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Irish CIOs' Influence on Technology Innovation and IT-Business Alignment

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Abstract:

Technology is the driving force behind many of today's new products, services, and cost-cutting measures. However, there are gaps in our understanding about how technological innovation is fostered and nurtured in organizations. Part of the answer is to examine how Chief Information Officers (CIOs) exercise influence regarding technological innovation in organizations. This is particularly important since the CIO is the head of technology in organizations, an important source of technological innovation. This article draws on an established executive influence framework to demonstrate how Irish CIOs are able to solidify Information Technology's (IT's) contribution to technological innovation via relational means. Most of the CIOs in our study were able to successfully influence other executives to support these innovations which led to better IT-business alignment. However, other CIOs in our study were unsuccessful at influencing executives, which increased the disconnection between the CIO and the executive. Building on this study, we suggest significant practices and behaviors that CIOs can use to successfully influence other executives regarding technological innovations. CIOs must recognize that the relational side of technology alignment should be leveraged for them to successfully manage their contribution to technological innovation.

Keywords: technological innovation; executive influence; Chief Information Officers; IT-business alignment

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I. INTRODUCTION

Technological innovation and transformation is all around us. Examples from companies such as Apple, ING Direct, and Wal-Mart suggest that technology is the driving force behind many innovations. However, challenges remain in terms of how to consistently nurture promising ideas and bring them forward for consideration [Stratopoulos and Lim, 2010]. For instance, the cultivation of new technological innovations is complex because it involves many disparate stakeholders who may or may not be technologically aligned [Kohli and Melville, 2009]. These different stakeholders have knowledge about specific areas of expertise, such as marketing, that form the basis for business needs, and the capability of emerging information technologies, that can often address these business needs. Therefore, it is important that there be an integration of this knowledge *and* close partnerships between these stakeholders to facilitate successful innovation.

Nevertheless, those responsible for managing technology, such as Chief Information Officers (CIOs), are often disconnected from others in their organizations that make decisions about new technology-based innovations. The disconnection between IT and other parts of the organization has been a persistent and critical issue over the last three decades [Caffrey and McDonagh, 2008]. There have been various solutions suggested and used to address these challenges. For example, formal mechanisms such as budget processes continue to be used to ensure that the IT function is "on the same page" as the rest of the business [Chan, 2002]. Yet, connectedness is also a social process. Thus, relationship building, which involves partnerships between CIOs and other executives, can be an effective way of addressing this disconnect [Luftman and Ben-Zvi, 2010; Peppard, 2007; Tai and Phelps, 2000].

Therefore, those with authority to implement and allocate resources for new innovations must be proactively influenced if CIOs wish to be catalysts for technological innovation, a role they are increasingly expected to play [Overby, 2007; Peppard, 2007]. But how do CIOs influence other executives to increase the probability that successful technology-based innovations can occur? One way is to ensure that CIOs maintain strong relationships with other organizational members so that they may be in a position to influence them [Luftman and Ben-Zvi, 2010].

Within the context of good relationships, CIOs and other executives need to develop a common understanding about how technology can help the business achieve its goals. So, an important CIO role is to persuade top management of the need to invest in technological innovations that support business objectives [Enns et al., 2007; Lu and Ramamurthy, 2010]. A critical requirement for this to take place is the CIO's ability to sell technological innovations on a one-to-one, relationship-based way. Thus, CIOs can begin to overcome the lack of IT-business alignment via appropriate influence, and relationship building can be strengthened.

In fact, one attribute of a successful CIO is the ability to influence others in the organization; this is becoming more important as a condition for CIO success. However, there is evidence to suggest that executives in general often do a poor job of influencing other executives [Williams and Miller, 2002]. Yet, when executives are successful at influencing other executives, enhanced outcomes can result; this is also true of CIOs [Enns et al., 2007; Lu and Ramamurthy, 2010]. For example, successfully exerting influence can lead to the organization working on appropriate technological innovations.

As far as we are aware, no studies have explicitly examined the link between CIO influence attempts regarding technological innovations and the establishment of IT-business alignment, which would presumably lead to increased opportunities for the CIO to continue to initiate technology innovations. Therefore, the basic question addressed by our study was: What relationship-based practices should CIOs use to successfully convince other executives to support technological innovations and enhance IT-business alignment?

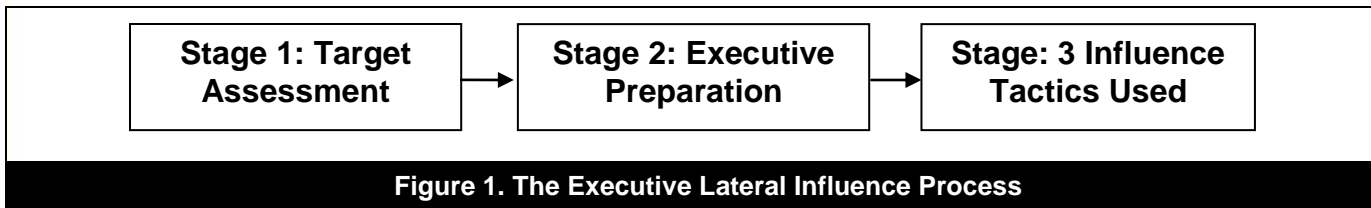
This article discusses an exploratory study of CIOs that illustrates an executive, practice-based process used for executive influence regarding technological innovation and the achievement of IT-business alignment via relational means. The results suggest that, in most cases, well-designed and executed influence attempts related to technological innovations lead to enhanced IT-business alignment. The process and practices presented will help CIOs be successful at influencing other executives in their efforts to implement technological innovation.

The sections that follow include a framework for the study; this is followed by a discussion of the research approach. The subsequent two sections reveal how the interviewed CIOs were able to approach other executives regarding technological innovations and how successful approaches often led to enhanced IT-business alignment. The

following section discusses and outlines actionable steps for CIOs who wish to successfully influence other executives regarding technological innovations and improve IT-business alignment. The final sections discuss the limitations of the study and summarize the major lessons learned.

II. THE EXECUTIVE INFLUENCE PROCESS

As mentioned above, a CIO can work on developing IT-business alignment through appropriate technological innovations that the CIO presents to the organization. Often executives, like CIOs, proceed through a three-stage influence process used to sell these technological innovations to other executives on a one-on-one basis (see Figure 1, based on Enns et al., 2007). The fundamental ideas for this process have been obtained from the work of Pfeffer [1992] and validated with a study of executive lateral influence episodes [Enns and McFarlin, 2005]. To wield power and influence effectively, Pfeffer [1992] urged executives to determine whose support is needed. Next, these influence targets must be “sized up” (e.g., how might targets react to specific ideas?). In essence, executives must prepare themselves to act. Then, executives must determine which influence tactics best fit the target, the context, and their own skills. Pfeffer’s suggestions present a difficult challenge, as they require an accurate diagnosis of complex environments, as well as the ability to act on that diagnosis.



Target Assessment involves a decision about which executive to approach regarding an initiative to leverage an existing relationship or establish a relationship with an executive who has resources. *Executive Preparation* centers on the base necessary before the actual “pitch” takes place. *Influence Tactics Used* focuses on the influence tactics used to gain the executive’s support. The outcome of this process may: (1) enhance IT-business alignment, (2) make no impact, or (3) lead to IT-business *misalignment*.

Face-to-face influence episodes form the foundation of the executive lateral influence process. Specifically, previous work that has validated the executive lateral influence process was based on interviews that described face-to-face influence encounters [Enns and McFarlin, 2005]. Furthermore, the settings used by Enns and McFarlin were both informal and formal. An example of an informal setting is a one-on-one hallway conversation that takes place after a formal group meeting in a conference room. Formal settings include a regularly scheduled meeting with the executive target or an office meeting organized specifically to discuss an initiative. The research approach described below mirrors these types of influence situations, since the Irish CIO interviews focused on face-to-face influence episodes in informal and formal settings.

III. RESEARCH APPROACH

To investigate the issues of technological innovation and IT-business alignment, we opportunistically studied a sample of Irish CIOs. Our goal was to examine these complex connections in a small set of executives that may provide the motivation for larger samples in future studies. To meet this initial goal, we were able to identify a convenience sample of twenty-three Irish Chief Information Officers (CIOs). Personal networks in Dublin, Ireland, were used to gain access to these CIOs. Since this is the first study to examine technological innovation and IT-business alignment by CIOs, a focused interview methodology was used. This methodology was well-suited for the exploratory research we conducted [Judd et al., 1991]. Also, a qualitative study is better suited to examine the subtleties of the influence process in interactions with other executives regarding technological innovation, and its impact on IT-business alignment, than surveys are. More details of the methodology used, beyond those provided below, and the rationale for its use are provided in Enns et al. [2011].

The interviews were guided by a semi-structured interview protocol appropriate for use in focused interviews [Judd et al., 1991]. At the beginning of the interviews, the CIOs were asked some general questions about their managerial background, who they reported to, and the competitive, as well as the internal, organizational environment. Additional questions were asked regarding the approach the CIOs took when formally meeting with other executives about a project, characteristics about the executives the CIO approached, etc. The interviews also delved into how CIOs attempted to influence other executives (i.e., superiors, peers) regarding IT initiatives and what the outcomes were. Nine of the twenty-three CIOs were part of the top management team; the other fourteen were one level below. Thus, we were able to gather interview data about upward, lateral, and downward influence episodes to explore a wide range of influence episodes.



Due to Irish norms and the potentially sensitive nature of the subject matter, the interviews were not taped. Nevertheless, extensive notes were taken during the interviews. These were subsequently transcribed immediately following the interviews, a technique successfully utilized in past research [e.g., Eisenhardt and Bourgeois III, 1988; Silva and Hirschheim, 2007; Walsham and Sahay, 1999]. The transcripts were reviewed, and follow-up discussions were held with the CIOs when necessary to fill in gaps.

Archival data from company reports and websites were also gathered in order to glean further insights into the company context during the timespan covered by the interviews. While the interviews and archival data often provided the same perspective about how the IT initiative was aligned with current business strategy, this supplemental data did offer clarity in all cases. Finally, data was gathered (either from public sources and/or during the course of the interviews) about the industry that defined the organization, the number of employees it had, its revenue, and so on. Ten of the firms were in the public sector, eight were in financial services, three were in the telecommunications industry, and two were manufacturing enterprises. The average number of employees in these organizations was 9,350. The average revenues were €9.8 billion. The average size of the IT project being proposed by executives was €31 million (the range was €40,000 to €500 million).

The interview data was comprehensively and systematically analyzed using techniques similar to those described in Silva and Hirschheim [2007]. First, the interview transcripts were organized and classified. NVivo© was used for this step as well as steps two and three. The second step involved the initial coding of the transcripts and, among other things, categorizing the outcomes (i.e., commitment, compliance, or resistance) of the influence episodes and the direction of the influence attempt. One of the authors and a graduate student, who did not know the purpose of the study, conducted this coding step. Overall agreement between the coders was 98 percent, and the few discrepancies were discussed and resolved.

IV. RESULTS

Figure 2 provides a high level summary of the major findings from the analysis and has been adapted to take in to account the CIOs' perspective, the fact that some of the interviews involved upward, lateral, and downward influence incidents, and demonstrates some of the relational practices uncovered in our study. The boxes correspond to the executive influence process in Figure 1, and the third box has been relabeled to reflect additional relationship-based activities revealed in the interviews.

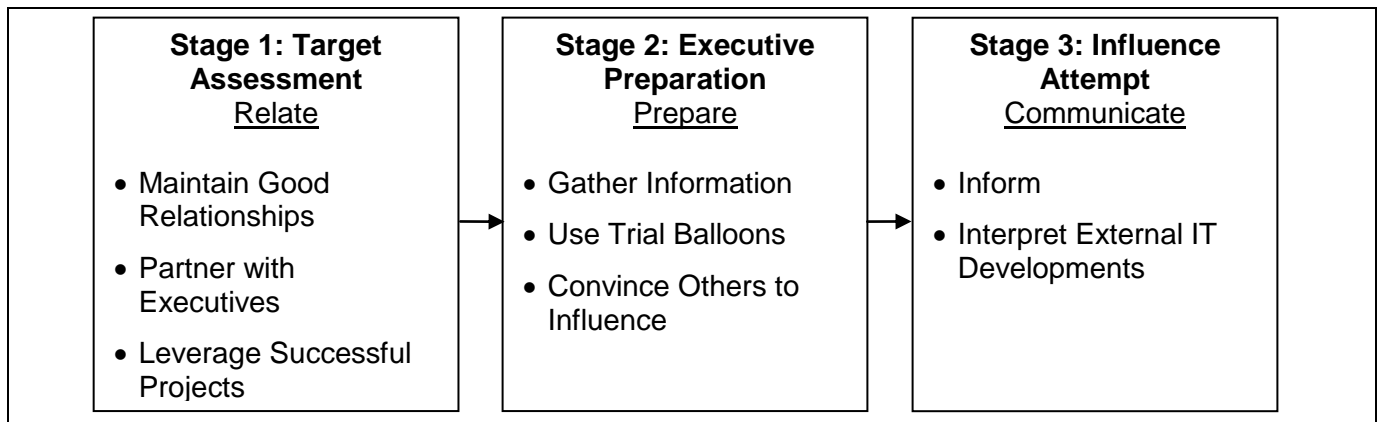


Figure 2. Relational Practices Used in the Executive/CIO Influence Process

The relational practices found within the boxes are organized into three categories. The first category (*Relate*) focuses on the importance of maintaining good relationships with other executives during target assessment. The second category (*Prepare*) is centered on critical groundwork efforts required when CIOs want to successfully influence and enhance IT-Business alignment. The last category (*Communicate*) emphasizes the content of the influence attempt.

The manner in which this influence process is conducted can lead to stronger IT-business alignment. For example, if CIOs use external IT success stories that demonstrate a business focus, this may not only lead to support for the initiative, but also enhance IT-business alignment. The bullet points within these categories represent the practices the CIOs discussed in the interviews and are described in more detail below.

Relate: Maintain Good Executive Relationships

Better IT-business alignment can be achieved when good relationships lead to greater opportunities to bring forward technological innovations. The following suggests how “maintain good executive relationships” was considered in preparation activities.

I always work on developing, either consciously or unconsciously, on our relationship. Part of developing good relationships is knowing what it is you want to achieve as part of your responsibilities, but you also need to know what your peers want to achieve.

Therefore, CIOs are encouraged to maintain good working relationships with other executives in the firm and collaborate with other executives on joint projects. This will lay the foundation for future opportunities to “pitch” technology-based innovations.

Relate: Partner with Executives

Non-IT executives need to take ownership of new IT technological innovations so that the innovations can be executed in the organization. Thus, it is important to establish partnerships with these executives. They have access to resources and have influence over the subordinates who will ultimately implement the innovations. The quote below, from a CIO-peer interaction, was typical of the use of the “partner with other executives” practice used to increase IT-business alignment:

Sheila (Note: all names have been disguised to protect anonymity) had a say in selecting the components/features of the system. Initially, the idea had broad brushstroke elements to it in the sense that the idea was not fully shaped. There was plenty of opportunity for her to add input and ideas. She had ownership of the system, which naturally led to increased alignment.

However, partnering with an executive may require great timing. For example, a former peer of one CIO received a demotion, which changed the nature of the relationship. Before the demotion, there had been a good working relationship. Now, the relationship had soured and the former peer was resentful of the CIO’s initiative and the feeling that the CIO was fault finding.

The interaction with George did not lead to alignment and in fact did more damage than good. Other managers need to have ownership of a project, which indicates that there is true alignment. George did not have ownership.

Thus, CIOs should take the time to reestablish relationships that have changed before they attempt to partner with executives. CIOs in this situation need to avoid making the assumption that it is “business as usual” when dramatic changes in a relationship occur.

Relate: Leverage Successful Projects

A CIO can leverage a successful history of working with an executive on past innovation projects to gain commitment for another project. A number of CIOs stated that “leverage successful projects” was used in executive assessment when the CIO was deciding which executive to approach about a new initiative. As one CIO mentioned,

In addition, the opportunity was ripe since I had credibility with my business colleague in this area of the business. IT had delivered a previous system for him that was on time and within budget.

However, when these projects have a poor history, one successful project may not be enough to convince the executive to support the next initiative or enhance IT-business alignment. According to one CIO, who had recently taken over an IT organization that had a history of bad IT-business alignment:

IT-business alignment is not really based on an individual project. IT-business alignment is achieved due to a combination of things. It’s part of a “package” that helps build alignment up.

Prepare: Gather Information

When not enough time is devoted to focused, informal data gathering, the CIO may not be fully prepared to discuss the initiative with the new executive. CIOs that are unprepared to influence another executive may lose credibility and IT-business alignment. In one case there was no existing relationship between the CIO and an executive who was new to the organization. Even though the CIO took steps to discover what the new executive was like (e.g., spoke with others who had interacted with the executive) in preparation for the influence attempt, the influence attempt was unsuccessful and led to IT-business *misalignment*. The following quote summarizes the meeting outcome:

The new system proposal damaged IT's relationship with the new executive. It did not establish credibility and left the new executive with the impression that these guys (i.e., the IT department) are gold digging.

Prepare: Use Trial Balloons

As mentioned above, there is a great deal of risk the first time the CIO approaches a new executive about a project. The CIO needs to get it right the first time in order to establish initial credibility. A way to reduce this risk is to use trial balloons to discover the executive's view of a particular initiative. One CIO that was successful at influencing another executive within the confines of a new relationship suggested that:

You really should know the "temperature" of the person's reaction toward the idea before the meeting takes place; otherwise you and your idea are sunk. In my case, I tried to gauge his level of interest about the project before the formal meeting by casually mentioning the initiative in phone calls or at the end of meetings that I had with him that were focused on other matters to get a sense on where he stood.

When good IT-business alignment already exists, trial balloons may not be necessary to strengthen IT-business alignment. In one case, the CIO suggested that very good IT-business alignment already existed and so his successful influence attempt did not include the use of trial balloons.

Prepare: Convince Others to Influence

Others can be solicited to influence an executive when an executive-CIO relationship has deteriorated. As mentioned earlier, a former peer of a CIO received a demotion, which damaged a previously good relationship. Now, the former peer was resentful of the innovation and his feeling that the CIO was telling him how to manage his department. The CIO eventually got buy-in from the other executive with a combination of tactics. He convinced the executive's boss to influence him and set up a steering committee to provide another way that influence could be exerted. In his words:

James eventually mellowed gradually. It was a combination of his boss talking to him about the project and the steering committee's work that turned him around.

Another risky situation a CIO is faced with is when a CIO is new to the position and has to manage implementation policies put in place by the CIO's predecessor. If contentious issues that arise as a result of these policies can be resolved at lower levels, the CIO can avoid grappling with these issues when they escalate. Training IT staff to influence business partners can be an effective way to settle these issues. As one CIO suggested after the fact:

The IT staff did not seem to appreciate the support mechanisms that were required by the business. IT often views issues in a black and white way, probably due to the technical nature of their work. However, lots of gray exists in the business world, the business thrives on gray and uncertainty. Also, the issue should have been dealt with at a lower level and not escalated to the point that I had to deal with it.

However, if getting others to convince an executive about a new technological innovation is the sole means of influence used by the CIO, a peer executive may reject this weak form of influence [Enns et al., 2003].

Communicate: Inform Executives

The education of non-IT executives is particularly effective when the CIO needs to make the executive aware of how a technological innovation can help the organization and the executive's department. A better IT-informed executive heightens the odds of stronger IT-business alignment because the executive is aware of ways that IT can help the business. The following example demonstrates how "inform executives" was used in the CIO's influence attempt.

I knew that Dora wanted to move in the direction of the new process and Richard wanted a new system that would leverage this new process. Dora was not fully committed, so I felt it was up to me to show her that it was in her best interests to support the new system and to commit resources to it.

Nevertheless, as mentioned above, when not enough time is devoted to focused, informal data gathering, the CIO may not be fully prepared to discuss the innovation with the new executive because of a lack of crucial information. Thus, CIOs who communicate inappropriately can risk the loss of IT-business alignment since the CIO is not viewed as credible.

Communicate: Interpret External IT Developments

Interpreting external IT developments are particularly appropriate when the target executive is risk averse. External success stories provide validation of the CIOs idea, establishes CIO credibility, and thus provides an opportunity to

enhance IT-business alignment. The following instance recounts how “interpret external IT developments” was used in an influence attempt.

I referenced other organizations in Ireland that were doing parts of the process online, it was an appropriate example.

Nevertheless, when the external IT developments are unrelated to the business, the CIO can lose credibility and the opportunity to enhance IT-business alignment [Earl and Feeney, 1994].

V. DISCUSSION AND IMPLICATIONS

The findings from this study suggest a number of actionable guidelines and tactics for CIOs as they seek to promote technological innovations and enhance IT-business alignment with other executives. These are summarized in Table 1 below.

Table 1: CIO Guidelines and Tactics for Promoting Technological Innovation

Guideline	Goal	Tactics
Partner Wisely	<ul style="list-style-type: none"> develop strong collaborative working arrangements 	<ul style="list-style-type: none"> present projects as joint projects not “IT projects” present technological innovations broadly so there is plenty of opportunity for the other executive to help shape the project do not insist that the other executive follow every stipulation of an IT departmental policy; allow for some gray to creep in
	<ul style="list-style-type: none"> avoid acting as a proxy for another business unit when partnering with that business unit 	<ul style="list-style-type: none"> ensure that the business unit commits to realizing tangible benefits of the new innovation (i.e., a decrease in full time staff) in documents that outline the proposal invite the business unit executive to actively participate in meetings where a top manager is being influenced
Gather the Right Data	<ul style="list-style-type: none"> predict how another executive will react to a new technological innovation 	<ul style="list-style-type: none"> network with the other executive’s peers to discover where the executive may stand on the innovation use trial balloons to determine the executive’s position regarding the specific innovation before it is formally proposed
Solicit Others to Influence	<ul style="list-style-type: none"> overcome a broken/changed relationship 	<ul style="list-style-type: none"> convince the other executive’s boss to influence the executive about the innovation (in a downward influence scenario) persuade members of a steering committee to speak to the executive about the innovation in one-on-one settings or in committee meetings procure an external party to make an assessment and recommendation (in the case of trying to influence a peer)
	<ul style="list-style-type: none"> manage potentially contentious environmental conditions 	<ul style="list-style-type: none"> encourage IT staff to obtain policy buy-in from lower level business unit managers before introducing new innovations that build on these policies train project managers and business analysts to detect issues that can potentially get out of control and stop an innovation teach these staff how to influence their business counterparts to arrive at quick resolutions to avoid issue escalation
Communicate Appropriately	<ul style="list-style-type: none"> provide business value and ensure that you are on the same wave-length as the other executive 	<ul style="list-style-type: none"> indicate to the other executive that a new innovation is consistent with organizational moves toward a new technology demonstrate how an innovation that one department is working on is coherent with the technology that is applicable to a project in another department provide tangible evidence of what is in it for the executive and the executive’s department. For example, increased revenue and/or lowered costs present simplified technical explanations only when asked by the executive you are trying to influence
	<ul style="list-style-type: none"> convey examples of successful technological development 	<ul style="list-style-type: none"> inform executives about innovation stories from organizations in the same industry speak with other executives about how similar innovations could work in their organization



In addition, some of the practices used by the CIOs to gain commitment for technological innovations and facilitate technology alignment were consistent with suggestions made by previous studies [Enns et al., 2007]. For instance, CIOs have been encouraged to advertise successful projects and to solidify a trustworthy relationship with the top management team (TMT) members. Also, CIOs should work on developing a shared vision for IT [Peppard, 2007]. This can be done by, among other things, using selective external success stories that indicate to top managers that the CIO understands how technological innovations can be used to support the organization.

Beyond what previous work has found, the current study has demonstrated that three other relationship-based practices can lead to the application of innovation and enhanced technology alignment. CIOs who use trial balloons and gather focused data in their preparation efforts will enhance their capability to successfully influence other executives and obtain greater IT-business alignment. Similarly, when CIOs successfully solicit others to influence another executive, the odds of building IT-business alignment are improved. Finally, the study has demonstrated that the executive influence process is useful for the analysis of influence in multiple directions.

Limitations and Directions for Future Research

The current study has a number of limitations. First, the study was limited to the CIOs' views of the various episodes they described and did not include perspectives from the other executives involved in the influence episodes. We do not believe that this bias was as strong as it could have been, since a number of CIOs described incidents in which they were not successful at gaining buy-in, etc. In addition, other attempts were made to supplement the information provided by the CIOs (e.g., annual reports that described the projects the CIOs discussed). Also, some of the results are similar to what previous research has found (see above), which provides some assurance that the methodology used was sound. However, future research could include interviews with CIOs and non-CIO executives to obtain both perspectives on the same influence episode.

Second, further research could more deeply examine the impact that subordinates play in the executive influence process. As mentioned above in the discussion of the guidelines in Table 1, it is often important to get others to influence an executive's subordinates and get them to buy in. Some of the Irish CIOs in this study did not use this tactic, which led to poor outcomes. As far as the authors are aware, there has been little research conducted on the role of CIO and non-CIO subordinates in the executive influence process, with respect to technology innovation, and this appears to be an area ripe for further investigation.

Third, the standpoint provided by this study is that of Irish CIOs. CIOs from other countries and cultures may have a different view of the phenomena discussed in this article. Future research could compare the results of the research issues explored here with CIOs from different cultural backgrounds to see if any differences emerge. For instance, the Irish CIOs in this study used consultation to good effect, whereas North American CIOs in previous studies have not [e.g., Enns, Huff, and Higgins, 2003]. This may be due to cultural differences, since North American executive targets may be less inclined than Irish executive targets to provide input into an initiative originated by a CIO. Also, studies of CIO executive influence processes in China may reveal that it is more effective to influence upward than laterally. For example, if a Chinese CIO can successfully influence a Chinese CEO, the Chinese CEO can more easily dictate to the Chinese top management group that a new technology innovation will be adopted [see Cheng, Rhodes, and Lok, 2010] than a North American CEO could with his/her executives.

Fourth, we believe that there is merit in extending the existing work on CIO influence behavior by focusing in-depth on the manner in which CIOs influence the process of aligning business and IT strategy in large complex organizations. While there is an increasing awareness of the need to embrace a process-oriented view to the study of good strategy making and good strategy execution vis-à-vis IT, there is very little work that has explored in-depth the manner in which CIO influences is central to both strategy process and strategy outcomes.

Finally, the study was primarily based on interview data. Further research in this area could consider using survey data collection and analysis methods to determine if the results outlined in this study hold for larger sample sizes.

VI. CONCLUSION

According to research cited earlier [i.e., Williams and Miller, 2002], executives in general do not do well when it comes to influencing each other. So, a necessary first step is the maintenance of strong relationships when CIOs need to partner with others to implement technological innovation. Furthermore, when confronted with a situation that requires influence, CIOs have to gather the right information. Good communication skills are an absolute must to ensure that CIOs are influencing others on the same "wavelength," since, for example, the language of finance and of marketing can be quite different. Finally, if resistance is inevitable, CIOs ought to utilize a coalition and solicit outside expertise to overcome this resistance.

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