

# How CIOs Obtain Peer Commitment to Strategic IS Proposals: Barriers & Facilitators

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## Abstract

*Effective initiation and execution of strategic IS/T projects has become a critical competence for many organizations. One key to this is the ability of the senior executive responsible for IS/T, called the Chief Information Officer (CIO), to obtain peer commitment to implement strategic IS/T projects. This paper explores the barriers and facilitators of peer commitment to the implementation of such projects. Peer commitment barriers and facilitators include the firm's external and internal IS/T environment, appropriateness of the IS/T initiatives, peer relationships, the ability to use the peer's preferred influence behaviors, and post-commitment implementation realities.*

## Keywords

Chief Information Officers, Behavior, Information Systems, Strategic Planning Level

## INTRODUCTION

In this paper we examine how Chief Information Officers (CIOs) gain peer commitment to implementing strategic information systems/technology (IS/T) projects. While considerable research has been conducted on the question of individual influence exercised to gain commitment in other domains, to our knowledge this is the first systematic examination conducted at the CIO level and within top executive ranks.

In order to set the background of the study, we begin with a brief discussion of the nature of commitment and CIO influence. The bulk of the paper is devoted to the presentation of the methodology and findings from a series of exploratory studies related to CIO attainment of peer commitment to implement strategic IS/T projects. The studies consisted of in-depth

interviews with CIOs and their peers, matched pair surveys of CIOs and their peers, and follow-up interviews with some of the survey participants. The paper concludes with a summary of the results.

### **Commitment & Influence**

In their review of research on strategy implementation, Finkelstein and Hambrick (1996) discuss several implementation realities. For instance, heterogeneous top management teams (TMTs) often engender conflict (O'Reilly et al. 1993). Therefore, it is important to gain their acceptance and commitment (Dess 1987, Nutt 1987); and involvement, endorsement, cooperation or consent (Korsgaard et al. 1995). Important considerations in obtaining cooperation and commitment include social integration, which is associated with cooperation (O'Reilly et al. 1989), and TMT consensus, which promotes commitment (Dess 1987, Fredrickson and Iaquinto 1989, Isabella and Waddock 1994). Furthermore, it appears that persuasion and participation facilitate implementation (Nutt 1986).

The strategy implementation literature is directly relevant to this research for a variety of reasons. First, the CIO can facilitate commitment and cooperation by being socially integrated with TMT members and by obtaining TMT consensus, which is harder to do when TMT members are heterogeneous. Second, if a CIO wants an important proposal implemented, the CIO requires the commitment of others in the TMT. If the CIO does not obtain it, the project will be difficult or impossible to implement.

Individual commitment to change has elsewhere been demonstrated to predict IS project success (Ginzberg 1981). This study uses the definition of individual commitment outlined by Falbe and Yukl (1992). The target of influence's enthusiasm, demonstration of unusual effort, and persistence indicate the type of individual commitment that they identify as being important. This is contrasted with resistance, which occurs when targets argue, delay or actively seek ways to thwart the initiative.

### **Lower & Middle-Level Manager Influence Behaviors**

Commitment is often obtained via the use of pro-active influence behaviors (Kipnis et al. 1980, Kipnis and Schmidt 1988, Yukl 1994). One of the first studies of influence behaviors was conducted by Kipnis et al. (1980). In the first study the participants were asked to describe how they used influence to get their way with a superior, subordinate, or co-worker. Content analysis was used to create a 58-item survey, which was administered to a second group (n = 754) of lower-level managers in a second study. A factor analysis revealed eight dimensions of influence.

Yukl and Falbe (1990) conducted two studies to replicate and extend Kipnis et al.'s (1980) examination of influence tactics. For these studies, they developed a new survey instrument. Their instrument reduced the number of items devoted to Kipnis and Schmidt's (1988) "sanction" dimension and relabeled it "pressure" tactics. Two additional dimensions, inspirational appeal and consultation, were added based on Yukl and Falbe's (1990) review of the managerial leadership literature. Rational persuasion and consultation were the tactics used most frequently, regardless of the direction of influence (i.e., up, down, lateral).

Yukl and Falbe further refined their instrument, as reported in Falbe and Yukl (1992). This version of their instrument is derived from their previous work, reference to Schreisheim and Hinkin's (1990) study, as well as the development and testing of a survey specifically designed for the targets of influence (Yukl et al. 1992).

### **Top Executive & CIO Influence Behavior**

Few studies of influence in the organizational behavior literature have systematically examined top executives' influence behaviors. Most of what is known this topic comes from anecdotal evidence (e.g., Cohen and Bradford 1990, Pfeffer 1992). While the studies which have been completed suggest that some influence behaviors are more effective than others are (e.g., Kotter 1982), the studies' authors acknowledge the limited generalizability of their findings. In particular, studies conducted with middle-level managers, common in this arena, are not generalizable to top executives (Pfeffer 1992).

A few researchers have identified interpersonal skills that are important for CIOs when trying to influence others in the organization. Effective CIOs tend to be aware of the types of influence behaviors required to influence specific individuals (Earl and Feeny 1994, Fiegenger and Coakley 1995). They also make clear plans to obtain their support. Persuasion skills have also been identified, as necessary to accompany the traditional technical skills and business knowledge required of CIOs (Lederer and Mendelow 1988).

However, there is little research on the topic of types of influence behaviors used by CIOs. This sparse literature has only discussed a few specific influence behaviors at the CIO's disposal. For example, coalition tactics are used to: convince executives of the potential strategic impact of IS (Lederer and Mendelow 1988); gain the acceptance of other executives (Stephens et al. 1992); achieve a shared vision of IS's role in the organization (Earl and Feeny 1994); and create a positive impression of the IS department (Fiegenger and Coakley 1995). Another tactic associated with CIO influence behavior is rational persuasion, which is used to identify new uses of IT and create a positive view of IS (Earl and Feeny 1994, Fiegenger and Coakley 1995, Rockart 1988).

Some organizational theory literature has tangentially examined the influence behaviors of IS managers and executives in general studies of managers and top executives. These data have been gleaned through reports of interviews conducted with IS executives. The case of a manager of an IS department is indicative (Kotter 1979). The IS manager tried to use an exchange tactic with another middle level manager and was 'thrown out' of the middle-level manager's office. However, it is unclear whether IS executives fare any worse or better than other executives when they exercise their influence.

The anecdotal evidence of CIO influence behavior does not specifically explore the influence tactics CIOs use when they want to initiate new IS projects. Also, it is not clear if CIOs use more influence behaviors than just coalition building, rational persuasion, and exchange. For instance consultation, ingratiation, and personal appeal are other behaviors at the CIO's disposal.

## **CIOs & Implementation**

The IS literature has also not generally explored the role of the CIO in the implementation process. An exception is the discussion of the 'fixer' role discussed by Keen (1981). The 'fixer' refers to the senior IS executive who has control over resources used to bargain with others and is required for successful IS project implementation. Suggested tactics to overcome resistance to implementation by organizational participants at the "fixer's" disposal include 1) bargain with IS department resources; 2) co-opt opposition; and 3) establish personal credibility.

Past IS practitioner-oriented research has found that the top IS/T executives have not been very influential with respect to the initiation and implementation of IS/T projects. Reasons for this include the relatively new position that Chief Information Officers (CIOs) hold in the top echelons of management (Applegate and Elam 1992). After all, the title and position of

CIO has only been in existence for about 15 years and many still view this position as “the new kid on the block.” In addition, many have suggested that CIOs have failed to deliver on projects, which weakens their ability to influence organizational members with respect to new projects. Finally, another reason for this lack of influence, salient for this research, is that many CIOs have been viewed as too technically oriented and still have trouble relating to managers with different backgrounds than theirs (e.g., Alter 1993, Crawford 1994).

On the other hand, relatively recent research suggests that *some* CIOs are quite influential in their organizations (e.g., Earl and Feeny 1994, Marucca 2000). A number of reasons account for this increased influence. Some CIOs have an intimate knowledge of the business and industry they are working in (Earl and Feeny 1994); some have developed critical relationships with other top executives in their firms (Earl and Feeny 1994, Lepore 2000); and more managers recognize that IS/T is critical for success in organizations (Feeny and Willcocks 1998, Marucca 2000, Rockart et al. 1996).

Since no broad-based studies of CIO initiation of IS/T projects and attempts to gain peer commitment to these projects have been conducted, little is known about this topic. Thus, we performed a number of exploratory studies that consisted of interviews and surveys of CIOs and their top executive peers to examine the issues inherent in the research project. The original intent was to examine CIO influence broadly. However, as the study progressed, more emphasis was placed on how the CIO influenced other TMT members with respect to the *initiation and implementation of IS projects*. The interviews and the survey data provided insights into the process of how CIOs initiate strategic IS/T projects in their organizations, the barriers to peer commitment to these projects, and the facilitators of peer commitment. The rest of this paper comprises an explanation of the methodology and a discussion of the findings drawn from these studies.

## METHODOLOGY

### Study 1: Focused Interviews

Yukl's (1994) theory of influence, and other pertinent literature, were employed to create a focused interview protocol subsequently used in 14 interviews with CIOs and other non-IS peers. Two interviews were conducted in each of seven North American companies. The non-IS peers were all part of their organizations' TMTs, as were the CIOs. The CIOs were initially contacted and they selected a non-IS executive who was a key business partner. The interviews lasted from one to one and a half hours. Each interview was recorded (save one) and transcribed. The transcripts were sent to the executives to ensure that they accurately reflected the executives' responses to the questions. Appropriate corrections were made to the transcripts as a result of the executives' feedback.

In terms of reliability, the responses to the questions asked during the interviews were relatively stable (Nunnally 1978). The executives responded similarly to the same questions even though the circumstances varied (e.g., different organizational conditions). In addition, content validity was assessed when we determined whether the questions asked were consistent with the executives' perceptions of CIO influence (Venkatraman and Grant 1986). Content validity was demonstrated since the executives never stated or implied that the questions were inappropriate for the CIO influence context.

The data were categorized into appropriate clusters, reviewed for patterns, and summarized for presentation (Bogdan and Biklen 1992). The final analysis consisted of the notation of patterns and themes, and searching for contrasts and comparisons (Miles and Huberman 1994). Appropriate examples of findings from this stage will be provided later.

## Study 2: Large-Scale Survey

The second study was also exploratory in nature, since new and modified instruments were used in the first systematic study of CIO influence in top management ranks. These instruments were tested for validity within the confines of pretest activities, altered where necessary, and finally distributed via a North America wide mail survey. The survey was administered following protocols outlined by Dillman (1978). Multiple distribution methods, including mail, e-mail, fax, and Web-based formats, were used.

### Operationalization of Measures

- **Influence Behaviors.** Influence behaviors have been measured with the use of the Influence Behavior Questionnaire (IBQ) developed by Yukl and his colleagues (Yukl et al. 1992). The 1997 short version of this questionnaire, and permission to use it, was obtained from the authors. However, a number of the questions had to be modified after pre-test activities indicated that some of the questions were not suitable for the top executive environment. Each executive completed a part of the questionnaire that asked about the influence behaviors the CIO used for a specific influence attempt targeted at the other executive. This was intended to gather data on CIO influence behaviors that were salient for IS projects considered important to both executives and was intended to test hypotheses one to seven. The response choices to an influence behavior listed range from: (“1” = I can’t remember ever using this tactic with this person to “5” = I use this tactic very often with this person).
- **Influence Outcomes.** Both executives also completed a scale that measured influence outcome. The scale was created based on definitions of commitment, compliance, and resistance outlined by Yukl and Falbe (1992). It was composed of a seven item scale using a seven point Likert format, ranging from: (“1” = “I strongly disagree” to “7” = “I strongly agree.”
- **Peer Technical Background.** Peer technical backgrounds were determined via a list of questions about the length and technical component of their work experience and the technical component of their formal education (Miller 1967, Miller and Wager 1971). The executives were asked to rate their previous overall education, overall work history, and detailed work history (i.e., last five years and the first job they held out of college or university) on a scale (‘1’ = non-technical, ‘4’ = moderately technical, ‘7’ = highly technical). These scores were averaged and an overall technical score was assigned to each executive.

### Questionnaire Distribution.

Questionnaire distribution consisted of sending the survey instrument to a sample of CIOs and their peers. The bulk of CIO contact names were obtained from the Directory of Top Computer Executives database from Applied Computer Research (ACR) in Phoenix, Arizona. ACR maintains a database of top IS executives working for Fortune 1,000 manufacturing firms and Fortune 1,000 service firms. This database has been used previously by other IS researchers studying CIOs (e.g., Armstrong and Sambamurthy 1999, Segars and Grover 1998).

Four hundred and fifty nine eligible CIOs were contacted about their interest in participating in the study. One hundred and seventy seven agreed to participate and 354 surveys were distributed. One survey was to be filled out by the CIO, the other by a peer of the CIO.

Seventy-five matched pair surveys (i.e., both the CIO and peer from the same company) were returned. Six of the matched pair surveys were discarded because they reflected a subordinate - superior relationship or the company was too small. Thus, the number of matched pair surveys used in the subsequent analysis was 69. This represents an "effective" response rate of 15% (Segars and Grover 1998). This also reflects the increased difficulty in obtaining responses from top-level executives described in other recent studies (e.g., Ferratt et al. 1999).

### **Follow-up Interviews**

Follow-up interviews were conducted with a combination of 12 CIOs and peers. The purpose of these interviews was to review the findings from the survey and assist in the interpretation of the results. For the most part, the executives provided consistent explanations for the results. Examples of these perspectives and findings from the survey study will be provided later.

## **BARRIERS & FACILITATORS OF COMMITMENT**

### **Environment**

The CIOs and peers that were interviewed operated in dissimilar environments. Some were in the financial services sector, others were in the service sector, and still others were manufacturers. The industry that a CIO worked in had a significant bearing on the CIO's influence. For instance, the information intensity in financial services is high compared to natural resources since IS/T is more crucial to the success of financial service firms. The CIOs we interviewed that operated in the financial services industry were more influential than those who worked in natural resources.

Also, the internal environment the CIOs operated in had a bearing on the ability of the CIO to influence peers. For instance, the vision of IS/T held by the CIO's organization varied from a vision to automate to a vision to transform (Schein 1992). These differences are important because they had a bearing on the CIO's opportunity to influence organizational members. For example, if the company's vision of IS/T was to transform and IS/T is not seen as a cost center, the CIO had more opportunities to bring forward strategic proposals. The CEO of a leasing company suggested that when the new systems vision for the company was introduced it had a major impact on the business strategy because "...the only way to enhance our products is to find easier ways for our customers to do business with us. This tends to involve technological solutions represented in the systems vision because the easiest way to enhance our products is to do away with written contracts and do everything electronically."

If the company's vision of IS/T was to automate and IS/T was seen as a cost center, the CIO had less opportunity to introduce strategic proposals. Furthermore, the type of CIO the company prefers in these situations is someone with a technical background suited for developing systems to cut costs and make internal operations more efficient (e.g., Earl 1989). The CIOs in the manufacturing and processing organizations corresponded well to this representation. The CIO's ability to initiate strategic IS/T projects and influence peers about them were not as important in these cases.

The informants also commented on the degree of centralization in their organizations. The degree of centralization or decentralization of the organization has an impact on the ability of the CIO to convince all the stakeholders in the organization to commit to a project. In some cases decentralization can hinder the CIO. As one executive stated, "...our decentralized

structure creates problems for our CIO. If he has a very good proposal, the sites still have the authority to say they do not want to go ahead.”

### **Appropriate Initiatives**

In general, more effective CIOs in the interview study brought forward strategic proposals that were consistent with the current business strategy. Examples of these CIO proposals included:

- Initiated and developed a new customer information system
- Introduced the Web component of a new range of products
- Introduced a new strategic planning methodology
- Created a new systems vision, which became a major shaper of the business plan

Conversely, reasons for unsuccessful project approval included that the original project assumptions were incorrect or that there was a lack of “homework” (i.e., preparation of the proposal). Furthermore, unsuccessful project approval could occur if the initiative was inconsistent with the existing business strategy. Unsuccessful project approval could also be due to a lack of resources. There was disagreement on this last point. One of the CIOs commented “Very seldom does it have to do with financial considerations, this might be stated as a reason, but it all has to do with the level of support within the organization.”

### **Good Peer Relationships**

CIOs educate others in the top management group about the potential strategic impact of IT in the formulation of IT strategy and exhibit consultation behaviors to communicate key IT issues to others (Earl and Feeny 1994, Lederer and Mendelow 1988). Our field interviews found these same tactics being used for successful IT projects implementation. However, there was some influence activity that differed notably across the CIOs interviewed. We obtained a perceptual assessment of CIO effectiveness from the peers we interviewed; the more effective CIOs, in the judgment of the peer executives built relationships, partnerships, and networks with other executives that were used to commit these executives to projects.

These findings were consistent with more recent anecdotal evidence concerning aspects of CIO influence and success in other situations. For example, CIOs have elsewhere been observed to enlist support from peer managers to indirectly present their views of IS to targets of influence (Fiegener and Coakley 1995). In addition, an effective working relationship with other executives has been long considered a key success factor for CIOs (e.g., Earl and Feeny 1994, Lepore 2000). A CIO from the financial services sector told us that when he started working for the company “...IT was considered a cost center. However, due to my relationships with others in the organization, and my track record of delivering on projects, IT is now considered an investment center.”

### **Peer Background Accommodation: Appropriate Approaches & Influence Behaviors**

According to the literature on organizational socialization, groups with similar socialization experiences will develop preferred norms of behavior (e.g., Miller and Wager 1971, Schein, 1988, Van Maanen and Barley 1994). Therefore, one of the issues we were interested in exploring was to determine if the technical background of the target of influence (i.e., the peer in this research) impacted the relationship between influence behaviors and influence outcomes.

In the study 1 interviews, CIOs who used technical language and concepts to explain the initiative to peers without a technical background encountered peer opposition to the idea. On the other hand, non-technical explanations to peers with less technical backgrounds were more favorably received. Also, the CIO's ability to relate to other executives facilitated commitment by these targets to CIO proposals. For example, CIOs had an easier time relating to and understanding the peer executives if they used behaviors in ways that peers were comfortable. Most of the peers in the interview phase had non-technical backgrounds in areas such as finance, accounting, and marketing. If the CIO would approach these peers in terms of the business case for the proposal and how it fit into the organization's strategy, they were more likely to be convinced to go along with a project. One CIO emphasized this point and said, "The CIO is driven into seclusion if (his/her) focus is just the technology. You are at risk (of becoming excluded) because a technology focus is not where the business units reside." Similarly, the peers with more of a technical background, say engineering, could appreciate proposals that had more technical content.

In order to explore peer preferences with respect to influence behaviors, the sample of peers from the survey study was split into "lesser" and "greater" technical background groups. The creation of these groups allowed two multiple regression models to be constructed so that the standardized coefficients of the "lesser" tech multiple regression could be compared with the standardized coefficients of the "greater" tech multiple regression using the unpaired, pooled t-tests technique (Aczel 1996, Thompson et al., 1994). The dependent variable in the regression models was the influence outcome. Significant peer background differences were observed for the following influence behaviors.

- **Consultation.** In consultation, the agent of influence seeks the target's participation in planning a proposal or strategy or is willing to modify a proposal to deal with the target's concerns and suggestions (Yukl 1994). The survey results suggested that using consultation would lead to resistance on the part of a peer with a "greater" tech background. On the other hand, the results suggested that using consultation would lead to commitment on the part of a peer with a "lesser" tech background. Follow-up interviews with some of the executives who had participated in the survey helped explain and validate these results. For instance, most of the executives suggested that consultation with respect to an IS/T initiative might not be appropriate behavior to use with a "greater" tech peer. The CIO may come across as being unprepared with a proposal if consultation is used exclusively in these instances.
- **Ingratiation.** Ingratiation occurs when the agent uses praise, flattery, or friendly behavior to get the target in a good mood or to think favorably of him or her when asking for something (Yukl 1994). The survey results suggested that using ingratiation would lead to resistance on the part of a peer with a "greater" tech background. However, the results suggested that using ingratiation would lead to commitment on the part of a "lesser" tech background peer. The explanation for these results, according to the executives interviewed in the follow-up phase, was that "greater" tech peers were more interested in the rationale for the proposals and their content. Therefore, they were more likely to be irritated by what they perceived to be extraneous behavior.

## **Implementation**

The reasons for ultimate unsuccessful project implementation included: weak working relationship between the CIO and business unit head; the wrong employees were placed in charge of the project; and key supporters changed their mind and withdrew their support. Another reason for unsuccessful implementation was that top management approved the project but the managers at the next tier down in the hierarchy did not support it. One of the



executives explained that some of the CIO's projects were approved, but other top managers did not assist the CIO in implementation. "People may have given support from the top level but do not support it with their personnel (subordinates). In these cases it is clear that it's *his* (the CIO's) project". The distinction between commitment and compliance is particularly important here. The top executives in this case appeared to have complied with the CIO's proposal but they were not committed enough to it to ensure support from their subordinates.

The reasons for successful project implementation included: the CIO and business unit head worked well together, the correct IT people were brought in to manage the project, and people involved with the project were kept informed about progress. The commitment of important stakeholders, usually the heads of the functions most affected by the IS project, was identified as crucial for ultimate implementation success in the interviews.

## CONCLUSION

The study's findings enhance our understanding of what it takes to gain peer commitment to implement CIO initiated strategic IS/T projects. Several aspects of the external and internal environment have an impact on the latitude that the CIO has in initiating these projects. These include the relative information intensity of the industry the CIO operates in. High information intense industries are more conducive to IS/T project initiation.

Successful CIOs tend to bring initiatives forward that are consistent with the overall strategic direction of the firm. They also leverage existing, well-established relationships to gain commitment. On an interpersonal level, it appears that successful CIOs possess a sophisticated understanding of the role of effective influence, and possess the skills necessary to execute influence properly.

The respondents made it clear that some influence behaviors are more effective than others are. For instance, the findings suggested that the use of consultation and ingratiation either brought about a positive or a negative outcome. The outcome was dependent on the peer's technical background. Thus, influence behaviors that vary in accordance with the peer's background can lead to a successful outcome. Additionally, CIOs recognize that initial commitments to IS/T project implementation may wane. Thus, they continue to use their influence to garner sustained support and resources to keep these projects from faltering.

CIOs today are involved in shaping and supporting business strategy. Consequently, it is important for CIOs to understand the drivers of peer commitment to IS/T projects in organizations. CIOs can potentially be more effective in future strategic IS project initiation and peer commitment efforts as a result of the findings from this series of studies.

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