchors, as shown in Table 3, ran from 1 = least to 5 = most for each of these factors, following common practice in scaling such factors (Boal and Bryson, 1987; Bryson, et al. 1990; Hickson, et al. 1986). To identify the source of pressure to act, informants selected among internal, external, and both internal and external sources. Organizational level was given by the implementing manager's position description, using Thompson's (1967) definition of the layers of management. Top managers were made up of CEOs, COOs, or CFOs. Middle managers had coordinational roles.

### **D. Success Indicators**

Measuring success can be difficult. Decision makers often lament what they cannot do and do things they will not discuss (March, 1994). Also, as Starbuck (Starbuck, 1993) notes, managers often act without noting the results of their actions. Even when results can be observed, determining the consequences of a decision poses several additional dilemmas. It can be difficult to separate the good from the bad outcome. For instance, decisions that serve an individual's interest may be seen as good; those that do not, as neutral or bad. The downstream affect of a decision can be lost. What seems to be a poor decision when made, may pay dividends in the future, such as a retirement program that anticipants changes in

statutes or regulation. Others that seem to be good may be withdrawn, because of unanticipated difficulties.

**Table 3**  
Contextual and success indicators

Factor and question posed	Scale anchors or Categories
<b>Contextual Factor</b>	
<ul style="list-style-type: none"> <li>• <u>Power</u> (Characterize implementor's power in the organization)</li> <li>• <u>Level</u> inferred from job title</li> </ul>	5 = nearly unlimited, 4 = considerable, 3 = moderate, 2 = little, 1 = none.
<ul style="list-style-type: none"> <li>• <u>Time constraints</u> (Identify the level of time pressure)</li> </ul>	Categories included top managers (CEOs, COOs, and CFOs), middle managers, and lower managers (department and service administrators)
<ul style="list-style-type: none"> <li>• <u>Importance</u> (Depict the decision's importance)</li> </ul>	5 = a crisis, 4 = very high, 3 = typical, 2 = moderate, 1 = low
<ul style="list-style-type: none"> <li>• <u>Resources</u> (Characterize the resource available to support implementation)</li> </ul>	5 = critical, 4 = very important, 3 = important, 2 = somewhat important, 1 = unimportant
<ul style="list-style-type: none"> <li>• <u>Location of impetus for change</u> (Identify dominant source of pressure to change)</li> </ul>	5 = far above, 4 = above, 3 = similar to, 2 = below, 1 = far below, our typical decision
<b>Decision Quality</b>	
<ul style="list-style-type: none"> <li>• <u>Value</u> (Depict the intrinsic value of the decision)</li> </ul>	Categories include: internal, external, both
	5 = outstanding, made decisive contribution; 4 = good, useful in several ways; 3 = adequate, helpful in a few ways; 2 = disappointing, several problems remain; 1 = poor, no redeeming features

The consequences of a decision are apt to have many effects that make a single measure unwise. Success seems related to three conceptually independent indicators: use, value, and time to complete. These measures seem conceptually independent because decisions with intrinsic value may not be implemented and vice versa, and the adopted as well as the high valued decision can take considerable time to complete. Decisions may be adopted but only after an extended period of time employing considerable effort and have little effect. The time to implement, adoption, and value measures seem to cope with the dilemmas noted above and capture several facets of a successful decision.

Pragmatics suggest adoption as a success indicator. Success for a manager is bound up in use (Beyer and Trice, 1982; Hickson, et al. 1986). If a change is put to use it meets this test. Use, however, can be defined several ways. Pelz (1978) differentiates between symbolic, conceptual, and instrumental use. Symbolic and conceptual uses involve changes in awareness that enlightens

people or attempts to legitimize a plan of action. Neither deals with actual use. Instrumental use was selected to measure adoption because it gets closer to what a decision intends: The institutionalization of new practices. For example, applying an institutionalization criterion in MIS would be considered adopted if the organization stopped using the old system and a merger would be adopted if it was completed. However, decisions often evolve. For example, the merger may meet with initial resistance which holds up adoption, but the decision is ultimately carried out. Some departments may refuse to participate in the MIS while all departments may use some of the capabilities of the MIS, ignoring other features. A decision can be withdrawn. For instance, a new service or product can be discontinued after performance monitoring. Delays in use, proportion of use, and terminated use suggest important adoption qualifications that capture downstream changes in the status of a decision. Two measures apply. In the first, "initial adoption" differentiates decisions that have received a trial from the rest. The initially adopted change has the potential to produce value for the organization, as contrasted to the decision that was rejected. The second measure captures downstream use. The "complete adoption" measure treats initial rejections, partial use, withdrawn decisions as failures. The complete adoption measure gives an indication of a decision's ultimate fate and suggests its long term viability. Decision were followed for two years after the first installation attempt to identify changes in use needed to construct these two indicators.

The intrinsic value of a decision to the organization provides another kind of success measure. Decisions that have intrinsic value may not be pragmatic, making value an important facet of success. To measure value, objective data describing the economic returns or benefits of a change are preferred but this information was difficult to collect. Most organizations were reluctant to provide access to information, such as money lost or gained, and claim that reconstructing economic benefits and the like for a particular decision would be prohibitively expensive. Organizations seem to avoid retaining information of this type, perhaps to avoid facing embarrassing questions (Nutt, 1992). Also, objective indicators were often difficult to compare. Some decisions improved quality, others market share satisfaction, or utilization. Converting these indicators to net benefit posed many complications.

Alexander (1986) offers a way around these difficulties. He finds that a manager's subjective estimates of value are highly correlated with objective indicators. This has prompted researchers to use subjective indicators in decision-making research (Alexander, 1986; Bryson, et al. 1984; Hughes, et al. 1986). Here the two secondary informants provide this information to avoid self-serving assessments by the decision maker. They were asked to check along an anchored scale to reflect their views. The scale anchors are shown in Table 3. To improve recall and precision, the ERE procedure was used, as described for contextual

measures. The average of the two final informant ratings was used as the value measure for each decision.

Efficient changes are desirable. Managers want rapid results (Nutt, 1992; Quinn, 1990). This suggests duration as a measure of timeliness, which can be defined as the time period from the recognition of a need to decision use or abandonment.

The time to implement was also collected in the questionnaire filed out by the secondary informants. The questionnaire asked for an estimate of two indicators that measured timeliness. In the first, the secondary informants were asked to recall the time from need recognition to the development of a plan. The second measured the elapsed time from the end of development to use or abandonment of the plan. Timeliness is the sum of these two time measures, in months. The average time from the two informant estimates for each case was used to measure timeliness. Informant recall was refined by using reflection and re-rating procedures noted above.

#### **E. Theoretical Models**

Three models can be posited to capture how context can influence the effectiveness of an implementation approach. A “mediator” relationship would link factors, such as time pressure, to an implementation approach that can be carried out quickly, such as edict. This calls for separate paths to be created for each implementation approach as in the approach offered by Lippitt and Mackenzie (1976). Not all contingencies apply to all implementation approaches. The empirical justification of such a model is lacking and it seems overly complex. Finding more basic relationships seem to be required before building a mediation model.

A second model would treat the manager’s leverage and the situation as a “moderator” to identify conditions that are more or less favorable to particular approaches. The moderator model also calls for model building with little empirical backing.

An “interaction” model was used in the research because of its simplicity and its fit to what contingency approaches seem to call for. An interaction relationship provides the simplest explanation of how context and implementation may influence outcomes. Key factors can interact, or be a main effect, or both. If context is important, factors describing context will influence the success when particular implementation approaches are used. If not, only the main effects would influence success. Also, if an implementation approach can be used under all conditions, both the mediator and moderator models would be less plausible.

## **F. Analysis**

Data analyses were carried out by following the assumptions of an interaction model, shown in Figure 1. In this model, the situational factors can be main effects, can combine with implementation approaches to create interaction effects, or can be both an interaction and a main effect. Box and Draper (1987) have addressed data analysis for this type of theoretical model, showing that multiple regression should be used when the model posits a combination of independent and interaction effects. To explore the theoretical model, four multiple regressions were carried out, one for each success measure (initial adoption, complete adoption, value, and time) as the dependent variable. A Duncan multiple range test (DMRT) was used to isolate significant differences in success measures associated with implementation approaches and categories of the other factors under study.

To simplify the interpretation of these results and insure that enough observations were available the contextual factors were rescaled. Intermediate ratings or under-represented categories were discarded. The "level" factor was condensed to top managers (CEO, COO, CFO) and middle managers, deleting the remainder because this category was diverse and none of the others occurred frequently in the cases. For the time constraint factor two categories were created: crisis and the other categories made up of high, moderate, low, and no time pressure decisions. For power, the high power category included only decision makers classified as having nearly unlimited power in the questionnaire. The moderate power category included decision makers that were classified as having moderate or less power, discarding the "considerable" power category. For the importance and resource factors ratings above 4 were treated as "high" and a rating below 2 was treated as "low" for each factor. The rescaled contextual factors that reached statistical significance in the multiple regressions were explored one at a time with a two-factor ANOVA. The ANOVA included implementation approach and one of the contextual factors as explanatory variables, so the main effects and the interaction could be examined.

## **IV. DISCUSSION OF RESULTS**

The results of the study can be divided into conclusions about the role of context, implementation approaches and their success, and the empirical justification to use contingency thinking when selecting an implementation approach.

### **A. The Influence of Context on Success**

The percent variance explained by the contextual factors in the multiple regressions was compared to that explained by implementation approach.

Implementation approach was found to explain more variance than the combined contextual factors, suggesting that the discretionary acts of a manager have more influence on outcome than the situation being confronted. This is also evident from the p-values for context that are less significant than those for the implementation approach factor. Context, however, offered some interesting qualifications on the prospects of decision success. The rescaled contextual factors are used to interpret these findings.

Decisions with urgency had no impact on success. The success rates for crisis and non-urgent decisions were similar (Table 4). Crisis decisions took a bit less time than non-crisis decisions, and had slightly poorer results leading to lower adoption rates, both initial and complete. This suggests that urgent decisions do not result in a quick fix or that the fix is likely to come unraveled. High importance decisions had a mixed success record. Low importance decisions had more initial adoptions but high importance decisions were implemented to a greater extent, had more quality, but took much more time. High resource decisions were more apt to be adopted, were viewed as higher quality but took twice the time to implement. Resources seem to increase use and value, but do so at the expense of being timely. When the pressure to act arose, both internal and external to the organization, the prospects of adoption increased, and duration declined dramatically. Decisions prompted by external or internal pressures were less apt to be implemented and more apt to keep from becoming unraveled. Internal decisions took more time than external ones.

Comparing top managers to middle managers finds that top managers are more apt to get their plans adopted, but take more time to implement compared to middle managers (Table 4). Power had little effect on success and paralleled those observed for level. As a result, power and level seem to measure the same thing. Nevertheless, power as position had much less effect on success than the approach used to implement a decision.

Appropriate action by managers seems to neutralize the threat and fear. Contextual factors play less of a role in influencing the success than careful action to promote what is wanted.

## **B. Implementation Approach**

Intervention, participation, persuasion, and edict approaches were used in 358 of the 376 cases (Table 5). The remaining 18 cases applied hybrid approaches, such as merging persuasion, participation, and edicts in various ways. There were too few cases in these hybrid categories to permit analysis, so they were not considered further.

The four implementation approaches, their frequency of their use by top and middle managers, and their success paint a picture of how managers with varying degrees of position power implement strategic decisions and the

outcomes of these actions. Top and middle managers used the same types of approaches, but in different proportions and with different results. Because organizational level had such dramatic effects, top managers and middle managers applying each implementation approach are considered separately in the discussion of results.

**Table 4**  
Contextual factors and success

Main Effect	No.	FRE Q	Sustained Adoption		Complete Adoption		Decision Value		Duration	
			Rate	DMRT <sup>1</sup>	Rating <sup>2</sup>	DMRT	Rating <sup>3</sup>	DMRT	Time <sup>3</sup>	DMRT
<u>Situation</u>										
1. Urgency										
non-urgent	295	82%	62%		51%		3.7		17.3	
crisis	63	18%	65%		49%		3.5		16.3	
significance			ns		ns		ns		ns	
2. Importance										
low	127	36%	70%		43%		3.3		22.1	
high	222	64%	50%		55%		3.8		10.0	
significance			p≤.0012		p≤.02		p≤.03		p≤.0001	
3. Resources										
low	76	34%	53%		45%		3.3		10.1	
high	149	66%	60%		52%		3.8		22.1	
significance			ns		p≤.07		p≤.03		p≤.0005	
4. Source of pressure										
internal	204	57%	61%	B	48%	B	3.5		18.4	C
external	111	31%	63%	B	51%	B	3.7		16.5	B
both	42	12%	71%	A	62%	A	3.8		12.9	A
significance			ns		p≤.05		ns		p≤.05	
<u>Implementor leverage</u>										
1. Level										
top managers	205	69%	65%		54%		3.7		18.8	
middle managers	90	31%	53%		45%		3.6		15.1	
significance			p≤.07		p≤.05		ns		p≤.05	
2. Power										
unlimited	42	20%	64%		51%		3.7		18.8	
limited	170	80%	64%		50%		4.1		16.7	
significance			ns		ns		p≤.09		p≤.08	

<sup>1</sup> Duncan Multiple Range Test (DMRT): Letter codes indicate significant differences in the means, p≤.05.

<sup>2</sup> Scale: 5 = outstanding; 4 = good; 3 = adequate; 2 = disappointing; 1 = poor

<sup>3</sup> Time measured in months from the recognition of the need to act to the use or abandonment of a decision.

**Table 5**  
The success of implementation approaches used by top and middle managers

Main Effect	Frequency		Initial Adoption		Complete Adoption		Decision Value		Duration	
	N	%	Rate	DMRT <sup>1</sup>	Rate	DMRT	Rating <sup>2</sup>	DMRT	Time <sup>3</sup>	DMRT
Overall:										
Intervention	30	8%	97%	A	87%	A	4.5	A	14.0	A
Participation	63	18%	80%	B	73%	B	4.0	A/B	16.3	A/B
Persuasion	133	37%	56%	C	47%	C	3.5	B	21.5	B
Edict	<u>32</u>	<u>37%</u>	53%	C	35%	D	3.3	B/C	14.8	A
Total	358	100%								
Approach used by:										
Top Managers										
Intervention	20	8%	100%	A	90%	A	4.3	A	11.2	A
Participation	35	13%	89%	B	80%	B	4.3	A	14.3	B
Persuasion	128	49%	58%	C	49%	C	3.6	A/B	25.9	D
Edict	<u>78</u>	<u>30%</u>	50%	C	38%	D	3.3	C	16.7	C
Total	261	100%								
Significance				p≤.001		p≤.0008		p≤.05		p≤.03
Middle Managers										
Intervention	8	9%	88%	A	75%	A	4.9	A	18.0	A
Participation	14	16%	79%	B	79%	A	3.6	B	18.8	A
Persuasion	33	37%	52%	C	42%	B	3.5	B	13.1	B
Edict	<u>35</u>	<u>39%</u>	51%	C	28%	C	3.3	B	14.1	B
Total	90	100%								
Significance				p≤.001		p≤.001		p≤.05		p≤.05

<sup>1</sup> Duncan Multiple Range Test. Letter codes denotes significant differences in mean values (p≤.05).

<sup>2</sup> The scale anchors are: 5 = outstanding, 4 = good, 3 = adequate, 2 = disappointing, 1 = poor

<sup>3</sup> Time in months from the recognition of a need act to use or abandonment of a decision.

**Intervention** – Intervention created a need for change in the minds of key people by renorming the system(s) to be changed. For example, a new norm could be applied to unit cost performance by showing how a comparable organization has been able to operate with lower cost. On occasion these new norms were bogus, using anecdotal information and making ad-hoc comparisons, such as comparing costs in full service and small community hospitals. However, in most of the cases the comparisons were legitimate and suggested a real opportunity to make positive change.

Renorming demonstrated that the current performance level was inadequate. This demonstration was followed by the identification of plausible causes of the performance deficiencies. Illustrations of how current practices could be improved were often used to make this point. These suggestions defined options that people with developmental responsibilities could consider. Committees were sometimes used as a sounding board, offering a commentary on

ideas as they evolved. After a decision had been made, the manager demonstrated how action called for by the decision overcomes the performance deficiencies that were identified. For example, hospital trustees are wary of offering high cost services, such as burn and coronary care, because third party payors (e.g. Medicaid and insurance carriers) do not cover the full cost of treatment. To overcome this objection, a hospital CEO demonstrated how the cost for burn care could be covered by a variety of sources — endowments, reimbursements, and cheap resident manpower. The CEO presented the trustees with a demonstration of financial feasibility and a description of how others had enhanced their image, and thus endowments, with this service. A candidate for the burn care director position presented treatment procedures and staffing to the trustees, showing how resident recruitment had been enhanced at other hospitals after such a service had been added. It was suggested that future resident recruitment efforts would be harmed without a burn care service. The hospital CEO reported back to the trustees providing data on image, resident recruitment, and cost after a pilot test of the unit.

Intervention was used by top managers in 8% of their decisions and 9% of the decisions by middle managers. Intervention was the most successful approach, and the least frequently used. One hundred percent of the decisions implemented using invention by top managers were adopted. A 90% complete adoption rate was observed in which partial adoptions and a withdrawal of the decision within 2 years were termed failures. Decisions were rated at 4.3 (between good and outstanding) and took 11.2 months, making these decisions both high quality and very timely. Middle managers were a bit less successful when using intervention with an 88% initial adoption and a 75% complete adoption, taking 18.0 months. However, their decisions using this approach were rated as outstanding, seemingly justifying the extended time it took to implement them. The top manager's power may help them to shorten implementation time. Middle managers may have to carefully work through a process of authorization and justification of the proposed new norms, which takes more time. Although the prospect of adoptions fell, compared to top managers, the middle manger increases his or her chance of success by using intervention.

Cooptative Participation — The origins of cooptative participation can be traced to the classic study by Coch and French (1948), who found that people reacted more favorably and became more committed when they participated in decision-making processes than when they did not. Managers in this study used cooptative participation (hereafter called participation) by stipulating needs and then delegating action taking to a task force. The members of the task force were carefully selected by the implementing manager so people with important points of view, vested interests, and knowledge were represented. The implementing manager and task force leaders could not veto changes agreed to by the group. As

a result, the participation approach identified in this study differed somewhat from the prescriptions that have emerged from classic studies (Coch and French, 1948; Hackman, 1990; Likert 1961).

The delegation created objectives with varying degrees of explicitness, such as citing an expected level of costs or merely calling for a cost reduction. The delegation also identified constraints and supporting resources, such as staff. For example, in a university hospital PBX, staff representatives were placed on a task force and given the latitude to select any staffing schedule they wished as long as costs would not increase.

Participation was used by top managers in 13% of their decisions and by middle managers in 18% of their decisions (see Table 5). Participation was infrequently used but very successful for both top and middle managers. Eighty-nine percent of the implementation attempts by top managers that used participation were initially used. An 80% complete adoption rate was observed by adding qualifications, in which all partially adopted decisions were termed failures. The strategic decisions implemented with participation were rated at 4.3 (between good and outstanding). Participation was quite timely when used by top managers, taking from 2 to 11 months less time to carry out than the other approaches. Middle managers were somewhat less successful when using participation. They took nearly 50% more time to carry out participation for strategic decisions of somewhat less value. A top manager's implied power may give them leverage in moving along a task force, producing efficiency in the proceedings without harming the value of strategic decisions implemented in this way. Both levels of managers seemed reluctant to relinquish control to the extent called for by participation, as it was defined in this study.

Persuasion – To use persuasion a manager engaged in one of several kinds of activities that attempted to "sell" a strategic decision. To argue for adoption, the decision was presented as a way to help the organization realize a priority aim. Managers required extensive documentation of benefits to use persuasion often called on experts to carry out one or more evaluations that could be used to back up claims about these benefits. For example, in one of the cases a manager took a report developed at his request to identify sites for a new plant and attempted to sell the preferred site by promoting its features. Managers attempted to promote plans for equipment purchases, control systems, marketing plans, and the like in this way.

Persuasion was applied in 49% of the decisions implemented by top managers and in 37% of those implemented by middle managers, making it the most frequently used implementation approach observed in the study (Table 5). Persuasion had an intermediate level of success for top managers. Fifty-eight percent of the decisions implemented using persuasion were initially used, which declined slightly, to 49%, for the complete adoptions. The decisions were regarded as good, but took 26 months to complete, the longest time observed in the study.

Middle managers were much less successful when using persuasion, with an initial adoption rate of 52% and a complete adoption rate of 42%. However, these implementation attempts rapidly came to closure, needing only 13.6 months to complete. The timeliness of persuasion when used by middle managers may stem from pressure for results from higher ups. Middle managers may feel that they must push hard for closure, which may lead to an increase in failure.

Edicts – Implementators used an edict when directives were issued. The use of power was the dominant theme in these cases (1959). The manager announced the decision and prescribed the compliance expectation using a memorandum, formal presentation, or on-the-job instruction that indicated the expected behavior of effected people. For example, to introduce a new health care policy, a manager prepared a memo, which listed benefits and co-pay requirements and sent it to all employees.

Edicts were the second most frequently used implementation approach. Edicts were used by top managers in 30% of the cases and by middle managers in 39% of the cases. Edicts were found to be an undesirable way to implement strategic decisions. For top managers, only 50% of the decisions were initially adopted, which fell to 38% for complete adoptions. These decisions were judged to be between good and adequate, making them appear to be lower in quality than those implemented by participation and persuasion. Finally, edicts took an additional 2 months to carry out, compared to participation. Middle managers were even less successful when using edicts, as one might expect. A middle manager's leverage and power is bound to be lower than that of a top manager. For middle managers initial adoptions were 51%, which fell to 28% for complete adoptions for decisions judged to be of comparable quality to those implemented by participation and persuasion. Edicts were also inefficient, taking nearly 14 months to carry out. The use of power was no more timely than persuasion for middle managers and was much less likely to produce an adoption.

Taken together, these findings suggest that top managers apply similar approaches to implement decisions as middle managers, and use them with about the same frequency. The selective use of an implementation approach according to position power was not observed. Top managers were generally more successful, but their success was dramatically influenced by the approach applied to implement a decision.

The findings suggested that intervention can and should be used more often, by both top and middle managers. The delays in implementation for middle managers were no longer than that noted for participation. Top managers used intervention effectively and very efficiently. Although some strategic decisions may not lend themselves to involvement, participation also seems to be under-used, given its superior success record. The efficiency arguments often advanced not to use participation were not observed in this study. Participation took less

time than any other implementation approach identified in this study. There seems to be no motivation to reserve edicts for short fuse strategic decisions. The resistance engendered by this approach seems to produce lengthy delays in implementation. Middle managers produced results much like the top managers with two exceptions. Middle managers had lower rates of adoption using intervention and persuasion. When using persuasion, middle managers seem to rush the implementation process. The adoption declines for middle managers using intervention may stem from their credibility in establishing new norms. More justification may be required and this becomes time consuming. Finally, for strategic decisions of comparable value, middle managers were somewhat less successful in promoting adoption using participation for strategic decisions that had less value. The middle managers more limited ability to co-opt people by appointing them to a task force may explain this finding.

### C. Interaction Effects

Table 6 shows how the contextual factors influenced the selection of an implementation approach. To determine the significance of the effects, each factor was examined using a chi-square test of proportions. The chi-square test identified implementation approaches that were associated with high and low level of each contextual factor to determine if proportions had statistically significant differences ( $p \leq .05$ ). Tables 7, 8, 9, and 10 show how urgency, importance, resources, and source of pressure to act interact with the implementation approaches.

Use of tactics – Decisions with a short fuse resulted in more use of participation and persuasion and a dramatic decrease in the use of intervention. Participation was used less frequently under non-urgent conditions. Edicts and persuasion were frequently used for both urgent and non-urgent decisions (Table 6). The use of intervention increased dramatically for urgent decisions, perhaps in response to the perceived need and the personal involvement of a manager. Decision makers seem to shift away for participation to persuasion when urgency climbs. This decreased use of participation may reflect the perceived difficulty of involvement in a crisis.

Resources also had some influence on tactic selection. Participation and edicts were more apt to be used for low resource decisions. Decision makers were far more apt to use persuasion when there were ample resources to support the decision process. Managers using persuasion with ample resources may be motivated to put their personal touch on the decision because of their increased investment in it.

**Table 6**  
Conditions of use for implementation tactics

Tactics	Urgency		Importance		Resources	
	Low	Crisis	Low	High	Low	High
Intervention	21	9	8	22	5	12
Participation	55	8	18	43	16	21
Persuasion	112	21	47	81	21	71
Edict	<u>107</u>	<u>25</u>	<u>54</u>	<u>76</u>	<u>34</u>	<u>45</u>
TOTAL	295	63	127	222	76	149
Intervention	7%	14%	6%	10%	6%	8%
Participation	19%*	13%	14%	19%	21%	14%
Persuasion	38%	33%	37%	36%	28%	48%
Edict	<u>36%</u>	<u>40%</u>	<u>43%</u>	<u>34%</u>	<u>45%</u>	<u>30%</u>
TOTAL	100%	100%	100%	100%	100%	100%

\*percent of column total

	Source of Pressure			Implementor Level	
	<u>Internal</u>	<u>External</u>	<u>Both</u>	<u>Top</u>	<u>Middle</u>
Intervention	15	9	6	20	8
Participation	40	19	4	35	14
Persuasion	77	38	17	128	33
Edict	<u>72</u>	<u>45</u>	<u>15</u>	<u>78</u>	<u>35</u>
TOTAL	204	111	42	261	90
Intervention	7%	8%	14%	8%	9%
Participation	20%	17%	9%	13%	16%
Persuasion	38%	34%	41%	49%	37%
Edict	<u>35%</u>	<u>41%</u>	<u>36%</u>	<u>30%</u>	<u>39%</u>
TOTAL	100%	100%	100%	100%	100%

Decision importance had less of an influence on tactic use. Participation and intervention were selected for high importance decisions and edicts for low importance decisions. The source of pressure for the decision also effected the selection of implementation approaches. Both internal and external pressures produced significant differences in the selection of an implementation approach. When this occurred, there was a marked shift to toward intervention and away from participation. The appearance of a threat, marked by inside and outside pressure to act, seemed to entice implementors to intervene more often, and avoid involving others. The implementing managers were less concerned about whether the source of pressure to act was external or internal and made no accommodations by electing a particular approach to implementation.

**Implementation Approach and Context** – The effects of these preferences can be assessed by comparing the success of each implementation approach when applied under situations that arise with each contextual factor. Table 7, 8, and 9 summarize the interaction effects of urgency, importance, resources, and source with implementation tactic, for each success indicator.

When implementors were faced with an urgent decision there was a strong preference to use persuasion or edicts (Table 6). The need for rapid action in an urgent situation led to abandoning participation in favor of persuasion and edicts. Intervention was twice as apt to be used in a crisis. The data in Table 7 summarizes outcomes associated with these preferences. These data suggest that the use of persuasion and edicts for urgent decisions is unwise, and supports the movement toward using intervention. Adoption rates for crisis decisions remained high when a participation or intervention was used to implement a decision. Adoption rates were 75% or higher when participation or intervention was used in a crisis. However, when edicts or persuasion were used to implement a crisis decision, initial adoption rates fell to between 57% to 53% and for complete adoptions to between 48% to 34%. These adoption rates were not affected by whether or not the decision was urgent. Edicts were less timely in a crisis, taking 16.6 months, compared to participation that required only 14.3 months and intervention that took 10.0 months ( $p \leq .01$ ). Also, there was a decline in decision value for crisis decisions implemented with persuasion and edicts. However, decision value increased with the contributions obtained from participation during a crisis (Table 7).

Decision makers faced with high importance decisions increased the use of intervention and participation and reduced the use of edicts (Table 6). This preference was found to improve the prospects of success. Intervention resulted in more adoptions, which went far beyond the adoptions rates for seemingly important decisions (Table 4), whether or not the decision was believed to be important. Persuasion, however, had more decision adoptions for high compared to low importance decisions. Participation had a similar effect, but it was less pronounced. Duration was greater with persuasion and considerably less with intervention. Also, decision value was enhanced when participation or persuasion was used to implement important decisions (Table 8).

Decision makers who made decisions with limited resources were more apt to use edicts (Table 6). When ample resources were available, persuasion became the tactic of choice. Table 9 summarizes the outcomes that can be linked to these preferences. Participation and intervention had more adoptions at the expense of increased duration. However, time requirements seemed to expand with the availability of resources to increase decision value by a small amount. An infusion of resources did not increase the rate of adoptions or timeliness, but does increase decision value (Table 9). The same pattern can be observed for

persuasion, but not for edicts. The success of edicts improved when resources were ample, but its success did not approach that of participation and intervention. The observed failure of resources to prompt efficiency merits further study.

**Table 7**

Influence of urgency on the success of implementation approaches					
Initial Adoption			Complete Adoption		
	Urgency			Urgency	
	No	Crisis		No	Crisis
Intervention	95%	100%	Intervention	90%	77%
Participation	81%	88%	Participation	73%	75%
Persuasion	56%	57%	Persuasion	48%	43%
Edict	53%	52%	Edict	34%	36%
NS			NS		
Decision Value Rating			Duration (in months)		
	Urgency			Urgency	
	No	Crisis		No	Yes
Intervention	4.6	4.3	Intervention	15.5	10.0
Participation	4.0	4.3	Participation	16.6	14.3
Persuasion	3.7	3.2	Persuasion	22.4	18.7
Edict	3.3	3.2	Edict	14.4	16.6
NS			NS		

**Table 8**

Importance and the success of implementation approaches					
Initial Adoption Rates			Complete Adoption Rates		
	Importance			Importance	
	Low	High		Low	High
Intervention	100%	95%	Intervention	88%	86%
Participation	72%	84%	Participation	72%	72%
Persuasion	30%	71%	Persuasion	30%	58%
Edict	54%	53%	Edict	29%	33%
p≤.05			p≤.05		
Decision Value Rating			Duration (months)		
	Importance			Importance	
	Low	High		Low	High
Intervention	4.5	4.5	Intervention	17.5	12.2
Participation	3.7	4.2	Participation	14.5	16.0
Persuasion	3.1	3.9	Persuasion	15.0	23.8
Edict	3.3	3.3	Edict	14.1	14.8
p≤.05			p≤.04		

**Table 9**  
Resources and the success of implementation approaches

Initial Adoption Rates			Complete Adoption Rates		
	Resources			Resources	
	<u>Low</u>	<u>High</u>		<u>Low</u>	<u>High</u>
Intervention	100%	100%	Intervention	80%	92%
Participation	75%	71%	Participation	75%	62%
Persuasion	57%	58%	Persuasion	43%	49%
Edict	38%	51%	Edict	26%	41%
p≤.05			p≤.05		
<u>Decision Value Rating</u>			<u>Duration (months)</u>		
	Resources			Resources	
	<u>Low</u>	<u>High</u>		<u>Low</u>	<u>High</u>
Intervention	4.2	4.7	Intervention	2.7	16.0
Participation	3.8	4.2	Participation	11.8	19.6
Persuasion	3.3	3.7	Persuasion	11.8	25.7
Edict	3.0	3.4	Edict	9.5	20.3
NS			NS		

**Table 10**  
The success of implementation approaches and sources of pressures to act

Initial Adoption				Complete Adoption			
	Source				Source		
	<u>Int</u>	<u>Ext</u>	<u>Both</u>		<u>Int</u>	<u>Ext</u>	<u>Both</u>
Intervention	100%	89%	100%	Intervention	93%	67%	100%
Participation	85%	79%	75%	Participation	75%	68%	75%
Persuasion	48%	66%	69%	Persuasion	41%	55%	59%
Edict	54%	49%	60%	Edict	30%	38%	47%
p≤.01				p≤.05			
<u>Decision Value Rating</u>				<u>Duration (months)</u>			
	Source				Source		
	<u>Int</u>	<u>Ext</u>	<u>Both</u>		<u>Int</u>	<u>Ext</u>	<u>Both</u>
Intervention	4.6	4.4	4.3	Intervention	12.9	13.0	19.3
Participation	3.9	4.2	4.3	Participation	19.0	12.7	6.0
Persuasion	3.5	3.5	3.9	Persuasion	25.4	22.0	6.8
Edict	3.1	3.5	3.4	Edict	14.1	14.7	18.7
p≤.06				p≤.01			

When the source of the pressure to act for a decision was both internal and external, implementors were inclined to switch from participation to intervention or persuasion (Table 6). The increased threat from multiple sources drew the implementor away from involvement and prompted them to intervene.

In Table 10, a comparison of implementation approach success is shown for internal and/or external sources. The indicators show that persuasion produced more initial and complete adoptions when the pressure to act was external to the organization. Initial adoptions increased from 48% to at least 66% or more and complete adoptions from 41% to at least 55% when pressure was external. However, the data show that intervention and participation have comparable adoption rates. Persuasion is timely only when the pressure to act is both internal and external. Also, the implementor spends nearly twice as long to intervene, compared to using participation or persuasion to cope with decisions prompted by external and internal pressures. This suggests that the implied threat of external concerns encourages implementors to handle things themselves. However, sharing these concerns (as in persuasion or participation) leads to decisions that are twice as timely.

## V. CONCLUSIONS

The study examined 376 strategic decisions in which an attempt to implement was the key ingredient. A manager was confronted with the task of installing some kind of response to a need or an opportunity believed to be crucial to the organization's continued success. Managers responded to these challenges in various ways and with varying degrees of success, providing an opportunity to compare the actions of managers faced with implementation under a variety of situations often encountered in practice.

Three plausible outcomes that could result. Success could be dictated by the actions of implementors, by the situation, or by selecting an implementation approach according to the needs of the situation. Findings indicate the implementation approach has more impact on success than situational constraints, and that contingency models lack empirical justification.

Top managers and middle managers apply similar implementation approaches, but top managers use them more successfully. Intervention was found to be the most successful way to implement strategic decisions and could be used far more often by both top managers and middle managers. Participation was also quite successful, but less than intervention. When intervention or participation were used, decisions were more apt to be adopted and the value of the decision was enhanced, in a reasonable time period. Efficiency rationales advanced to support the use of edicts in urgent situations were not supported in this study. The resistance engendered by the show of power in an edict created delays, which drew out the implementation process, making the time needed to implement decisions comparable to that of other approaches.

Managers tend to deal with a crisis decision by using persuasion and edicts. However, the use of intervention or participation increased adoption prospects and without an increase in the time to install a crisis decision. The

greatly reduced prospect of adoption, without an advantage in timeliness makes the use of persuasion and edicts seem unwise. Managers responded decisions prompted by external pressures by using persuasion, which resulted in an increase in adoptions and mixed effects on implementation time. In both situations, either intervention or participation would have dramatically increased adoption and cut implementation time with an increase in decision value.

The success of intervention and participation generalized across all the conditions considered in this study. Intervention and participation were found to be the preferred approaches for urgent, important, and high resource decisions, and when decisions arise from pressures internal and external to the organization. The data show that both intervention and participation can and should be used more often.

This study is important because contingency models that call for managers to select an implementation approach according to the demands posed by the situation were not supported. No conditions considered in the study that favored persuasion or edicts over intervention or participation, which contradicts the prescriptions found in many contingency schemes (Daft, 1995; Lippitt and Mackenzie, 1976; Nutt, 1989; Vroom and Jago, 1978; Vroom and Yetton, 1973). Also, limitations posed by the situation, such as limited resources and power when decisions are important and urgent, were much less important than expected. Managers who use intervention and participation seem to deal effectively with all types of situations and achieve very good results.

Two conclusion findings emerge: use intervention and avoid contingency models. These conclusions must be seen as somewhat tentative because of several limitations in the study; stemming from the proxies used to measure success, the database of decisions, and contextual factors not considered. The indicators used to measure success may have missed some aspects of a successful decision. Economic impacts, such as dollars lost or gained, were impossible to collect. The subjective decision-merit indicators may not have captured the true impact of a decision. The adoption measures would not be useful for decisions that have a very limited window of opportunity. The database in the study, although larger and more complete than any in the literature, cannot be tested to determine how well it represents decision practices. As a result, the inferences drawn about practice could be biased. Success may depend on contextual factors not considered in the study, such as decision type and public-private differences. The failure to consider such factors in this paper limits conclusions about the value of contingency thinking. Such qualifications are important and suggest needed future work.

### REFERENCES

- Alexander, L.P., 1986, "Successfully Implementing Strategic Decisions" in B. Mayon-White (ed) *Planning and Managing Change*, London, Harper & Row.
- Beyer, J.M. and Trice, H.M., 1978, *Implementing Change: Alcoholism Policies in Work Organizations*, New York: Free Press.
- Beyer, J.M. and Trice, H.M., 1982, "The Utilization Process: A Conceptual Framework and Synthesis of Empirical Findings," *Administrative Science Quarterly*, 27(4/5), 591-622.
- Boal, K.B. and Bryson, J.M., 1987, "Representing and Testing Policy Implications of Planning Processes," *Strategic Management Journal*, 8, 211-231.
- Bower, J.L., 1970, *Managing the Resource Allocation Process: A Study of Corporate Planning and Investment*, Homewood, IL: Irwin.
- Box, G. and Draper, N., 1987, *Empirical Model Building and Response Surface Methods*, New York: Wiley.
- Bryson, J.M., Bromiley, P., and Jung, V.S., 1990, "The Influences of Context and Process on Project Planning Success," *Journal of Planning Education* 9(3), 183-195.
- Bryson, J.M. and Cullen, J.W., 1984, "A Contingent Approach to Strategy and Tactics in Formative and Summative Evaluations," *Evaluation and Program Planning*, 7, 267-290.
- Chandler, A.D., 1962, *Strategy and Structure: Chapters in the History of American Industrial Enterprise*, Cambridge, MA: MIT Press.
- Churchman, C.W., 1975, "Theories of Implementation," in R.L. Schultz and D.P. Slevin, *Implementing Operations Research/Management Science*, New York: Elsevier.
- Coch, L. and French, Jr., J.R.P., 1948, "Overcoming Resistance to Change," *Human Relations*, 1, 512-532.
- Cohen, M.D., March, J.P., and Olsen, J.P., 1976, "A Garbage Can Model of Organizational Choice," *Administrative Science Quarterly*, 17, 1-25.
- Cray, D., Mallory, G.B., Butler, R.J., Hickson, D.J., and Wilson, D.C., 1988, "Sporadic, Fluid, and Constricted Processes: Three Types of Strategic Decisions in Organizations," *Journal of Management Studies*, 26 (1), 13-40.
- Cyert, R.M. and March, J.G., 1963, *A Behavioral Theory of the Firm*, Englewood Cliffs, NJ: Prentice-Hall.
- Daft, R., 1995, *Organization Theory and Design*, St. Paul, Minn: West Publishing Co.
- Denzin, N.K., 1989, *The Research Act*, Englewood Cliffs: N.J.: Prentice Hall.
- Doktor, R. and Hamilton, W., 1974, "Cognitive Style and the Acceptance of Management Science Recommendations," *Management Science*, 19 (8), 889-894.

- French, J. and Raven, B., 1959, "The Bases of Social Power," in (D. Cartwright, ed.), *Studies in Social Power*, Ann Arbor, MI: Institute for Social Research.
- Ginzberg, M.J., 1978, "Steps Toward More Effective Implementation of MS and MIS," *Interfaces*, 8, 57-63.
- Ginzberg, M.J. and Schultz, R.L., 1987, *Special Issues in Implementation*, *Interfaces*, 17(3).
- Gordon, M.E., Slade, L.A., and Schmitt, N., "Science of the Sophomore Revisited: From Conjecture to Criticism," *Academy of Management Review*, 11(1), 191-207.
- Gray, D.H., 1986, "Uses and Issues of Strategic Planning," in A. Thompson, W. Fulmer, A. Strickland (eds.), *Readings in Strategic Management*, Homewood, IL: Irwin (38-52).
- Griener, L., 1970, "Patterns of Organizational Change," (in G.W. Dalton, P. Lawrence, L. Griener, eds.), *Organizational Change and Development*, Homewood, IL: Irwin.
- Hackman, L., 1990, *Groups the Work*, San Francisco, California: Jossey Bass.
- Hickson, D.J., Butler, R.J., Cray, D., Mallory, G.R., Wilson, D.C., 1986, *Top Decisions: Strategic Decision Making in Organizations*, San Francisco, CA: Jossey Bass.
- Hickson, D. J., 1987 "Decision Making at The Top of Organizations" *Annual Review of Sociology*, 9, 319-358.
- Huber, G., 1990, "A Theory of the Effects of Advanced Information Technologies on Organizational Design," *Intelligence, and Decision Making*, *Academy of Management Review*, 15(1), 47-71.
- Huber, G. and Power, D.J., 1985, "Retrospective Reports of Strategic-Level Managers: Guidelines for Increasing Their Accuracy," *Strategic Management Journal*, 6, 171-180.
- Hughes, M.E., Price, R.L., Marrs, D.W., 1986, "Linking Theory construction and Theory Testing Models with Multiple Indicators and Latent Variables," *Academy of Management Review*, 11 (1), 128-144.
- Huysmans, J., 1970, *The Implementation of Operations Research*, New York: Wiley.
- Leavitt, H.L., 1987, *Corporate Pathfinders*, N.Y., Penguin.
- Likert, R., 1961, *New Patterns of Management*, New York: McGraw Hill.
- Likert, R., 1967, *The Human Organization*, N.Y., McGraw-Hill.
- Lincoln, Y. and Guba, E., *Naturalistic Inquiry*, Beverly Hills, CA: Sage, 1985.
- Lippitt, M.E. and Mackenzie, K.D., 1976, "Authority Task Problems," *Administrative Science Quarterly*, 21 (4), 643-660.
- Luthans, F., 1989, *Organizational Behavior*, N.Y., McGraw-Hill.
- March J.G., 1994, *A Primer on Decision Making: How Decisions Happen*, N.Y.: Free Press.

- Mintzberg, H., Raisinghani, D., and Theoret, A., 1976, "The Structure of Unstructured Decision Processes," *Administrative Science Quarterly*, 21(2), 246-275.
- Nutt, P.C., 1986, "The Tactics of Implementation," *Academy of Management Journal*, 29(2), 230-261.
- Nutt, P.C., 1989, "Selecting Tactics to Implement Strategic Plans," *Strategic Management Journal*, 10, 145-161.
- Nutt, P.C., 1992, *Managing Planned Change*, New York: Macmillan.
- Patton, M.E., 1990, *Qualitative Evaluation and Research Methods*, Los Angeles, CA: Sage.
- Pelz, D.C., 1978, "Some Expanded Perspectives on Use of Social Science in Public Policy," in Tu Yinger and S.J. Cutler (eds.), *Major Social Issues: A Multidisciplinary View*, New York: Free Press, 346-357.
- Podsakoff, P.M. and Organ, D.W., 1986, "Self Reports in Organizational Research: Problems and Prospects," *Journal of Management*, 12(4), 531-544.
- Quinn, J.B., 1990, "Managing Strategic Change," in A.A. Thompson, Jr., W.E. Fulmer, A.J. Strickland, III (eds.), *Strategic Management*, Homewood, IL: Irwin, 10-32.
- Schultz, R.L. and Ginzberg, M.J. (eds.), 1984, *Management Science Implementation*, Greenwich, CT: JAI Press.
- Schultz, R.L. and Slevin, D.P., 1975, *Implementing Operations Research/Management Science*, New York: Elsevier.
- Skivington, J., and Daft, R., 1991, "A Study of Organizational Framework and "Process" Modalities for the Implementation of Business - Level Strategies", *Journal of Management Studies*, 28 (1), 45-68.
- Soelberg, P.O., 1967, "Unprogrammed Decision Making," *Industrial Management Review*, ring, 19-29.
- Starbuck, W.H., 1983, "Organizations as Action Generators," *American Sociological Review*, 48, 91-102.
- Thompson, J.D., 1967, *Organizations in Action*, New York: McGraw Hill.
- Vroom, V. and Jago, A., 1978, "On the Validity of the Vroom-Yetton Model," *JAP*, 63 (2), 151-162.
- Vroom, V. and Yetton, P.W., 1973, *Leadership and Decision Making*, Pittsburgh, PA: University Pittsburgh Press.
- Weick, K.E., 1979, *The Social Psychology of Organizing*, Reading, MA: Addison-Wesley, (Second Edition).
- Witte, E., 1972, "Field Research on Complex Decision Process – The Phase Theory," *International Studies of Management of Organization*, 56, 156-182.
- Yin, Robert, 1989, *Case Study Research: Design & Methods*, Beverly Hills, CA: Sage (revised edition).
- Yin, R., 1993, *Applications of Case Study Research*, Beverly Hills, California: Sage.

Zand, D. E. And Sorenson, R. E. 1975, "Theory of Change and the Effective Use of Management Science", *Administrative Science Quarterly*, 20 (4), 532-545.