CRANFIELD UNIVERSITY

Anthony B. Gerth

How Newly Appointed Chief Information Officers Take Charge: Exploring the Dynamics of Leader Socialization

School of Management

DBA Thesis

Academic Year 2012-2013

Supervisor: Professor Joe Peppard

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This thesis is submitted in partial fulfillment of the requirements for the degree of Doctor of Business Administration

ABSTRACT

The transition for any executive into a new appointment is a challenge. This transition for the newly appointed Chief Information Officer (CIO) is especially challenging given the complexity and ambiguous nature of their role. Investment in information technology (IT) has steadily increased over the past twenty years and contributes to enabling business changes that drive organizational performance improvements. The role of the Chief Information Officer (CIO) has evolved into an executive who holds significant responsibility for leading the organization in realizing these investment benefits. Therefore unsuccessful CIO transitions can negatively impact the extent to which the organization's IT benefits are fully realized.

This research has one objective: to increase our understanding of the process of taking charge for the newly appointed Chief Information Officer (CIO). This increased understanding contributes to academic research as well as provides insights to practicing CIOs that will increase their probability of successfully taking charge of a new appointment.

The project explores this phenomenon in depth from both the CIO's and non-IT executive's (CxO) perspective through semi-structured interviews with 43 executives. Participants included twenty-one Chief Information Officers and twenty-two C-suite, non-IT executives.

The study integrates concepts from role theory and leader socialization with CIO leadership challenges. Findings indicate that the newly appointed CIO experiences a mutual adjustment process when they take charge. This adjustment occurs within their role set; the IT leadership team, the Chief Executive Officer (CEO) and the other top management team members (CxOs).

The data suggests that CIOs experience three overlapping phases of taking charge; Entry, Stabilization and Renewal. These phases result in confidence, credibility and legitimacy as a new leader in the organization. The data further reveals that the type of transition (Start-up, Turnaround, Realignment or

Success-sustaining) encountered by the CIO is a significant influence on the taking charge process.

CIO socialization is influenced heavily by their role set and the expectations within it. CIOs will encounter CxO peers with varying preferences on interaction style and focus. In addition the CxOs in the study identified three different views of CIOs that reinforce the role ambiguity for the newly appointed CIO.

The study reveals that CIOs experience organizational socialization in two domains of leadership. These domains are supply-side and demand-side leadership. The data suggests that supply-side socialization occurs prior to demand-side socialization. These socialization outcomes are dependent on transition type.

This research extends previous work done on CIO transitions by identifying phases, activities and outcomes. An additional contribution is the first empirical model of new CIO socialization. Leader socialization research is enhanced with the study of a non-CEO executive. This model contributes a deeper understanding of the mutual adjustment process experienced by a newly appointed CIO.

Practicing CIOs can apply these findings in developing transition plans and actions for taking a new appointment. The CxO types and attitudes can inform the newly appointed CIO on customizing their relationship building approaches. Understanding that taking charge requires 2-3 years can lead to more realistic expectations of the executive. The findings of this study can lead CIOs to a higher probability of success in taking charge of a new appointment.

Keywords: Chief Information Officer, taking charge, CIO transition, top management team, leader socialization, IS leadership

ACKNOWLEDGEMENTS

The way of the fool is right in his own eyes, but he who is wise listens to counsel - Proverbs 12:15

Doctoral research is an individual endeavor and yet, paradoxically, cannot be accomplished without the support of many people.

First I want to acknowledge my wife, Beth, who cheerfully gave me time and space to work when she preferred to do something fun together. Her invaluable support and affirmation kept me going. She was my biggest supporter.

I want to thank my supervisor, Professor Joe Peppard, for his support, availability and advice. His encouragement never wavered as I developed my ideas over the course of four plus years of collaboration.

I would also like to thank my supervisory panel, Professor Kim Turnbull-James for opening my eyes to the potential application of role theory in my research and Dr. Emma Parry who provided much needed advice on the systematic literature review among other areas. Thanks also to my DBA cohort leader, Dr. Carlos Mena, who provided many insights along the way, normally after midnight when I was at Cranfield.

All of the faculty and staff involved with the DBA program at Cranfield played a key role in supporting me through this process. Their professionalism is what makes the program great.

I need to acknowledge my colleagues in the Kelley School of Business at Indiana University who were always there with an encouraging word throughout the long road to finishing this project.

Lastly, I would like to recognize the late Professor Alan Harrison who played a key role in admitting me to the program when he was the Director. His wit and advice are sorely missed. I know he is proud.

DISSEMINATION TO DATE

Academic conference papers

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Gerth, A., 2012, ‘How newly appointed CIOs take charge: The critical first two years’, paper presented at the International SIMposium conference, Dallas, TX, 28-30 October.

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1 Linking Commentary

1.1 Background and rationale

The purpose of this Linking Commentary is to synthesize and integrate the three research projects that I have completed as partial fulfillment of my Doctor of Business Administration (DBA) studies. These projects build on each other as I will demonstrate over the course of this paper. Portions of this chapter are written in the first person. This is intentional and meant to convey my personal journey and learning to the reader. The remaining chapters of the thesis are written in a more scholarly third-person style.

This thesis research has one overarching objective: to increase our understanding of the process of taking charge for the newly appointed Chief Information Officer (CIO). The term "taking charge" has been adopted from John J. Gabarro (1987). Gabarro defined taking charge as: *"the process of learning and taking action that a manager goes through until he/she has mastered a new assignment in sufficient depth to be running the organization as well as resources and constraints allow"*. Increasing our understanding of how CIOs take charge contributes to academic research as well as provides insights to practicing CIOs that will increase their probability of successfully taking charge of a new appointment.

The CIO role is a unique executive challenge (Karahanna and Watson, 2006). Investment in information technology (IT) has steadily increased over the past twenty years (Donahoe et al., 2010). According to the annual survey by CIO Magazine (2010), the IT budget averages about 6% of total revenues and 16% of respondents said it was over ten percent. This significant investment contributes to enabling business changes that drive organizational performance improvements (Brynjolfsson and Hitt, 2000; Strassmann, 1990). The role of the Chief Information Officer (CIO) has evolved into an executive who holds significant responsibility for leading the organization in realizing these

investment benefits (Ranganathan and Jha, 2008) although they may not have control over all the resources necessary to do so (Peppard, 2007).

CIOs have average tenures in an appointment of four years give or take a few months (Thibodeau, 2011). This is similar to other executive positions, however the involuntary turnover rate is higher than other executives at approximately 23% (Nash, 2009). The direct cost of replacing a new leader is many multiple times the base salary of the executive (Smart, 2005). Given that the average annual compensation for a Chief Information Officer is $300,000 - $700,000 (Spencer Stuart, 2006), their "replacement cost" is very high. For a newly appointed CIO being effective as soon as possible and integrating successfully into a new assignment is important for both the executive and the organization. Research suggests that it takes a new executive almost three years to fully develop mastery and influence in a new assignment (Gabarro, 1987). This process of "taking charge" significantly influences whether the CIO extends their tenure beyond the average of four years. It is this taking charge process that sparked my interest and it is the subject of my research.

As a Clinical Associate Professor with the Kelley School of Business at Indiana University in Bloomington, IN USA, I teach IS strategy and consulting skills to graduate students. I also teach global supply chain management to executive MBA students and conduct custom executive education extensively. Before joining Kelley I worked 14 years in management consulting, ten years at the partner level, and 12 years in manufacturing business systems. My consulting focused on global enterprise systems programs and IT strategy. I have worked for three global firms; Deloitte, EDS and Infosys Consulting. I have worked in 10 countries and also lived in London for 1 ½ years which contributes a strong global perspective to my teaching. Studying at a U.K. university with global standing is another global experience that I have enjoyed.

My academic appointment does not require research. I am fundamentally a "professor of practice" and my remit is to teach. However I have always had an interest in research. My motivations for earning a doctoral degree were to add

rigor to my research experience and contribute to the academic body of knowledge as well as to IS managerial practice.

My final motivation was to contribute to bridging the gap between academic research and practice. This issue has been discussed and debated frequently in publications, most interestingly by Starkey and Madan (2001). I have seen that business people generally do not consider academic research relevant and in fact they are rarely aware of the research body of knowledge. The Information Systems field has not avoided the “rigor and relevance” debate (Benbasat and Zmud, 1999; Kavan, 1998) and even generated a “IS research relevancy manifesto” (Westfall, 1999). IS practitioners want tacit procedural knowledge whereas academics provide propositional knowledge (Breu and Peppard, 2003). I have already shared my research results in both practitioner and academic conferences and I will continue to do so through more writing and presenting.

My interest in how newly appointed CIOs take charge comes from my experience working with CIOs as a consultant and educator. I have worked with and for many CIOs in many different projects and organizations. One common issue that they have experienced is how to be successful in a complex and ambiguous role. This presents a significant challenge to them as executives. I have also observed that taking on a new appointment is a very challenging time in the tenure of any CIO.

The research study that set me down this path was John Gabarro’s seminal work on the taking charge process of new division managers (Gabarro, 1987). I found it to be an enlightening piece of research and one that could apply to Chief Information Officers, an executive role just emerging at the time of Gabarro’s study.

The literature is relatively silent on the topic of how newly appointed CIOs take charge. There is only one published study of CIO transitions and it did not apply a process perspective (Leidner and Mackay, 2007). It also did not explore the transition beyond the CIO’s perspective. However it was a study

that presented an interesting foundation upon which to build. Likewise, the literature on leader/executive socialization in corporate organizations is scarce. Aside from Gabarro's research there were two studies that made an impression on me and led me to apply a socialization perspective to my work. The first was a theoretical paper written by Fondas and Wiersema (1997) who posited that the amount of strategic change enacted by a new Chief Executive Officer (CEO) was a function of his/her level of socialization in the role and organization. Unfortunately their theoretical model has never been empirically investigated. The other was a longitudinal case study by Denis et al (2000) of a newly appointed CEO in a teaching hospital and his experience of organizational socialization. These studies significantly informed and motivated my research for this thesis and will be discussed in more depth in subsequent chapters.

The purpose of this thesis is to explore this phenomenon in more depth from both the CIO's and non-IT executive's perspective in order to increase our understanding. The study integrates ideas from leader socialization and role theory with CIO leadership challenges. The newly appointed CIO experiences a mutual adjustment process when they take charge. This adjustment occurs with their leadership team, the CEO and the other top management team members.

1.2 The research process

This section provides an overview of the research process. The Doctor of Business Administration (DBA) program at Cranfield School of Management is rigorous and milestone-driven. Each milestone in the research process is a building block for the next step until a final thesis has been completed. The process and dates relevant to this thesis are shown in Figure 1-1.

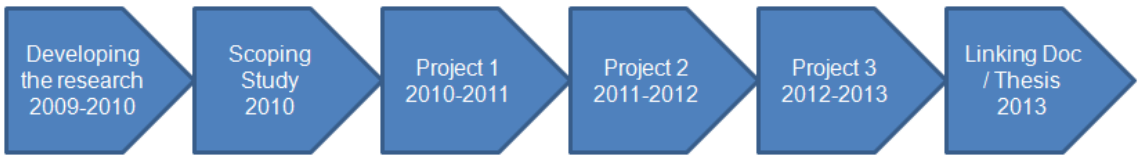

Figure 1-1 The DBA research process at Cranfield School of Management

Developing the research was the initial step in the process upon matriculation into the DBA program in October, 2009. This step consisted of multiple in-residence workshops and outside academic assessments focused on studying the research process, methods and the skills of academic and critical writing. This phase also was spent "catching up" on the research literature in a variety of fields related to the research interest. I had not extensively read academic research so this was a very time intensive period. The Scoping Study assessment was a transitional deliverable. This was the transition from learning and exploring to investigating the literature in a defined space relevant to the research topic. Research questions were developed from a survey of the relevant literature. These questions led into Project 1 which was a systematic literature review. Applying the systematic review process to investigating the extant literature was a sometimes tedious although ultimately rewarding experience. The output of Project 1 was a set of research questions that addressed gaps in the existing literature. Project 2 explored the research topic from the CIO's perspective while Project 3 explored the non-IT executive's perspective. The purpose of this Linking Commentary is to synthesize this process, its findings, conclusions and implications. Each one of the deliverables described above will now be discussed in more detail.

1.2.1 The Scoping study

The scoping study was a survey of the existing literature designed to inform the researcher of possible gaps that might be addressed in the thesis empirical projects. The research interest was newly appointed CIOs and how they take charge in a new assignment and led to the following questions for the literature survey:

1. What constitutes CIO "effectiveness"?
2. What factors influence a CIO's effectiveness?
3. What models of newly appointed, non-CEO executives exist?

Questions 1 and 2 were investigated within the domain of the IS literature on Chief Information Officers. The objective of those two questions was to elicit an overview of what the literature says about "successful" or effective CIOs.

Question 3 was designed to inform me on research outside of the IS domain that addressed executive succession.

The outcome of the scoping study was mixed. On the positive side, I learned a lot about the research into CIOs that I did not know existed. The CIO's effectiveness is not the result solely of individual capabilities. Organizations are complex structures where assumptions, perceptions, politics and the external environment play a large role in shaping executive action. Understanding, identifying and adapting to the organizational context is an important skill for CIOs to have. These were concepts that I understood as a practitioner and had now read in the academic literature. CIO leadership was an interesting area of inquiry and one with continued potential.

On the negative side, the survey of executive succession did not yield the desired result. I learned a lot more than I knew about the executive succession research, but it did not resonate as a theoretical lens through which to examine my research topic. I was still undecided about the theoretical, non-IS aspect of my research topic. After subsequently investigating several possibilities my panel recommended role theory which led me to organizational socialization, but specifically of leaders in corporate organizations. The excerpt from my paper to the panel below sums up my observation.

The reading on role taking and socialization was necessarily brief, but worthwhile in that it provides an additional perspective on the dynamics of taking charge in a new role. Socialization is an intriguing concept that can be applied to newly appointed CIOs taking charge and is associated with Gabarro's concept of mastery. A limitation of the selected texts is that they do not explicitly describe the actions that a new executive takes in each of the process stages. – Panel Meeting Follow-up Paper, 8 January 2011

At this point I decided that leader socialization was the direction that most interested me and was relevant to my research topic. The panel agreed that this was a suitable direction.

A summary of the subsequent research projects is shown in Table1-1.

	Project 1	Project 2	Project 3
Research Question(s)	• What are the leadership challenges for CIOs? • How is the leader socialization process conceptualized?	How do CIOs experience taking charge of a new appointment?	How do non-IT executives interact with a new CIO taking charge?
Method	Systematic literature review	Semi-structured in-depth interviews with CIOs	Semi-structured in-depth interviews with CxO executives
Findings	• CIO leadership dimensions • Leader socialization concepts	• 3 phase taking charge process • Key phase activities and outcomes • Influence of transition type • Socialization outcomes in two domains of CIO leadership	• Ambiguous IT success criteria • CIO types as viewed by CxOs • CxO taxonomy
Outcome	Conceptual model of CIO socialization	Initial empirical model of CIO socialization	Final empirical model of CIO socialization

Table 1-1 Summary of DBA research projects

I will discuss each project in the following sections. The Scoping Study resulted in the two research questions for Project 1, a systematic literature review.

1. What are the leadership challenges for CIOs?
2. How is the leader socialization process conceptualized?

1.2.2 The Systematic literature review (Project 1)

This paper was a review of two areas of research; CIO leadership challenges and leader socialization. The review was conducted using the systematic literature review methodology which is designed to identify, evaluate and synthesize the research literature in a transparent and replicable manner (Tranfield et al., 2003). Review questions drove the definition of search terms, criteria were established for assessing the content quality of the literature and then applied to the selected texts. The literature was limited primarily to peer-reviewed, published academic research. The resulting knowledge base of

literature was then analyzed and synthesized thematically. Details of the protocol are described in Chapter 2.

Analysis of the literature on CIO leadership found that challenges fell into four categories; setting strategic direction, building a shared understanding, gaining commitment and knowledge integration. A common thread throughout was the challenge of demonstrating value from IT investments. The influence of organizational context was also identified as significant. The literature on leader socialization in a corporate context provided a paucity of studies and the main contributions were reviewed. Leader socialization was conceptualized as a mutual adjustment process between the new executive and the organization. Findings were integrated into a conceptual model of a newly appointed CIO taking charge as a process of leader socialization. This conceptual model is shown in Figure 1-2.

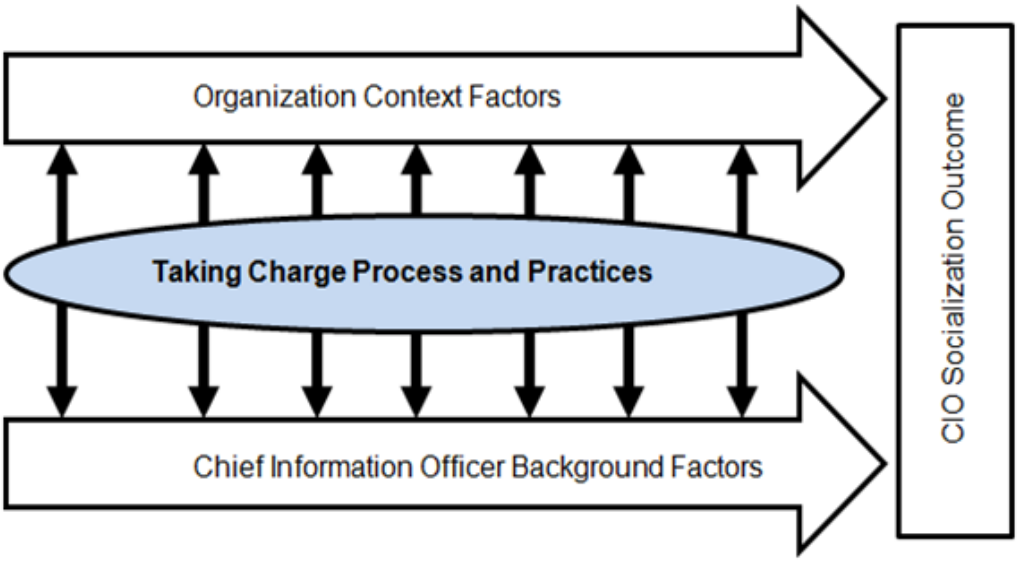

Figure 1-2 Project 1: Conceptual model of CIO socialization

The systematic review painted a clear picture of the challenges of CIO leadership in the current literature. It synthesized the research into four categories of challenges with the common thread of value contribution. It was found how leader socialization was conceptualized in the literature and that this research was scarce. The project confirmed that a research gap existed in both domains, IS CIO leadership and leader socialization, which could be addressed

with subsequent empirical projects. The first of those projects, Project 2, will be described next.

1.2.3 Exploring the CIO's experience (Project 2)

This project explored the CIOs experience of taking charge of a new appointment. The research question was: **How do CIOs experience taking charge of a new appointment?** This study is described in detail in Chapter 3.

The study integrated concepts from leader socialization and role theory with CIO leadership challenges. The data was based on semi-structured interviews with twenty one CIOs representing nineteen industries. Seventy-one percent of informants had been in their current assignment three years or less. Their total experience in the CIO role ranged from 1.5 to 17 years.

The findings suggested that CIOs experience three overlapping phases of taking charge; Entry, Stabilization and Renewal. These phases result in confidence, credibility and legitimacy as a new leader in the organization. The data further revealed that the organizational situation (transition type) encountered by the CIO is a significant influence on the taking charge process. The transition type can be Start-up, Turnaround, Realignment or Success-sustaining adapted from Watkins (2004). The transition type influenced the intensity of activity focused on building the IT leadership team, increasing TMT IT savvy and implementing IT governance processes.

The data revealed that CIOs experience organizational socialization in two domains of leadership. These domains are supply-side and demand-side leadership and supply-side socialization occurs first. These socialization outcomes are dependent on the transition type and will be discussed in detail in the Findings and Discussion section of this chapter.

An initial empirical model of the mutual adjustment process for the new CIO was developed and is shown in Figure 1-3.

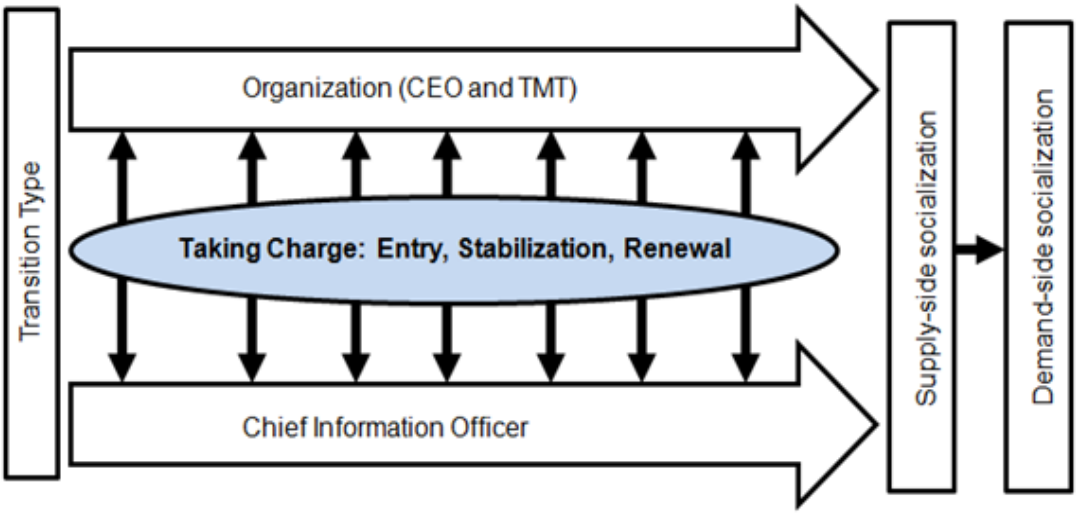

Figure 1-3 Initial empirical model of CIO socialization

There were several contributions from Project 2 to the research literature. The first was the taking charge model of three overlapping and distinct phases including key activities and outcomes of each. A transition process was not previously described in the research literature.

The second contribution was describing the socialization outcomes in terms of supply-side and demand-side leadership and identifying the influence of transition type on these outcomes.

Neither of these findings exists in the research literature in this form for a newly appointed CIO. The findings also contributed to practice by providing newly appointed CIOs a roadmap of what to expect in their first three years.

This initial empirical model of the mutual adjustment process was used to inform the research for Project 3. Project 2 only explored the CIOs' experience in taking charge. Since taking charge is a mutual adjustment process the other party in that process needed a voice, the non-IT executives which make up the top management team (TMT). Therefore Project 3 was designed to explore the non-IT executive's perspective.

1.2.4 Exploring the CxO's perspective (Project 3)

Project 3 explored the non-IT executive's perspective of information technology, the role of the CIO and what constitutes a successful transition. The research question was: **How do non-IT executives interact with a newly appointed CIO in the taking charge process?** In depth interviews were conducted with twenty two C-suite executives with a variety of functional responsibilities.

One CxO in the study summarized a successful transition as *"doing the right things the right way".* This means getting results in a manner consistent with the organizational culture. CIOs get results by successfully delivering IT services and projects to the business but the study shows that non-IT executives have a wide range of views concerning the definition of IT investment success. This ambiguous nature of IT success is a challenge for newly appointed CIOs to address. Executives in this study generally assign accountability for IT success to the IT organization.

Executives described the role of the CIO as fitting in one of three categories: Service Provider, Solutions Provider or Strategic Contributor. These roles represented progressively more strategic contribution from the executives' perspectives. The data in the study reinforces the role ambiguity of the CIO as defined by the C-suite executives.

A taxonomy of non-IT executives was also developed along the dimensions of interaction style and interaction focus. Interaction focus was described as either tactical or strategic. Interaction style was described as passive or active. This taxonomy represents the range of CxO types with which the newly appointed CIO will interact in their new appointment.

A more holistic empirical model of new CIO socialization as developed from this project and it is shown in Figure 1-4.

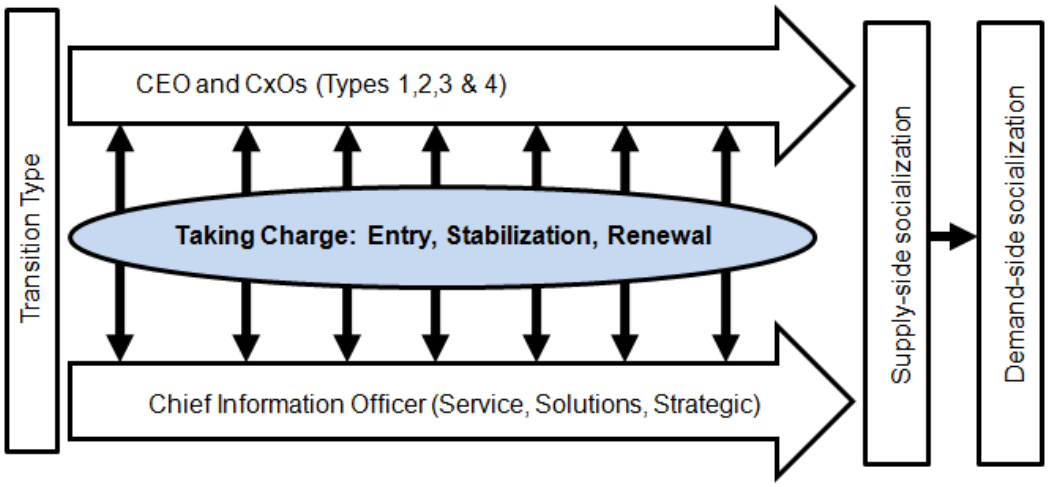

Figure 1-4 Final empirical model of CIO socialization

The contribution of Project 3 overall was to fill out the conceptual model of the mutual adjustment process experienced by CIOs and CxOs when a newly appointed CIO takes charge. CIO types described strictly by non-IT executives are unique in the literature. The taxonomy of CxOs also contributed to the IS research on the relationship between the CIO and top management team (TMT). The research contributes to practice by further describing how newly appointed CIOs can map their TMT stakeholders and customize influence tactics and communication to be more effective in delivering value to the organization.

1.3 Research methods

The research methods employed in this thesis project can be separated into two applications. The first is the systematic literature review for Project 1 and the second category applies to the exploratory investigations in Project 2 and 3. I will discuss each one of these categories in this section.

1.3.1 The systematic literature review

The objective of the systematic literature review was to systematically interrogate the existing research literature to confirm and further define the research gap that was identified in the Scoping Study and subsequent reading.

As a practitioner and apprentice researcher I was not familiar with all of the research related to my research interest. Following a systematic literature review process to address these two review questions provided a more rigorous and transparent process in confirming the research gap. Tranfield et al (2003) describe the purpose of the systematic review in management research is to methodically search, review, extract and synthesize data in a transparent and replicable manner. The detailed description of my search and assessment criteria in Chapter 2 provides transparency to support the reliability of my findings.

Applying a proven, systematic methodology to my literature review resulted in a rigorous and reliable analysis of the extant literature to inform my thesis research.

1.3.2 Exploratory investigations

This section will describe the research paradigm and explain the choice of methods for the empirical investigations that make up Projects 2 and 3. Management research is a form of social enquiry and, as such, can have different purposes. The purpose of a research project can be explanation, exploration, description or evaluation. This thesis research is an exploratory project to better understand the CIO taking charge in a new appointment from both the perspective of the CIO and non-IT executives.

1.3.2.1 Research paradigm

Understanding the process of taking charge as experienced by CIOs (Project 2) and non-IT executives (Project 3) can be viewed from social constructionist ontology. A constructionist position asserts that social phenomena and their meanings are continually being created by social actors (Bryman and Bell, 2007). This implies that social phenomena are not only being constructed by the actions of people, but that they are also continually being revised. Constructionism asserts that social reality is embedded in the nature and the way that social actors behave (Morgan and Smircich, 1980).

Social constructionism leads to an interpretive approach to social science (Easterby-Smith et al., 2008). "The aim of all interpretive research is to understand how members of a social group, through their participation in social processes, enact their particular realities and endow them with meaning, and to show how these meanings, beliefs and intentions of the members help to constitute their social action" (Orlikowski and Baroudi, 1991). The mutual adjustment process that occurs when a CIO takes charge of a new appointment is one such social process.

The constructionist ontological position lead to adopting an interpretive epistemology that supports methods to provide understanding rather than empirical explanation. Blaikie (2007) cites Dilthey (1833-1911) who argued that the study of the human world should strive for understanding (*verstehen* in German), while the study of the natural world should strive for casual explanation (*erklaeren* in German). Projects 2 and 3 apply an interpretive approach to provide *verstehen* or understanding of how CIOs experience taking charge of a new appointment and the mutual adjustment process.

1.3.2.2 Choice of semi-structured interviews

The research questions of the projects aimed at the experience of CIOs and non-IT executives and therefore these individuals provided the data. Interviews are an effective way to explore these experiences. As Kvale (1996) explains, "the qualitative research interview attempts to understand the world from the subject's point of view, to unfold the meaning of peoples' experiences, to uncover their lived world prior to scientific explanations." The semi-structured interview was chosen as an appropriate level of structure to both elicit desired insights and keep open the opportunity of the participant to add experiences not explicitly elicited from the interview guide. Interview guides were validated and modified through the use of structured walk-throughs and pilot interviews that are described in detail in Chapters 3 and 4.

1.3.2.3 Adopting a reflexive approach

Researcher bias is an important consideration in research strategy. There are potentially a number of biases in my research. First, the adoption of a social constructionist approach implies that social reality is constructed by social actors rather than being a concrete, objective reality. Extending this position recognizes that the research process itself is a social construction between the researcher and the participant. Bias is also inherent in the fact that this phenomenon was chosen to study because of researcher interest. I hold opinions about the role of the CIO as an executive, that the CIO role is a challenging job unique within the TMT in many of its leadership challenges. I worked with many CIOs and non-IT executives and carry some biases from that experience into the research. These perspectives will inevitably contribute to my data collection, analysis and synthesis processes (James and Vinnicombe, 2002). My personal biases may unintentionally influence decision-making and interpretations.

I have attempted to adopt a reflexive approach as one way that I can challenge my intellectual assumptions and recognizing the influence and limitations that these have on the research (Cunliffe, 2003). Lofland et al (2006) advise that the researcher reflect on where you are and how your personal experience and biography influence you as a researcher. Alvesson (2003) suggests that one result of reflexivity is a “preoccupation with the researcher self and its significance in the research process.” He goes on to note that reflexivity for him stands for the conscious and consistent efforts to view the subject matter from different angles and to avoid privileging a favored angle *a priori*. I have endeavored to maintain an awareness of these factors on the data collection, analysis and synthesis. It is important to note that adopting a reflexive approach reframes the researcher’s self knowledge, but does not lead to a “better” or more “accurate” account (Johnson and Duberley, 2003). I hope that adopting a reflexive perspective has allowed the voice of the participants to be heard in the research.

1.3.2.4 Reliability

Research design must address the issue of quality assurance in addition to bias and this study is no different. There must be some practical standards to evaluate the quality of conclusions and those standards address the question of whether the research and findings are *good* (Miles and Huberman, 1999).

This is an issue of trustworthiness in qualitative research. Johnson and Harris (2002) suggest that there are two ways to generate trustworthiness for qualitative research. The first is *confirmability*. Confirmability is effectively concerned with transparency of data interpretation. The quality factor of confirmability is one of transparency in all aspects of the research project. I have addressed the challenge of confirmability in the following ways:

1. Methods and procedures are described explicitly and in detail
2. A sequence of how the data was collected, analyzed and transformed through the process of coding and interpretation is provided
3. An explicit discussion of researcher assumptions and bias is addressed
4. Data in the form of an NVivo file with coded data as well as un-coded transcripts are available for inspection in addition to the descriptions described previously can provide an “audit trail” of the study’s findings and conclusions

The second is *authenticity* of the interpretations of the data. Authenticity is about the trustworthiness of the researcher’s interpretation of the data and subsequent conclusions. A social constructionist position using qualitative research methods presents a challenge for the traditional concepts of reliability and validity. An authentic interpretation of the data is presented in the studies through the use of direct quotes from the participants that tell a true account of the data. How the data was interpreted under different scenarios in each project is described by providing examples of coding logic. Alternative explanations have been provided where required.

Trustworthiness is a critical factor in evaluating the findings and conclusions of a research study. I have been explicit in describing the factors critical to building credibility and trust in the findings and conclusions. Therefore the

findings and conclusions of the research are both confirmable and authentic. Next I will discuss the findings and contribution that this thesis makes to both academic research and the practice of management.

1.4 Findings and discussion

The findings of this thesis reveal a deeper understanding of the dynamics of the mutual adjustment process when a newly appointed CIO takes charge. Unpacking these findings involves three key areas that illuminate this mutual adjustment process. These areas are transition type, the taking charge process, and CIO socialization.

1.4.1 Transition type

Transition type was an influence in the taking charge process. The CIOs were asked to describe the situation into which they stepped and the data revealed four distinct types of transitions. These transitions closely aligned with those described by Watkins (2004). The four CIO transition types revealed from the data were:

- **Start-up:** the CIO is charged with assembling the capabilities (people, funding and information technology) to get a new business, product, project off the ground.
- **Turnaround:** the CIO takes an IT organization that is recognized to be in trouble and works to get it back on track.
- **Realignment:** the CIO is challenged to revitalize an IT organization that is drifting into trouble.
- **Success-sustaining:** the CIO takes responsibility to preserve the vitality of a successful IT organization and take it to the next level.

Transition type influenced the degree of change that the CIO was required to implement. The degree of change implemented by new CIOs was described by Leidner and Mackay (2007) as “incremental” or “radical”. The data of this study suggests similar conclusions. CIOs in Turnaround transitions implemented more radical change than CIOs in Realignment or Success-sustaining transitions. Turnaround CIOs implemented radical change in most areas of their responsibility; IT leadership team, IT governance processes, infrastructure

and applications. Realignment CIOs implemented radical change in those areas clearly requiring it and incremental change in other areas while CIOs in Success-sustaining transitions tended toward incremental changes across most areas. Different degrees of change were also observed by Gabarro (1987) between “turnaround” and “normal” situations.

The Leidner and Mackay study (2007) linked CIO actions to the type of predecessor that they followed in the role. The research in this study suggests that predecessor type is not the most relevant factor. CIO actions in taking charge are better described in the context of the transition type. The data in this study indicates that transition type is determined by the gap between the CEO’s vision for IT and the current state of IT in the organization. Therefore, if the gap is large the CIO would have a turnaround situation. If the gap was small or non-existent the situation would be described as realignment or success-sustaining respectively.

Half of the turnaround situations were a result of a strategic shift by the CEO regarding the role of IT. The other half were reported as “IT is a mess, fix it” type turnarounds. Even in those situations the “mess” often resulted from a lack of support by top management to invest in IT and make it successful. Lack of a strategic view of the role of IT resulted in an ineffective IT function that did not serve the organization’s needs. This may also explain why Turnaround transitions were led by CIOs hired outside of the organization. It is not surprising that, given a Turnaround, the predecessor CIO was viewed as ineffective and subsequently replaced.

Most Realignment transitions in the study were the result of a CEO who articulated a more strategic direction for IT. This new vision stemmed from different drivers such as a merger, geographic expansion or other changes in strategic environment. The majority of Realignment transitions were led by CIOs outside of the organization indicating that the predecessor CIO was not viewed as being able to make the strategic shift successfully and was replaced.

Succession-sustaining transitions do not consist of radical changes in strategic direction. These were transitions where the CIO was chosen primarily from inside the organization. This transition was characterized by a chief executive who wanted to build on the stability and success of the current IT organization. This is not to suggest that Success-sustaining transitions are the same as having a strategic view of IT. In this study there were five organizations described as Success-sustaining transitions. Only two of those CIOs described the organization's use of IT as strategic and the other three indicated it was not strategic when they arrived.

1.4.2 Taking charge process

Taking charge was experienced by the CIO participants in three distinct and overlapping phases. Phases emerged from the data as the participants described both the timeline of their taking charge process as well as the types of activities in which they engaged. These phases were Entry, Stabilization and Renewal. CIOs always experienced an Entry phase upon initial transition into the new role / organization. A Stabilization phase occurred that started shortly after the new executive started. A Renewal phase started approximately 6 months into an appointment and overlapped the Stabilization phase. The taking charge phases indicated by the data are shown below in Figure 1-5.

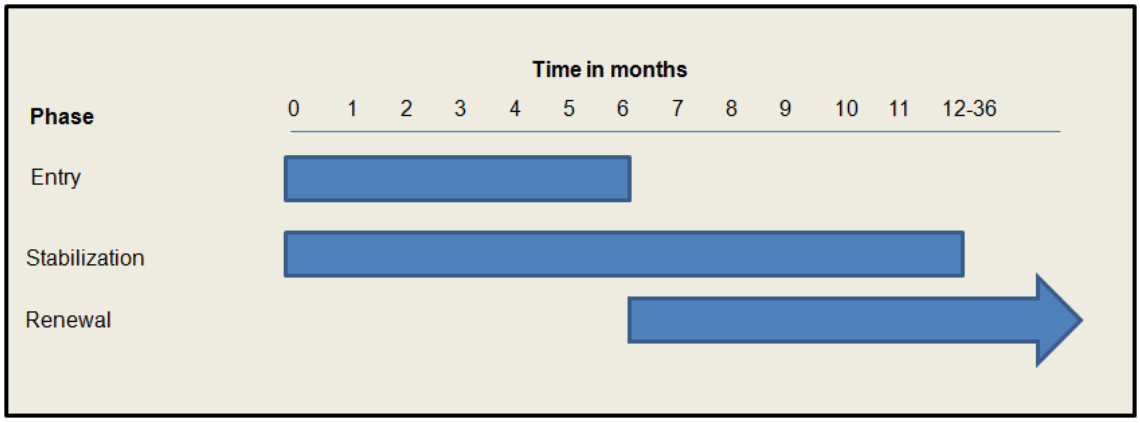

Figure 1-5 Taking charge phases over time

The Entry phase consisted of two processes that can be described as learning and diagnosis. All the participants described a learning process of getting to

know the business of the organization and the objectives of its top management team. CIOs also used this time to diagnose the IT-related problems in the organization. The outcome of this Entry phase was a working knowledge of the organization for the new CIO. This working knowledge consisted of who the key players were, their objectives and what “kept them up at night”. It also provided the CIO with an assessment of their IT leadership team and the efficacy of IT governance in the organization. The Entry process lasted approximately 4-6 months and set the stage for Stabilization and Renewal.

The Stabilization phase began shortly after the CIO started taking charge and lasted for approximately 9-12 months. This phase consisted of three sets of activities; taking corrective action and delivering existing projects, building the IT leadership team and designing and implementing basic IT governance processes. Supply-side leadership (Broadbent and Kitzis, 2005) was the CIO’s focus during Stabilization.

There were several key outcomes of the Stabilization phase. One was that the CIO gained credibility through effective leadership of IT services and projects. The other key outcomes were that the CIO built their own IT leadership team and implemented basic IT governance processes. Implementing fundamental IT governance processes set boundaries with their TMT peers with regards to IT investment decisions. By building their own leadership team the CIO created a group of leaders who bought into the vision of the CIO and were capable of delivering strategic initiatives to the business. The CIO now had gained credibility as an IT leader, had governance processes to prioritize IT initiatives with significant business impact and a leadership team in place to execute those initiatives. This dynamic of building credibility through role performance is consistent with research in role theory (Katz and Kahn, 1978) as well as leader socialization (Denis et al., 1996).

The Renewal phase was characterized by the CIO building on their credibility to implement changes that position them to become a legitimate business leader. In this phase they focused on contributing more to the strategic direction of the organization. Renewal normally started in months 12-18 and continued the

work begun in the Stabilization phase to enhance their IT leadership team and the organization's IT governance processes. Efforts in knowledge integration emerged in this phase consistent with the CIO leadership challenges identified in the systematic literature review (Project 1). CIOs focused on increasing business knowledge in their IT teams as well as the IT knowledge of their business partners. In this phase the CIO starts the evolution from IT leader to business leader. This is the essence of Demand-side leadership (Broadbent and Kitzis, 2005).

The Renewal phase was characterized by the CIO building on their credibility to implement changes that position them to become a legitimate business leader. The CIO enhanced the capability of the IT leadership team and improved IT governance processes. They exerted influence in setting IT strategy and started the evolution from IT leader to business leader.

The taking charge process is summarized in Table 1-2 below.

Phase	**Entry**	**Stabilization**	**Renewal**
Timeframe	Month 0-6	Month 1-12	Month 6-24+
Key Activities	• Learning about the organization • Diagnosing service delivery issues • Building relationships • Assessing personnel • Evaluating IT governance	• Improving service • Delivering in-flight projects • Building IT leadership team • Implementing IT governance	• Influencing strategic initiatives • Enhancing the IT team • Building IT savvy with TMT
Outcomes	• Confidence • Understanding of issues • Action agenda	• Credibility as IT leader (Supply-side leadership • Influence via IT leaders • Control via governance	• Legitimacy as business leader (Demand-side leadership) • Increased IT strategic contribution • Improved TMT IT savvy

Table 1-2 CIO taking charge phases, activities and outcomes

These three overlapping phases led to building confidence, credibility and legitimacy over time. Prior research into executive transition identified sequential stages of adjustment (Denis et al., 2000; Gabarro, 1987) rather than over-lapping phases. In the one study on CIO transitions (Leidner and Mackay, 2007) a process perspective was not used and therefore no phases/stages were identified. CIO activities differentiated between Supply-side and Demand-side leadership have been previously identified in the research (Broadbent and Kitzis, 2005; Chen et al., 2010). Chen et al. (2010) also identified the same phased dependency between these two leadership domains as this study wherein a CIO must demonstrate Supply-side leadership to gain the credibility to transition to Demand-side leadership.

Transition type directly influenced the degree of change that the CIO was required to implement, but did not significantly influence the phases themselves nor the time described. In the data CIOs reported the same phases and timelines regardless of the type of transition they were experiencing. This finding is counter-intuitive because one expects a success-sustaining transition to be shorter and require little or no stabilization compared to a turnaround transition.

Likewise, whether the incoming CIO was an insider or outsider also did not significantly influence the taking charge phases or timelines. An “insider” is an executive promoted from within the organization while an “outsider” is one hired from outside the organization. CIOs that took charge as insiders did not generally report accelerated taking charge timelines as suggested by previous studies (Gabarro, 1987). The insider CIOs still spent time in the Entry phase building relationships with their TMT peers. One reason for this might be that insider CIOs in the project (except for one) had no previous CIO experience. The CIO role was a new one for them and therefore their relationship with TMT members had changed to one of a peer nature. This changed relationship required them to build trust and credibility with their new role group. The insider with previous CIO experience was transitioning into a different organizational unit where they did not have previous relationships or business knowledge.

They therefore still invested time in building those relationships and acquiring the knowledge specific for the geographic regions that were new to them. This is consistent with Van Maanen and Schein's (1979) perspective that an individual will experience a period of socialization even with the simple change of assignment, shift or location.

Insider CIOs reported that they felt that their knowledge of the organization and its issues was beneficial to them however this did not impact their taking charge process compared to Outsiders as much as expected. This suggests that being an Insider is an advantage for a CIO with no previous experience in the role whereas CIOs with previous role experience will be more comfortable as Outsiders in a new appointment.

1.4.3 CIO socialization

There are other aspects of a newly appointed CIO taking charge beyond understanding the socialization context (transition type) and the process from the CIO's experience. The theoretical perspective of this thesis is that the dynamic process of a newly appointed CIO taking charge can be viewed as one of organizational socialization. Organizational socialization is the process by which an individual acquires the social knowledge and skills necessary to assume an organizational role (Van Maanen, 1978; Van Maanen and Schein, 1979). This is a process of mutual adjustment between the individual and the organization. The organization seeks to influence and shape its members while the individual is trying to define and shape his/her role within the organization (Fisher, 1986). This perspective integrates concepts of role theory and socialization processes, therefore the next sections will discuss the newly appointed CIO's role set, role conflict / role ambiguity and socialization outcomes.

1.4.3.1 CIO role set

CIO socialization is conceptualized in this study as a mutual adjustment process between the CIO and the organization. The "organization" is considered the

CEO and other top managers. Organizational socialization is a dynamic adjustment process between a focal person and their role set (Graen et al., 1973; Katz and Kahn, 1978; Merton, 1957; Schein, 1971). All the members of the role set have some stake in the focal person's role performance (Katz and Kahn, 1978). Other research has described this as the influence of an executive's *role constellation* (Denis et al., 2000; Fondas and Wiersema, 1997; Hodgson et al., 1965).

The process of altering and adjusting role expectations by a person is termed "role-making" (Graen, 1976) and also described as role-taking or role assimilation. The term 'enactment' also captures the notion of a manager actively, deliberately creating the environment rather than solely reacting to it when taking on a role (Fondas and Stewart, 1994; Weick, 1969). Sievers and Beumer (2006) highlight this when they state that managing oneself in a role requires an extremely high level of consciousness regarding the forces and demands on one's role in order to act accordingly. This study conceptualizes the CIO's role set as shown in Figure 1-6.

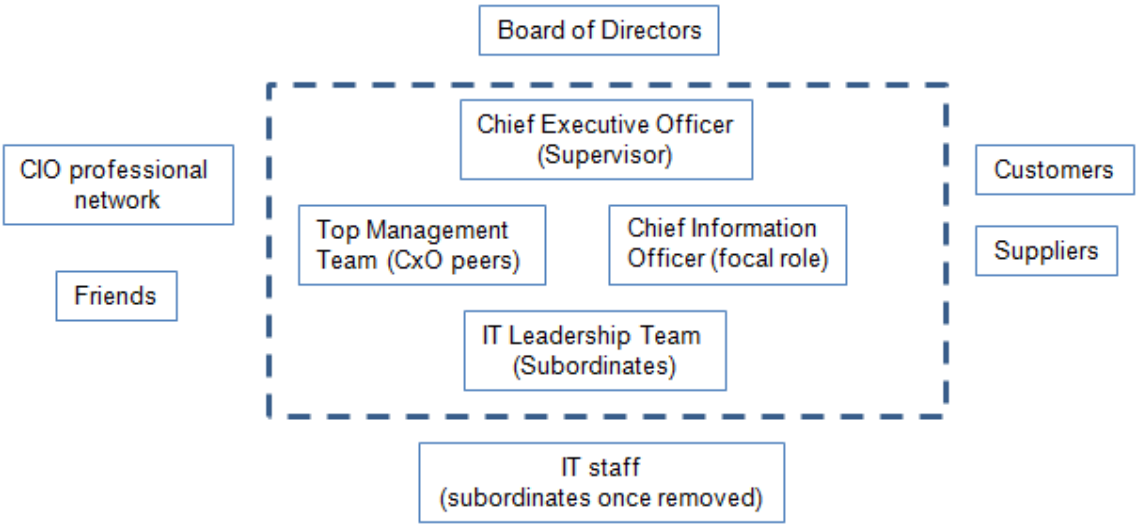

Figure 1-6 Conceptual composition of the CIO's role set

The CIO is the focal person with their peers in the top management team and the CEO as primary "role-senders". The members of the role set hold

expectations, beliefs and attitudes about the CIO role. Role sending is the process of communicating those expectations to the focal person, the CIO.

The data in this study suggests that subordinates, the IT leadership team, provide information and context to a new CIO but do not heavily influence the CIO's socialization process. In fact most CIO transitions consist of significant changes in the composition of the IT leadership team. Other role senders such as the Board of Directors, customers, suppliers and the CIO's professional network contribute to a much lesser degree in setting expectations and do not determine the outcome of the socialization process. Therefore this study focused the investigation on the dynamics between the CIO, CxOs and the CEO. Almost all of the CIO participants (20 out of 22) reported to either the Chief Executive Officer or the Chief Operating Officer and were clearly members of the top management team. The other two participants were members of the top management team, but had more complex reporting structures spanning business units. The data reveals that the newly appointed CIO will interact with executives with varying interaction styles and focus. A taxonomy of varying types of CxOs is shown Figure 1-7.

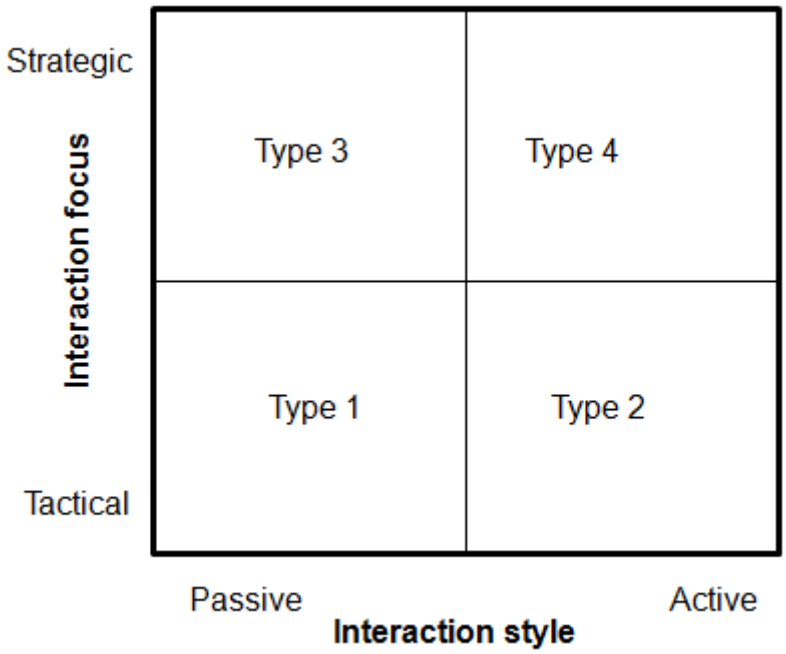

Figure 1-7 CxO taxonomy

The dimension of interaction style indicates whether the executive is passive or active regarding interacting with the newly appointed CIO. A passive style is one where the CxO expects the CIO to take the initiative in the relationship. The “passive” CxO will not initiate a meeting with the newly appointed CIO. He/she will expect the CIO to schedule a meeting instead. The passive CxO does not view a relationship with the CIO as a high priority. The active CxOs take the initiative in connecting with the CIO. CxOs with an active interaction style view a relationship with the CIO as in their best interest and will be proactive in developing that relationship.

The interaction focus is either tactical or strategic. Tactical focus centers on IT services that the CIO provides and requirements that need to be fulfilled. CxOs with a tactical interaction focus are concerned with getting services and projects for their area of responsibility, but do not want nor expect strategic contribution from the CIO. A CxO with a more strategic focus is concerned about how the CIO can provide business solutions and influence business strategy. A CxO with a strategic focus expects the CIO to make a strategic contribution to their area of responsibility.

The **Type 1** executive has a tactical focus and a passive interaction style. They view the CIO as a technical service provider and the head of a support function. They do not expect the CIO to contribute to strategic business problem-solving or planning. The Type 1 executive does not initiate interaction with the CIO, but rather expects the CIO to come to them. The interaction consists of the CxO communicating their needs and expectations to the CIO so that they are fulfilled. The Type 1 executive would not offer advice on the political power structure or insights on the organization’s culture. This passive approach reflects the perception of power distance between the CxO and the CIO. This was not described by the participants as a lack of respect for the CIO, but as an honest perspective of the role.

Another type of executive with a tactical focus is the **Type 2**. The Type 2 executive takes an active approach to interacting with the CIO. They will take the initiative to schedule meetings with the CIO on a regular basis. However

the focus is on the tactical issues of services provided to the executive's function as well as the executive's IT "wish list". Proactively engaging the CIO is viewed by this executive as a politically shrewd way to get their priorities to the top of the CIO's list rather than sit back and be passive like the Type 1. Like the Type 1, this executive will not offer advice or insight on organization politics or culture. The Type 2 executive is using this active interaction style to gain an advantage over their peers to get their share of limited IT resources.

The **Type 3** is a type of executive that has a passive interaction style and a focus more on the strategic input of the CIO. Type 3 describes an executive that will help the CIO if the CIO takes the initiative. While they appreciate that the CIO can contribute to providing business solutions that enable strategy, they still do not view the role as a top management peer. They are willing to work with the CIO and provide them insights into the organization's power structure and unique cultural aspects. Type 3 executives share this information as part of their role in the top management team.

Finally, the **Type 4** takes an active approach to engaging the CIO on strategic issues. The Type 4 will take the initiative to engage the newly appointed CIO in strategic business issues. They view the role as a peer on the top management team and recognize the contribution the CIO can make to innovation and influencing business strategy. In fact they expect the CIO to make such contributions as a member of the top management team. They view this active collaboration as a normal part of their role just as they would with any of their operating executive peers.

CIOs will interact with four different types of top management peers with unique combinations of interaction style and focus. Influence tactics and relationship strategies will need to be tailored for each one of these CxO types in the mutual adjustment process of the new CIO.

1.4.3.2 CIO role conflict / role ambiguity

A significant influence in the socialization process is the sending of role expectations from the role-set to the focal person (Katz and Kahn, 1978). This communication of role expectations can frequently result in role conflict and/or role ambiguity and these dynamics will complicate the socialization process of a newly appointed CIO.

CIO role conflict

Role conflict results when the newly appointed CIO gets various role expectations from the role set that are mutually exclusive. Two primary types of role conflict can be experienced by a newly appointed CIO. The first is *intra-sender* conflict: different expectations from a single member that are incompatible and the second is *inter-sender* conflict: different expectations from various role set members (Kahn et al., 1964).

The data in this study does not reveal *intra-sender* conflict. The CIO's described clear direction set from their supervisor, the CEO/COO. They were confident they knew their remit and were aligned with the CEO's vision consistent with success factors identified in previous research (Feeny et al., 1992; Kaarst-Brown, 2005; Peppard, 2010). The CIOs in this study clearly described collaboration between themselves and the CEO/COO to set the expectations and boundaries of their role in the organization.

The existence of *inter-sender* role conflict can be inferred from this study's data. As described previously in the CxO taxonomy, there are executives within the CIO's role set whose focal areas of interaction with the CIO vary from very tactical to more strategic. CxO peers in the CIO's role set can vary in the degree to which they expect that CIO to engage in strategic versus tactical problem-solving and planning. They also vary in the way they prefer to interact with the CIO in along a continuum from passive to active styles. The data suggests that the CIO can anticipate a variety of expectations coming from their peers in the top management team.

Role ambiguity

Role ambiguity is related to but distinct from role conflict. Role ambiguity occurs when there is insufficient information to properly define the role (Kahn et al., 1964). Role ambiguity typically results in many different interpretations of a role by individuals in the role set. These interpretations are not necessarily mutually exclusive like role conflict however the ambiguity can still cause tension in the focal person. The CIO role has been identified as highly ambiguous in previous research (Peppard et al., 2011).

Role ambiguity often occurs in boundary-spanning roles (Kahn et al., 1964; Katz and Kahn, 1978). The organizational role of Chief Information Officer is one that spans organizational boundaries; responsibilities across the entire enterprise and with many stakeholders. Research has suggested that people in boundary-spanning, ambiguous roles experience less adverse effects if they have a high degree of authority, a high rank in the organization and expect ambiguity as part of the role (Miles, 1977; Miles and Perreault, 1976). These characteristics describe a Chief Information Officer. CIOs have a relatively high rank in the organization with a degree of managerial authority and, as CIO, understand the complexity and ambiguity of an enterprise spanning role. However this does not eliminate the existence of role ambiguity for the CIO it simply implies the executive is better equipped to handle it.

The non-IT executives in this study described varying expectations of the CIO and perceptions of the role within organizations. The data suggests three role types are described by the level of strategic influence perceived by the CxO and these are identified in Figure 1-8.

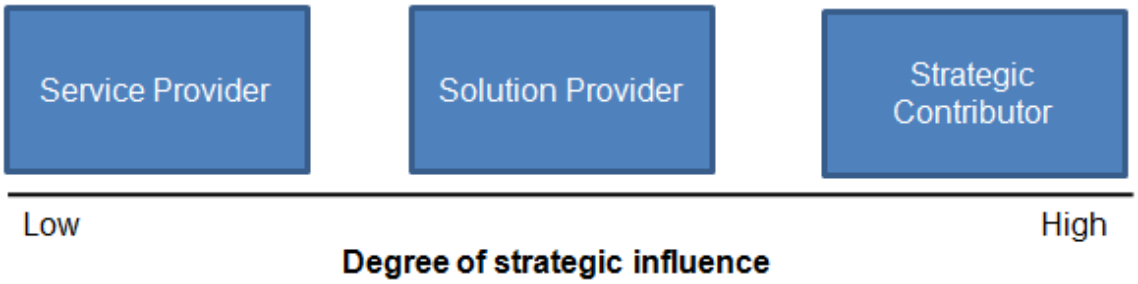

Figure 1-8 CIO role types as perceived by CxOs

The **Service Provider** role is defined by a low degree of strategic influence and a relationship with CxOs that focuses on providing services to their part of the business. These executives view the CIO role as a technical service provider and a support staff manager. While they may appreciate the complexity of information technology and the challenge that presents for the CIO, they do not view the role as equal to operating executives. They do not expect strategic input from the CIO, nor do they want it. They expect the CIO to "fix" their IT problems and that is the extent of their expectation. The specific term "servant" was used several times by the participants who held this view, however it was never used as a derogatory description, just one that best described the relationship between the CIO with the rest of the organization.

A different role type is called the **Solution Provider**. This role is characterized by a higher degree of strategic influence than the Service Provider. The CxOs described the Service Provider in terms of "solutions" to business issues. These CxOs expected that they would present business problems to the CIO and that he/she would find IT solutions to address those problems. They also expected the CIO to actively understand their problems and behave like a consultant in designing solutions to them. These executives perceive that the CIO role is not equivalent to that of non-IT executives and is a support role. However in contrast to the Service Provider, the executives who view the CIO as a Solutions Provider have a higher degree of respect for the role and an expectation that the CIO will engage in business problems in addition to technical ones.

The **Strategic Contributor** is significantly unique from the Service and Solutions Providers. As a Strategic Contributor the CIO is viewed by the CxOs as a peer in the top management team. They expect the CIO to engage with them at a strategic level in addition to providing IT solutions and services. They expect the CIO to act as a strategic advisor to the operating executives, proactively bringing IT ideas that will influence business strategy. They expect the CIO to be proactive and to have an extensive knowledge of the business.

CIO research has identified many typologies of "role" (Chen and Preston, 2007; Chun and Mooney, 2009; Deloitte, 2008; Peppard et al., 2011; Smaltz et al., 2006) and these have included data from non-IT executives. However these typologies have always presented an aggregate view of different types of CIOs along various dimensions. The results of this study are not significantly different. The specific number and descriptions of the CIO role vary from previous research but the concept of different "types" of CIOs remains the same. Table 1-3 describes the different CxO types with their most likely perspective on the role of the CIO based on the data in this study.

CxO type	**View the CIO role as…**
Type 1	Service Provider
Type 2	Service Provider
Type 3	Solutions Provider
Type 4	Strategic Contributor

Table 1-3 Mapping CxO type to corresponding view of CIO

Kaarst-Brown (2005) identified five perceptions of IT that were held by an organization. Her conclusion was that the CIO should know what the organization's perceptions are in order to effectively employ different strategies that addressed those perceptions. This study indicates that non-IT executives view their CIO colleague as one of three possible types and this implies a potentially high degree of role ambiguity for a newly appointed CIO within their role set. Consistent with Kaarst-Brown's observation, this data suggests the

CIO must explicitly understand the types of executives they with which they are working and their likely view of the CIO role.

1.4.3.3 Process and outcomes

A newly appointed CIO experiences organizational socialization through the dynamic mutual adjustment process of becoming a leader in the organization. CIOs experienced this adjustment uniquely in the activity domains of Supply-side leadership and Demand-side leadership. The outcomes of each of these domains will be discussed separately in the next sections. Organizational socialization outcomes were adopted from Denis et al (2000). The influence of transition type on socialization outcomes will also be discussed.

CIOs recognized that they had to understand the organization's "culture" and build relationships to avoid being rejected as a leader. Culture was considered by the CIOs as "how things are done here" in the organization. This was an interesting parallel to the CxOs' perspective. One CxO summed up the definition of a successful CIO transition as *"doing the right things the right way"*. The "right way" was considered by the CxOs as the behavior viewed as acceptable by the organization.

Understanding the cultural aspects relevant to the role is not straightforward and CIOs reported that it occurred in a trial and error fashion. Integration for the CIO was enhanced by building relationships with their TMT peers. The CxOs in the study varied in whether they played a role in on-boarding the CIO and sharing this cultural information. Some executives actively volunteer this information, some will provide it if asked and others do not see it as their responsibility at all.

Organizational socialization outcomes were described using the terminology of Denis et al (2000). "Parallelism" occurs when there is not mutual adjustment between executive and organization. This outcome did not occur in this study. "Assimilation" is an outcome where the executive accepts most of the organization's expectations and beliefs. "Accommodation" occurs when the

executive accepts some expectations and beliefs but also influences changing others. “Transformation” occurs when the executive exerts significant influence and changes most of the organization’s existing belief system. Organizational socialization outcomes occur in two domains, supply-side and demand-side leadership. Socialization in each of these domains will be described in detail in the following sections.

Supply-side socialization

Supply-side leadership is the domain where the CIO has the most formal authority as it constitutes the resources and services that the IT function provides to the organization. Supply-side socialization is influenced by transition type and will be described in that context.

CIOs taking charge in a Start-up or Turnaround transition have a high degree of discretion in shaping and improving the IT function for which they are responsible. In these transitions the IT function was typically described in uncomplimentary terms. In these transitions the taking charge process was Transformational. The situation as described by the Start-Up CIO was starting “from scratch”. This CIO had a high degree of latitude in establishing supply-side leadership. Similarly the Turnaround CIOs had the same degree of discretion to implement change. CIOs in Turnaround transitions were hired because the function required significant improvement and therefore had a high degree of influence on improving performance and setting expectations. The CIO exerted a high degree of control in correcting infrastructure and services issues, making significant personnel changes and setting investment guidelines through governance processes. In fact, these CIOs described the broadest and most radical changes of any of the transition types.

CIOs taking charge in Realignment transitions faced a Supply-side leadership situation which did not require changes on a broad and drastic level. Realignment transitions involved minor changes to some expectations and moderate to large changes in a few other areas depending on the specifics of the organization. For example, perhaps IT services were functioning well, but

insufficient contribution to the business strategy was being made. The socialization outcome for CIOs taking charge in a Realignment transition can be described as Accommodation. CIOs in Realignment transitions tended to mention the pace of change and adapting to the organization's culture. They made changes to their leadership team that were more moderate and mentioned building trust with their team more than CIOs in Turnaround transitions.

CIOs taking charge in Success-sustaining transitions experienced a socialization process close to Assimilation. There was a high level of adoption by the CIO of the organization's beliefs and expectations. This is consistent with the fact that the IT function in Success-sustaining transitions was already performing well and that the majority of CIOs in this transition were Insiders who had knowledge of the organization's norms and structures. CIOs in these transitions were more likely to mention developing their IT leaders with more progressive programs (like rotations and formal training) and described incremental changes to infrastructure and processes.

Supply-side leadership in general offered the newly appointed CIO a high degree of discretion in making changes when taking charge. How the CIO exercised this flexibility was influenced by the transition type and the degree to which changes in supply-side leadership were expected.

Demand side socialization

The CIO's integration in the Demand-side domain was dependent on two factors. One was his/her success in the Supply-side domain. The CIOs in this study described their efforts in Supply-side leadership in successful terms. Assuming successful Supply-side leadership, the second factor that influences the Demand-side socialization outcome is transition type again. Transition type influenced Demand-side socialization in a manner similar to Supply-side leadership.

The Demand-side outcome for the CIO in this project in a Start-Up transition can be described as Assimilation. The CIO reported that he was not allowed to influence the strategy of the organization at all.

The CIOs taking charge in the Turnaround reported a socialization process aligned with the Transformation outcome. The CIOs described having a high degree of influence on initiating changes that influenced the business strategy. This influence was the result of the need for significant change as required in a Turnaround situation. In the Turnaround the CIOs had a high level of support from the CEO/COO to make significant contribution to how the organization used information technology for competitive advantage. This contribution also was expected by the top management team as the vision of the CEO was a more strategic role for IT.

CIOs in a Realignment transition tended toward a socialization outcome of Accommodation. The Realignment transitions generally included a desire to become more strategic in the use of IT the mandate was not as strong as the Turnaround. CIOs in this type of transition had to negotiate expectations more with the other members of the top management team. These CIOs reported focusing their efforts to support TMT members who understood how IT could contribute to achieving their business objectives. TMT members that did not have that understanding were given nominal support. The CIO influenced TMT attitudes toward IT using examples set by IT savvy peers.

Success-sustaining transitions also resulted in CIO socialization of Accommodation. CIOs reported a high degree of accommodation with the expectations of the top management team. This type of transition consisted of changes more incremental than a Realignment transition and the outcome of Accommodation was most common. The Table 1-4 below summarizes this study's findings of CIO domain socialization by transition type.

Transition Type	Supply-side socialization	Demand-side socialization
Start-Up	Transformation	Assimilation*
Turnaround	Transformation	Transformation
Realignment	Accommodation	Accommodation
Success-sustaining	Assimilation	Accommodation

*only one observation

Table 1-4 Domain socialization by transition type

CIO socialization outcomes can be viewed as parallelism, assimilation, accommodation or transformation. CIO socialization occurred in the two activity domains of Supply-side and Demand-side leadership. There is a dependency relationship between outcomes in these two domains. Supply-side socialization occurs first and influences the Demand-side outcome. Finally, the contextual factor of transition type influences the ultimate socialization outcome for the newly appointed CIO taking charge.

1.4.3.4 Summary

This research has integrated concepts from role theory and organizational socialization to describe how newly appointed Chief Information Officers take charge. The contextual factor of transition type influences the socialization outcome of the new CIO. The CIO experiences socialization outcomes in both the Supply-side and Demand-side activity domains. The data also reveals that Supply-side socialization occurs prior to Demand-side socialization.

While transition types and socialization outcomes vary by the situation, the three phase process is common to all transitions. There are five characteristics of organizational socialization identified by Van Maanen and Schein (Van Maanen, 1978; 1979) that describe the organizational socialization process experienced by newly appointed CIOs.

CIO socialization is *informal*. The data suggests that there is little *formal* on-boarding of a new CIO, although some organizations have semi-formal processes. The process evolves primarily from initiative that the CIO takes in learning via trial and error over time. A semi-formal process generally means that the organization will suggest a series of meetings and "get to know you" sessions with stakeholders, but the information acquired is still the CIO's responsibility. There are no formal training sessions for the newly appointed CIO. Socialization therefore is also *individual* rather than *collective*. Since one person fills the role there is no collective initiation as is the case for a group of newcomers.

Organizations hire outsiders because of their previous experience. Insiders likewise bring experience to the role that is beneficial. Therefore CIO socialization can be considered a process of *investiture*. A *divestiture* process would require the CIO to abandon previous experiences and expectations of the role (e.g. a new Army recruit). In this way the divestiture process is about "breaking" a recruit and rebuilding them into the role as defined by the organization. This is not the case for leader socialization. An investiture process assumes the CIO's previous experience is highly relevant to their role in the organization and seeks to capitalize on that experience and knowledge. Leaders are expected to bring their previous experience to bear in addressing the challenges of the new organization. In fact they are hired based on their previous experience and success in the role. The new organization expects replication of that success.

The CIO's socialization is generally *sequential* which is defined by Van Maanen (1978) as *"transitional processes marked by a series of discrete and identifiable stages through which an individual must pass…"*. While the phases of a CIO's taking charge are overlapping they are nonetheless common and identify transitional milestones. This is especially evident in the dependency of supply-side (Stabilization phase) and demand-side leadership (Renewal phase). This differs from the assertion of Fondas and Wiersema (1997) who, in their theoretical model of CEO socialization, suggested that the CEO experiences

random socialization or a non-sequential process. The findings of this study suggest otherwise for the CIO.

CIOs experience taking charge as a *variable* process of socialization. This implies that there is not a *fixed* timetable that one would expect the CIO's taking charge process to follow. The findings of this study do not suggest that all the CIOs in the study experienced the *exact same* timeline. However it is interesting to note that the CIOs did experience *similar* timelines within small variations. It is reasonable to conclude that an executive must achieve a socialization outcome within 2-3 years that will indicate their success or failure in the role. Proposing that CIOs experience a variable socialization process does not imply that it is not time bound at all.

1.5 Contributions

1.5.1 Contribution to research

This study contributes to the extant research in the areas of the CIO taking charge process and CIO socialization. There are two main contributions to the literature. The first is taking a processual view of the taking charge process for CIOs and the influence of transition type. The second is the identification of CIO socialization outcomes across the domains of supply-side and demand-side leadership integrates concepts from disparate research in leadership socialization and CIOs (Chen et al., 2010; Denis et al., 2000; Fondas and Wiersema, 1997).

CIOs taking charge

The three phase model increases our understanding of the CIO taking charge process extending the work of Leidner and Mackay (2007) by taking a processual view of the phenomenon. Aside from the work of Leidner and Mackay the literature is silent on the phenomenon of newly appointed CIOs. This study enhances the understanding of new CIO transitions by identifying specific activities and outcomes associated with each taking charge phase. In

contrast to the work done by Gabarro (1987), these findings indicate that CIOs experience overlapping rather than sequential phases.

The findings of this study move the conversation regarding newly appointed CIOs beyond the incremental / radical change identified by Leidner and Mackay (2007) to a deeper discussion of specific activities and the outcomes that CIOs' experience from those activities. The processes of building confidence, becoming a credible IT leader and stretching to be identified as a legitimate business leader have been hidden from the literature on newly appointed CIOs.

The influence of transition type in the CIO taking charge process extends our understanding beyond the perspective of predecessor framed by Leidner and Mackay (2007). The CIO transition types identified by the data were closely aligned to those suggested by Watkins (2004) and have not been identified in a previous empirical study of CIOs taking charge. This study clearly identified the transition type, as described by the CIOs themselves, as the key situational factor that influenced how they experienced the taking charge process. Both Leidner and Mackay (2007) and Gabarro (1987) identified "normal" versus "turnaround" situations but the use of Watkins' typology provides additional distinction between situational factors. While the previous authors can describe a turnaround situation it is less clear what "normal" actually means. Watkins' types provide additional clarity and distinction in identifying transitional situations for the incoming executive.

CIO socialization

The socialization process of executive leaders has attracted little empirical attention. This study builds on previous work done by Gabarro (1987), Fondas and Wiersema (1997), and Denis et al (2000) in investigating leader socialization by studying a non-CEO executive. This research also introduces the theoretical lens of leader socialization to the study of newly appointed CIOs for the first time.

The study also explored the mutual adjustment process of the newly appointed CIO from the non-IT executive's perspective. This has shed some light on both sides of the "mutual" adjustment process of leader socialization to describe how CxOs view the CIO role, what kind of interaction style they might prefer and what the focal point of the interaction might be with the CIO. The resulting model in Figure 1-9 is the first empirical model of new CIO leader socialization.

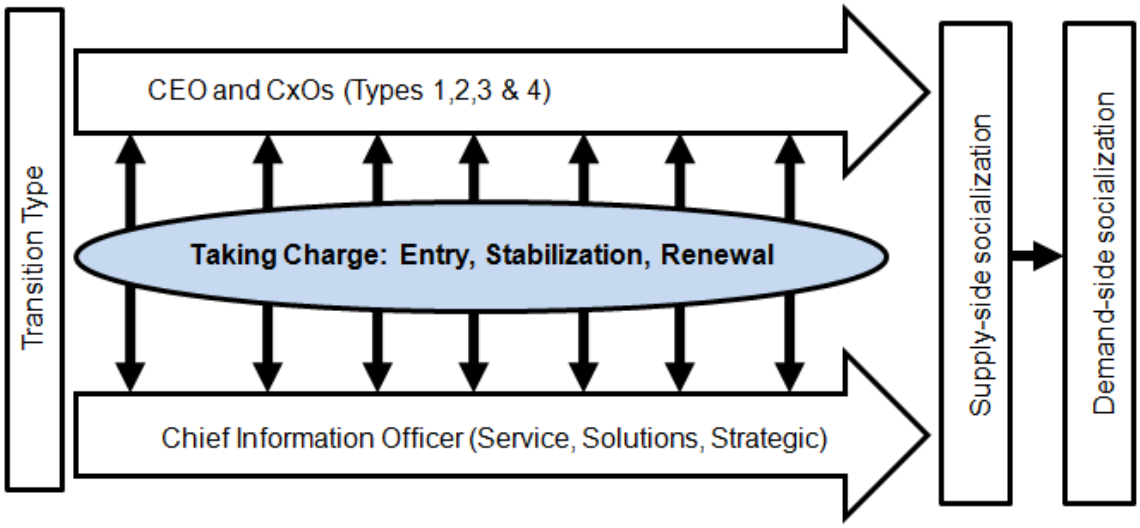

Figure 1-9 Empirical model of newly appointed CIO socialization

The model also contributes to building on the extant literature on leader socialization in that it describes a model for a non-CEO executive role that requires a high degree of peer engagement. Previous research on leader socialization in corporate organizations has focused primarily on the CEO or the leader of a business unit (Denis et al., 2000; Fondas and Wiersema, 1997; Gabarro, 1987) rather than a member of the top management team.

1.5.2 Contribution to practice

The study suggests it is critical that the newly appointed CIO have a shared vision of IT with the CEO and understand fully the type of transition situation in which they are entering. Since transition type is the gap between the CEO's expectations and the performance of the IT function, it is critical that the incoming CIO understand this gap, but primarily they must understand the CEO's vision for IT, whatever that might be. The real driver of the transition

type is the CEO's vision for IT and discerning this should be a top priority for the CIO candidate. Building this shared vision needs to part of the new CIO's 90-100 day Entry phase plan.

A newly appointed CIO should expect to experience three phases during their integration into the new role. Taking charge will take 2-3 years and the CIO should realize that they need to build supply-side leadership before pushing a strategic agenda.

The newly appointed CIO should first acknowledge that beyond the CEO's view of the role, individual operating executives hold their own biases about the CIO role and information technology's contribution to the business. CIOs must keep in mind that there may not be a shared understanding of the role among the entire TMT. The findings of this study reinforce the previous research that the CIO role has significant ambiguity across executives. This recognition will help them understand individual points of view when they are in the diagnostic Entry phase of taking charge.

The taxonomy of CxOs is a useful contribution for newly appointed CIOs. Using this taxonomy they can map individual relationships with executives based on how they interact and what their expectations are. This study also provides the insight that CxOs view themselves as significantly more IT savvy than the CIOs view them. This is important for CIOs to understand when developing relationships so that they can develop a shared understanding of what IT can contribute.

In initial meetings the new CIO can ascertain what the executive's primary focus is, tactical or strategic, and get a sense of their preferred interaction style. Initially they may only focus attention on Types 1 and 2 executives to fulfill their basic service obligations during the Stabilization phase. They can focus their relationship building on the Type 3 and 4 executives who have an expectation of a more strategic contribution. IT initiatives can be planned that will deliver the business value expected by these executives and this success will build the CIO's legitimacy as a business leader (demand-side leadership). They should

also exploit the willingness of the Types 3 and 4 to share their insights into the organization's culture and how to successfully assimilate into it. Newly appointed CIOs can experiment with different influence tactics for each type of executive with which they work (Enns et al., 2007; Fiegener and Coakley, 1995; Kaarst-Brown, 2005).

The ambiguity of IT success is also important for the new CIO to consider. They should not assume that everyone in the organization will use the same measure of success for IT investments. The new CIO needs to proactively negotiate and set the success criteria for a given investment prior to its launch. They must also manage and monitor the realization of those benefits in order to overcome barriers that might exist to successful benefits realization. Whether it is conceptually "right" for IT to be responsible or not, the new CIO cannot leave the success of an IT investment to chance. In fact, the data in this study suggests that many non-IT executives do not recognize their own role in achieving business benefits and expect the IT organization to be responsible for the success of IT investments.

CIOs will experience integration into the organization in different ways based on the transition situation in which they enter the role. If they are taking over a successful IT function they will be most likely expected to continue the behavior of their predecessor and conform to the expectations of the top management team. CIOs in turnaround transitions will experience a broad mandate for change whereas those in a realignment situation will find they will need to compromise more in regards to aligning to or changing top management expectations. A CIO should not misinterpret the transition type. If they enter a realignment transition with the approach of implementing broad, radical change they will likely experience a failed transition. The new CIO must align their approach with the type of transition they are entering.

1.6 Limitations of the study

While this study contributes to both research and practice, it has limitations. Categorizing some of the study's data required interpretation of the individual's

experience and how it was described. There was only one occurrence of a CIO in a start-up transition type. However, the purpose of the research was not to explain and generalize, but to increase our understanding of how newly appointed CIOs take charge.

Numbers of informants with some specific characteristics are not sufficient to reflect patterns that might be present between industries or countries. There were, for example, no participants from the public sector. It is reasonable to consider that leaders in the public sector may have a different view of the CIO as would those in countries outside of the U.S.

The research focus was on the CIO role so this does not provide data for how all new executives within the same organization might experience taking charge and subsequent organizational socialization. Nor does it provide insight into how a specific organization approaches integrating new executives.

A limitation exists in the reporting level of the participating CIOs. Almost all of the CIOs in the study reported to the CEO/COO and were members of the top management team. The study does not capture the experience of CIOs who report lower in the organization (e.g. to the CFO) and are not members of the top management team. Since reporting level has been linked to strategic contribution (Banker et al., 2011; Peppard, 2010; Smaltz et al., 2006) this might suggest that CIOs who are not part of the top management team might experience the Renewal phase differently or not at all.

Another limitation might arise from researcher bias as is the nature of qualitative research methods. As mentioned previously, the researcher has broad experience and an informed opinion about the topic and this cannot be completely eliminated from the analysis and synthesis of the study.

The research method is an interpretive approach adopting a social constructionist view. The data is socially constructed from the dialog between the researcher and the informant during the interview process. Answers may have been affected, either consciously or subconsciously, by the informant's

desire to portray their transition experiences in the most positive manner. This provides rich data to investigate, but can also be a biased account due to self-reporting rather than an objective observation by the researcher.

The study is one of an exploratory nature which resulted in a descriptive model, not tested hypotheses or propositions. It provides valid descriptions of a process within the context of the study. It is not meant to develop a generalizable theory beyond the research context and sample. Nor did the study attempt to capture and account for all moderating variables such as industry, country, or simply a measure of how strategically the organization uses information technology. For example, the taxonomy of executives is not likely to change drastically, but these moderating variables would influence how executives would cluster in the taxonomy.

1.7 Opportunities for future research

There are many opportunities for future research and I will address a few of them.

CIO recruitment

The recruitment of CIOs also emerged from the study as an interesting phenomenon that is worthy of further study. The dynamic process that occurs between the CEO and the Executive recruiter and the CIO candidate might offer interesting insights to finding the “right” person for the job. How the transition type is described, how role requirements are communicated by the CEO and translated by the recruiter into a candidate profile and perceived by the CIO would provide further insight into this process.

Transition type

Since the transition type is a significant influence on the process an increased understanding of how these situations come to be is interesting. For example, do they arise from the appointment of a new CEO or from a change in the incumbent CEO’s view of IT? What role does the predecessor CIO play that

results in the performance gap that has been described for transition types? How does the organization's strategic view of IT moderate the process? If a transition is created by under-funding IT what was the evolution of that situation? A deeper understanding of transition type antecedents is an area for further research.

CIO role conflict and ambiguity

The CxO taxonomy suggested in the study would be worth exploring with a much broader sample via a survey instrument. Whether the taxonomy would hold up to broader scrutiny is an interesting research question. A survey might provide the opportunity to also explore whether the executive's view of IT is formed more as a function of the individual or organizational level. This was not investigated in the current study. How executives might "cluster" in the taxonomy within or across organizations might provide insights when considered in light of other variables such as industry and strategic view of IT. In addition, does the CIO in such an organization experience "role conflict" to any great degree because of varying CxO perceptions and how do they manage this among different members of the role set?

Does an organization's strategic view of IT influence homogeneity among the top management team regarding their view of the CIO role? How much role ambiguity exists and what are the moderating factors?

Influence of reporting level

This study has the limitation that the CIO respondents were members of their respective top management teams. Recent research suggests that a firm's strategic positioning (differentiators or cost leaders) influences the reporting structure of the CIO (Banker et al., 2011). This begs the question whether the taking charge process would be different for CIOs who are not part of the top management team. Would they experience more role conflict and ambiguity? To what degree would such a CIO experience the Renewal phase of becoming a recognized business leader rather than an IT service provider?

CIO socialization

This study focused on the CEO/CxO members of the CIO's role set because the data suggested that subordinates did not significantly influence the socialization process. This presents an opportunity to expand our understanding of the socialization process by investigating the influence of the IT leadership team more deeply.

Further research is possible on detailed mechanics of how the CIO builds relationships with their stakeholders. There may be an opportunity to apply relationship / account management frameworks from professional services/marketing to this challenge of the CIO. CxOs are similar to internal buyers of the IT function's services. In many ways the CIO acts as an "account manager" balancing a complex set of relationships and expectations while providing services to the organization. This area of inquiry has promise.

A larger sample size might provide insights into differences across industries, company sizes or other demographics. In particular the findings suggest that taking charge in a government or university organization might be different from the private sector because the political environment is more complex and behavior norms are different from the private sector.

CIO derailment

Finally, an opportunity exists to increase our understanding of failed CIO transitions. CIOs change jobs voluntarily for many reasons (Weiss, 2012) but little research has identified factors for successful transitions by investigating failed transitions. This line of inquiry poses challenges in CIOs might be unwilling to admit failure and to describe the causes. However an approach might be to discuss this with executive recruiters or conduct several case studies interviewing CEOs or Human Resources executives regarding a failed CIO transition in their organization.

2 Project 1: Systematic literature review

2.1 Introduction

The investment in information technology (IT) has steadily increased over the past twenty years (Donahoe et al., 2010). According to the annual survey by CIO Magazine (CIO Magazine, 2010), the IT budget averages about 6% of total revenues and 16% of respondents said it was over ten percent. This significant investment contributes to enabling business changes that drive organizational performance improvements (Brynjolfsson and Hitt, 2000; Strassmann, 1990). The role of the Chief Information Officer (CIO) has evolved into an executive who holds significant responsibility for leading the organization in realizing these benefits (Ranganathan and Jha, 2008) although they do not have control over all the resources necessary to do so (Peppard, 2007). Effective CIOs are important to the organization.

2.2 Methodology

2.2.1 The review objective

The objective of this review is to systematically interrogate the existing research literature to confirm and further define the research gap that was identified in the Scoping Study and subsequent reading. The research gap identified was that there is very little research on how newly appointed Chief Information Officers (CIOs) take charge. Further, this taking charge process can be viewed as a process of leader socialization. Therefore, my research question is:

How do newly appointed CIOs take charge?

In order to investigate the research literature more fully, I have done a systematic literature review. I based the review on two review questions:

1. What are the leadership challenges for CIOs?

2. How is the leader socialization process conceptualized?

For purposes of this review, the term leader in the second review question is defined as an executive role, either as the CEO or member of the top management team. This excludes general newcomers or even managers. More exclusion criteria are discussed later.

Following a systematic review process to address these two review questions provides a more rigorous and transparent process in confirming the research gap. Tranfield et al (2003) describe the purpose of the systematic review in management research is to methodically search, review, extract and synthesize data in a transparent and replicable manner.

The objectives of the review in relation to the two review questions above are as follows:

1. To understand the unique leadership challenges of a CIO
2. To investigate how new leader socialization has been conceptualized in the literature
3. To inform the research design for the subsequent empirical projects

In order to address these review questions two domains of literature were investigated. These domains are described graphically in Figure 2-1.

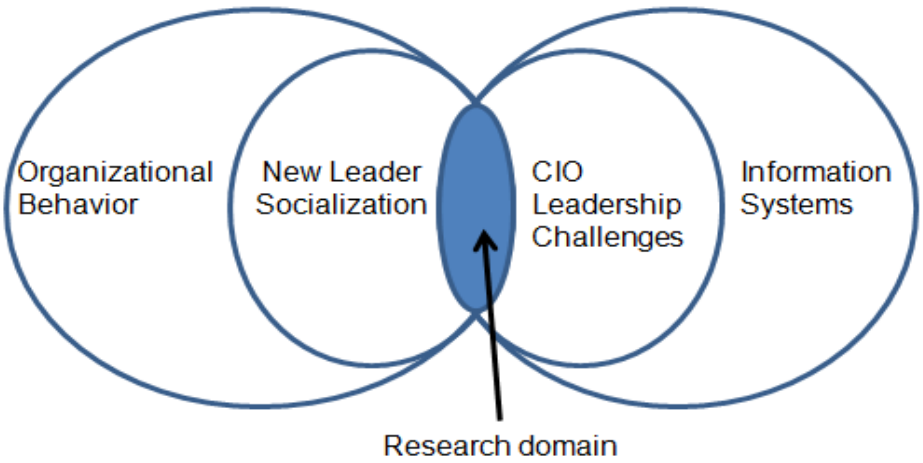

Figure 2-1 Literature domain map for the systematic review

The literature domain within the management research stream where studies of leader socialization are published is organizational behavior. Organizational behavior is the study of how organizations influence individuals and how individuals influence organizations. Organizational behavior is an inter-disciplinary field that draws on behavioral sciences such as anthropology, psychology and sociology to address management issues. This field deals with human behavior within organizations and this includes leaders. Leader socialization is an example of borrowing from sociology, role theory and socialization and applying it to leaders within organizations.

Information Systems is the domain that is interested in Chief Information Officers and therefore the research into their unique leadership challenges is found there. Information systems research spans a broad spectrum of research perspectives (positivist, critical, interpretist) addressing management issues at the industry, organization, function, team and individual levels of analysis. Information systems (IS) can be distinguished from computer science (CS) in that IS concerns itself with the management issues around information technology and CS is primarily interested in the technical aspects of the technology itself.

The review method follows an established methodology that is discussed in the next section.

2.2.2 The systematic review process

This systematic review was conducted using the methodology prescribed by Tranfield et al (2003) and is outlined in Figure 2-2.

Stage I – Planning the review
Phase 0 – Identification for the need for a review
Phase 1 – Preparation of a proposal for a review
Phase 2 – Development of a review protocol

Stage II – Conducting a review
Phase 3 – Identification of research
Phase 4 – Selection of studies
Phase 5 – Study quality assessment
Phase 6 – Data extraction and monitoring progress
Phase 7 – Data synthesis

Stage III – Reporting and dissemination
Phase 8 – The report and recommendations
Phase 9 – Getting evidence into practice

Figure 2-2 Stages of a systematic review (Tranfield et al., 2003)

In the following sections I will discuss the initial protocol for the review, subsequent changes to that protocol and explanations of why those changes were necessary.

2.2.3 The initial review protocol

In this section I will outline the initial protocols for conducting the systematic review process. In section 2.4 I will explain changes made to the initial protocol.

2.2.3.1 The review panel

The purpose of the review panel is to provide expert guidance to the researcher on the protocol for the review and the appropriateness of papers selected. Panel members are from the Cranfield School of Management. My panel members are described in Appendix A.

2.2.3.2 Literature sources, databases and search terms

In this section I will discuss the initial protocol plan for literature sources, databases and search terms.

2.2.3.2.1 Literature sources

I initially identified the following sources of literature that were potentially relevant for my review and these are listed in Appendix B. These included broad categories such as academic research and practitioner-oriented articles and books.

I also identified a number of highly rated academic journals that were relevant sources of literature. These journals are listed in Appendix C. These journals were selected based on their relevancy to the literature domains to be investigated and their quality ratings based on the Cranfield School of Management Journal Rankings, Eighth Edition, April 2011.

2.2.3.2.2 Databases

Several on-line databases are important sources of relevant literature and a way to access aggregate data from the other sources. These databases are listed in Appendix D. These databases were selected because they access publications in the sources identified in section 2.3.2.1.

In order to interrogate on-line databases specific search terms are required. The next section discusses the search terms described in the review protocol.

2.2.3.2.3 Search terms and process

There are several key search terms that relate to my review questions. These terms are listed in Table 2-1.

Key terms
Chief Information Officer, CIO, CEO, Leader
Challenges, effectiveness
Taking charge, Transition, Honeymoon
Socialization, assimilation, integration, induction

Table 2-1 Key search terms

Key terms were built into expanded search strings. Search strings were defined for each review question since they represented unique literature domains. The initial search strings are described in Table 2-2.

RQ1: What are the leadership challenges of CIOs?
(“Chief Information Officer” OR “CIO”) AND (“challenge*” OR “effectiveness”)
RQ2: How is the leader socialization process conceptualized?
(“CEO” OR “executive” OR “leader” OR “CIO” OR “Chief Information Officer”) AND (“transition” OR “induction” OR “honeymoon” OR “assimilation” OR “integration” OR “socialization”)

Table 2-2 Initial search strings

The preliminary search process was designed in four steps

1. Enter the initial set of search strings to interrogate the electronic databases
2. Search will be on full text where available, otherwise using title and abstract
3. If the search results exceed 300 hits using full text, then the search will be limited to title and abstract only
4. Relevant articles will be downloaded or requested from the Indiana University or Cranfield University libraries

The search process and search strings were amended during the course of conducting the searches and these amends are discussed in a later section.

2.2.3.3 Assessment criteria

The original protocol described the following criteria for selecting texts from the search results:

- Quality of academic journal

- Relevance of the book, article or other practitioner text
- Relevance to key terms
- Not constrained by time or geography

These original selection criteria were also modified during the search process and this is described in a later section.

In addition to the selection criteria there were criteria defined to exclude texts from the review. These criteria were:

- Literature on Chief Information Officers that is not relevant to leadership challenges
- Literature on socialization that is not focused on executives
- Literature that does not apply to the process of taking charge of a new assignment

The original protocol indicated that articles selected for inclusion would be subject to a quality assessment as well. This assessment would align to the Academy of Management Review Guidelines for Reviewers (Ireland, 2007-2010) as the quality criteria. These guidelines are described in Appendix E.

Literature can be assessed against these criteria using a simple scoring template. Each paper will be assessed using the following scoring system:

- Yes: the criteria is fully met (value=3)
- Somewhat: the criteria is partially met (value=2)
- No: the criteria is not met (value=1)
- Not Applicable: the criteria is not applicable for this paper (value=0)

Average scores for the criteria will be calculated. Papers receiving an average score of 1.5 or less in two criteria will be excluded from the review.

2.2.3.4 Data extraction and capture

Once a piece of literature is deemed relevant based on the selection criteria and the quality assessment it will be loaded into the EndNote reference management software.

The fields used to capture data about the reference are listed in Appendix F.

2.2.3.5 Conclusion

This section described in detail the systematic review protocol that I used to start my literature review. In the course of conducting searches the original protocol was amended and this process is described in the following section.

2.2.4 The final protocol: refinements

2.2.4.1 Review panel

Initially an external panel was proposed as well. However two challenges became quickly apparent. The first was since the role of the CIO is quite ambiguous the attempt to use informal, external reviewers resulted in both inefficiency as well as a lack of quality feedback. Similarly, the concept of leader socialization has not been extensively researched and a qualified and available external reviewer could not be identified in the time required.

2.2.4.2 Literature sources

Significant modification to the literature sources was made in limiting the sources of literature to peer-reviewed, academic journals. This was done primarily because the literature review is focused on how the review questions are described in the research literature rather than the practitioner press.

For example searching in Google for the term “Chief Information Officer leadership” returns 22,500 results. Searching for “CIO leadership challenges” returns only two results, both papers about systems implementation issues and not “leadership” challenges per se.

Searching Amazon.com for “CIO” results in 3,633 books and “Chief Information Officer” yields 211 results. These books are primarily prescriptions and anecdotes by former executives or management consultants and do not provide rigorous treatment of the subject. In addition, reports published by consulting firms and technology suppliers tend to also describe tactical management issues rather than “leadership” challenges. This distinction is discussed later in the CIO literature findings sections, but severely limits the usefulness of this type of literature to the review objectives.

I also added the journal IEEE Transactions on Engineering Management (3 rating) when several relevant papers emerged from a special edition on IS Leadership.

Therefore the decision was made to limit the source of literature to peer-reviewed, academic journals.

2.2.4.3 Search strings

There was one modification of the search string for the CIO literature to include the key term “leader*” in order to capture literature relating to CIO leadership. The final search strings are listed below in Table 2-3.

RQ1: What are the leadership challenges of CIOs?
(“Chief Information Officer” OR “CIO”) AND (“challenge*” OR “effectiveness” **OR “leader*”)**
RQ2: How is the leader socialization process conceptualized?
(“CEO” OR “executive” OR “leader” OR “CIO” OR “Chief Information Officer”) AND (“transition” OR “induction” OR “honeymoon” OR “assimilation” OR “integration” OR “socialization”)

Table 2-3 Final search strings

These search strings were then applied in the search process. Modifications to that process are described in the following sections.

2.2.4.4 Assessment criteria

The need for more detailed criteria became apparent as soon as I started conducting the searches. Because I was searching full text with the search strings many irrelevant papers were in the results. For example every paper that mentioned a CIO was displayed even if the CIO was not the unit of analysis. Similar issues occurred for all of my search terms. This was understandable, but did require more detailed criteria when reviewing the title and abstract to determine the relevancy to my review questions. Detailed inclusion / exclusion criteria are listed in Appendix G and were applied to this process.

The search process was ready to begin after refining literature sources, search strings and inclusion / exclusion criteria. I will describe the search process that was followed in the next section.

2.2.4.5 Search process

The most significant changes to the original protocol were made in the search process. The diagram in Figure 2-3 describes the literature search process.

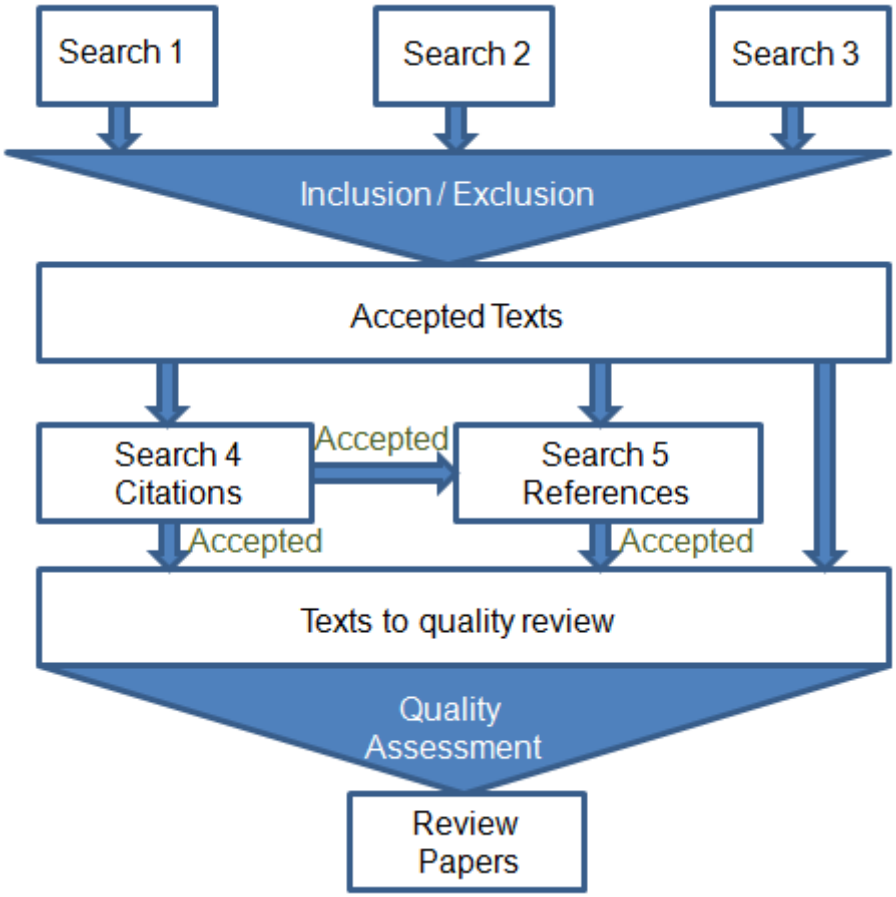

Figure 2-3 Final search process

The searches are described in more detail below.

- **Search 1**: The EBSCOhost database was searched with the final search strings for each journal source identified in Appendix C.

- **Search 2:** Google Scholar/IUCAT was searched using the final search strings and journal selections in order to catch material not available on EBSCOhost, e.g. JSTOR.

- **Search 3:** Google Scholar/IUCAT was searched using the final search strings <u>without</u> journal constraints in order to capture relevant material in other journals.

- Results were assessed using the inclusion/exclusion criteria described in Appendix G. The literature that passed this selection process was searched using the next two methods.

- **Search 4:** For literature that passed inclusion / exclusion criteria, The ISI Web of Knowledge database was used to conduct a “forward” search of all citations. These papers were reviewed and assessed using the same inclusion / exclusion criteria. In the event that ISI Web of Knowledge did not include the paper, Google Scholar was used to identify citations.

- **Search 5:** For literature included from searches 1-4, the ISI Web of Knowledge database was used to conduct a “backward” review of all references from those texts applying the same inclusion/exclusion criteria. In the event that ISI Web of Knowledge did not include the paper, the references were reviewed manually.

- Texts that passed through all searches were subsequently assessed using the quality criteria in Appendix E.

- Texts that passed the quality criteria were included in the review.

Conducting this search process provided a set of texts to review and synthesize. A brief description of my analysis approach is described in the next section.

2.2.5 Analysis and synthesis

This systematic literature review is an exploratory piece of research in that I did not fully know what the literature would say regarding my two review questions. An analysis approach was not predefined in my review protocol. However I expected that identifiable themes would emerge from the literature and provide the basis for developing a new theoretical model. This is an inductive exercise and consistent with the grounded theory approach (Glaser and Strauss, 1966).

The CIO literature presented a challenge: how to distinguish between “leadership” and routine “management”. “Leadership” is conceptualized in the literature so many different ways that this presented a challenge. I will expand on my findings in Section 3.

Synthesizing the leader socialization literature was much simpler mainly because of the paucity of research that has been done in this area.

NVivo 9 was used as a tool to automate coding of the literature themes. An NVivo project was created for each literature domain/review question. Selected papers were then added as sources in the database. Each paper was reviewed inside NVivo and conceptual themes emerged from the literature. These themes were added in NVivo as Nodes and relevant portions of each paper were clipped and coded accordingly. These themes are described in detail in Section 3 of this paper. As new themes emerged, new nodes were created.

2.2.6 Results

In this section I will provide some results from the search process described in section 2.4.4.

2.2.6.1 CIO leadership challenges

The overall search results for the CIO leadership challenges review question are shown in Table 2-4.

Search Step	Description	Reviewed	New Selected	Selection Rate
1	EBSCOhost	120	9	7.5%
2	Google Scholar – journal constrained	516	12	2.3%
3	Google Scholar – no journal constraint	1151	1	0.0%
4	Citation search	748	4	0.5%
5	Reference search	1786	1	0.0%
Total		**4321**	**27**	**0.6%**

Table 2-4 Overall search results for CIO leadership

The search results provided some interesting insights. The first is that the Google Scholar search yielded twelve more papers than the EBSCO search using the same search string and the same journals. This supported my observation that searching within the EBSCO database is not a reliable process as I have experienced this issue in prior literature searches. EBSCO especially does not handle the Boolean logic of search strings well. I discussed this issue with Heather Woodfield at the Cranfield University library and we could not resolve it.

I was surprised by the low selection rate doing citation searches for the initial 21 papers. Since these papers were relevant to my review question I expected to find other studies that incorporated them. An explanation of this might be since these 21 were relevant to a very specific review question there were not that many “incrementally” new studies. Many of the citations from the earlier papers were more recent papers already selected in the three primary searches.

Likewise the very low selection rate from reviewing references in the 25 selected papers (21 from primary search plus 4 additional from citations) is explained that most of the references were used in the papers to set up the argument or provide literature positioning, not because they were similar studies in CIO leadership.

The 27 papers selected were then assessed using the quality criteria in Appendix E. The quality assessment details for the CIO literature are displayed in Appendix H. Of the 27 papers assessed, 17 were accepted into the review. A descriptive summary of the selected texts are listed in Appendix I.

2.2.6.2 Leader socialization

Overall search results for my leader socialization review question are in Table 2-5.

Search Step	Description	Reviewed	New Selected	Selection Rate
1	EBSCOhost	632	2	3.1%
2	Google Scholar – journal constrained	1457	0*	0.0%
3	Google Scholar – no journal constraints	2167	1**	0.0%
4	Citation search	322	0	0.0%
5	Reference search	363	0	0.0%
Total		**4941**	**3**	**0.1%**

***Search 2 resulted in the same relevant papers as Search 1

**Selected text was Gabarro's book, *The Dynamics of Taking Charge*

Table 2-5 Overall search results for leader socialization

The paucity of literature in this area surprised me. Unlike the previous search on CIO leadership challenges the Google Scholar search did not result in any additional papers beyond EBSCOhost. The same papers came up in both searches.

I made one exception to the criteria that all sources should be peer-reviewed academic papers. This was including John J. Gabarro's book, *The Dynamics of Taking Charge*. I made this exception for several reasons. The first is that this book is core to my thesis topic of how newly appointed CIOs take charge. It was the source of my thinking on the research question. Second, it is a book that delves into detail regarding the research method, positioning in the research literature as well as extensive references. In fact this volume supplied 166 references and 285 citations for me to review, far greater than other papers. Third, it is a study very much about socialization of leaders even though it is not positioned that way in the title. Gabarro initially set out to study how general managers build relationships and identified the taking charge process as an unexpected finding.

All selected texts passed the Quality Assessment as described in Appendix J. A descriptive summary of the selected texts included in this review are listed in Appendix K.

2.2.7 Limitations

Any research project is subject to limitations and this one is no different. The first limitation is the accuracy of the database search engines themselves. Most people assume that when they use technology as a tool that the technology works flawlessly. This is not always the case as exemplified by EBSCOhost. My experience was that this search engine does not adequately handle complex Boolean search strings and therefore the results are not reliable. Google Scholar searches returned more accurate and comprehensive results using the same search criteria. I tried to mitigate this risk by using both methods, but this is no proof that even together they returned all possible papers.

Another limitation is the exclusion of practitioner sources to focus only on peer-reviewed academic research. This focus best serves my research purpose in understanding how my review questions are documented in the academic literature. However it does not serve the purpose of being a broader based systematic review of all possible sources outside of academic knowledge.

The decision to focus on academic research also resulted from a limitation of time. As described in an earlier section the practitioner content on the two literature domains is vast to say the least. There simply was not enough time in the research project to evaluate and assess the ocean of practitioner literature to find relevant nuggets that are additive to knowledge captured in the academic literature.

2.2.8 Conclusion

The systematic review process can produce reliable knowledge and enhancing the management research knowledge base (Tranfield et al., 2003). This project

provided confirmation of the research gap using a more rigorous and transparent method than I had used previously.

The project also provided a micro-experience of the research experience overall. Defining the research question, designing the methodology, collecting and analyzing the data and writing the synthesis are all activities in any research project regardless of whether it is primary or secondary research.

In the subsequent sections I discuss my findings in addressing the two review questions.

2.3 Findings – CIO leadership challenges

2.3.1 The nature of CIO leadership

The research on Chief Information Officers (CIOs) has evolved from understanding the nature of their emerging role to developing more complex models of their effectiveness. One of the first uses of the term "Chief Information Officer" was in 1981 (Synnott and Gruber, 1981) to describe a new role in information technology leadership. A number of studies then were published which analyzed this new role and argued it was a management role rather than a technical one (Ives and Olson, 1981; Miller, 1983) and further for the CIO to play a more strategic role as part of the top management team (Applegate and Elam, 1992; Benjamin et al., 1985; Emery, 1991; Highbarger, 1988; Raghunathan and Raghunathan, 1989; Rockart, 1982). More recent research has explored different "types" of CIOs based on a number of different parameters (Chun and Mooney, 2009; McLean and Smits, 2003; Peppard et al., 2011) further supporting that the role itself is ambiguous (Peppard et al., 2011). Thirty years ago when the role of the CIO emerged the focus was on distinguishing it as a management role versus a technical one. Currently the research explores more about the leadership challenges of the CIO as a member of the top management team within the organization.

Leadership attributes of a successful CIO are very similar to other CxO executives (Peppard, 2010). However the CIO role presents leadership

challenges in a context unique from other general managers; “CIO leadership is unique and idiosyncratic in its processual, structural and intellectual challenges” (Karahanna and Watson, 2006). The complexity and breadth of the role requirements has even provoked speculation that it is an assignment too big for one person (Earl, 2000).

“There are almost as many different definitions of leadership as there are persons who have attempted to define the concept” (Bass, 1990). Many years after these words were written the concept of leadership has not become any clearer (Northouse, 2004). Northouse (2004) defines leadership as individuals influencing others to accomplish goals. Leadership has also been defined as shared (Pearce and Conger, 2003), as socially constructed (Grint, 2005), as transactional/transformational (Bass, 1990) and many other ways beyond these. Searching Google Scholar for “leadership” returns 1,970,000 results. Searching for “definition of leadership” results in 4,860 with the second result being a paper entitled “The Ambiguity of Leadership” (Pfeffer, 1977)!

Therefore the choice of words in my first review question regarding “leadership challenges” for CIOs is a precarious choice indeed. Karahanna and Watson (2006) admit that our understanding of IS leadership is limited. The authors reinforce this by referencing data regarding CIO dismissal rates that is fifteen years old. In reviewing the literature they provide references that include descriptive studies done simply to understand what the role of the CIO was twenty plus years ago. The research on “leadership” of CIOs is sparse, although much of the literature they reference is included in this review.

A unique perspective on the ontology of leadership is offered by Drath et al (2008). The authors suggest that the most common ontology of leadership is described by Bennis (2007); “in its simplest form, it is a tripod – a leader or leaders, followers and the common goal they want to achieve.” The authors argue for a different ontology based on outcomes or DAC (direction, alignment and commitment). Their argument is that leadership in contexts that are peer-like and collaborative are limited by the tripod ontology where formal leader - follower relationships may not exist and should be evaluated based on

leadership outcomes. CIOs operate in organizational contexts that are highly peer-oriented and collaborative. Therefore, I identified key CIO leadership outcomes discussed in the research literature. These challenges are described in the next sections.

2.3.2 CIO leadership challenges

In reviewing the literature I identified four types of leadership challenges for CIOs. They are:

- Setting Strategic Direction
- Building a Shared Understanding
- Gaining Commitment
- Integrating Knowledge

The subsequent sections describe these challenges in detail. Appendix L contains an overall map of the literature to each leadership challenge.

2.3.2.1 Setting strategic direction

One leadership challenge for the CIO is to set direction in IT and business strategy. Setting direction in terms of IT strategy is a fundamental role for the CIO and an early model of this process, the *Strategic Alignment Model*, was developed (Henderson and Venkatraman, 1993). The authors argue that a significant reason that firms failed to realize value from IT investments was lack of alignment (investing in IT projects that had little relevance to the business strategy).

The state in which a high-quality set of interrelated IT and business plans exist has been characterized as the “intellectual dimension of business-IT alignment” (Reich and Benbasat, 2000). Creating these plans requires that the CIO understand the business strategy and the needs of the top management. CIOs are more effective influencers if they bring IT initiatives that are aligned to

business strategy (Enns et al., 2001). This alignment process is echoed in another definition of Business-IT alignment: “applying IT in an appropriate and timely way and in harmony with business strategies, goals and needs” (Luftman and Brier, 1999). Aligning IT and Business plans is important, but not a significant leadership challenge in and of itself. Reich and Benbasat (2000) found that the effectiveness of the planning process was due more to the formal organizational strategic planning processes in place rather than leadership of the CIO specifically.

A genuine leadership challenge for the CIO is to influence the development strategic business direction as opposed to simply supporting it. This begins by creating a vision for how IT resources can be leveraged into a competitive advantage rather than simply a necessary part of doing business (Peppard, 2010). Providing this direction has also been defined by as “the ability to identify and evaluate the implications of IT-based opportunities as an integral part of business strategy formulation and define the role of IT”(Peppard, 2007, p. 339).

Promoting IT as an agent for business transformation is a perspective that the CEO expects the CIO will bring (Feeny et al., 1992) but this greatly depends on the CIO’s strategic decision-making authority. The CIO’s strategic decision-making authority is the degree to which the CIO has the authority to engage in strategic decision making within the organization (Preston et al., 2008a). Preston et al found that the CIO strategic decision-making authority directly influences the impact made by IT within the organization. The impact made by IT on the organization is another way of describing the value that IT provides. Demonstrating and proving the value of IT investment is a strategic challenge for the CIO (Peppard, 2010).

The strategic decision-making authority of a CIO is directly related to those companies that have top management teams that are supportive of IT (Peppard, 2010; Preston et al., 2008a; Smaltz et al., 2006). This latitude is necessary for the CIO to make the types of changes in strategic direction that are needed by the organization. One study in particular focused on CIO

strategic decision-making. Preston et al (2008a) used two theories from strategic management research: the theory of managerial discretion (Hambrick and Finkelstein, 1987) and the theory of power and politics (Yukl and Heaton, 2002) to identify antecedents that influenced the CIO's strategic decision-making authority. The research model is shown in the Figure 2-4.

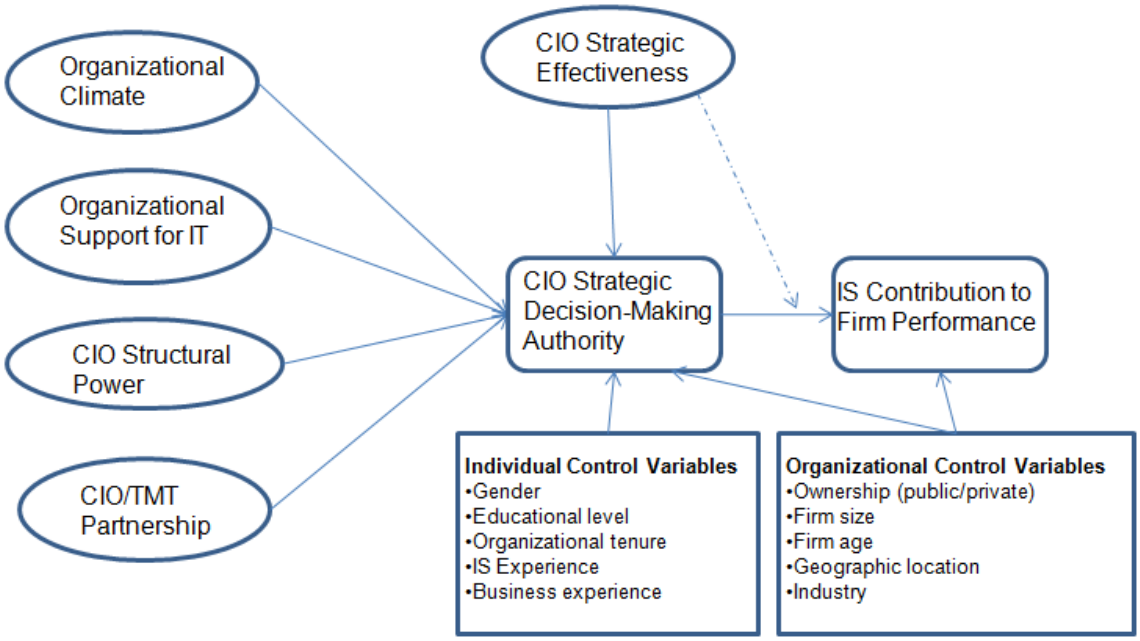

Figure 2-4 Preston et al (2008a) research model

They found that CIO strategic decision-making authority was enhanced by an organizational environment that promoted managerial discretion, displayed strong support for IT and where the CIO was a member of the TMT. They also found that these factors were necessary, but not sufficient. The CIO must be perceived individually as strategically effective as a leader in order to exploit an advantageous organizational environment. This individual strategic effectiveness is a function of the CIO's business and IT knowledge (Peppard, 2010; Preston et al., 2008a; Smaltz et al., 2006). The Preston et al study also reports that a higher level of CIO strategic decision-making authority is directly linked to a higher contribution of IT to firm level performance.

Another perspective on the CIO setting strategic direction was taken by Chen et al (2010) as they looked at supply-side and demand-side leadership. Supply-side leadership is focused on exploiting the organization's current IT infrastructure with a focus on efficiency and effectiveness. Demand-side leadership is more business-oriented and includes how an organization might use information technology as a competitive resource. The study provides an interesting insight that before CIO's can take up demand-side or strategic leadership it was first necessary to establish supply-side leadership. This is consistent with findings of Reich and Benbasat (2000) that IT project implementation success positively influenced the communication between business and IT. Practically speaking a CIO will not be allowed by the organization to contribute to strategy if he/she has not first demonstrated that they can deliver reliable, effective and efficient services to the organization.

In order to have the required organizational support the CIO needs to create a shared understanding of IT with the CEO and within the top management team. This is the next leadership challenge to be discussed.

2.3.2.2 Building a shared understanding

The literature has a lot to say about CIOs creating shared understanding. In addition to the "intellectual" dimension described previously, Reich and Benbasat defined another dimension as "social" (2000). The social dimension of alignment is defined as "the state in which business and IT executives within an organizational unit understand and are committed to the business and IT mission, objectives and plans" (Reich and Benbasat, 2000, p. 82). In creating a shared understanding of the role of IT in the organization the literature highlights three leadership objectives. The CIO must develop strong business knowledge and they must build understanding with the CEO and also with their top management team peers. Each of these objectives are discussed in more detail.

CIOs are subject to some stereotyping based on the perceptions of other executives and a significant way to overcome this stereotype is to "speak the

same language" as their top management peers (Peppard, 2010). This requires that the CIO has some shared domain knowledge (the business) and can communicate in business language rather than technical jargon (Enns et al., 2001). The CIO's business knowledge directly impacts the development of shared understanding with top management (Preston and Karahanna, 2009). The implication for the CIO is that they need to either come into the role with significant business knowledge or prioritize gaining that knowledge quickly in a new appointment. Preston and Karahanna (2004) found that business knowledge was more effectively exchanged from the TMT to the CIO through formal information sharing structures like meetings, planning sessions and retreats rather than via informal educational mechanisms. Whether the knowledge of the business is gained through prior experience or self-education by the CIO the previously discussed research demonstrates it is a critical step in creating a shared understanding among top managers.

Another area of research on creating a shared understanding regarding IT has focused on the CIO's relationship with the CEO. One critical aspect of this process is for the CIO to clearly understand the CEO's views on information technology's role in the organization (Feeny et al., 1992). A shared understanding with the CEO also frames the expectations of the CIO and his/her strategic decision making authority (Peppard, 2010; Preston et al., 2008a).

Building a shared understanding is a two-way process of communication. Frequent communication between an organization's CEO and CIO leads to greater convergence about the current and future role of IT (Johnson and Lederer, 2005). Convergence is the term that the authors use to describe coming to a shared understanding. The authors used communication theories of frequency, channel richness and convergence to develop a model of CEO/CIO communication. Frequency is simply how often do the CEO and CIO communicate about IT and business issues. Channel richness refers to the extent that the communication medium clarifies issues and facilitates

understanding between two individuals. Their theoretical model is shown in Figure 2-5.

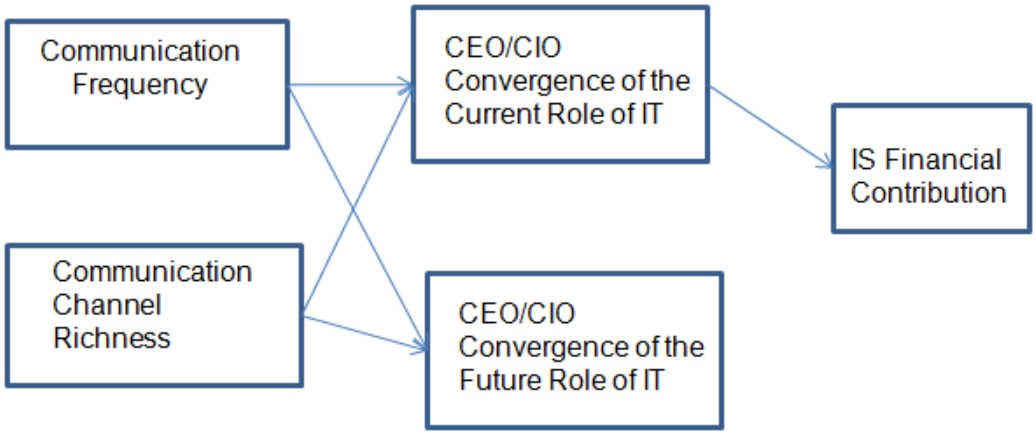

Figure 2-5 Research model of CEO/CIO communication (Johnson and Lederer, 2005)

The study supported the notion that frequent communication and channel richness between a CEO and CIO generally resulted in convergence regarding the current and future role of IT. This relationship was weaker with issues that tended to be unequivocal and this is logically reasonable. Less effort is needed to develop a shared understanding if the issue is not complex and generally understood by all.

The final group that requires a shared understanding of IT with the CIO is the top management team (TMT). CIOs who are active members of the TMT have more frequent formal interactions that build the CIOs business knowledge and peer credibility (Armstrong and Sambamurthy, 1999). As mentioned earlier in this section business knowledge is crucial to the CIO's strategic decision making leadership. This "shared domain" knowledge also showed unambiguous connection to creating a shared understanding about IT. This understanding was described as "the ability of IT and business executives, at a deep level, to understand and be able to participate in other's key processes and to respect each other's unique contribution and challenges" (Reich and Benbasat, 2000). Working with the top management team in this manner also

contributes to overcoming the stereotype of the CIO as a “techie” (Peppard, 2010).

CIOs have reported spending significant amounts of time working with their peers in the top management team in order to be viewed as peers and gain a shared understanding (Enns et al., 2003a; Leidner and Mackay, 2007; Preston et al., 2008a; Watts and Henderson, 2006). However the CIO must already be a competent executive in the eyes of their peers. A significant finding in one study was that interactions with the top management team were necessary but not sufficient for the CIO to be effective (Smaltz et al., 2006).

An empirical study that addressed this issue was done by Preston and Karahanna (Preston and Karahanna, 2004). The researchers viewed this process as developing shared mental models (SMMs) between the CIO and TMT about the role of IS in the organization. Their research model is in Figure 2-6.

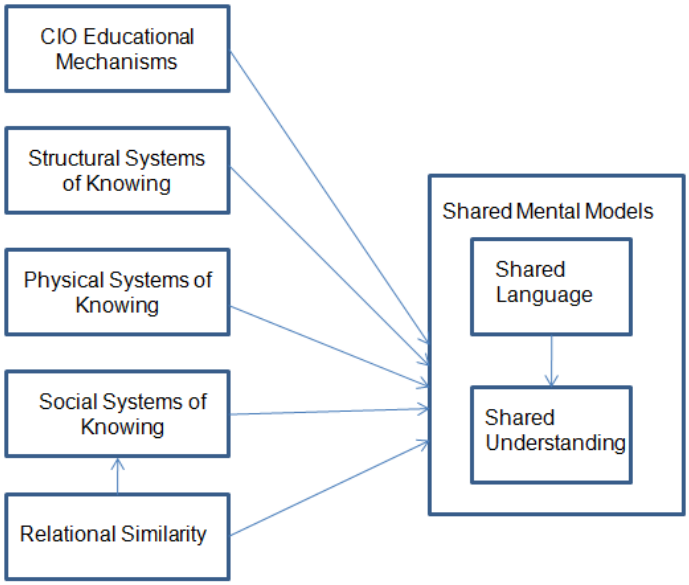

Figure 2-6 CIO / TMT SMM model (Preston and Karahanna, 2004)

The study yielded some insightful findings. Consistent with expectations, the findings showed that formal communication methods such as CIO educational mechanisms and structural systems of knowing (meetings, planning sessions, etc.) contributed to developing shared mental models regarding IT’s role and

contribution. However physical (proximity) and social (informal) systems of knowing did not contribute to this development. Interestingly the study found, consistent with prior research, that relational similarity improved the social systems of knowing. This means that the more the CIO has in common with other members of the top management team the more effective informal knowledge sharing will be.

This has implications for a new CIO without prior industry knowledge in integrating with a top management team cohort. This CIO will necessarily have to rely on formal mechanisms in order to build shared understanding among the team. Alternatively a CIO who is an insider or comes with prior similar experience can leverage informal systems as well as the formal mechanisms for building shared understanding. How long it takes an outsider CIO to be considered an “insider” is not known from the literature.

Research clearly shows that building a shared vision is a critical leadership challenge for a CIO. This includes learning the business in depth, understanding the CEO’s view of IT as well as collaborating with the TMT.

2.3.2.3 Gaining commitment

Gaining commitment is another leadership challenge for CIOs that emerged from the literature. The CIO must gain commitment from their leadership team to the IT vision and influence the top management team to support strategic IT initiatives. These two examples of gaining commitment are explored in more detail.

The importance of the IT leadership team to the CIO has been under-reported in the research literature. There are studies where this challenge is highlighted as a significant one for CIOs. One study found unanimous agreement from the CIO informants that they were only as good as their leadership team (Peppard, 2010). The data also suggested that CIOs under-estimate the time required to build a strong leadership team. A number of CIOs lamented the challenge of finding people for leadership roles in the IS organization. This was characterized as an “IT human resource crisis” by another study (Leidner and

Mackay, 2007) caused by high turnover and even downsizing due to budget reductions. Another study focused on innovative IT organizational climates highlighted CIO efforts to build leadership skills in their teams as well as give them opportunities to network with their peers outside of IT (Watts and Henderson, 2006). It is clear from the literature that building a strong IT leadership team is one dimension of a CIO's leadership challenge of gaining commitment.

The second dimension is influencing others in the organization to support and engage with strategic IT initiatives. It is crucial that the executives are involved with IT initiatives to increase the probability of realizing the planned business value from such investments (Peppard, 2010). A leadership challenge for the CIO is securing the engagement and active participation of business colleagues in IT issues. Barriers to gaining this commitment from other executives have been reported to be bringing IT projects not related to business strategy, using technical rather than business language, and not creating a compelling case for change (Enns et al., 2001). This approach is consistent with a study of CIOs gaining commitment from the business for new, innovative IT initiatives (Watts and Henderson, 2006).

A significant study was conducted by Enns et al (2003b) on CIO lateral influence behaviors. Figure 2-7 is the authors' research model.

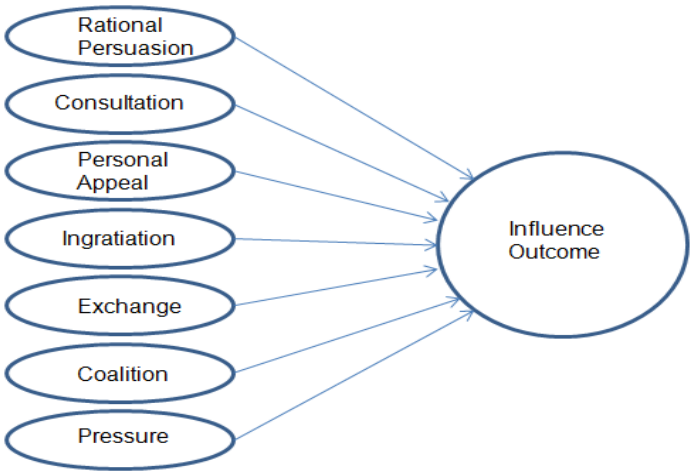

Figure 2-7 Enns et al (2003b) research model

Table 2-6 describes the study's research propositions and results.

Proposition	Description	Result
1	Rational Persuasion will be positively related to the influence outcome	Supported
2	Consultation will be positively related to the influence outcome	Not supported
3	Personal appeal will be positively related to the influence outcome	Supported (but with caution)
4	Ingratiation will be negatively related to the influence outcome	Not tested
5	Exchange will be negatively related to the influence outcome	Supported
6	Coalition will be negatively related to the influence outcome	Not supported
7	Pressure will be negatively related to the influence outcome	Supported

Table 2-6 Enns et al (2003b) propositions and results

Although the use of rational persuasion was supported there was also data that suggested that rational persuasion alone would not be effective in all cases. The data suggested that CIOs tend to combine tactics in a way that they use informal methods like personal appeal and consultation first and then follow those with rational persuasion. Certainly beating the drum of evidence in the face of resistance will only serve to harden the resistance to the initiative without using some softer tactics as well.

In summary, gaining commitment is a key leadership challenge for a CIO described in the literature. Motivating and gaining commitment of the IT leadership team to the IT vision is an underappreciated challenge for CIOs. It is also crucial that a CIO gain the commitment of their top management peers to be engaged and actively involved in strategic IT initiatives in order to realize value from those investments.

The CIO has the opportunity to go beyond setting strategic direction, building a shared understanding and gaining commitment from peers. The CIO has the

opportunity to integrate and coordinate knowledge across the organization and top management team leading to the last leadership challenge identified in the literature.

2.3.2.4 Integrating knowledge

The final leadership challenge derived from the literature is that the CIO has the opportunity to integrate and coordinate knowledge across the enterprise. Cohen and Levinthal (1990) argued that interactions between individuals with diverse and specialized knowledge increased the organization's capability to innovate. Kogut and Zander (Kogut and Zander, 1992) introduced the concept of "combinative capability" to describe how an organization integrates knowledge from multiple sources that is competitively important. Knowledge integration is a critical organizational capability (Gold et al., 2001; Grant, 1996b; Tsoukas, 1996). The ability of the CIO to integrate business and IT knowledge influences how effectively an organization assimilates information technology solutions to realize business value (Armstrong and Sambamurthy, 1996; Peppard and Ward, 2005; Preston et al., 2008a).

One way to accomplish this is to act as the technology "coach" to the top management and build their IT savvy or digital literacy. Increasing the IT savvy of the top management team significantly contributes to creating a shared vision about how IT can create value in the organization (Peppard, 2010; Preston and Karahanna, 2004). Through formal mechanisms the CIO can build not only a shared understanding with the TMT, but increase their knowledge of IT as well (Preston and Karahanna, 2009). Formal interactions provide the CIO the opportunity to impart IS knowledge to the TMT and to also to create a forum for integrating the CIO and TMT perspectives on the business and IT. Preston and Karahanna (2004) in a another study found that formal knowledge exchanges increased the shared mental model between the CIO and TMT. These formal exchanges included CIO educational mechanisms where the CIO used forums, discussions, seminars and other formal interactions to explain IT contribution to their peers in the top management team. Bassellier et al (2001) found that the more business executives know about IT, the more likely they will champion IT.

This indicates that the building of a shared understanding is a reciprocal process. Not only does the CIO need to gain some business understanding from the TMT but the CIO also can increase the digital literacy of the TMT (Smaltz et al., 2006).

CIOs have the opportunity to integrate knowledge across TMT members and across the enterprise as well. Given the enterprise-wide nature of their responsibilities and the need to understand a large cross-section of the business the CIO is in a unique executive position. The CIO can act as a catalyst for knowledge transfer across business functions (Smaltz et al., 2006; Watts and Henderson, 2006). Watts and Henderson (2006) found that in the most innovative IT environments that CIOs established very formal mechanisms for collecting and disseminating this knowledge.

Knowledge integration was highlighted as one of the key challenges for the CIO in building IT competencies and described the necessity of integrating knowledge from the IT function and the other functions with "the business" (Peppard, 2007). The model of this distribution of knowledge across the enterprise is shown in Figure 2-8.

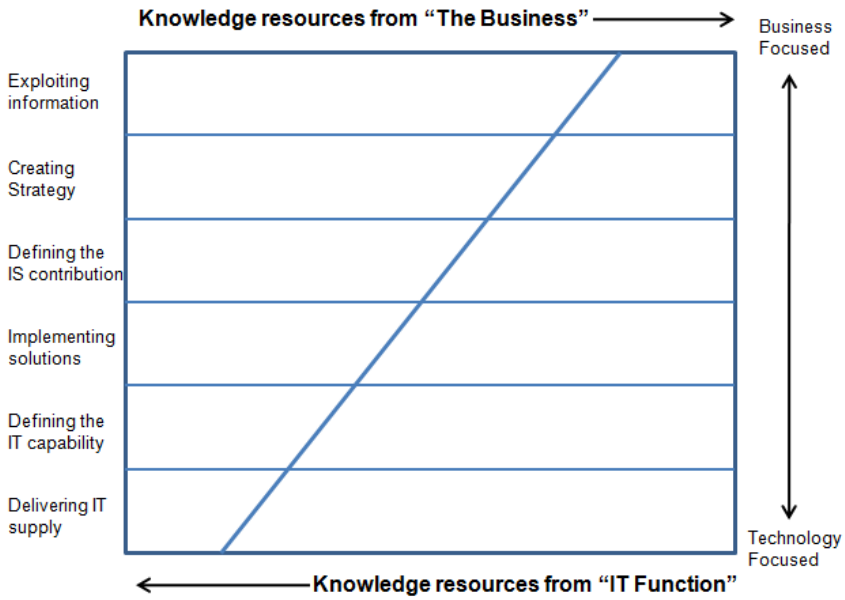

Figure 2-8 Distribution of knowledge for competencies: business or IT bias (Peppard, 2007)

The paper integrates the theory of social capital as a theoretical model of how this knowledge integration takes place. The key insight here is that CIO leadership is not about "optimizing" the IT function but rather integrating the business and IT knowledge within the organization in order to realize value from IT investments. This study also found, consistent with Karahanna and Preston that CIO use formal educational programs to both improve the top management team's understanding of IT but also the IT team's understanding of the business.

None of these leadership challenges exist in a vacuum nor is the CIO completely in control of how he/she addresses these challenges. In the next section I will discuss how organizational context emerged as a key them in the selected literature.

2.3.3 A model of CIO leadership challenges

Another significant finding in the literature is the influence that organizational context plays in CIO leadership. One study in my selected literature that addresses this directly investigates how CIOs establish innovative climates (Watts and Henderson, 2006). The authors adopt the definition of organizational climate as defined by Reichers and Schneider (1990) as "the shared perception of the way things are around here. More precisely, climate is shared perceptions of organizational policies, practices and procedures" (p. 22). The authors also link climate and leadership by citing that Dickson et al (2001) posited leaders shape organizational climate by engendering shared understandings of organizational values and practices. In their model, Figure 2-9, Watts and Henderson define organizational climate as a mediating variable between leader practices and organizational practices.

Figure 2-9 Watts and Henderson (2006) model

Within this framework the authors relied on previous organizational climate theory to describe dimensions such as peer-networking, support, motivation to achieve and innovation as individual components of climate. Structure was also included as a dimension that transcends the individual level and captures mechanisms that allow leaders to embed practices and procedures into the organization. The findings were that the four individual dimensions impact on an innovative climate were supported and practices identified to embed those dimensions into the organization structure.

While other studies have not dealt directly with organizational *climate* per se, the theme of **context** emerges often. However there is no generally recognized dimension as organizational context and therefore this concept is operationalized differently in almost every research study. Sometimes as multiple independent variables and sometimes as control variables and often operationalized both ways in the same study. The following discussion describes how organizational context has been applied in the CIO leadership literature included in this review.

Chen et al (2010) incorporated context in independent variables such as CIO structural power and organizational support for IT and the control variable of IT vision. These variables represented how the CIO was slotted into the organization's structure, how well the organization provided resources for IT initiatives and whether the organization used IT to transform traditional ways of doing things. Findings included that CIOs that were part of the top management team and in organizations that viewed IT strategically were allowed to provide more strategic direction.

Smaltz et al (2006) also captured the hierarchical level of the CIO as an independent variable in their study on CIO effectiveness in healthcare industry organizations, but little else about the organizational context. They did identify a control variable of strategic orientation according to Porter's typology but nothing that captured the organization's view of IT.

Preston et al (2008a) found that CIO strategic decision-making authority was enhanced by an organization environment that promoted managerial discretion, displayed strong support for IT and where the CIO was a member of the TMT. Strong support for IT could be considered a proxy for how strategic the organization views information technology.

A study of incoming CIOs used predecessor type as a proxy for organizational context making the assertion that the organization's views of IT were solely formed by the previous CIO (Leidner and Mackay, 2007). While this is overly simplistic it does indicate that the authors understand the importance of organizational context to CIO's leadership.

Peppard (2010) viewed organizational context variables in a more complex way than others. Contextual variables identified by him are:

- Strategy and role of IT
- IT savvy of the CEO and CxOs
- CEO/CIO expectations
- IT operating model
- IT decision-making processes
- IT value realization processes

He found that the *environment* (my emphasis) in which the CIO operates is a significant determinate of effectiveness, more than their individual competencies alone. Individual competencies are necessary but not sufficient for a successful CIO.

A summary of the application of organizational contextual variables in the CIO leadership literature is in Appendix M. Synthesizing these variables and accounting for differences in description rather than meaning yields six main contextual variables. These are described as follows:

- **Strategic IT vision:** This can be viewed as the degree to which the organization uses IT to transform traditional ways of doing business (Armstrong and Sambamurthy, 1999)

- **CIO Membership in TMT:** This the CIO's hierarchical level in the organization and whether they are considered a member of the top management team (Chen et al., 2010; Peppard, 2010; Preston et al., 2008a; Smaltz et al., 2006)

- **TMT IT Savvy:** This is an indicator of how the top management team recognizes that IT can impact performance, both operationally and strategically (Peppard, 2010)

- **IT Governance:** This represents a number of different practices that constitute decision rights and decision-making processes about IT such as strategic planning, prioritization and value realization processes. (Chen et al., 2010; Peppard, 2010; Preston et al., 2008a)

- **Predecessor Type:** The type of predecessor that the newly appointed CIO follows is influential in establishing role expectations within the organization (Burton and Beckman, 2007; Kaarst-Brown, 2005; Leidner and Mackay, 2007)

- **Capability of IT leadership team**: The quality of the IT leadership team reporting to the CIO (Chen et al., 2010; Leidner and Mackay, 2007; Peppard, 2010)

Organizational context, however defined in terms of CIO leadership, is an important factor that influences the challenges that a CIO faces. Therefore organizational context is a necessary part of any CIO leadership model. The model in Figure 2-10 describes the CIO leadership challenges as synthesized from the research literature in this study.

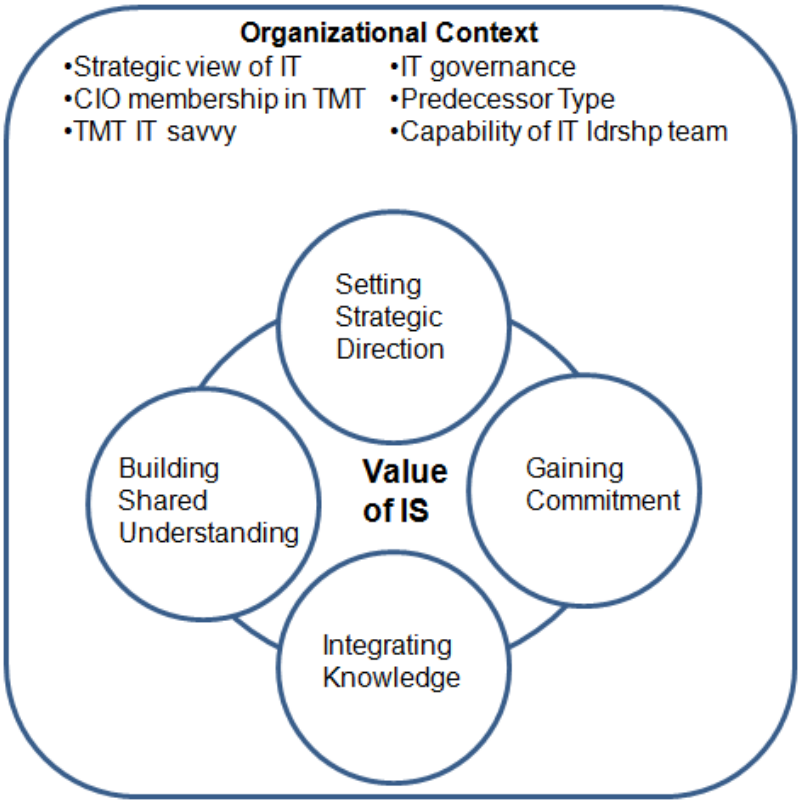

Figure 2-10 CIO leadership challenges model

A common thread that is woven through all of these leadership challenges is demonstrating business value from the investment in information systems and technology. This section was introduced with the concept of looking at leadership by the outcomes produced and the outcome most common from CIO leadership challenges is demonstrating that IS contributes value to the firm. Appendix N describes the different CIO practices and outcomes studied in the literature that are directly related to the contribution of IT to the business.

2.3.4 Conclusion

This section of the review was focused on addressing the review question: what are the leadership challenges for CIOs? The literature selected systematically is focused on the CIO as the unit of analysis and leadership challenges as the focus of the research. Analyzing the literature yielded four themes for CIO leadership challenges: setting strategic direction, building a shared understanding, gaining commitment and integrating knowledge. All of

these challenges exist within the context of the organization in which the CIO operates.

The literature provided common themes in identifying the key leadership challenges for Chief Information Officers. It should be noted that while these challenges do not normally occur in isolation there is not necessarily a nomological relationship between them. A CIO can influence business strategy without gaining the commitment of their peers to implement it. There may be commitment to action without a plan or a shared understanding of the goals and objectives of the plan. Integrating knowledge among stakeholders may be part of setting strategic direction but it might also occur in isolation from any IT/Business strategy.

How this model informs the overall research model will be discussed in Section 5. This concludes the review of the literature on CIO leadership challenges. The next section addresses the second review question.

2.4 Findings – leader socialization

2.4.1 A brief introduction to socialization

Organizational socialization is the process by which an individual acquires the social knowledge and skills necessary to assume an organizational role (Van Maanen, 1978; Van Maanen and Schein, 1979). It describes a process where “raw” newcomers are transformed into functional members of the organization. Organizational socialization applies to many types of organizations. It is applied to the process of becoming a soldier, a Catholic priest or an executive with Apple. This section introduces the concept of socialization with a brief overview as it has been researched within the management domain and applied to a corporate organizational context.

Organizational socialization is a process of mutual adjustment between the individual and the organization. The organization seeks to influence and shape its members while the individual is trying to define and shape his/her role within the organization (Fisher, 1986). Socialization refers not only to the adjustment

to a specific organization but also to the learned behaviours from multiple career experiences in the case of a specific vocation or profession (Hall, 1987; Van Maanen and Schein, 1979).

Stages of the socialization process have been studied by several researchers (Buchanan II, 1974; Feldman, 1976; Schein, 1978). These models focus on identifying the sequence and timing of stages that an individual passes through from outsider to insider. The models suggest three distinct phases. The first stage is where the individual prepares to join a new organization. The second is described as how the individual begins to understand their role and how the organization works. The final stage is when the individual becomes a fully functioning member of the organization.

The Organization's perspective

One stream of research in organizational socialization is concerned with the actions that an organization can take to achieve certain socialization outcomes. Buchanan (1974) studied how different organizational experiences impacted managers' commitment over the course of their tenure with an organization. He found that commitment was influenced by varying experiences unique to stages of their tenure. Van Maanen (1978) built on this concept and identified seven "people processing" dimensions for organizations. These seven dimensions described the tactics that an organization could apply to the socialization process. This research launched a plethora of studies focused on identifying what organization actions/tactics would bring about outcomes such as turnover reduction, job satisfaction, commitment and promotion (Allen, 2006; Allen and Meyer, 1990; Ashforth and Saks, 1996; Ashforth et al., 2007; Chao et al., 1994; Jones, 1986; Saks et al., 2007). This stream of research focused primarily on the degree of individual conformity to the organization's demands and the resulting outcomes. The issue with this line of research for leaders is that it does not capture the leader's ability through the process to influence the organization. It is a one-way perspective of how the organization can "process" newcomers.

The Newcomer's perspective

Another stream of socialization research is to view the process from the newcomer's perspective. The process of altering and adjusting role expectations by a person is termed "role-making" (Graen, 1976) and also described as role-taking or role assimilation. The term 'enactment' also captures the notion of a manager actively, deliberately creating the environment rather than solely reacting to it when taking on a role (Weick, 1969). Fondas and Stewart (1994) provide a robust model of "expectation enactment" to describe the dynamics of how a manager can modify the expectations of their role.

"Role senders" provide the information required for enactment (Fondas and Stewart, 1994; Merton, 1957). Role senders in the case of the CIO might be the CEO, other top management team executives and direct reports. Newcomers also *actively* seek information about the role. Miller and Jablin (1991) provide a framework for information seeking behavior in newcomers that includes types of information and information seeking tactics. Morrison (2002) develops a more integrated model than Miller and Jablin by adding a temporal dimension. Several studies of newcomer information seeking and the impact on socialization have been conducted (Cooper-Thomas and Anderson, 2002; Major and Kozlowski, 1997; Morrison, 1993b; Morrison, 1993a), but do not study leaders. Information seeking behaviour is a component of socialization where the individual taking on the role is actively managing their role. Sievers and Beumer (2006) highlight this when they state that managing oneself in a role requires an extremely high level of consciousness regarding the forces and demands on one's role in order to act accordingly.

Much of the socialization research is focused on newcomers such as new college graduates or MBA students, although mid-level managers are included in some studies. While these are important groups and outcomes to study, new leaders provide a more complex set of issues. Leaders, as I define them, are defined as executives, either CEOs or members of the top management team.

The Leader's perspective

Leaders bring a complex set of beliefs built from previous experiences to a new appointment. They also bring a stronger set of expectations about the role than an inexperienced newcomer and they tend to have more discretion in enacting those role expectations (Ashford and Black, 1995; Fondas and Stewart, 1994; Mantere, 2008).

Socialization theory is promising because it is sensitive to the processual phenomena of a leader's adjustment to a new appointment. Socialization is an important process because even a top executive is influenced by the organization's belief systems and informal power structures. No leader, even the chief executive, has total control of all aspects of an organization (Fondas and Wiersema, 1997). The impact of organizational socialization on new leader transitions is under-emphasized in the management literature. This mutual adjustment process between executive and organization presents rich research opportunities.

The next section will discuss the findings from the three literature sources selected for this review in leader socialization.

2.4.2 Leader socialization

Gabarro (1987)

A significant study on leader socialization and taking charge was done by John J. Gabarro (1987). Gabarro studied 14 cases of executives taking charge of new assignments. Four of these cases were longitudinal and dealt with new division presidents. The other ten cases were retrospective and consisted of a range of industries, organization sizes and countries. Four of the historical cases were functional heads, three sales directors and one manufacturing director. Gabarro defined a successful transition as one in which the executive was in the job more than 36 months. The transition was a failure if the executive was fired within 36 months because of an inability to meet

management expectations. It is assumed that there was no voluntary attrition in his subjects. Four of the transitions were deemed failures.

Gabarro's key finding was that the executives all followed a similar five-stage process. The stages are: 1) Taking Hold, 2) Immersion, 3) Reshaping, 4) Consolidation and 5) Refinement. The organizational changes that executives made occurred in three waves. The first during the Taking Hold stage, the second, and typically largest, during the Reshaping stage and the last and smallest during the Consolidation stage. These stages and wave patterns existed regardless of the succession type, organization size or background of the executive. Another key finding was that executives that came from inside the organization passed through the stages more quickly than "outsiders" did. The third finding was that the "taking charge" process took longer than was expected.

There are several implications from Gabarro's work. One is that it contradicted the concept of fast track 2-3 year assignments for executive development. It took almost three years (an average of 33 months) for an executive to master a leadership assignment. He also found that background and experience mattered, implying that the idea of an all-purpose general manager was a myth. The third implication is that executives need to cultivate the interpersonal skills required for success.

There are several limitations to this research that are important to note. The first limitation is that Gabarro assumes that the subjects of his research have unlimited power to enact change on the organization. In this sense he fails to capture the more complex organizational context that influences all executives. While he does capture some contextual factors such as whether the executive is an outsider/insider and whether the division performance requires a turnaround approach, he treats these as simply inputs to a rational executive's decision-making process. He does not capture the mutual adjustment process of the organization exerting influence on how the new executive enacts his/her role.

The other key limitation is simply that of a deterministic stage model for a strategic process such as taking charge in a new appointment. According to Stubbart and Smalley (1999) these limitations are a result of the assumptions inherent in stage models. One assumption is that change only moves in one direction from beginning stages to the final stage. Another assumption is that all individuals move through every stage in sequence without providing for alternative paths through the model. Gabarro makes the statement that moving through these stages is “sequentially predictable” (p. 13). Stages that are discrete, as proposed by Gabarro, also imply that there is a discrete ending of one stage and the beginning of the subsequent stage. Complex transitions seldom are so distinct.

Fondas and Wiersema (1997)

Fondas and Wiersema (1997) ten years after Gabarro’s study endeavour to develop a theoretical model of CEO socialization and its influence on strategic change. The outcome of CEO socialization is operationalized by the authors as either “custodial” or “independent”. A Custodial orientation to change implies no strategic change at all, but rather to perpetuate the current strategic direction. Independent orientation implies a strategic change in direction made by the CEO. Figure 2-11 is the theoretical model developed by Fondas and Wiersema.

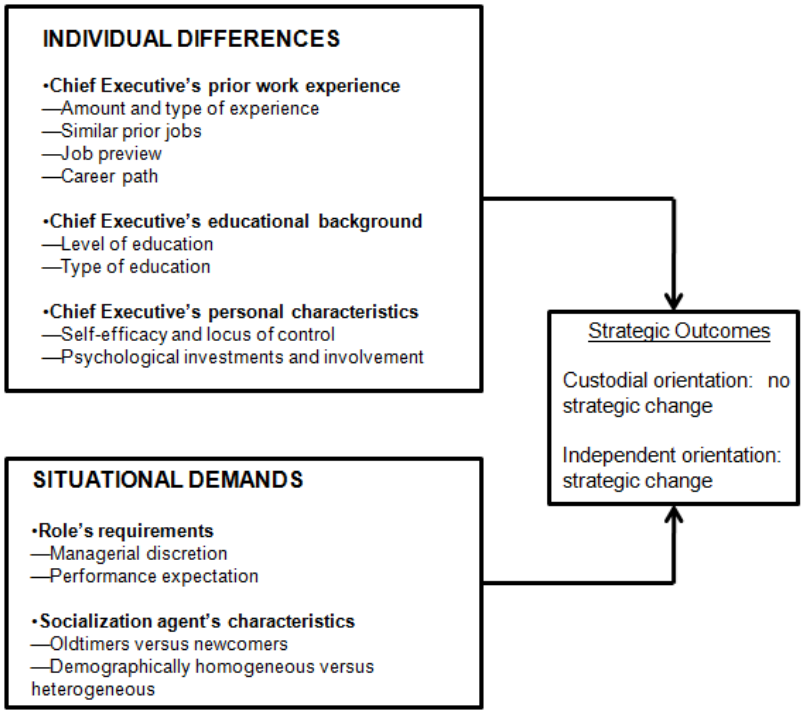

Figure 2-11 Influence of CEO's socialization on strategic outcomes (Fondas and Wiersema, 1997)

Fondas and Wiersema's model captures the combination of individual contribution to socialization and organizational influences. An interesting aspect of what they define as "situational demands" is the role's requirements and the extent to which the executive has managerial discretion thereby supporting the concept that the executive has the potential to shape the role to some degree. The model also includes the dynamic, identified in upper echelon theory, of the top management team and their influence on the CEO.

There are three limitations to this model that bear mentioning. The first is that it is a static model that does not capture the dynamic nature of the socialization process or even recognize that socialization is a "process". There is no temporal component to the model.

The second is that the "situational demands" part of the model does not capture the full measure of complexity that exists in organizations. The model attempts to incorporate all the theoretical implications developed in upper echelon theory (Hambrick and Mason, 1984) with simply the degree of homogeneity of the

group. The various aspects of the top management team include their demographics (Margarethe and Bantel, 1992), their decision making processes (Priem, 1990), power and politics (Shen and Cannella Jr., 2002a) and beliefs (Hambrick and Mason, 1984) just to name a few.

The third limitation is that the outcomes of the model are dichotomous. Attempting to classify the degree of change as being either no change or “strategic” change is too simplistic for useful evaluation.

It is interesting to note that the Fondas and Wiersema model is the only theoretical model of CEO socialization that I could find in the literature. The model was published in 1997 and in the nearly fifteen years since it has only been cited ten times and has never been empirically tested, even by the authors. While it is well argued and published in a top management journal the model is too simplistic and possibly too difficult to empirically test.

Denis et al (2000)

The final study selected is a single case study of the first two years of a new CEO’s appointment as leader of a teaching hospital (Denis et al., 2000). This study is quite interesting since it is a longitudinal case study where the researchers spent two years with the CEO and management team as well as reviewing significant archival data such as announcements, meeting minutes, and other documents.

The research model that informed the case study is shown below in Figure 2-12. This model includes the variables normally found in all such models; individual factors and organizational factors.

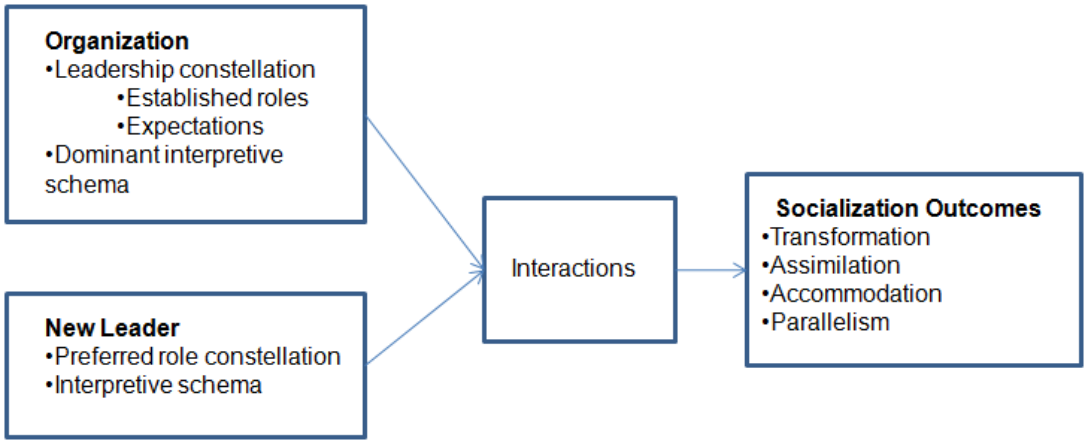

Figure 2-12 Denis et al (2000) initial conceptual model

The unique aspect of this model is that the authors leaned heavily on two theories from role theory. The first is the concept of leadership role constellation which is derived from Hodgson et al (1965) and refers to the pattern of roles played by members of the leadership group. The more complementary are the roles the more effective is the leadership team. The new leader must place himself/herself into this role constellation. This is very consistent with the previously mentioned upper echelon theory and top management team dynamics.

The second theory that informs the model is that of interpretive schema which refers to the organization's belief system. This belief system may be more or less compatible with the new CEO's vision and belief system.

It is at the intersection of these two dynamics that the mutual adjustment process of leader socialization takes place and convergence hopefully occurs. It is this convergence, or lack thereof, that determines what the authors consider possible socialization outcomes. Their outcomes are transformation, assimilation, accommodation and parallelism. "Transformation" implies that the new leader is successful in imposing his/her will on the organization. "Assimilation" implies that the leader will gradually adopt the organization's dominant beliefs and accept the role expectations of the other members. "Accommodation" implies that there is a mutual adjustment of beliefs and expectations on the part of the organization, its members and the leader. All

three of these outcomes are considered to be forms of integration. The last outcome, “parallelism”, is a condition where there is persistent divergence between the leader and organization and where integration does not occur.

Three interesting findings resulted from the study:

1. Degree of leader integration changed over time
2. Process can be unique across activity domains
3. Three fundamental processes occur

The first was that the degree of leader integration changed over time. Initially a leader might experience “assimilation” as they quickly try to learn about the organization. Introducing radical change that is resisted by the organization may result in a condition of “parallelism”. Over time the gap may close in order to achieve an outcome of “accommodation”. In other words, the process is dynamic!

The second interesting finding was that this process might play out differently within different “activity domains”. Activity domains in the context of the study were two different sets of executive responsibility with different sets of stakeholders. One domain was clinical and the other administrative.

The authors did not establish a set of generalized phases that apply to all activity domains. What they propose is that there are phases, but that they can be unique to activity domains and not necessarily even similar in their descriptions. This is summarized in Table 2-7.

Clinical Domain	**Administrative Domain**
Phases 1. Assimilation 2. Infiltration 3. Identification Outcome: Accommodation	**Phases** 1. Confrontation 2. Mutual adjustment 3. Realignment and stabilization Outcome: Accommodation

Table 2-7 Socialization phases by domain (Denis et al., 2000)

In the case of the clinical domain, the CEO's socialization outcome was "accommodation" although it is noted that it was toward "assimilation". He took on the culture and role close to the expectations of the organization. The administrative domain was much different. The CEO attempted a "transformation" outcome but eventually an "accommodation" outcome was realized.

This is not a surprising outcome. Although the authors identify four possible outcomes only two, accommodation or parallelism, are likely. A senior executive taking a new appointment would not likely simply accept the organization's role expectations without some "negotiation" so assimilation is not a likely outcome. Likewise, it is not likely that the organization would give up its belief system in order to completely align to the new leader's will. If parallelism occurs then socialization has failed and the executive and organization will part ways. Only accommodation captures the real sense of socialization as a mutual adjustment process. The only question is where accommodation will be located on the continuum between assimilation and transformation.

The third finding was that three processes emerged; each with each own set of mechanisms as illustrated in Table 2-8.

Process	Mechanisms and descriptions
Learning	• Immersion: learning by listening and observing • Experimentation: learning by trial and error
Persuasion	• Infiltration: fitting projects to focal group interests • Stretching: selling ambitious proposals
Power Consolidation	• Performance: credibility based on meeting expectations • Structure: changing people, shifting roles, formal processes

Table 2-8 Modes of learning, persuasion and power consolidation (Denis et al., 2000)

These mechanisms tend to be either collaborative or controlling. Mechanisms such as immersion, infiltration and performance are relatively collaborative methods of achieving impact. Experimentation, stretching and structure are based on exerting control to achieve impact.

The authors do not attempt to “explain” the phenomena merely report on it. While the study is exploratory and descriptive in nature its findings provide interesting perspectives on the dynamics of taking charge. Single case studies have been argued to be sufficient for generalization (Buchanan, 1999; Eisenhardt, 1989), although the authors make no such claim The study is also limited by one industry and organizational context.

2.4.3 Conclusion

The theory of socialization provides a rich perspective through which to view the dynamics of new leader integration. The vast majority of socialization research has been conducted with low-level newcomers or managers with very tactical outcomes studied. Applying socialization theory to leaders has been a very rare occurrence in the management research literature. The three studies reviewed in this section provide a rich source of inspiration, ideas and constructs as a foundation on which to build further research.

2.5 Synthesis – CIO leadership and socialization

2.5.1 Introduction

A current study reports that 23% of CIOs leave organizations involuntarily because of poor performance (Nash, 2009). This rate of involuntary turnover was equivalent to Finance executives and slightly higher than HR and Sales (19% and 18% respectively). It was significantly higher than Manufacturing executives at 8% involuntary, performance-related turnover. This is a significant failure rate for CIOs and implies that research into how they could be more effective would be beneficial.

Research also shows that the CIO cannot be successful solely on their competencies, but that organization context factors have a significant influence on their performance (Peppard, 2010; Preston and Karahanna, 2009; Smaltz et al., 2006). Individual executives tend to be recruited into roles based on their accomplishments in other organizations with the expectation that they will replicate that success in the new organization, although often the executive fails to do so. This suggests that past performance does not predict future performance and that how an executive adjusts to a new organizational context may be an important factor.

The first three years of an executive's tenure is a critical time when they are expected to understand the organization, diagnose and solve its most critical issues (Ciampa and Watkins, 1999; Denis et al., 2000; Gabarro, 1987; Leidner and Mackay, 2007). This is a time of "taking charge". The process of taking charge in a new appointment is far from straight-forward. Even the CEO, who could be described as having more levers of control than the CIO, must earn the respect of the organization's members (Kouzes and Posner, 1993) and this takes time to develop. Even the top executive may take almost three years to fully take charge, developing mastery and influence in a new assignment (Gabarro, 1987).

The complexity and ambiguity of the CIO role (Chun and Mooney, 2009; McLean and Smits, 2003; Peppard et al., 2011) results in unique leadership challenges for them as executives (Karahanna and Watson, 2006). This role ambiguity creates a complex leadership challenge for the CIO in two ways. The existence of role ambiguity is a challenge in and of itself. The more ambiguous the role, the more difficulty the person will have in the role-making process (Graen, 1976). The second challenge is that the success of the CIO is dependent greatly on how they "fit in" with the top management team (Preston and Karahanna, 2009; Smaltz et al., 2006; Wei and Cho, 2005) and excel at the social processes required to address their leadership challenges. The CIO leadership challenges identified in the literature require a great deal of

credibility, trust and collaboration between the CIO and the rest of the top management team.

The influence of organizational context presents a challenge for any new leader. The newly appointed CIO must discern a number of contextual factors such as the firm's strategic IT vision, the digital literacy of the top management team, current IT governance processes and attitudes toward IT. Adding to the complexity is that the top management team often does not have a high level of IT savvy or understanding of how IT adds value to their business. This gap between the CIO's knowledge and the TMT can create a tension that needs to be addressed. Divergence within TMT has been shown to increase executive turnover (Wei and Cho, 2005). Therefore it is critical for the new CIO to "fit in". Being able to influence the TMT is also critical because it is the business leaders that ultimately determine the benefits that are realized from the investment in information technology (Armstrong and Sambamurthy, 1996; Peppard, 2007; Peppard and Ward, 2005). Meeting these leadership challenges for the CIO requires excelling at the social processes of credibility-building, trust-building, influence and knowledge sharing.

How does a newly appointed CIO go about taking charge in this new environment? What practices do they adopt to do so? What are the leadership challenges for CIOs? How does the organizational context constrain the new CIO and how can the new CIO exert influence to modify all or some of the organizational context? Can the research stream on leader socialization provide a theoretical lens through which to view the taking charge process? These are the questions that led to this systematic literature review.

2.5.2 A mutual adjustment process

Based on review of the CIO research, a model of CIO leadership challenges synthesized in this study was described previously. This model is shown again below in Figure 2-13.

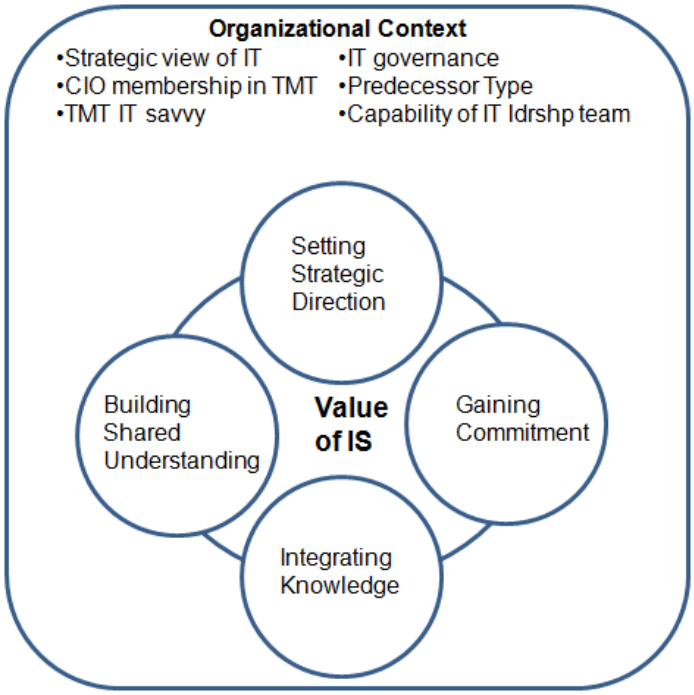

Figure 2-13 Model of CIO leadership challenges

The research on CIOs clearly indicates that the CIO is similar to other top executives in that their success is highly dependent on social and relationship skills rather than technical competencies alone. CIOs face unique challenges that result from their responsibility for a highly technical, often misunderstood function that must address the challenges of role ambiguity. The specific leadership challenges identified by the literature were:

- Setting strategic direction
- Building a shared understanding
- Gaining Commitment
- Knowledge integration

These challenges were woven together by the common thread of realizing the business value from IT investments. Organizational context defines the environment in which the CIO operates in addressing these leadership challenges.

The research into leader socialization provides an interesting perspective to the taking charge process and can be applied to a newly appointed CIO. There are

other perspectives that have been applied to leader succession in the literature and selected ones are summarized in Appendix O. The purpose of this paper is not to exhaustively review the literature on these perspectives. However, the comparison of selected perspectives with leader socialization can reveal its applicability to the taking charge process. To summarize, the perspectives of managerial control and managerial learning focus on the individual level of analysis while the organizational socialization perspective focuses primarily on the organizational level of influence on the process. The perspective of leader socialization is most appropriate to apply to the newly appointed CIOs because it captures the dynamics of the mutual adjustment process between the executive and the organization. The newly appointed CIO must penetrate the role and organization by determining how to influence the top management team's expectations and processes. Simultaneously the organization, in the form of the top management team, is influencing the CIO through pre-existing knowledge, perspectives, biases and processes.

The dynamic process of mutual adjustment (leader socialization) is well described by Pettigrew (1992) when he applied Sztompka's (1991) ontological assumptions of social reality to the study of strategic management processes. These assumptions are as follows:

1. "Social reality is not a steady state but, rather, a dynamic process: it occurs rather than exists.
2. The social process is constructed, created by human agents-individual or collective-through their actions
3. Social life is a process of structural emergence via actions, and the tension between actions and structures is the ultimate moving force of the process.
4. Action occurs in the context of encountered structures, which it shapes in turn, resulting in the dual quality of structures (as both shaping and shaped) and the duality of actors (both as producers and products).
5. The interchange of action and structure occurs in time and is cumulative, such that the legacy of the past is always shaping the emerging future.

> What happens, how it happens, why it happens, what results it brings about is dependent on when it happens, the location in the processual sequence, the place in the rhythm of events characteristic for a given process." (pg. 8).

These ontological assumptions capture the characteristics of the new CIO taking charge process. The taking charge process is dynamic and develops over time. It is socially constructed through the agents of the CIO, the TMT and other members of the organization. There is a potential tension between the CIOs actions in taking charge and the structures already in place in the organization. There is essential duality in the mutual adjustment process of taking charge and the process is likely highly influenced by the factors that Sztompka describes in the fifth assumption. Based on data in this systematic review of the literature, this mutual adjustment process results in some degree of socialization on the part of the new CIO and is described graphically in Figure 2-14.

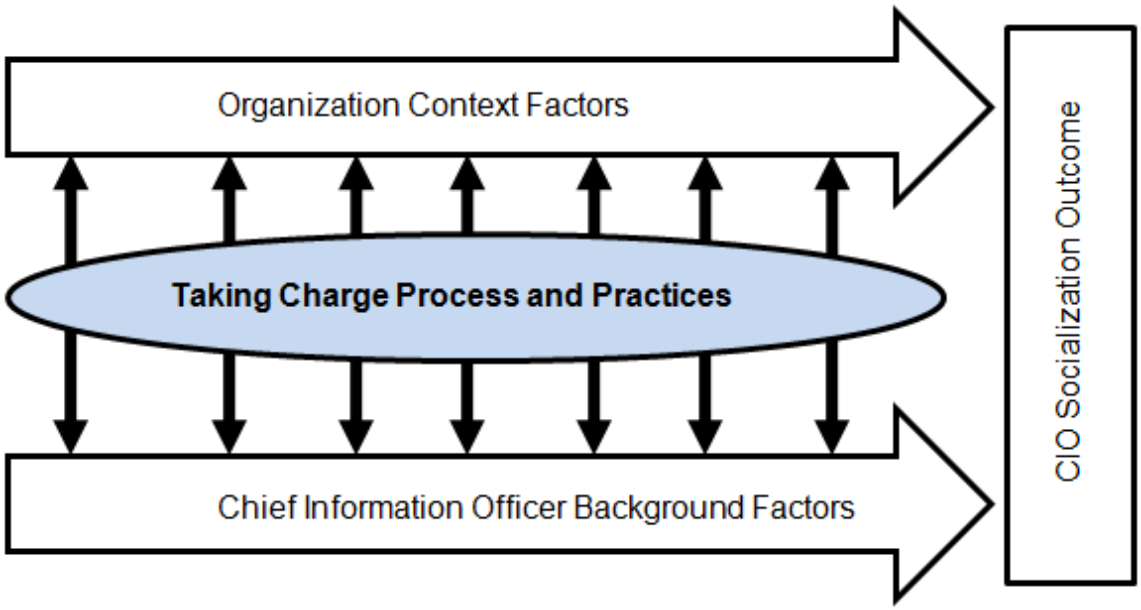

Figure 2-14 Conceptual model of CIO socialization

The CIO and the organization make adjustments over time as they move toward a socialization outcome for the CIO. This socialization outcome is the degree to which the CIO's and the organization's trajectories reach some degree of

convergence. Socialization outcomes will be discussed in more detail when describing the conceptual model developed for the research projects.

The next section will describe the underlying characteristics of this conceptual model in more detail. The characteristics of the model are described by integrating concepts from the research literature on CIOs and the leader socialization process.

2.5.3 Conceptual model characteristics

The purpose of the conceptual model was simply to provide an *a priori* model of relationships to explore in the research projects. The research projects were expected to be mainly of a “process” rather than a “variance” nature in that the researcher is interested in describing the temporal sequence of events leading to an outcome than explaining statistical correlations and variances between variables (Van de Ven and Huber, 1990).

This section describes characteristics of the conceptual model describing how CIO differences and organizational context identified in both the CIO and socialization research might influence the taking charge process and result in socialization outcomes as described in the research on both leader socialization and CIO leadership. The conceptual model derived from this literature review and shown in Figure 2-15 provides a starting point to inform the empirical research. It integrates concepts from the IS literature on CIOs and the research on leader socialization. Each characteristic will be described in detail.

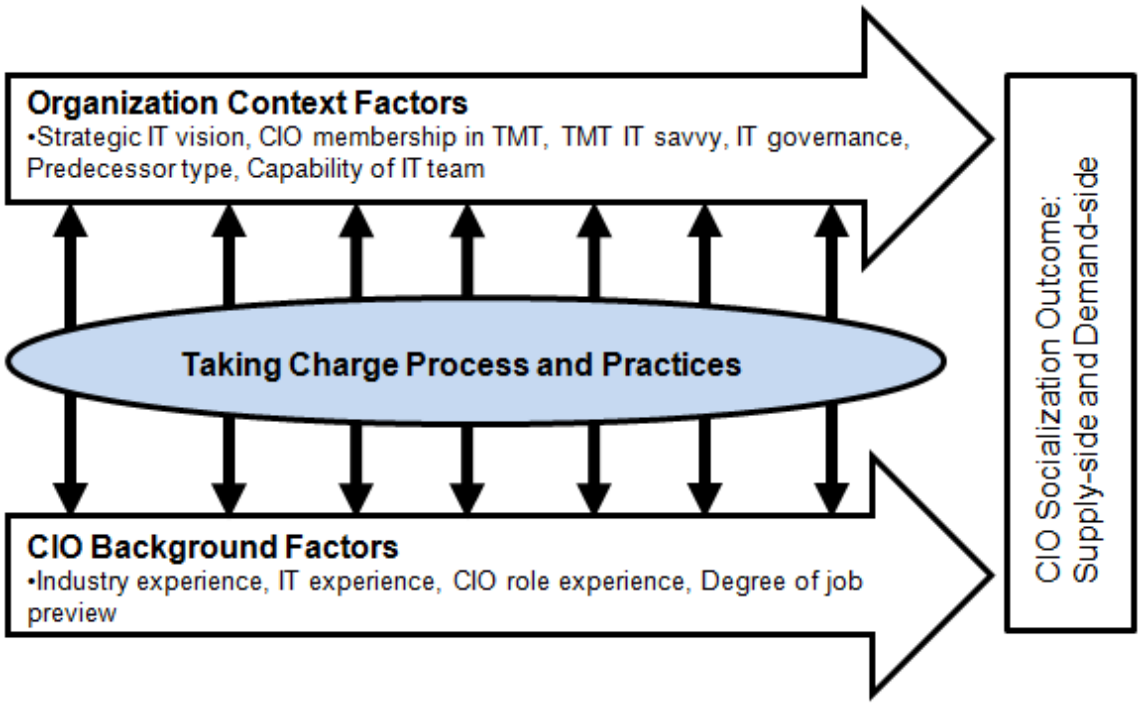

Figure 2-15 Conceptual model characteristics of CIO socialization

2.5.3.1 CIO Background

CIO background includes characteristics such as prior work experience (Hall, 1971; Hall, 1987; Jones, 1986; Nicholson and West, 1989) that have been used extensively in role theory and socialization research. Background characteristics are also a common variable set in IS research regarding the CIO (Enns et al., 2003a; Peppard, 2010; Preston and Karahanna, 2009; Smaltz et al., 2006). Therefore it is necessary to include CIO background characteristics as factors that influence the taking charge process.

Past work experience has an influence on how a newcomer makes sense of a new role (Louis, 1980a). Prior experience influences how the new CIO will take charge in a new appointment by shaping their role expectations and actions. Work experience consists of past industry experience, technical experience and previous experience in the role of a CIO. These dimensions of work experience can vary greatly among CIOs. Experience may have been similar to the new

appointment or vary greatly from that required in the new circumstances. This experience is also cumulative and results from the executive's career path.

Industry experience

An executive's prior experience in their organization's industry is a strong influence on their knowledge of the business. Knowledge of the strategic issues within the industry, how the organization is competitively positioned and how the industry operates influences the executive's ability to make strategic decisions (Porter, 1987; Zhang and Rajagopalan, 2003). The CIO's level of business knowledge has been found to be a key indicator of their strategic decision making ability (Chen et al., 2010; Preston et al., 2008a; Smaltz et al., 2006). It is therefore expected that this factor would influence the process of a newly appointed CIO taking charge.

IT experience

Another dimension of a CIO's prior work experience is how long they have worked in the IT function. The number of years that a CIO has worked in IT is a reasonable proxy for their level of strategic IT knowledge. Strategic knowledge of IT is important because it builds the credibility of the CIO and their ability to influence the TMT to adopt strategic IT initiatives that contribute to higher levels of firm performance others (Armstrong and Sambamurthy, 1999; Enns et al., 2003a; Preston et al., 2008a; Smaltz et al., 2006). The extent of the new CIO's experience in information technology will influence how he/she takes charge by establishing credibility and shaping how they communicate the value that IT can provide.

CIO role experience

Prior role experience as a CIO will influence the newly appointed CIO's taking charge process. Prior experience is a major input to the sense-making process that occurs with someone taking a new assignment (Louis, 1980b). When a person's new role is highly similar to a past role there is less learning about the job.

A person with prior experience as a CIO will be more equipped to influence ingrained organizational attitudes and norms. Prior role experience is a professional socialization mechanism that instills more confidence in the executive about the expectations of the role and their inclination to shape it. (Nicholson, 1984).

The prior experience as a CIO must also be described in more detail than simply years in the role. Research has identified CIO typologies that describe very difference CIO "roles" (Chun and Mooney, 2009; Leidner and Mackay, 2007; Peppard et al., 2011; Smaltz et al., 2006). The role of the CIO may be defined as simply the executive who manages IT (keeps the lights on) or as a strategic decision maker. These are very different manifestations of the same position. Therefore it is important to discern the level of leadership inherent in the prior CIO experience to more fully describe the experience.

Degree of job preview

The degree of job preview refers to whether the executive has had an opportunity to preview the position that he or she has just assumed. Socialization is a continuous process throughout a person's career and it is most stressful at a "boundary passage" such as a new appointment (Van Maanen and Schein, 1979). Job preview can be considered "anticipatory socialization" because it encompasses information that a newcomer gathers about the role prior to assuming it. Anticipatory socialization results in less surprise and a less stressful transition than one without some preview of the role.(Feldman, 1976; Louis, 1980b; Van Maanen and Schein, 1979).

Job preview has its own stream of research and focuses primarily on the connection between the degree of realistic job preview and the resulting job success (Reilly et al., 1981; Reilly et al., 1979; Wanous, 1976). It includes the degree to which a candidate was "groomed" ahead of time or had a chance to investigate the requirements of the position prior to assuming it in order to have a realistic view of the role. In the case of an executive, it normally refers to the experience of an "insider" who had an extensive preview of the role by being in

proximity to the predecessor. The insider/outsider factor has been a significant variable in most executive succession studies (Giambatista et al., 2005; Gordon and Rosen, 1981; Kesner and Sebora, 1994) as well as in a study of CIO transition (Leidner and Mackay, 2007). The IT Manager promoted to the role of CIO would be an insider and presumably have a high degree of job preview by virtue of reporting to the predecessor CIO and seeing the requirements of the role.

It is therefore theorized that the extent of job preview will influence the taking charge process of a newly appointed CIO as well.

2.5.3.2 Organizational Context

In addition to the CIO background, the process of taking charge and the resulting socialization outcome is also influenced by organizational context factors. These can be described by synthesizing the context factors found in the IS literature. A summary of the application of organizational contextual variables in the CIO leadership literature is in Appendix M. Synthesizing these variables and accounting for differences in description rather than meaning yields six contextual variables; strategic vision of IT, CIO membership in the TMT, TMT IT savvy, IT governance, predecessor type and capability of the IT leadership team.

Strategic vision of IT

Strategic IT vision describes the role that information technology will play in supporting business strategy and the contribution to competitive advantage. Schein (1989) identifies four types of strategic IT visions that can be held by the CEO. These have been adopted by researchers in IS as a way of describing an organization's strategic vision of IT (Armstrong and Sambamurthy, 1999; Feeny et al., 1992).

The IS literature suggests that the organization's strategic view of IT influences the role of the CIO and how IS contributes value to the firm's performance (Armstrong and Sambamurthy, 1999; Chun and Mooney, 2009; Peppard, 2010;

Peppard et al., 2011; Preston et al., 2008a; Reich and Benbasat, 2000). The studies that include typologies of the CIO role consistently find that the CIO's strategic role is directly related to the value that the organization places on IT. It should come as no surprise that the more central and strategic IT is to the business, the more important CIO leadership becomes (Kaarst-Brown, 2005; Karimi et al., 1996). Armstrong and Sambamurthy (1999) describe the categories of an organization's strategic IT vision well and are included in Table 2-9.

Category	Definition	Perception of IT
Automate	The ultimate role of IT is to replace expensive, unreliable human labor with information technology	IT is intended to save money and improve quality. In firms that espouse such a vision, senior management is often more concerned about using IT in squeezing out operating inefficiencies; further, IT itself is regarded as an overhead whose costs have to be carefully managed
Informate Up	IT provides information to higher levels of the organization more easily and efficiently to aid their organizational control and coordination roles.	Use IT to further tighten and consolidate power and control by top management and IT as the agent of control. Senior management regards investments in IT as a means of facilitating their access to information about every aspect of their firm's operations so that the timely information will enable them to pinpoint problems and initiate corrective measures rapidly.
Informate Down	IT is used to distribute key information to lower levels of the organization in order to enhance the information reach of "front-line" organizational members and empower them with relevant knowledge and information.	IT is an agent of empowerment and autonomy in the organization. For firms that espouse such a vision, it is more likely that IT will be regarded as an agent of some amount of organizational transformation, since employee empowerment requires changes to organizational architectures of structures, processes and reward systems.
Transform	IT is a vehicle for fundamentally altering the structures and competitive forces of the industry where the firm operates	Senior management views IT to be the means for changing the firm's fundamental relationships with its suppliers and customers, and altering the products, markets, organization relationships, and even the management processes themselves.

Table 2-9 Categories of Strategic IT vision (Armstrong and Sambamurthy, 1999)

The strategic vision of IT will also likely determine the resources that the CIO is given to execute IT initiatives. The IS literature is very clear that the CIO alone cannot implement the strategic IT vision and needs organizational support

(Chen et al., 2010; Peppard, 2010; Peppard and Ward, 2005). Therefore it is reasonable to expect that an organization with a vision for IT as an enabler of transformation will provide more resources to the CIO than one with a vision of IT as a cost-containment tool.

The organization's strategic IT vision is relevant to the newly appointed CIO because it will influence attitudes, role expectations and available resources that impact the taking charge process.

CIO membership in TMT

The CIO's hierarchical level in the organization and their membership in the top management team is another significant context variable that emerges from the literature. Rank is a fundamental dimension of role definition in any organization (Schein, 1971). It is also an integral part of the socialization process (Feldman, 1976). Leaders have a higher degree of managerial discretion which influences the executive's socialization by providing them the opportunity to shape their role more than others (Ashford and Black, 1995; Nicholson, 1984).

Membership in the top management team is important for a CIO. The starting point for building relationships and effective communication for the CIO is to be a member of the top management team (Feeny et al., 1992; Reich and Benbasat, 2000). Other data suggests that without strong relationships with the top management team the CIO will struggle. The CIO of a global bank described this as "becoming part of the inner sanctum" (Peppard, 2010). The CIO's membership in the TMT directly influences their strategic decision making authority (Preston et al., 2008a) as well as their ability to act as a leader (Chen et al., 2010). The CIO's participation in top management teams influences their firm's extent of IT deployment in business strategies (Armstrong and Sambamurthy, 1996). One study of new CIOs found that membership in the TMT led to more strategic change initiated by the CIO (Leidner and Mackay, 2007).

It is posited then that the membership in the TMT will have an influence on the taking charge process of a newly appointed CIO by impacting the strategic direction they can provide.

TMT IT savvy

The TMT IT savvy is an indicator of how well the top management team recognizes how IT generates business value and their leadership role in realizing that value. Phrases such as “IT fluency”, “digital literacy” and “IT literacy” have been used to describe this factor (Peppard, 2010). TMT IT savvy is critical to the organization’s ability to leverage IT for competitive advantage and to realize benefits from IT investments (Armstrong and Sambamurthy, 1999; Peppard and Ward, 2005).

Grant (1996a; 1996b) argues that the essential definition of a firm is based on knowledge integration and that combining knowledge from diverse individuals is the way to be more competitive. The senior leadership team can be seen as a group within the organization for integrating knowledge. Combining individual knowledge with organizational structures that enable knowledge integration describes the absorptive capacity of the top management team (Cohen and Levinthal, 1990) – and their ability to apply that knowledge of IT for competitive advantage is a form of IT savvy.

The IT savvy of the top management team significantly contributes to creating a shared vision about how IT can create value in the organization (Peppard, 2010; Preston and Karahanna, 2004). Through formal mechanisms the CIO can build not only a shared understanding with the TMT, but increase their knowledge of IT as well (Preston and Karahanna, 2009). Formal interactions provide the CIO the opportunity to impart IS knowledge to the TMT and to also to create a forum for integrating the CIO and TMT perspectives on the business and IT. Preston and Karahanna (2004) found that formal knowledge exchanges increased the shared understanding between the CIO and TMT. These formal exchanges included CIO educational mechanisms where the CIO used forums, discussions, seminars and other formal interactions to explain IT contribution to

their peers in the top management team. The more business executives know about IT, the more likely they will champion IT (Armstrong and Sambamurthy, 1996; Bassellier et al., 2001).

The IT savvy of the TMT will influence the CIO's taking charge in two ways. One is that the degree to which the TMT members understand how IT can enable the business will create specific role expectations (Chun and Mooney, 2009; Kaarst-Brown, 2005; Peppard et al., 2011). The second influence on the taking charge process will be on the effort expended by the CIO to educate the TMT (Preston and Karahanna, 2004).

IT governance

IT governance represents the different practices that constitute decision rights and decision-making processes about IT strategic planning, prioritization and value realization. These processes can be a result of certain assumptions about IT such as who controls IT direction, what justifies further IT investment and who gains a benefit from IT deployment (Kaarst-Brown, 2005).

It is recognized that effective IT governance processes must exist to include both the formal and the informal aspects of decision-making (Chan, 2002). Formal structures are an important mechanism to bring diverse parties (business functions and IT) together to collectively make decisions concerning IT plans and investments (Chan, 2002; Kearns and Lederer, 2003; Reich and Benbasat, 2000). Increased maturity in managing the IT portfolio of investments has been linked to better firm performance (Jeffery and Leliveld, 2004). Effective allocation of IT investment to produce the highest value outcome for the organization is a job for senior managers, not something to be delegated to the IT function (Ross and Weill, 2002). The literature highlights that IT decisions such as developing strategy and investment priorities should involve business executives (Peppard, 2010).

In fact, the extant IS literature on IT governance practices has focused on how formal structures and informal relationships balance the tension often found in

IT-related decision-making (Chan, 2002; Schwarz and Hirschheim, 2003). These formal structures and mechanisms will influence the CIO's taking charge process to the extent they enhance or dilute the CIO's opportunity to influence strategic decisions.

Predecessor type

The type of predecessor that the new CIO follows is also a factor that will influence their taking charge process. A burdensome "shadow" of a predecessor, if it lingers, can impede the new executive's taking charge (Gilmore and Ronchi, 1995). Executive succession research has also suggested that replacing a predecessor with an unusually long or short tenure can be detrimental to firm performance (Shen and Cannella Jr., 2002b).

Kaarst-Brown (2005) describes how the "history" of the organization becomes embedded in IT assumptions that in turn influence the CIO's effectiveness. Peppard (2010) observes that the expectations on the CIO are largely framed by the historical experiences that the TMT have had with IT. Rockart et al (1996) note that a successful IT track record improves business relationships at all levels. To the extent that success is attributed to the predecessor the resulting positive feelings should extend to the new CIO. Of course the opposite may be true as well. In their study of new CIO transitions, Leidner and Mackay (2007) studied this in detail. They found that a new CIO's approach to change was influenced by predecessor type and whether they were a successful or unsuccessful type. Predecessor type has a significant influence on the level of change that the new CIO introduced during his/her transition.

Role theory suggests that the role-making process includes setting boundaries and expectations for their role with others in the organization (Graen, 1976). Therefore a role predecessor has left a set of perceptions and role expectations behind in the organization when they leave. This is not to say that the organization itself does not influence the role definition, only that the predecessor has an influence as well. Well established role definitions can be difficult to alter (Nicholson, 1984).

Burton and Beckman (2007) found strong evidence of position printing by predecessors. They found that successors had a lower rate of turnover when they had backgrounds that closely resembled that of their predecessor. This is not to preclude the scenario where a new CIO is hired who is intentionally different from their predecessor because the organization wants to change the role definition. It only goes to strengthen the argument that predecessor type is an important influence factor in taking charge.

Capability of IT leadership team

The capability of the IT leadership team is a critical influence factor for the new CIO. The credibility of the IT leadership team is a significant influence on whether top management trusts IT to be a strategic partner (Teo and Ang, 1999). The "history" of IT success shapes the organization's perception of not only the predecessor but the entire IT organization and the IT leadership team directly influences that success (Chen et al., 2010; Kaarst-Brown, 2005; Reich and Benbasat, 2000). Recently CIOs agreed unanimously that they were only as good as their leadership team (Peppard, 2010). The data also suggested that CIOs under-estimate the time required to build a strong leadership team. A number of CIOs lamented the challenge of finding people for leadership roles in the IS organization. This was characterized as an "IT human resource crisis" in a study of new CIOs caused by high turnover and even downsizing due to budget reductions (Leidner and Mackay, 2007).

The role of the CIO is complex and has a broad impact across the enterprise. It has even been suggested that it is too big a role for one person (Earl, 2000) and perhaps IT leadership needs to be expanded. The discussion to this point on organizational factors suggests that the CIO must spend significant time in relationship building and interacting with other top managers. This implies that a strong leadership team is necessary for the CIO to have the time required. CIOs have acknowledged that the quality of their leadership team has a significant impact on what they can or cannot achieve (Peppard, 2010).

The quality of the IT leadership team will influence the new CIO's taking charge process by impacting how much effort is expended to build a credible, trustworthy team.

2.5.3.3 Socialization Outcomes

The last element of the conceptual model is the resultant socialization outcomes. Denis et al (2000) posited that an executive's interactions with the organization when taking on a new appointment could result in four different types of socialization outcomes. The authors' labeled these outcomes 'transformation', 'assimilation', 'accommodation', and 'parallelism'. 'Transformation' implies that the new leader successfully imposes their own views on the roles and activities of the organization and that its members willingly accept the new leader's perspectives. 'Assimilation' is the opposite of transformation in that the outcome implies that the new leader adopts all of the organization's expectations and beliefs. The 'accommodation' outcome describes a compromise between the new leader and the organization. Accommodation implies that the process of new leader socialization results in a degree of convergence between the trajectories of the new leader and the organization. 'Parallelism' describes the outcome that represents persistent divergence between the leader and the organization.

While all the outcomes describe a degree of convergence, only the first three (transformation, assimilation, and accommodation) could be described as successful, while the outcome of 'parallelism' would indicate failure. The notion of leadership might be most associated with the 'transformation' outcome where the new leader successfully transforms the organization into his/her image. This leadership notion is completely absent in the outcome of 'assimilation'.

Recognizing the two dynamic elements that interact in the socialization process, the new leader and the organization, one can expect that the likely outcomes are 'accommodation' or 'parallelism'. The 'assimilation' outcome is much less likely for a leader given their seniority and the expectation that they take an active role in shaping the organization in some way. If a new leader attempts a

complete transformation of the organization they run a higher risk of ‘parallelism’ or rejection. Especially in the case of a top manager like the CIO (who is not the CEO), one would expect that a degree of accommodation would be the resultant outcome. This does not discount the possibility that a new CIO would be hired to completely transform the IT organization as well as the TMT’s view of IT. It only suggests that the most common outcome of the taking charge process would be some degree of ‘accommodation’ or possibly ‘parallelism’ if the appointment is a failure.

These outcomes of a leader taking charge can be viewed as an extension of role theory. Originally role theory was concerned with the process of *socialization* and how a newcomer was integrated into the organization (Katz and Kahn, 1978). This was extended to the concept of ‘role-taking’ to describe how an individual may enact their own roles in the role-taking process. (Fondas and Stewart, 1994; Graen, 1976). A leader would be expected to go beyond enacting their own role and attempt to influence the role definition of others in the organization. This describes the dynamics unique to new leader socialization.

Denis et al (2000) observed in their case study that the process of the new leader taking charge was unique across two activity domains and resulted in different socialization outcomes. Therefore the authors propose that “the form of the leader integration process and its outcomes may be differentiated by area of the organization, by issue or by organizational subgroup” (p. 1088). This is an interesting proposition and implies a complexity that is not present in previous research in executive’s taking charge (Ciampa and Watkins, 1999; Gabarro, 1987; Simons, 1994).

The new CIO can be considered as operating in two distinct, but related, activity domains. These domains are the supply-side and demand-side as first described by Broadbent and Kitzis (2005) and empirically studied by Chen et al (2010). Chen et al (2010) define supply-side leadership as “the CIO’s capability to exploit existing IT resources and competencies to improve the efficiency of the firm’s operations” (p. 234). They define demand-side leadership as “the

CIO's capability to lead the organization to explore new IT-driven business opportunities that will lead to organizational innovations and business growth" (p. 234). The authors' found that there was a "staged maturity model" relationship to the extent the results showed that supply-side leadership has a direct and significant influence on demand-side leadership.

The conceptual model of a new CIO taking charge proposes that there are separate socialization outcomes possible for supply-side leadership and demand-side leadership. Applying the findings of Denis et al (2000) to the concepts of CIO supply-side and demand-side leadership (Broadbent and Kitzis, 2005; Chen et al., 2010) provides the basis of this proposition. The research on CIOs suggests that factors described in the model presented here (CIO background and Organizational context) are expected to significantly influence the taking charge process and this includes expectations regarding supply-side and demand-side leadership. The taking charge process will determine the socialization outcome experienced by the new CIO in each of these activity domains. Consistent with the findings of Chen et al (2010), it is also proposed that the socialization outcome of the CIO's supply-side leadership will influence the demand-side socialization outcome. In other words, if the CIO taking charge process results in a successful supply-side socialization outcome then it will have a positive influence on demand-side socialization. Conversely an unsuccessful supply-side outcome will influence the demand-side negatively. This proposition is also consistent with the leadership socialization research that there is interdependence across activity domains (Denis et al., 2000).

The model proposes that the process of a new CIO taking charge can result in separate socialization outcomes in supply-side and demand-side leadership domains. It further proposes, consistent with extant research, that the outcome of the supply-side domain will influence the outcome of the demand-side domain.

2.6 Contribution

The IS research literature is generally silent on the phenomena of the newly appointed CIO and how they take charge. Only one empirical study exists of new CIOs (Leidner and Mackay, 2007) and it does not take a processual view. There is a significant research opportunity in studying the process of newly appointed CIOs taking charge.

There is also a clear opportunity in applying role and socialization theory to executive succession. Kesner and Sebora (1994) in a review of the executive succession literature called for more qualitative approaches to describing the succession process. They observed that most research was done using archival data and quantitative methods. Ironically, almost ten years later Giambatista et al (2005) in their review of the research since 1994, made the same observation! They also note that there needs to be application of new theories to the succession research. While the authors include Fondas and Wiersema's (1997) theoretical application of socialization to strategic change enacted by a CEO, the authors describe it as a conceptual anomaly. They are remiss in not including the Denis et al (2000) study that clearly occurs within the period they are reviewing and applies socialization theory to the CEO succession process. There is a gap in the executive succession literature that provides an opportunity to study the process through a different theoretical lens.

Katz and Kahn (1978, p. 218) called for more research on the mechanisms of 'accommodation between the person and organization'. In arguing for the application of socialization theory to leader succession in education, Hart (1991, p. 469) describes the opportunity best when she writes "succession and socialization are two sides of the same process involving the same people –the one side focusing on the group's influences on the newcomer, the other interested in the newcomer's influence on the group". This description captures the dynamics of the leader socialization process.

There have been many calls for application of alternative theories and specifically socialization to understanding the dynamics of the leader

succession process. This research project proposes to answer those calls by investigating the process of a newly appointed CIO taking charge as a process of leader socialization. The objective is to develop a new perspective on the new CIO taking charge process by creating a research model that integrates concepts from prior research into CIO leadership and the leader socialization process.

The conceptual model provides a starting point for asking questions about the taking charge process. How do the CIO's background characteristics influence the taking charge process? How do the organizational context factors influence the taking charge process? To what extent can/does the CIO change these factors over time through the taking charge process? How can the taking charge process be described? Do CIOs experience difference socialization outcomes across activity domains of demand-side and supply-side leadership? Why? Can a newly appointed CIO expect to demonstrate demand-side leadership in their first two years? How do the CIO background characteristics and organizational context factors influence the new CIO in demonstrating demand-side leadership? The conceptual model provides flexibility in describing the taking charge process and further development of the factors and outcomes associated with it. New model elements can be derived as the empirical analysis occurs.

The empirical research projects will be designed to address these and other propositions while addressing gaps in the current research literature. The research will contribute to the IS domain in significantly expanding the literature on newly appointed CIOs and providing a different theoretical lens through which to view supply-side and demand-side CIO leadership. A contribution will also be made to the research on leader socialization by using new methods beyond those used to date (single, longitudinal case study) and building on previous research on outcomes across activity domains. Executive succession researchers may also be interested in a new theoretical lens being applied to a unique leadership context, the CIO.

3 Project 2: Exploring the CIO experience

3.1 Introduction

CIOs have average tenures in an appointment of four years give or take a few months (Thibodeau, 2011). This is similar to other executive positions. However the involuntary turnover rate is higher than other executives at approximately 23% (Nash, 2009). For a newly appointed CIO getting off on the right foot and integrating successfully into a new assignment is making a good start. Research suggests that it takes a new executive almost three years to fully develop mastery and influence in a new assignment (Gabarro, 1987). This process of "taking charge" significantly influences whether the CIO extends their tenure beyond the average of four years.

The literature has paid little attention to the topic of how newly appointed CIOs take charge. The purpose of this study is to explore this phenomenon in more depth from the CIO's perspective in order to increase our understanding. The study integrates ideas from leader socialization and role theory with CIO leadership challenges. The newly appointed CIO experiences a mutual adjustment process when they take charge. This adjustment occurs with their leadership team, the CEO and the other top management team members.

This chapter is structured as follows. It begins with a discussion of the relevant literature in order to position the study within the extant research. Next the research paradigm and methodology are presented. A pilot study was conducted and will be described. A detailed discussion of the main study, the resulting findings and conclusions will follow along with an argument for reliability. The chapter will end highlighting the study's contribution to research and practice, its limitations and the implications for further research.

3.2 Literature

This study of CIOs taking charge is grounded in the existing research literature. A discussion of this literature is necessary to frame the research question and

before describing the project's methodology, findings and conclusions. The literature that informs the study centers around the research on CIOs and that of organizational role theory and leader socialization.

3.2.1 The CIO and role theory

The CIO role

The research on CIOs has evolved from understanding the nature of their emerging role to developing more complex models of their effectiveness. The CIO is a relatively new role in the historical context of executive managers. It is a role that remains ill defined in many organizations. A recent definition of CIO is "the most senior executive responsible for identifying information and technology needs and then delivering services to meet those needs" (Broadbent and Kitzis, 2005). While this is a good, basic definition, it still does not reflect the strategic role that many CIOs are currently playing today. A more robust definition is "a senior management team member responsible for leveraging the present and future value of information and technology, as well as being jointly responsible for the performance, growth and governance of the organization" (Deloitte, 2008).

Organizations can have different views of the CIO depending upon assumptions that reflect their views on IT. These assumptions are who controls IT direction, how central IT is to business strategy, the value placed on IT knowledge, justifications required for IT investment and who benefits from IT projects (Kaarst-Brown, 2005). These organizational assumptions will determine the CIO's status and influence.

A description different types of CIOs defines them either as Trusted Senior Executive Leader or Chief Technology Mechanic (Broadbent and Kitzis, 2005). This binary typology is very restrictive and not followed by other researchers. Several of these typologies follow.

McLean and Smits (2003) present a model of different roles for the CIO based on the dimensions of focus (technology or business) and business climate

(dynamic or stable) . They identify CIO types as Technologists, Enablers, Innovators or Strategists. The authors propose that there is an evolutionary axis to these types. The “higher-level” roles of Innovator and Strategist emerge after the basic functions of Technologist and Enabler have been mastered.

Chun and Mooney (2009) describe a similar continuum of the CIO role; that of executive level manager focused on strategy and process improvement or a technical manager focused on cost containment and leveraging existing IT infrastructure. The authors also point out that where the CIO falls on this continuum is a function of how strategic the organization considers IT to be.

Peppard et al (2011) identified five types of CIOs by evaluating them along the six criteria of scope of the role, issues critical to success, performance metrics used, challenges faced, the nature of the relationship between the CIO and top management team and the description of the role development in their organization. The authors suggest that the evolution of the CIO role is a function of how much the business organization takes ownership of IT. At the end of the evolutionary arc the role of the CIO could be unnecessary as the business takes complete ownership of strategic IT decision making.

Organizational role theory

Organizational role theory provides some insight into the CIO’s role experience although this theoretical lens has not been used to examine it in the IS literature. Organizational role theory is a version of role theory focused on social systems that are pre-planned, task-oriented and hierarchical (Biddle, 1986). A theoretical model of how individuals take on organizational roles was introduced by Katz and Kahn (1978). This model describes a dynamic interaction between “role-senders” who communicate organizational expectations of a role and the “focal person” who occupies the role. Role theory presumes that expectations are a major generator of roles, but does not presume congruence between expectations and performance. Hales (1986) points out that managerial performance should not be simply a function of what

managers *do*, but what they *do* compared to what is *expected*. The manager has an influence on these expectations.

"Enactment" captures the notion of a manager actively, deliberately creating the environment rather than solely reacting to it (Weick, 1969). This concept was embraced by Stewart (1982) by including *choices* in her model of managerial behavior: demands, constraints and choices. Fondas and Stewart (1994) provide a robust model of "expectation enactment" to describe the dynamics of how a manager can modify the expectations of the role. Enactment is a way to close a gap between what is expected and what the executive does.

Borwick (2006) describes a role-individual-system triangle and the concept that role is what connects the individual and the organization. This leads to changing behaviors rather than attempting to change personalities. This is quite different from the competency-based question of "what makes an effective leader?" This concept of role recognizes the difference between the role as it is understood by the organization and role as it is implemented by the manager. This implies that managerial behavior is a function of the system versus the manager's personality. This systematic perspective is much more dynamic than a static matching of the role as defined by the organization and the individual personality traits hoping for a match. It also embraces the concept of enactment by the manager.

The research on the CIO role and organizational role theory are complementary. The CIO role research suggests there are different "types" of CIO roles depending on a number of organizational factors. Role theory suggests that these factors will be taken into account by the organization's role-senders (primarily the CEO and Top Management Team) who will communicate those expectations to the CIO (focal person). A gap in understanding is possible between the two parties resulting in role conflict and ambiguity. The CIO research has identified that building a shared understanding of the role is critical to a CIO's effectiveness (Enns and Huff, 1999; Enns et al., 2003b; Feeny et al., 1992; Peppard et al., 2011; Preston and Karahanna, 2009; Reich and Benbasat, 2000). The concept of enactment introduces an additional dynamic

to this relationship for the CIO. Enactment implies that the CIO has the ability to shape the role expectations rather than simply accepting an existing organizational definition.

3.2.2 The CIO and leader socialization

Socialization of newcomers

Socialization is the process by which an individual acquires the social knowledge and skills necessary to assume an organizational role (Van Maanen, 1978; Van Maanen and Schein, 1979). It describes a process where “raw” newcomers are transformed into functional members of the organization. Organizational socialization applies to many types of organizations, but the literature discussed here is primarily in the management domain.

Organizational socialization can also be described as a process of mutual adjustment between the individual and the organization. The organization seeks to influence and shape its members while the individual is trying to define and shape his/her role within the organization (Fisher, 1986). Socialization refers not only to the adjustment to a specific organization but also to the learned behaviors from multiple career experiences in the case of a specific vocation or profession (Hall, 1987; Van Maanen and Schein, 1979).

Stages of the socialization process have been studied by several researchers (Buchanan II, 1974; Feldman, 1976; Schein, 1978). These models focus on identifying the sequence and timing of stages that an individual passes through from being an outsider to becoming an insider. The models suggest three distinct phases. The first stage is where the individual prepares to join a new organization. The second is described as how the individual begins to understand their role and how the organization works. The final stage is when the individual becomes a fully functioning member of the organization.

Research into organizational socialization is concerned primarily with the actions that an organization can take to achieve certain socialization outcomes. Buchanan (1974) studied how different organizational experiences impacted

managers' commitment over the course of their tenure with an organization. Van Maanen (1978) built on this concept and identified seven "people processing" dimensions for organizations. These seven dimensions described the tactics that an organization could apply to the socialization process. This research launched a plethora of studies focused on identifying what organization actions/tactics would bring about positive outcomes such as turnover reduction, job satisfaction, commitment and promotion (Allen, 2006; Allen and Meyer, 1990; Ashforth and Saks, 1996; Ashforth et al., 2007; Chao et al., 1994; Jones, 1986; Saks et al., 2007). This stream of research focused primarily on the degree of individual conformity to the organization's demands and the resulting outcomes. It is a one-way perspective of how the organization can "process" newcomers. The weakness with this line of research for leaders is that it does not capture the leader's ability through the process to influence the organization.

Socialization and leaders

Leaders bring a complex set of beliefs built from previous experiences to a new appointment. They also bring a stronger set of expectations about the role than an inexperienced newcomer and they tend to have more discretion in enacting those role expectations (Ashford and Black, 1995; Fondas and Stewart, 1994; Mantere, 2008).

Previous experience of CIOs are a common variable set in IS research. Characteristics such as industry experience (Porter, 1987; Zhang and Rajagopalan, 2003), business knowledge (Chen et al., 2010; Preston et al., 2008a; Smaltz et al., 2006), IT experience (Armstrong and Sambamurthy, 1999; Enns et al., 2003a; Preston et al., 2008a; Smaltz et al., 2006) and previous CIO role experience (Chun and Mooney, 2009; Leidner and Mackay, 2007; Peppard et al., 2011; Smaltz et al., 2006) have all been used to study CIO role effectiveness.

Socialization theory is a way to study CIOs because it is sensitive to the processual phenomena of a leader's adjustment to a new appointment.

Socialization is an important process because even a top executive is influenced by the organization's belief systems and informal power structures. No leader, even the chief executive, has total control of all aspects of an organization (Fondas and Wiersema, 1997). The impact of organizational socialization on new leader transitions is under-emphasized in the management literature. However there are three studies worth mentioning.

A significant study on leader socialization and taking charge was undertaken by John J. Gabarro (1987). Gabarro studied 14 cases of executives taking charge of new assignments. Gabarro's key finding was that the executives all followed a similar five-stage process. These stages existed regardless of the succession type, organization size or background of the executive. An important implication of Gabarro's work was that it contradicted the concept of fast track 2-3 year assignments for executive development. It took almost three years (an average of 33 months) for an executive to master a leadership assignment. However, a limitation is that he does not capture the mutual adjustment dynamic, assuming that the executive generally has complete control over the transition.

Fondas and Wiersema (1997) ten years after Gabarro's study developed a theoretical model of CEO socialization and its influence on strategic change. Their model captures the combination of individual contribution to socialization and organizational influences. There are three limitations to this model that bear mentioning. The first is that it is a static model that does not capture the dynamic nature of the socialization process or even recognize that socialization is a "process". The second is that the "situational demands" part of the model does not capture the full measure of complexity that exists in organizations. The third limitation is that the outcomes of the model are dichotomous. Attempting to classify the degree of change as being either no change or "strategic" change is too simplistic for useful evaluation.

The final study worth noting is a single case study of the first two years of a new CEO's appointment as leader of a teaching hospital (Denis et al., 2000). The authors develop a dynamic model of a mutual adjustment process. It is through the mutual adjustment process of leader socialization that convergence

between the leader and organization occurs. It is this convergence, or lack thereof, that determines what the authors identify as four possible socialization outcomes. Three interesting findings resulted from the study:

4. Degree of leader integration changed over time
5. Process can be unique across activity domains
6. Three fundamental processes occur

The authors did not establish a set of generalized phases that apply to all activity domains. What they propose is that there are phases, but that they can be unique to activity domains and not necessarily even similar in their descriptions.

There has been one study published that focused on CIOs' transition into a new appointment. Leidner and Mackay (2007) collected data from interviews with 36 CIOs about the first year they were on the job. The authors found that the type of predecessor determined the new CIO's choice of an agenda for action (radical or incremental). The authors describe different types of predecessors and link the new CIO's actions to those types. This study is the starting point for exploring CIOs' taking charge of a new appointment. There are some limitations to it that need noting. One is that the focus was on the first year and this may not have been long enough to examine the phenomena completely. Gabarro (1987) found it took almost three years to transition and Denis et al (2000) studied their CEO's transition over two years. There is also a significant limitation in using the predecessor as a proxy for the "state of IT" in order to describe the organizational context in which the new CIO is operating. This is an oversimplification and is not supported by the existing literature.

3.2.3 Framing the research question

This project aims to explore the taking charge process for newly appointed CIOs. The IS research literature is generally silent on the phenomena of the newly appointed CIO and how they take charge. Only one empirical study exists of new CIOs (Leidner and Mackay, 2007) and it does not take a processual view.

There is also a clear opportunity in applying role and socialization theory to executive succession. Fondas and Wiersema's (1997) theoretical application of socialization to strategic change enacted by a CEO has not been empirically investigated. The study by Denis et al (2000) applies socialization theory to the CEO succession process and remains unique in that respect.

Over thirty years ago, Katz and Kahn (1978, p. 218) called for more research on the mechanisms of 'accommodation between the person and organization'. In arguing for the application of socialization theory to leader succession in education, Hart (1991, p. 469) describes the opportunity best when she writes "succession and socialization are two sides of the same process involving the same people –the one side focusing on the group's influences on the newcomer, the other interested in the newcomer's influence on the group". This description captures the dynamics of the leader socialization process.

The perspective of leader socialization is appropriate to apply to the newly appointed CIO because it captures the dynamics of the mutual adjustment process between the executive and the organization. The newly appointed CIO must penetrate the role and organization by determining how to influence the top management team's expectations and processes. Simultaneously the organization, in the form of the top management team, is influencing the CIO through pre-existing knowledge, perspectives, biases and processes.

The conceptual model that informed this project emerged from the systematic review of academic research described in Project 1 and is shown again in Figure 3-1 below.

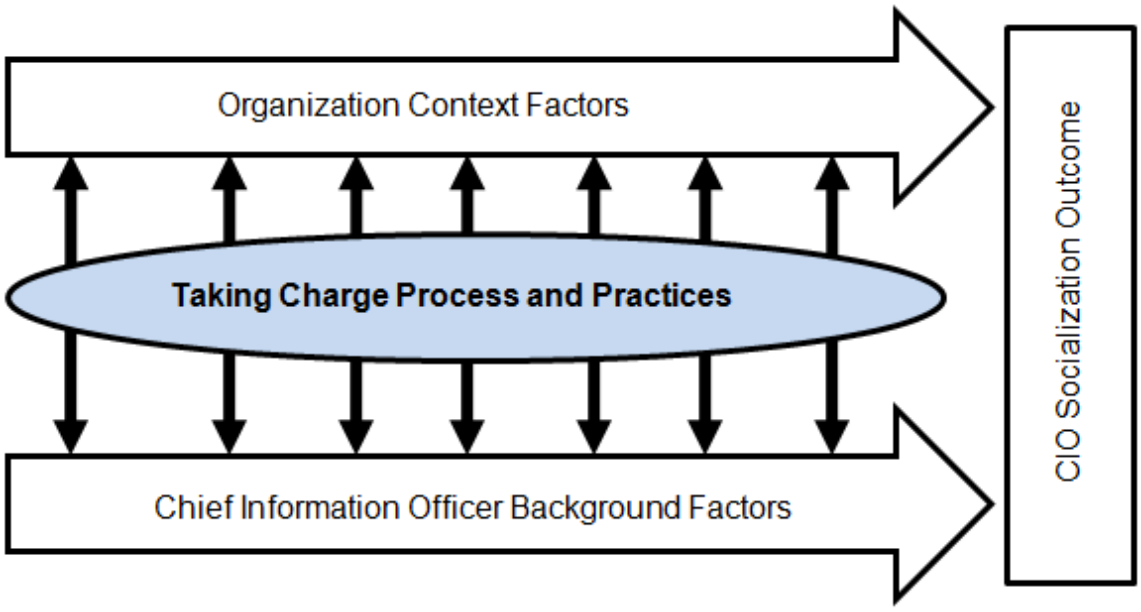

Figure 3-1 Conceptual model of CIO socialization

Researching the extant literature concerning CIO leadership challenges and leader socialization provided the foundational concepts for the model used to inform this study. The systematic review project led to the research question for Project 2 described in this chapter:

How do CIOs experience taking charge of a new appointment?

The literature provides little understanding of how CIOs experience taking charge of a new appointment. This study is exploratory and seeks understanding and the focus on the CIO's personal experience is a social constructionist point of view. The research question is best investigated using an interpretative method within the social constructionist ontology as the research paradigm which is discussed next.

3.3 Research paradigm

Management research is a form of social enquiry and, as such, can have different purposes. The purpose of a research project can be explanation, exploration, description and evaluation. This is an exploratory project to better understand how CIO's experience taking charge in a new appointment.

Understanding the process of taking charge as experienced by Chief Information Officers can be viewed from the social constructionist ontology. A constructionist position asserts that social phenomena and their meanings are continually being created by social actors (Bryman and Bell, 2007). This implies that social phenomena are not only being constructed by the actions of people, but that they are also continually being revised. Constructionism asserts that social reality is embedded in the nature and the way that social actors behave (Morgan and Smircich, 1980).

Social constructionism is an interpretive approach to social science (Easterby-Smith et al., 2008). "The aim of all interpretive research is to understand how members of a social group, through their participation in social processes, enact their particular realities and endow them with meaning, and to show how these meanings, beliefs and intentions of the members help to constitute their social action" (Orlikowski and Baroudi, 1991). The constructionist ontological position leads the researcher to adopt an interpretive epistemology that supports methods to provide understanding rather than empirical explanation Blaikie (2007) cites Dilthey (1833-1911) who argued that the study of the human world should strive for understanding (*verstehen* in German), while the study of the natural world should strive for casual explanation (*erklaeren* in German). This study applies an interpretive approach to provide *verstehen* or understanding of how CIOs experience taking charge of a new appointment.

The next section will describe how this interpretive approach was applied through the research methodology of the project.

3.4 Methodology

The research question lends itself to applying an interpretive approach. This approach will allow the exploration of the range of experiences that CIOs have had with the taking charge process and how it is socially constructed by the CIO. The interpretative approach selected for this study is the semi-structured interview. Seeking understanding requires data that is "rich" in the sense that it captures CIOs' experience in their own words. Capturing rich data is an

advantage of qualitative research methods and one such method is semi-structured interviews. Semi-structured interviews will be discussed in more detail in the next section

3.4.1 Semi-structured interviews

The research question is aimed at the experience of CIOs taking charge therefore CIOs provide the data required. Interviews are an effective way to explore these experiences. As Kvale (1996) explains, “the qualitative research interview attempts to understand the world from the subject’s point of view, to unfold the meaning of peoples’ experiences, to uncover their lived world prior to scientific explanations.”

The next decision made was how much structure to put into the interview (Easterby-Smith et al., 2008). There were a number of options. There are structured, semi-structured and unstructured interviews. Structured interviews are similar to surveys that would make eliciting the deeper meanings and personal experiences of CIOs a significant challenge. On the other hand, completely open interviews are difficult to manage and potentially do not generate the insights desired. The semi-structured interview were chosen as an appropriate level of structure to both elicit desired insights and keep open the opportunity of the participant to add experiences not explicitly elicited from the interview guide.

Interviewing requires skill. It is not always straightforward to understand issues from the interviewee’s point of view (Easterby-Smith et al., 2008). Although new to interviewing in an academic research context this researcher had many years of experience conducting interviews to collect data for consulting engagements. These engagements were often to interview executives about their perspectives on a specific business issue, program or process. Interviews have also been done for employee selection, promotion, performance appraisal, professional development and dismissal. These interviews were most often semi-structured with certain categories of information desired and yet still open to additional information beyond the *a priori* categories. Interview techniques

such as laddering and probing enabled a deeper understanding from the interviewee beyond their initial response to a question.

3.4.2 The structured walk-through

The initial interview guide is provided in Appendix P. Appendix P includes italicized notes on the purpose of each question which were not included in interview guides that were given to CIOs. The researcher reviewed the interview guide with two CIOs in a structured walk-through format. The CIOs were not asked to answer the questions but rather to focus on the clarity of the question and whether CIOs would clearly understand them. They were also asked if there were questions that were missing. These reviews did elicit both clarifying edits in the question wording as well as two additional sub-questions to explicitly explore trusted relationships and strategic environment.

In addition to the structured walk-through, three interviews were conducted as a pilot. The pilot provided a way to assess both the interview guide as well as the interview process itself. This pilot project is described in a subsequent section. The process of developing the final interview guide is described in Figure 3-2 below.

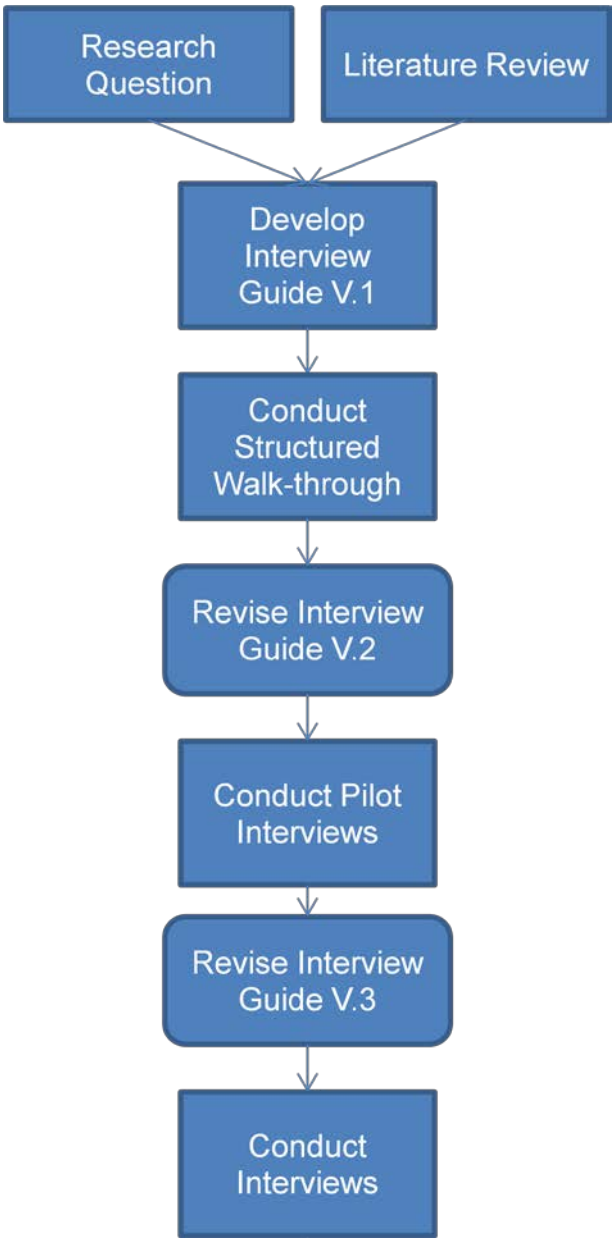

Figure 3-2 Interview guide development process

Interviews were recorded with the permission of the participant. Recording the interviews allowed a focus on their answers and guiding the interview process rather than taking notes. The interviews were done by telephone as the participants were located all across the U.S. and U.K.

3.5 The Pilot study

3.5.1 Selection of participants

A Pilot study was conducted with the interview guide (version 2) that resulted from the structured walk-through process and is shown in Appendix P. There were three CIOs who participated in the Pilot study. The participants did not know that their interview was being used as a pilot. The three CIOs were selected simply for convenience as they were the first three participants to schedule interviews. The objective of the Pilot study was to test the efficacy of the interview guide in collecting the type of data that would support the research question.

3.5.2 Data collection

Interviews were conducted by phone and digitally recorded. Each participant returned a signed informed consent form (Appendix U). The interviews were guided by the interview guide in Appendix P and lasted approximately one hour.

3.5.3 Analysis

The digital audio files of the interviews were sent to a transcription service for transcription into Word text documents. This process worked smoothly with the service provider. A confidentiality agreement was executed by the service provider in order to protect the information shared by the participants. The transcriptions were returned to the researcher via email. These were copied to an electronic folder. The files are stored with anonymous labels such as CIO-1, CIO-2 and CIO-3. These files were backed up automatically.

The pilot transcripts were loaded into NVivo to test the coding process. An initial coding structure was established from the academic literature. Testing the coding process with the Pilot project was useful as it brought out where the coding template may need to be modified. More importantly it informed the researcher of the time required to do the coding.

The most valuable aspect of the Pilot Project was not the synthesized findings of just three interviews, but the testing of the efficacy of the interview guide. This will be discussed in the conclusions section that follows.

3.5.4 Findings

The first finding of the Pilot was related to the potential for the executive summary document (Appendix S) to bias responses. This was not observed in the three interviews that were conducted. One way to test this concern was related to Question 9 of the interview guide (Appendix P). This question asked the participants to position their experience of socialization on a scale directly related to the concept of socialization discussed in the executive summary. None of the participants easily answered this question. They were uncomfortable with the scale and the meaning of each value. If they were biased by the level of detail in the executive summary they would have been more inclined to use terminology contained therein. Since they did not use that terminology it suggests that they may not have been biased toward a specific answer. I will now describe the changes that were made in each category of questions in the interview guide as a result of the Pilot. A comparison of the questions in Version 2 (post structured walk-through) and Version 3 (post Pilot) are shown in Appendix W. I will also discuss the changes briefly in the next several sections.

3.5.4.1 Background questions

The only change made in this category of questions was to add a sub-question regarding what attracted the CIO to his/her present role. This is simply another way to understand the context of their appointment.

3.5.4.2 Organizational context

Significant changes were made to the wording of the questions in this category in order to shorten the question into a more concise form and to allow greater freedom of the participant to answer as they saw fit.

3.5.4.3 Taking charge process

Changes were made to these questions to make them more concise. The three main questions regarding learning the ropes, milestones and relationships remained the same as prior to the Pilot.

3.5.4.4 Socialization / mutual adjustment

These questions were changed significantly from four sub-questions including a ranking scale to a simpler open ended question. That question became "describe your experience of becoming integrated into the organization and the role". The Pilot clearly showed that the CIOs were not comfortable with the rating scale or the complexity of the multiple questions. Primarily this was because each CIO rated themselves a "3" meaning that there was a balance between adapting and influencing in the process of integration. All three participants prefaced their answers by commenting that it was a difficult question to answer.

3.5.4.5 General

No changes were made to the three questions in this category.

3.5.5 Conclusions

The conclusion from the Pilot was although the interview guide required some revision to a number of questions it generally provided the data required to address the research question.

3.6 The Main study

3.6.1 Participant sampling

Participant selection was not constrained in any way other than the individual had to be a Chief Information Officer in an organization presently or in the past. While retrospective accounts have limitations (Golden, 1992), it is not desirable to focus only on newly appointed CIOs because they have not experienced the

entire process of taking charge. Since the study was interested in understanding what factors influence the taking charge process I have not *a priori* selected executives from specific backgrounds, industries, company sizes, etc. This open selection added breadth to the data collected. The background of the participants is discussed in the Findings section of this report.

The sampling technique adopted is a combination of convenience and snowballing (Miles and Huberman, 1999). Forty CIOs personally known to the researcher were contacted. This was a convenience sample. Sixty people in the researcher's professional network that work with CIOs were also contacted for referrals and introductions. This approach incorporated snowball sampling. Examples of solicitation emails are in Appendix Q and R. An executive summary of the research project for their reference was included. This executive summary is in Appendix S sans the title page that identified it as a Cranfield School of Management research project.

The executive summary was reasonably long at three pages. This might introduce concern that too much "leading" information was provided to participants and that they would be biased toward providing information in a form not of their own words. The level of detail was necessary to properly position the subject matter to the participants. In fact, the paper consisted of four parts. One page was an introduction to the problem being studied. All CIOs would recognize this as an issue and this did not improperly frame responses. The second page described the concept of mutual adjustment and socialization. This section was necessary to set the theoretical context for the research. In fact, none of the participants reflected the concepts in their answers to the interview questions. The third page consisted of two parts. One was an overview of the research project, research questions and expected contribution. The second half of the page was the researcher biography. In the course of the interviews none of the participants referred back to the content of the executive summary in framing their answers. This suggests they were not "led" to descriptions or answers based on the executive summary document.

When a CIO indicated they were interested in participating in the project, they were contacted with the email message in Appendix T. Two documents were attached, the interview guide (Appendix V) as well as an informed consent form (Appendix U). The interview guide was provided for both transparency (and therefore trust) as well as an opportunity for the CIO to reflect on his/her experience prior to the interview which had the potential to provide richer information.

3.6.2 Data collection

The use of an interview guide enabled consistency across the interviewees while still allowing the opportunity for the participants to add issues relevant to them. Personal reflection and specific stories/narratives were encouraged.

Interviews were scheduled for 60 minutes and conducted by telephone given the broad geographic locations of the participants. Questions focused on several categories of information. The first was general background of professional experience. The second was to understand the organizational context in which the CIO took up the appointment. The third was to elicit the experience of the taking charge process. Fourth was to understand how the CIO experienced the socialization process into the new role/organization. Lastly there were open-ended questions to allow the CIO to address issues or experiences that were not elicited through the interview questions. It is interesting to note that many of the respondents added insights after being asked the last question of “is there anything else you would like to add?”

At the point of the twenty fourth CIO interview (3 pilot + 21 main study) the data reached a point of theoretical saturation in that no new information was coming from informants, given the research question and interview guide (Eisenhardt, 1989; Flick, 2009; Glaser and Strauss, 1966). No new categories emerged for coding. Therefore sampling was stopped at twenty one interviews in the main study.

3.6.3 Data analysis

Each interview was digitally recorded with the permission of the participant. Through the informed consent form the participant was informed that the interviews are planned to be recorded and transcribed. The form also informs the participant that their information and identify will remain confidential. The participants acknowledged that the interview is voluntary and that they had the privilege to refrain from answering any question and end the interview at any time. To mitigate that the participant did not read the form prior to their interview, the participants were informed of these points verbally by the researcher at the beginning of the interview. The recorded interviews were transcribed by a third-party service that had executed a confidentiality agreement with the researcher. These transcriptions were subsequently loaded into NVivo for coding. A discussion of the use of NVivo follows in a subsequent section.

Coding with template analysis

"Codes are tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study" (Miles and Huberman, 1999). Coding sorts the data into categories that render it meaningful from the vantage point of one or more frameworks (Lofland et al., 2006). Template analysis was used in coding the data. Template analysis refers to a group of techniques for thematically organizing and analyzing textual data (King, 2004). King describes template analysis as a method that supports different interpretive epistemologies such as social constructionism and that it is a flexible technique that permits researchers to tailor it to match their own requirements. Template analysis supports the assumption of multiple interpretations of any phenomenon based on the position of the researcher and the context of the research. Template analysis provides an opportunity for the researcher to explore the use of language in the data where participants assign meaning to their experiences using specific words and descriptions. This concern with the use of language is one defining characteristic of social constructionism.

Template analysis normally starts with a few defined codes that guide the analysis. A set of codes based on the conceptual model of CIOs taking charge was developed. This conceptual model was the source of the interview guide and the interview guide was a good starting point for the initial template (King, 2004). Defining the initial template was done in collaboration with Dr. Joe Peppard, my doctoral supervisor. This collaboration helped clearly define why a code is included and how it is to be used. This template included specific codes as well as a hierarchy of codes, groups of codes clustered together in higher-order codes. The template was initially limited to two levels of codes to simplify initial coding.

Template analysis is done in a series of steps described below:

1. Define the initial template
2. Initial coding
3. Revising the template
    a. Inserting new codes
    b. Deleting codes
    c. Modifying the scope of a code
    d. Changing the hierarchical relationships
4. Developing the “final” template
5. Interpreting the findings
6. Performing quality checks

While an initial template was created based on the conceptual model developed from the literature the researcher remained open to new codes and the insights that the data revealed. The “final” coding template is in Appendix X. A description of each code is in Table 3-1.

Code	Description
Organization situation	Description of organization situation and related to transition type. Transition type was interpreted by the researcher based on these
IT governance	Descriptions of the IT governance processes
IT savvy of TMT	Data describing the IT savvy of the top management team
IT leadership team	Data concerning the IT leadership team
Job preview	Description of amount of advance notice that the CIO had of the situation which they were inheriting (Fondas and Wiersema, 1997)
Reason for leaving previous post	Data on why the CIO left their previous position
Reason for taking current post	Data on why the CIO took the current position
Learning the ropes	Data describing how the CIO understood their role in the organization and developed mastery in the role (Gabarro, 1987)
Milestones	Descriptions of milestones or key events in the process of taking charge
Duration	Descriptions of time required for an activity
Internal relationships	Data related to relationships inside the organization
External relationship	Data related to relationships outside of the organization
Adjustment	Descriptions of adjusting to a new organization, culture and expectations (Denis et al., 2000)
Exercising influence	Descriptions of CIO exercising influence in some way
Building credibility	Descriptions of building credibility through actions
CIO leadership views	Description of how the participant's view of CIO had changed or not
Advice to new CIOs	Participant advice to new CIOs
Other	Miscellaneous comments not coded to other codes

Table 3-1 Data analysis codes and descriptions

The coding was never really final as analysis continued to recognize themes that emerged from the data, but did not fit into a specific code. Examples of themes that emerged were specific timelines and the concepts of transition phases. There were also codes that were anticipated might be useful such as

the codes for information seeking and types that were not significantly useful. In other cases codes were expanded, for example I modified my initial code of “relationships” to “internal relationships” and “external relationships” as more information emerged regarding these different types.

3.6.4 NVivo usage

NVivo is a software package that provides tools that assist researchers in analyzing qualitative data. NVivo does not do the analysis for the researcher it only supports different modes of analysis by organizing data in a more efficient manner (Bazeley, 2007). NVivo was used in the analysis of the academic literature selected in Project 1 and to code the data for this study.

3.6.5 Coding example

A brief explanation of how the codes were applied is presented to provide insight into how the data was interpreted. There were three types of coding scenarios that were present. The first was data that directly answered the question asked, was relevant to the research question and relatively straightforward to code. An example follows from the discussion with CIO-10.

Interviewer: “How long did it take before you felt you had gained some mastery over the position?”

CIO-10: “I would say the first six months were really learning the job.”

In this case the participant directly answered the question about duration with a clear answer. Much of data fell into this category of coding.

The second type of coding scenario was where the answer to the question was less direct and embedded in a story. This data was less straightforward to code. This type of analysis was necessary for the questions which were open-ended like the questions on learning the ropes of the position and adjusting to a new organization. Here is an example of such a coding from the interview with

CIO-12. This exchange occurred while discussing how CIO-12 learned the ropes of their new appointment.

Interviewer: "…How did you go about learning the business?"

CIO-12: "The first thing I did in my first 90 days, I sat down with every functional departmental leader and one of the things that I think I did that helped me not only learn the business, but build very critical and important relationships with the business, is I just sat down and said I don't care if it's IT related or not. What keeps you up at night and if you could solve any one thing that you think would make a dramatic difference in how well we do business, increase revenue, reduce cost, improve safety what would that one thing be? What's the one thing that if you could change you would change? And honestly then continuing after that initial conversation going back to them and saying, I think your applications are supporting you where you need support, or they are not supporting you and here is something that we might want to look at. Then I continue to go back to them on a quarterly basis and have the same conversation."

This rich answer was coded several different ways. The first was that the CIO shared a timeframe – 90 days *[duration]*. The second was that she described meeting with her peers to accomplish two objectives of learning the business (she had no previous industry experience) *[learning the ropes]* and building relationships *[internal relationships]*. The final insight was that she was business-oriented in her questions concerning what could be done to increase revenue, reduce cost or improve safety *[demand-side leadership]*.

The third type of coding was the type of meta-analysis focused on patterns that emerged in the data. An example is the insight on phases of taking charge. "phases" was not a question directly asked, but one that was inferred from reviewing the patterns in the data. Phases were not even part of the coding template itself. This is the same for findings related to Supply-side and Demand-side leadership. A direct question about these types of CIO leadership

was not asked, but the descriptions provided by CIOs could be coded as such by comparing them to descriptions in the extant research literature.

These examples provide insight into the coding process in more detail in an attempt to provide transparency in the analysis. The next section discusses the challenge of transparency in terms of reflexivity.

3.6.6 Reflexivity

Researcher bias is an important consideration in research strategy. There are initially a number of biases. First is the adoption of a social constructionist approach implies that social reality is constructed by social actors rather than being a concrete, objective reality. Extending this position recognizes that the research process itself is a social construction between the researcher and the participant. Bias is also inherent in the fact that this phenomenon was chosen to study because of researcher interest. The researcher holds an opinion about the role of the CIO as an executive, that the CIO role is a challenging job that is unique within the TMT in many of its leadership challenges. The researcher worked with many CIOs and carries some biases from those experiences into the research and some of these CIOs will be participants in the project as well. These perspectives will inevitably contribute to shaping the data collection, analysis and synthesis processes (James and Vinnicombe, 2002). Personal biases of the researcher may unintentionally influence decision-making and interpretations.

Adopting a reflexive approach is one way that the researcher can challenge their intellectual assumptions and recognizing the influence and limitations that these have on the research (Cunliffe, 2003). Lofland et al (2006) advise that the researcher reflect on where you are and how your personal experience and biography influence you as a researcher. The researcher in this study accepts this limitation and attempts to mitigate it by using their experience as a point of departure rather than as embedded in the research project. Alvesson (2003) suggests that one result of reflexivity is a “preoccupation with the researcher self and its significance in the research process.” He goes on to note that

reflexivity for him stands for the conscious and consistent efforts to view the subject matter from different angles and to avoid privileging a favored angle a prior. The researcher has endeavored to maintain an awareness of these factors on the data collection, analysis and synthesis. It is important to note that adopting a reflexive approach reframes the researcher's self knowledge, but does not lead to a "better" or more "accurate" account (Johnson and Duberley, 2003). Adopting a reflexive perspective will more effectively allow the data to speak for itself.

3.7 Background characteristics

Before discussing the findings of the research an understanding of the participant's backgrounds and situational characteristics is instructive. These characteristics potentially have an influence on the taking charge process.

3.7.1 CIO background

Twenty-one CIOs participated in the main project. They were primarily male (18) and there were only three female executives. The participants approximate the general gender distribution of CIOs (Heller, 2012), however this approximation is purely coincidental since no sampling strategy was used to achieve a representative sample of gender.

Fifteen participants were hired as "Outsiders", new to the organization and six were "Insiders" promoted from within the organization. Most CIOs had relevant experience in the industry prior to taking on their current appointment. Only two CIOs had no previous experience in their current industry before taking charge. Three CIOs had never worked in an industry different than that of their current appointment.

Time in the current role varied across a broad range. Three CIOs had only been in the current appointment for one year or less while another had over ten years in the same organizational role. Table 3-2 shows the distribution of tenure in the current appointment.

Tenure in current role (years)	0-1	1 - 2	2.1 – 3	3.1 – 5	Over 5	Average
Frequency	3	10	2	3	3	2.8

Table 3-2 Distribution of participants' tenure in current appointment

Seventy-one percent of the participants have been in their current role three years or less.

Eleven participants had held the CIO position previously in another organization and ten had no previous CIO experience. Table 3-3 shows the frequency of prior experience by succession type.

Prior CIO Experience	**Insider**	**Outsider**
Yes	1	10
No	5	5

Table 3-3 Frequency of prior CIO experience by succession type

Twice as many CIOs hired as Outsiders had prior CIO experience than those with no prior experience.

The range of total years CIO experience was a very broad range from 1.5 to 17 years. Table 3-4 shows the distribution of total years experience as a CIO.

Total CIO experience (yrs)	0-2	2.1 – 5	5.1-10	Over 10	Average
Frequency	4	6	7	4	6.3

Table 3-4 Distribution of total years experience at CIO level

As might be expected with senior executives, the total work experience of the participants was high with an average of over 23 years (range was 15-32 years). The number of years of IT experience ranged from 2-30 years, yet only

seven participants (33%) had non-IT business experience. The remaining 14 had worked in the IT profession their entire careers.

The reporting level varied somewhat among the participants. The majority (12) reported to the Chief Executive Officer and seven reported to the Chief Operating Officer. These CIOs reported to the number one or two executive in the organization and clearly were members of the top management team. Two CIOs had more complex reporting relationships as their role was of a business unit executive. Therefore they reported to an executive in the business unit (one to the CFO and the other to the President) as well as a dotted-line relationship to a corporate CIO.

Please refer to Appendix Y for a complete table of these characteristics for each participant.

3.7.2 Organizational context

Organization characteristics such as industry segment, revenue and ownership were taken from the Hoovers company database accessed through the Indiana University library system. There were 19 different industry segments represented with only two segments, petroleum refining and consulting services, repeated. Refer to Appendix Z for a list of these industry segments. Four organizations were privately owned, three were government agencies and 14 were publically traded firms. The organizations' annual turnover ranged from 22 million USD to 58 billion as described in Table 3-5.

Annual Revenue (Billion USD)	0- 1	1.1 - 10	Over 10
Frequency	9	7	5

Table 3-5 Organization size by annual revenue

The sample consisted of a broad range of industry segment and revenue size.

3.7.3 Transition type

The type of transition was another dimension of the organizational context that surrounded the participants' new appointment. The transition types described by CIOs were similar to those from Watkins (2004). Watkins described four types of business situations that leaders, and specifically new leaders, find themselves in. This transition types were described in the data by Chief Information Officers as follows:

- **Start-up:** the CIO is charged with assembling the capabilities (people, funding and technology) to get a new business, product, project off the ground.
- **Turnaround:** the CIO takes an IT organization that is recognized to be in trouble and works to get it back on track.
- **Realignment:** the CIO is challenged to revitalize an IT organization that is drifting into trouble.
- **Success-sustaining:** the CIO takes responsibility to preserve the vitality of a successful IT organization and take it to the next level.

The frequency of the transition types represented in the project is in Table 3-6 below.

Transition Type	Frequency
Start Up	1
Turnaround	7
Realignment	9
Sustaining Success	4
Total Participants	21

Table 3-6 Frequency of participants by transition type

A combination transition type and succession type provides some additional perspective as show in Table 3-7 below.

Transition / Succession Type	Insider	Outsider
Start-Up	-	1
Turnaround	1	6
Realignment	2	6
Success sustaining	3	2

Table 3-7 Frequency of succession type by transition type

Companies requiring a leader for turnaround or realignment were more likely to hire outsiders into the CIO role. The transition type of success sustaining was almost evenly split between insiders and outsiders. Transition type yielded a pattern of responses regarding the maturity of IT governance processes as well as the degree of Top Management Team IT savvy. Tables showing those frequencies are in Appendix AA and BB.

3.8 Findings

3.8.1 Job preview

One factor that influences any person new to a job is how much advance visibility that they have regarding the role expectations and challenges (Fondas and Wiersema, 1997; Reilly et al., 1979). The participants varied in how much advance visibility they had to the issues that they would inherit in the new appointment. Insiders expressed an advantage in this situation over outsiders as one might expect. CIO-7 and CIO-21 were two such insiders and they had this to say about their visibility into the job.

"...We had a very active program for rotating high potential people across various disciplines in IT...after doing that for 16 years of my career, the seated CIO moved on and they came to me and said 'Okay, you're next in line.'" CIO-7

"I would say I did have a good view of what I was walking into. The size of the role I underestimated, but I was very much aware of what the issues were, where we had rubbed our customers the wrong way. And I was working with him [predecessor CIO] *to try to correct the situation." CIO-21*

Another CIO of a merged company described his experience. He was already CIO in one of two companies that merged.

"I was involved, as CIO, in the due diligence process and integration planning. That made it easier in terms of coming in...because I could talk some of the language, not just generic business language, but very specific to our business." CIO-5

Clearly the insider CIOs felt that their transition into the CIO role was aided by the fact they knew the organization and its current issues. One Insider CIO summed it up by saying:

"I probably was 80% ready to hit on all cylinders. I spent 7 years prior working with the IT leadership team." CIO-11

These experiences were in contrast to how Outsider participants described their initial impressions. Acquiring accurate information in the interview process can be quite challenging even when a high level of due diligence is exercised. Generally the participants reported mixed experiences. For example, one CIO remarked about working with executive recruiters:

"...when you're talking to head-hunters about the types of things they look for in individuals, what comes through is their lack of understanding of the organizations they are working with and what would make a CIO successful." CIO-4

Another CIO mentioned that this is not always the executive recruiter's fault since many CEOs are not clear on the definition of the role when they described it to candidates.

"Most CEOs would tell you they want a partner and they'll pump the job up a little bit to make it feel really strategic and the reality is...what they really want is an operator to contain costs. It is important that the business, the CEO, is clear." CIO-5

However one Outsider CIO felt comfortable with the visibility that they had through the interview process:

"People made it very clear to me what kind of situation I was walking into. I think the company was very forthright and so I had a heads-up on most of the real problem areas." CIO-12

Regardless of the amount of information attained during the interview process several CIOs experienced "surprises" to some extent or another. They explained that you just can't fully appreciate the situation until you start the job.

"The picture painted prior to my taking the role...did not fully reflect the situation. You look down at a fire from an airplane and say wow, it looks pretty bad. But when you're down on the ground it's a different perspective." CIO-6

"I think the biggest surprise...was the budget. I did not have a big enough budget at all. That was probably the biggest shocker and then the other was how much power the regions had" CIO-10

"When I arrived...it was far more urgent, complicated and dysfunctional than I had imagined even with a fair bit of due diligence." CIO-15

"I had an idea of what it was like from talking to some of the business stakeholders. But one of the IT directors was protective of information and until he moved on it was very difficult to open the box and see inside." CIO-16

"I don't think there is any CIO that can ever say that in the interviewing process anybody can tell you what really you would find coming in. Like the Wack-A-Mole game, knock down one thing but another thing pops up." CIO-18

So while a significant number of CIOs entered organizations from the outside and did due diligence regarding the organization's IT problems, there were always surprises to some degree. This was never described as deception on the part of the hiring organization but rather as a natural characteristic of the complex environment in which CIOs operate.

3.8.2 Taking charge

Taking charge was experienced by the participants in three distinct and overlapping phases. Phases emerged from the data as the participants described both the timeline of their taking charge process as well as the types of activities in which they engaged. These phases were Entry, Stabilization and Renewal. Participants always experienced an Entry phase upon initial transition into the new role / organization. A Stabilization phase occurred that started shortly after the new executive started. A Renewal phase started approximately 6 months into an appointment and overlapped the Stabilization phase. These phases are shown below in Figure 3-3.

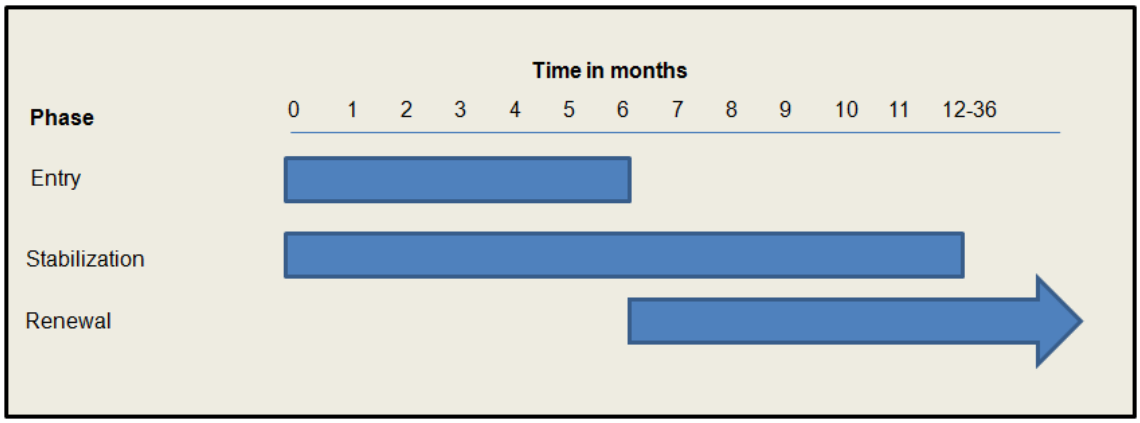

Figure 3-3 Taking charge phases across time

Entry lasted approximately 4-6 months. Stabilization began quickly in the transition of most CIOs and lasted 9-12 months. Activities associated with Renewal started generally after Entry and were a continuous process into the future. The next sections will describe CIOs experiences in each of these phases in detail.

3.8.2.1 Entry

The Entry phase consisted of two processes that can be described as learning and diagnosis. All the participants described a learning process of getting to know the business of the organization and the objectives of its top management team. CIOs also used this time to diagnose the IT-related problems in the

organization. Several mechanisms were used by CIOs during the Entry process to accomplish learning and diagnosis. The most frequently used was interviewing, having one-on-one discussions with non-IT stakeholders and IT leaders alike to collect information. Another mechanism was observation whereby the CIO watched how decisions were made and how others behaved. Lastly, CIOs also reviewed existing documentation such as reports and plans. This "tour" of the organization's key stakeholders is described by CIOs below.

"The first 60 days was 7am to 7pm every single day, six, sometimes seven days per week. At the end of 60 days I remember distinctly waking up one morning and thinking I finally get it. I understand where all the skeletons are. I understand who all the people are. I understand all the processes. I understand what the priorities are; now let's go make some changes" CIO-7

"The first thing I did in the first 30-90 days was sit down with every functional department leader. This not only helped me learn the business, but also to build critical relationships. I asked 'what are your biggest problems right now'". CIO-12

"I would say that the first three to four months I didn't change much. I certainly established a 90 day plan that consisted of meeting with the organization (leaders)*, assessing talent, and things like that." CIO-13*

"The 90 day diagnostic was...spending time with people and asking what they viewed as the issues and opportunities. I also visited a number of the properties..." CIO-15

"I went out and met with every VP and we had management meetings, so we were a tight-knit group." CIO-17

Several participants also made the point that they sought input from the direct reports under their top management peers, closer to the stakeholders that actually used the information technology services and solutions.

“In not all cases did I go to the leader of that functional area, but to the people who actually used the application.” CIO-12

“I met with the department leaders and also their direct reports one-on-one to understand their issues and priorities” CIO-22

The concept of the first 90 days was commonly mentioned by participants as indicated in the data above. The first 90 days was not the end of the Entry process. CIOs reported that it was 4-6 months before they felt capable of making significant decisions and having a cursory understanding of the organization’s issues and people.

“Four, maybe 6 months into it...I think you begin to gain...technical and organizational confidence” CIO-7

“The first six months were really just learning the job. I think...4-6 months is the period for you to get your bearings, know who’s who, who’s on first, feel like you can make some really strong decisions after that period of time. So I would say that after 4-6 months I was feeling that.” CIO-10

“It is really 4-6 months before you get your bearings, know who’s who and feel like you can make some really strong decisions...” CIO-13

“Within 6 months I had confidence I understood the situation” CIO-15

“If you are coming into a company as a brand new CIO you need to assess for 3-6 months what needs to go on...within 6 months my confidence was building...” CIO-17

There were three areas that CIOs focused a lot of attention during the Entry phase. These areas of assessment were the IT leadership team, IT governance processes and the IT savvy of their top management team peers.

IT leadership team assessment

One area of assessment by CIOs was the state of their IT leadership team. A strong leadership team was viewed as critical to a CIO's success.

"[The IT leadership team] *is crucial, absolutely crucial. You cannot do every project yourself. We've got an investment portfolio of 110 million. I don't have people who really know their stuff and can build their own relationships with businesses then we're going nowhere." CIO-4*

"You want to hire the best of the best; you want to have people that you trust that can really have your back." CIO-10

"I suppose in the first three months I tried to identify the key people who were the keepers and we couldn't do without." CIO-16

Most CIOs assessed their IT leadership as being in need of rebuilding. The extent of the rebuilding was dependent on the type of transition which will be discussed in more detail later. Some representative comments about the state of their IT leadership teams when they arrived were:

"They were viewing themselves as IT leaders where I think senior IT folks at that level really need to view themselves as business leaders." CIO-5

"The biggest surprise was...the fundamental lack of competence of the existing staff. It was a big, happy dysfunctional family with the blind leading the blind." CIO-8

"...we had a lot of deep technologists without much business acumen or a sense of aligning the work they were doing with providing value to the business." CIO-13

"I would say we had relatively weak players relative to the challenges we were facing." CIO-15

The capability of the IT leadership was not always identified to be a lack of individual competence but as a symptom resulting from the previous management view of IT. CIOs explained that a lack of attention and investment in the IT organization had rendered it incapable or meeting the organization's needs.

"Some of the people still working for me got a bad rap from their stakeholders. But they were set up to fail." CIO-4

"During the downturn, they [previous top management and CIO] *made a fiscal decision to release the vast majority of senior people to reduce payroll. They took out all the people with experience. So there were substantial morale problems." CIO-6*

"...through all the various contacts...we knew what the situation was like over there. The CIO reported to the CFO and it was being treated as a cost center...so the situation with the IT leadership was troubled." CIO-7

Recognizing that the IT leadership team required some rebuilding was a common situation experienced by all the participants and led to actions taken during the Stabilization phase.

<u>IT governance processes maturity</u>

The state of IT governance processes varied as the new CIOs took charge. Participants described the maturity of the governance processes they inherited as follows:

- Low – 8 responses
- Medium – 9 responses
- High – 4 responses

Analyzing this data required interpretation as this scale was not prompted by the researcher. Comments from CIOs like "non-existent", "low", or "not very mature" were coded as "Low" maturity. CIO's often used the term "mixed" or

“varying” to describe IT governance processes that were coded as “Medium”. Descriptions such as “high” or “strong” or “very good” were coded as “High”.

The term “non-existent” came up often, usually in the context of a turnaround transition. This situation is described by these representative comments:

“There weren’t any. There really were no financial governance nor operational governance processes in place.” CIO-6

“They were simply non-existent” CIO-12

“The governance processes were, they were really non-existent” CIO-15

“They were pretty non-existent. There were some processes in place, but having a process and actually following it are two different things.” CIO-16

Not all the CIOs that reported low IT governance maturity used such extreme descriptions as “non-existent”. CIOs often simply described governance maturity as low or informal when they arrived.

“It was pretty informal. We have regional business units and that’s where the budget power is. When I came in the 7 regional presidents were the governance.” CIO-5

“I would say that IT governance was pretty immature. We probably had some alignment with individual stakeholders...I’m not sure we ever looked across those and said here’s our corporate priority...our strategic direction.” CIO-13

“…that we had to have processes and portfolio boards at whatever level was kind of understood, however poorly or well they operated at the time. So we took the opportunity to refresh.” CIO-4

Finally a few CIOs indicated that the IT governance processes did not require much attention. These CIOs were primarily in realignment and success-sustaining transitions.

"Yeah, it was [mature]*…there was already a group that had been established to help make government decisions much like a CIO council if you will. It was actually more of an IT council. But we met regularly and routinely discuss major issues, such things as like the Web Firm, security, enterprise architecture." CIO-10*

Implementing improved IT governance processes emerged as a priority during the Stabilization phase. This will be discussed in more detail later.

TMT IT Savvy

IT savvy describes how well the top managers of the organization understand and appreciate the role that information technology can play in helping them meet their business objectives. It does not mean that non-IT business executives are deeply knowledgeable about information technology itself.

Often the level of IT savvy among the top management teams was described as low.

"Very, very low" CIO-6

"Zero. It's not negative, but it's zero" CIO-9

"Pretty un-savvy I would say." CIO-16

This was a generalization and there were some individual exceptions within the top management team. CIOs particularly in technology-oriented service firms reported that their top managers were relatively savvy about how technology could be used strategically because that was the core of their services business. Some examples of exceptions where executives were cited for their IT savvy by these CIOs are:

"Pretty savvy actually. They know what technology can be applied to business advantage." CIO-5

"...'the COO' knows that (the company) *is really an information management company and information technology is critical." CIO-11*

"I mean most of our leaders come from professional services firms [and were very IT savvy]*." CIO-13*

"There is the guy who is MD for the on-line business and he is pretty IT savvy." CIO-16

While individual executives had varying levels of IT savvy, often the CIOs felt that IT savvy as a group was low because the leadership of the IT function in the past had not demonstrated they could add value. This was consistent with some of the earlier comments about the existing IT leadership team. Some examples of this perspective are the following comments:

"I think because of the former situation they just viewed IT as the people around the networks and tried to keep the servers running." CIO-7

"I think the business' perspective of IT was as a service provider and not how IT could be an asset to the business." CIO-13

Since many CIOs viewed this lack of IT savvy as a function of the inability of the IT organization to demonstrate value, increasing the TMT's understanding of the potential contribution by IT was a priority during the Renewal phase.

The outcome of this Entry phase was a working knowledge of the organization for the new CIO. This working knowledge consisted of who the key players were, their objectives and what "kept them up at night". It also provided the CIO with an assessment of their IT leadership team and the efficacy of IT governance in the organization. The Entry process lasted approximately 4-6 months and set the stage for Stabilization and Renewal.

3.8.2.2 Stabilization

The Stabilization phase began shortly after the CIO started taking charge and lasted for approximately 9-12 months. The Stabilization phase consisted of

three sets of activities; taking corrective action and delivering existing projects, building the IT leadership team and implementing basic IT governance processes. These actions were examples of Supply-side leadership.

Taking corrective action was based on the CIOs diagnosis of services that required improvement. These problems were identified by speaking to stakeholders during the initial months of the Entry phase and through the CIO's own observation.

"I came in the first month and said we're going to have a single directory in 60 days and at the end of 60 days we had one directory in place. The feedback was overwhelmingly positive." CIO-6

"...the interesting thing about establishing credibility was that I got concussions from all the low hanging fruit. I went to every department and said give me your top 5 client problems. Then we went out and actively attacked the number 1 pain point in every department...then they say 'hey you got this done in 7 days and your predecessor couldn't get it done in 1 ½ years!'" CIO-11

"I had an understanding with my boss on priorities and the first 60 days it was highly reactive, just break-fix. In the IT there were some areas that definitely needed some assistance. The CEO called me and said well your first assignment is you got to fix our helpless desk." CIO-17

Improving IT services was not the only priority. The CIO also had to deliver IT projects that were already in-flight when they arrived. Improving IT services and delivering on existing projects was a way that the CIO demonstrated Supply-side leadership.

"*You need to focus on building credibility through delivery" CIO-4*

"I determined with the President what the priorities were in terms of immediate deliverables. Being a private company, there were some [previous] *transformational promises made and it was my job to execute and deliver on those." CIO-15*

"You know to make sure you can get in front of them (non-IT business partners) *and they say 'I can rely on IT to respond and add value.'" CIO-13*

An Insider remarked:

"I had kicked off several major projects within two weeks..., but I already knew what needed to be done. I think that is an unfair advantage compared to somebody from the outside in terms of how fast they can get things done." CIO-17

CIOs felt that the credibility earned in Stabilization would provide them the opportunity to make more strategic changes (which occur in the Renewal phase).

"One of our fundamental approaches was executing on [current project] *in order to realize the expected savings and credibility.* [This resulted in] *an accelerated reinvestment in IT that the company required because of the pent-up demand for IT services." CIO-15*

"Ask for the pain and listen. Never, never, never promise something you do not already know you can deliver." CIO-11

Solving IT service problems and delivering existing projects were two ways that CIOs took action during the Stabilization phase. The Stabilization phase involved making immediate changes to IT services that stakeholders identified as broken and that the CIO could impact in a short time. This brought quick benefits for the organization but it primarily provided credibility to the new CIO. The outcome was that the CIO was seen by his/her peers as a credible functional leader and someone they could trust to delivery what was promised.

<u>Building the IT team</u>

One of the first actions CIOs take is to communicate with the team about their expectations and to build trust with the team. The importance of the IT leadership team to the effectiveness of the CIO is recognized in the research (Marchand et al., 2000; Peppard, 2010) and also the participants of this study.

A strong IT leadership team is required in order to effectively collaborate with their business partners as well as deliver key IT initiatives that create business value. CIOs wanted to change the overall perception of their IT team.

"One of the things that was important to me for my team was to first build their reputation as being the most transparent, the most critical judge of our own performance. That takes a little time the build up that kind of reputation." CIO-5

"[The IT leadership team] *was pretty downtrodden. They didn't see the light at the end of the tunnel. In the last 9 months we've added a significant number of new people and a lot of new dollars in IT and I think people are beginning to see the turning of the Titanic." CIO-7*

"I asked for their input as opposed to excluding them. When I made a decision that was contrary to the way it had been done in the past I helped them understand why and what my rationale was for that. We established good rapport up front and I was very clear about what my intentions were. So that in my mind is very important because if your staff don't believe in you or trust you, I don't know that you can be successful." CIO-12

Although building trust and a rapport with the IT leadership is one action that CIOs take during Stabilization, significant changes in personnel are also undertaken. CIOs reported replacing a high percentage of their leadership teams during this phase.

"I've spent a lot of my time the last year restructuring my team, hiring new people and getting new senior leadership in technology." CIO-6

"In the last two and half years I have replaced all of the people who reported to me when I walked in the door. I have elevated some talent and brought some talent in from outside. It's been a very gradual and deliberate shift in the overall mix of team...and it's dramatically strengthened." CIO-15

Many times CIOs brought in leaders that they had worked with in the past and brought with them that trusted relationship.

"I replaced 70% of the management team and that's primarily because those folks were promoted up from individual contributor roles from very low levels due to no fault of their own. There were some folks that I knew from the past and I reached out after my first month and created roles. We brought them into my organization in the third month" CIO-6

"I've been fortunate because I've actually had a very strong IT team and some of them have followed me from other jobs." CIO-9

"I did actually bring in two people that I had worked with before" CIO-13

Rebuilding the IT leadership team in terms of reputation and capability was a priority of CIOs in the Stabilization phase of taking charge. Replacing IT leaders with people viewed as more capable by the CIO contributed to building credibility with non-IT business partners, built the foundation for executing strategic initiatives and also consolidated the CIO's power base.

Implementing IT governance

As mentioned earlier during the discussion on the Entry phase most CIOs identified significant improvement opportunities in their IT governance processes. Implementing basic IT governance processes was a common task during Stabilization.

"One of the first things we did actually, put a more collaborative governance process in place. Select those guys in charge but expose them to more of the varying demands of what they need to invest in IT and also we made things much more transparent in terms of reporting progress." CIO-5

"We are introducing…governance processes that we don't really call them that here including kind of IT steering committee for lack of a better description with the senior executives. We've got a full program management office now. We have certified program managers in place. We've got a lot of work going on around COBIT and ITIL and what we found to be the most useful again because of their lack of knowledge around these frameworks is to change some of the

wording, not to make it sound so process heavy but I think people see value in having a conversation around processes and controls even if we don't really call it processes." CIO-7

"We had to put in place a change management process. We had to put in place an IT steering committee." CIO-12

"We established a quarterly IT operating review with metric around each of the key areas of service delivery." CIO-15

CIOs generally either initiated or enhanced IT governance processes to achieve two objectives. The first was to take control over IT operations such as infrastructure and applications. The second was to define decision rights regarding IT investment decisions. Both of these actions helped establish the CIO's authority to control IT operations and to facilitate more formality and transparency in decision making within the top management team regarding IT investments.

<u>The importance of decisive action</u>

CIOs emphasized that decisions should be made quickly in the Stabilization phase in order to overcome organizational inertia. This was coded uniquely because it emerged as a theme so often in the interviews. CIOs made explicit points about the need for clear decision-making.

"I think the one mistake that I made… is wait as long as I did to make obvious staff changes that needed to be made. So, I knew pretty quickly some of the staffing changes that needed to be made, but because I was trying to establish that relationship and build a rapport, I waited probably 3 months longer than I should have. I waited until about the sixth month mark to start to make some key staff changes and I won't do that again because it was detrimental to the overall team." CIO-12

"I think it's important to put your stamp on the organization reasonably early but not rushing through it. So identify where the problems are, whether it is

structural process whatever it might be and very quickly put plans in place to address those." CIO-16

CIOs mentioned the judgment of their decisions as "good" or "bad" and to overcome the concern of making a bad decision. CIOs stated that executives need to be able to make decisions with insufficient information and to acknowledge that some of those decisions would turn out to be bad ones. In that case the important thing was to avoid dwelling on it and move on.

"...as CIOs we make decisions. Whether those decisions are good or bad decisions can take a little while to play out. When you invest in a particular technology, it can take a year before you find out if it was a good or bad decision" CIO-5

"I keep telling my team it's easier to make a change from movement as opposed to getting started. So we can just get started. Not making a decision is worse than making one you have to change. If you make the wrong decision then you made the wrong decision and you adjust and ask for forgiveness later." CIO-9

"I would say, trust your gut. You got into a leadership position for a reason and I think I had a tendency to want a lot more information, a lot more validation that the decision was the right one, before I executed on it. You have to be able to execute quickly with limited information and you just learn to trust your gut. I think the right answer too late is worse than the wrong answer early." CIO-12

"It's better to make a decision and adjust later if necessary than not making a decision at all." CIO-20

Quick, decisive action was a factor in a successful Stabilization phase according to the participants. Informants revealed decisions have to be made with insufficient information with the knowledge that corrective actions can be taken if the outcome is not satisfactory. It is more important not to delay taking action. Making decisions, adjusting to mistakes and moving on are common

leadership qualities of CIOs. The most complete description of this idea was shared by this experienced CIO.

"I've made a gazillion mistakes in this job. A ton of them, I would like to think that I have made more right decisions than wrong decisions along the way, but it's not—it's not 9 out of 10 decisions are right, it's probably more like 7 out of 10 on some days. It's I believe if you don't make decisions, don't move things forward then—or attempt to move them forward then you're dead in the water. And that's probably what I see when I put new people in higher level roles, that there is a sense of paranoia of being wrong, especially if you get up into the organization, to the director and VP role that—and people's minds, and I think I went through the same thing, thinking oh I'm at this level so I've got to always be right and you don't. You just got to be—you've got to adjust when you're wrong. And you've got to not spend a whole lot of time fleeting over the fact you were wrong. And that's across—that's whether it's a technology decision, it's a funding decision, it's a people decision. Nobody gets it right all the time. I think it's the ones that can acknowledge it quickly and change and move on are the ones that will be successful." CIO-21

There were several key outcomes of the Stabilization phase. One was that the CIO gained credibility through effective leadership of IT services and projects. The other key outcomes were that the CIO built their own IT leadership team and implemented basic IT governance processes. Implementing fundamental IT governance processes set boundaries with their TMT peers with regards to IT investment decisions. By building their own leadership team the CIO created a group of leaders who bought into the vision of the CIO and were capable of delivering strategic initiatives to the business. The CIO now had gained credibility as an IT leader, had governance processes to prioritize IT initiatives with significant business impact and a leadership team in place to execute those initiatives.

3.8.2.3 Renewal

The Renewal phase was characterized by the CIO building on their credibility to implement changes that position them to become a legitimate business leader. In this phase they focused on contributing more to the strategic direction of the organization. Renewal normally started in months 12-18 and continued the work begun in the Stabilization phase to enhance their IT leadership team and the organization's IT governance processes. A new area of focus emerged: to provide knowledge integration. This manifested itself in increasing business knowledge in their IT teams and the IT knowledge of the business partners. In this phase the CIO starts the evolution from IT leader to business leader. This is the essence of Demand-side leadership.

<u>Setting strategic direction</u>

The act of contributing to setting strategic direction by the CIO during Renewal is an example of Demand-side leadership. Chen et al (2010) define Demand-side leadership as "the CIO's capability to lead the organization to explore new IT-driven business opportunities that will lead to organizational innovations and business growth" (p. 234):

- Getting closer to the business – IT understanding the business objectives and priorities
- Building on supply-side credibility to create legitimacy – where IT leadership could legitimately influence how IT could support the business strategy

CIOs described this in two ways. One was focused on establishing the IT strategic plan that highlighted clearly IT's contribution.

"Lots of people say that they have an IT strategy, but it's stuck up in someone's head. [A CIO needs to] *lead, communicate that, talk to your peers about it and that's really valuable. It makes IT more accessible to business leaders." CIO-5*

"One of my objectives was to put a clear IT strategy together for the Group. I hired a consultant who helped me frame it and document it and communicate it

in the right way to the executive team. I spent a lot of time communicating that down to my organization as well." CIO-6

The other was how non-IT business leaders viewed the IT function's contribution.

"My first year was getting an IT strategy documented and really getting a road map back in front from a technology perspective. Also getting a good story so we could reach out to our sales and delivery guys and say 'we can help here. "They were used to IT as a service provider and order taker. Expectations were low. Now as we've transformed it you know, more and more people come to ask, 'hey can you help us here, why can't we move faster there.'" CIO-13

"The customer development function had the wrong strategy just as I was taking the job, so I've been very involved in crafting the new strategy. That buys you a lot of credibility when the Chief Customer Development officer points to you and says he has figured out how technology is part of his strategy moving forward." CIO-4

"The business people on the retail side of the business never had anyone who told them or indicated that technology can drive significant improvements or efficiencies or anything like that. IT has never really been a business partner but IT has turned that around." CIO-16

Setting a more strategic direction for IT and IT's contribution to the business objectives was a key activity in the Renewal phase.

<u>Coordinating and integrating knowledge</u>

Coordinating and integrating knowledge and forming a bridge between the IT leaders and the top management team were additional activities that occurred in the Renewal phase of taking charge. The CIO set expectations and boundaries with the TMT and rebuilt their IT leadership team in the Stabilization phase.

"I was always very clear with them [IT leaders] *that our goal is to help the business to be successful and that means we follow the business leaders. I would also go back to our business leaders and make them aware that sometimes we* [IT] *do have to take a technical perspective of things. So maybe I could help create a balance between the two points of view, because when I came in there were two points of view and to me that's unacceptable." CIO-5*

CIOs focused on increasing the business savvy of their IT team and searched for other development opportunities. After building the team in the Stabilization phase they made growing the capability of the team a priority. They accomplished this through increasing the business savvy of the team as well as formal professional development programs.

"I always think of my senior team. I try to give them the kind of exposure so they could learn and nothing would please me more than every one of my direct reports would go on to become CIO somewhere else." CIO-5

"Six months after I started we started a rotation where on any given day, there are a number of IT team members sitting in the middle of one of our sales or call centers doing calls with our sales agents. So it garnered credibility for the IT teams and also forced a different type of interaction. It's interesting to see the dynamics have shifted." CIO-6

"I sent our entire team through Covey training; we did effective presentation and effective negotiations training. We're bringing in executive coaches to work with a lot of the leadership. I continue to tell them we need people capable of working with the business to help them and be consultants to them." CIO-13

"We got a lot of IT people out into the business. So they learned what those people were doing and actually spent a week at a time with the territory salespeople." CIO-17

"Talent is one of the most important things, at least to a large scale IT shop and you're never done. It's kind of like take your favorite sports metaphor, the New York Giants are on fire, just won the super bowl, you know what , they're going

through their roster saying who is not on the team next year and what are our weaknesses and who do we need new. This guy Manning is okay but this guy over here, man he hasn't caught a ball for ever and every time he throws it he drops it." CIO-19

CIOs tried to raise the IT savvy of their business partners by demonstrating how IT could help them achieve their goals and one-on-one coaching.

"I think there is a lot one can do to build deeper IT savvy and it requires investing in relationships with each of the executives you know. So a combination of one-on-one meetings and gravitating to the people who understood the power [*of information technology*]*." CIO-15*

One CIO did use "brown bag" lunches as well as one-on-one coaching.

"It is one of my ambitions to educate and get people excited about technology...as an enabler and something that adds real business value. There is a lot of one-on-one coaching as well as some group stand up activities. I think in the U.S. you call them "brown bags", lunches and stuff like that where people can turn up, listen about, we have done sessions on mobile and how mobile is transforming our business and other businesses that kind of stuff. We tried a few different things" CIO-16

In general CIOs were less ambitious about increasing the IT savvy of the TMT via formal educational processes. They focused their time mostly on their peers who were already open to incorporating information technology to accomplish their business objectives. In this way they attempted to raise awareness among the other top management team of how information technology might help them as well.

<u>Enhancing IT governance</u>

Another area of continuing enhancement came in IT governance processes. One CIO described moving the process to focus more on business value rather than cost in making IT investment decisions.

"We've put the steps in place now that over the next few weeks we'll start with—as we start our 2012 portfolio reviews we're prioritizing more to value and we've gone through and done some of the quantification of value. That drastically changes the way we look at the portfolio or what's most important versus not and that I think is going to drive to probably initially a lot of friction but a much healthier discussion with our business partners. Because what we're trying to get to is using value, whether top line or bottom-line, how do we go about quantifying that by getting better and better at quantifying value to help us stop doing things that aren't driving value which we've traditionally—actually all IT shops struggle with that." CIO-20

The basic IT governance processes established in the Stabilization phase provided the foundation on which to further enhance those processes in the Renewal phase.

<u>The pace of change</u>

In the Renewal phase the CIO is attempting to drive more significant change into the organization. CIOs recognized that this can be difficult and slower than they would like. Understanding the pace of change that the organization was capable of absorbing was a key activity for the new CIO.

"So, what we've introduced…we spent a lot of time introducing, carefully introducing and as a phrase we use…introducing things in the culturally appropriate speed." CIO-7

"If you are a sprinter and you come into a walking organization you are going to walk. I actually had to slow down a little bit on some things and conclude you can only do one large change at a time. One thing I am always wary of when you come into a place requiring a lot of change is…change fatigue." CIO-11

"It always amazes me how hard it is and how slow it is to drive change." CIO-21

As described above, the CIOs wanted to understand the culture of the organization and the change capacity that existed. This understanding did not inhibit introducing change but rather moderated the speed and degree of change that could be introduced. An example of attempting to influence the culture itself was shared by the following CIO.

"The culture of [company] *is* [community minded]*—it is the nicest retail culture I have ever experienced, that's quite wonderful but it's also—it's very much accepted mediocrity and kind of our best days have already happened which is …not part of the culture that you would want to have* [in a growing business]*. So my boss and I spent a lot of time talking about how do we sharpen the elbows on this culture but not lose some of the really wonderful parts of the culture" CIO-20*

CIOs introduced change in terms of IT governance processes and the TMT's perception of the value of IT while working within the cultural constraints of the organization. CIOs recognized that there is a finite capacity for change within an organization and that they needed to pace the speed of change according to that cultural capacity.

<u>The emerging business leader</u>

The most significant transition for the CIO in the Renewal phase was to gain legitimacy as a business leader. This is demonstrating Demand-side leadership for the new CIO and is how they operate as a fully functional member of the top management team.

"The CEO said to me 'I love all the directions you gave us on IT, your guidance and collaboration. But you have more to offer so don't just limit yourself to having a view on IT related topics. We need to hear more from you." CIO-5

"I think the best advice I got was from this VP who said 'forget that you're an IT guy, from this day forward you are a business guy.'" CIO-17

CIOs experienced this in their interactions with the CEO and TMT. These CIO leaders sometimes represented the top management team to others in the organization with regard to the organization's strategic plans.

"The customer development function had the wrong strategy just as I was taking the job, so I've been very involved in crafting the new strategy. That buys you a lot of credibility when the Chief Customer Development officer points to you and says he has figured out how technology is part of his strategy moving forward." CIO-4

"My boss in the senior leadership team uses me to go out to our remote sites and articulate our strategic vision as a company. Now, that's kind of weird for the IT guy to be the one doing that." CIO-6

"I spend about two hours a week with our CEO talking about operating model and what the things are that we're doing and how those implications of those decisions impact the business and the business operating model which has been extraordinarily helpful for me and I think for him as well because it's changed the way he talks about some components of our business." CIO-20

One CIO mentioned that he was still learning this new role.

"I still have a lot to learn about becoming a more influential member of the executive staff. I'm acknowledging and responding to issues and participating in the conversation. I wouldn't say that I'm driving the conversation." CIO-7

A significant event in the taking charge process for CIOs was to be integral to the business strategy of the organization and to be viewed as a business leader. Reporting structure influences the CIO's ability to contribute to business strategy. As reported earlier, 19 out of 21 CIOs in this project reported to the #1 or #2 executive and were part of the top management team. In fact one CIO reported a distinct different in his strategic contribution once his reporting relationship changed from the CEO to the CFO.

“My first 5 years I reported direct to the CEO... So after that I ended up reporting to the CFO for the last 2 years. I saw a big difference in my ability to be effective…it was diminished when I reported to the CFO. At that point I no longer attended the monthly corporate manager meetings. So I was not as versed in what their strategy was and even their tactics were 8 months down the road because they would be working on these plans. I would be briefed on it for 5 minutes in the staff meeting but it is not like experiencing it live with these guys for 3 days at a time every single month. It made me less effective because I wouldn’t know some of the details. I wouldn’t know some of what the drivers and issues were because you just get summary information about it. So our IT team was less effective than they were when I was reporting directly to the CEO because I was hearing from the horse’s mouth without the handoff between the CFO and the CEO…” CIO-17

The Renewal phase was characterized by the CIO building on their credibility to implement changes that position them to become a legitimate business leader. The CIO enhanced the capability of the IT leadership team and improved IT governance processes. They exerted influence in setting IT strategy and started the evolution from IT leader to business leader.

3.8.2.4 Taking charge summary

The taking charge process is summarized in Table 3-8 below.

Phase	Entry	Stabilization	Renewal
Timeframe	Month 0-6	Month 1-12	Month 6-24+
Key Activities	• Learning about the organization • Diagnosing service delivery issues • Building relationships • Assessing personnel • Evaluating IT governance	• Improving service • Delivering in-flight projects • Building IT leadership team • Implementing IT governance	• Influencing strategic initiatives • Enhancing the IT team • Building IT savvy with TMT
Outcomes	• Confidence • Understanding of issues • Action agenda	• Credibility as IT leader (Supply-side leadership • Influence via IT leaders • Control via governance	• Legitimacy as business leader (Demand-side leadership) • Increased IT strategic contribution • Improved TMT IT savvy

Table 3-8 CIO taking charge phases, activities and outcomes

The Entry phase started immediately and lasted approximately 4-6 months. This phase was primarily focused on learning the organization. The CIO built confidence in his/her ability to set an agenda of action. Stabilization was a phase that started soon after the CIO started and occurred in parallel with Entry. Stabilization was characterized by demonstrating Supply-side leadership in improving IT service and project delivery. The outcome of this phase was credibility for the CIO as an IT leader. The Renewal phase generally started in months 6-12 of the CIO's taking charge and focused on introducing change that had significant business impact. In this manner the new CIO exercised Demand-side leadership and earned legitimacy as a business leader and member of the top management team.

CIOs experienced the taking charge process in three overlapping phases that led to building confidence, credibility and legitimacy over time.

3.8.3 Socialization

A newly appointed CIO possibly experiences both role and organizational socialization. If the executive has never been a CIO they experience a form of role socialization. This consists of the process of learning how to be a CIO as a professional career level. Organizational socialization, on the other hand, is the dynamic mutual adjustment process of becoming a leader in the organization. The role socialization of CIOs with no previous experience in that role will be discussed first. Those informants applied some mechanisms that were unique from those who had previous experience as a CIO.

All CIOs experienced the organizational socialization process when adjusting to a new organizational environment. They experienced this adjustment in two different activity domains of Supply-side leadership and Demand-side leadership. The outcomes of each of these domains will be discussed separately in the second and third sections. Organizational socialization outcomes are adopted from Denis et al (2000). The influence of transition type will also be discussed.

3.8.3.1 CIO role socialization

CIOs reported several ways that they learned how to be a CIO. One method for Insiders was that they had a degree of job preview or grooming.

"We had a very active program for rotating high potential people across various disciplines in IT...after doing that for 16 years of my career, the seated CIO moved on and they came to me and said 'Okay, you're next in line.'" CIO-7

"I probably was 80% ready to hit on all cylinders. I spent 7 years prior working with the IT leadership team." CIO-11

"I had already worked in 5 previous IT leadership positions across the university before assuming the role of CIO. I knew what it was like" CIO-14

One Insider CIO shared that his CEO took on a mentoring role for him.

"The CEO was pretty demanding. I was pretty young when I took over and he made a point that we get together weekly and we would talk about issues, any barriers he could break down for me. The CEO really worked with me and for the first year. We had these weekly meetings pretty religiously. But after that time I think the confidence in me grew and so we had these meetings less and less frequently because he probably felt like he didn't need to. And that gives you confidence…" CIO-17

Another method that CIOs reported was reading up on the role with practitioner-oriented publications.

"I probably purchased and read 12-15 books. Nothing prepares you for it. It took me 9 months before I felt I could go to sleep... without waking up in the middle of the night in a cold sweat" CIO-9

"I did also acquire a some books that basically said here are the 10 or 12 things that you need to know" CIO-12

"I read the book "The First Ninety Days" and took some advice from that" CIO-13

Another source of information on the role of the CIO that was mentioned several times was other professionals who held the role. Executives with no previous experience as a CIO gained valuable tips from professional contacts with experienced CIOs.

"I think from an external perspective you have to carefully choose your mentor. I'm still close to one of the consulting partners (and former CIO) that I used to work for. We talk about once per quarter. You've got to have somebody who has done it before otherwise they won't be able to help you." CIO-9

"Part of the learning is on-the-job. Some of it is interacting with the CIO Executive Council [a professional network of CIOs]. *No matter what problem you have, somebody is going to have some experience in how to approach it." CIO-11*

"I reached out to a couple of other CIOs that I know from my consulting days. I talked to them about what their day-to-day life was like. I talked to people who knew how to be a CIO." CIO-12

"I think it was helpful for me that I got much more plugged into the IT community. There's a ton of community networks for CIOs and I really wanted to tap into either local or global expertise. These are great networks for CIOs and I think got a lot of value out of those." CIO-13

"I got very involved with Gartner's CIO activities. Networking with other CIOs was great. Gartner also provided some mentoring" CIO-23

Insider CIOs with no previous role experience benefited from their proximity to the predecessor CIO and their knowledge of the organization's issues. Outsider CIOs tended to find external resources to understand the role as exemplified by their use of publications and CIO networks.

3.8.3.2 Organizational socialization

CIOs recognized that they had to understand the organization culture and build relationships to avoid being rejected as a leader.

"It's working together. It's collaboration and that you are naturally influencing outcomes. You're offering your opinions in some areas where you may feel strongly and there are others where you probably more go with the flow. If you're 3 years into something and you're not integrated, I tell you, there's a problem somewhere." CIO-5

"I remember asking the head of HR 'why in your opinion did the previous CIO fail?' The answer was pretty clear and I heard this repeated by several people. The answer was he came from a big company environment and tried to apply big company structure...and the antibodies just came out. The antibodies just killed him." CIO-7

"I've always looked at the CIO role as more of a strategic role, but I realized that depending on what you are trying to accomplish sometimes you are just not

going to be strategic. Sometimes you've just got to accept that the status quo is going to be the status quo and it's not optimal, but it's probably also not worth fighting about. You have to make an assessment and say, I'm not going to change the fundamental nature of this situation so you are going to have to adapt and be flexible" CIO-12

Understanding the cultural aspects relevant to the role is not straightforward and CIOs reported that it occurred in a trial and error fashion.

"I spoke about a certain topic and the public affairs folks said 'you didn't get approval for that' Nothing had even been said about that. I mean it's just there were things like that, where I almost was walking on eggshells in trying to get my job done. So it was the political piece, I had to really be careful what I did, what I said; I had to be very, very sensitive. So that was a real wake up call for me…you had to almost live it to experience it." CIO-10

"You find what works and what doesn't work and I mean I constantly have to remind myself of what worked in one situation, you've got to be very careful it doesn't necessarily work in the next situation with different people." CIO-21

"There is a cultural one that I am still struggling with and that's how they bring business cases forward that lack a level of detail. This is how the process has been. It is not purposeful saying hey this is how I have always done it so let's change it now. It is just what they know. So you are trying to un-wrap something that has been in place for a long time because it is what they know of how to do something." CIO-18

Participants also reported a more formal introduction to the cultural aspects of the organization and the VP of HR was specifically mentioned.

"[The company] *does one thing exceptionally well. When they bring on a new executive there is an advocate in HR who watches over your first 30 days. They ensure you have one-on-ones with every one of the executive staff and their lieutenants. The purpose is not only to establish personal relationships but also to get indoctrinated into the culture" CIO-7*

"The CEO and I met on a weekly basis and we kind of just worked through whatever my issues were. He really did teach me a lot and the VP of HR really taught me about the business." CIO-17

"The CEO, CFO and VP of HR provided a lot of support" CIO-15

Integration for the CIO was enhanced by building relationships with their TMT peers.

"It's getting them to believe that the time that they spend with you has value for them. They are all busy people with full agendas." CIO-4

"I can't overemphasize the importance of building a trusted relationship with your business partner from a non-IT perspective. These people need to come to you and trust you to find a technology solution that fits their business. They need to trust that you understand their business first and foremost." CIO-12

There was a general aspect of organizational socialization that the CIOs experienced that consisted of understanding the culture as well as building collaborative relationships with their peers and direct reports. Organizational socialization also occurred in two specific domains that resulted in unique outcomes. These domains are Supply-side and Demand-side leadership and are described next. Organizational socialization outcomes are described using the terminology of Denis et al (2000). "Parallelism" occurs when there is not mutual adjustment between executive and organization. This outcome did not occur in this study. "Assimilation" is an outcome where the executive accepts most of the organization's expectations and beliefs. "Accommodation" occurs when the executive accepts some expectations and beliefs but also influences changing others. "Transformation" occurs when the executive exerts significant influence and changes most of the organization's existing belief system.

3.8.3.2.1 Organizational socialization – Supply-Side

Supply-side leadership is the domain where the CIO has the most formal authority as it constitutes the resources and services that the IT function

provides to the organization. Supply-side socialization is influenced by transition type.

CIOs taking charge in a Start-up or Turnaround transition have a high degree of discretion in shaping and improving the IT function for which they are responsible. In these transitions the IT function was typically described in uncomplimentary terms. In these transitions the taking charge process was Transformational. The situation as described by the Start-Up CIO was starting "from scratch". This CIO had a high degree of latitude in establishing supply-side leadership. Similarly the Turnaround CIOs had the same degree of discretion to make change. CIOs in Turnaround transitions were hired because the function required significant improvement and therefore had a high degree of influence on improving performance and setting expectations. The CIO exerted a high degree of control in correcting infrastructure and services issues, making significant personnel changes and setting investment guidelines through governance processes. In fact, these CIOs described the broadest and most radical changes of any of the transition types.

CIOs taking charge in Realignment transitions faced a Supply-side leadership situation which did not require changes on a broad and drastic level. Realignment transitions involved minor changes to some expectations and moderate to large changes in a few other areas depending on the specifics of the organization. For example, perhaps IT services were functioning well, but insufficient contribution to the business strategy was being made. The socialization outcome for CIOs taking charge in a Realignment transition can be described as Accommodation. CIOs in Realignment transitions tended to mention the pace of change and adapting to the organization's culture. They made changes to their leadership team that were more moderate and mentioned building trust with their team more than CIOs in Turnaround transitions.

CIOs taking charge in Success-sustaining transitions experienced a socialization process close to Assimilation. There was a high level of adoption by the CIO of the organization's beliefs and expectations. This is consistent

with the fact that the IT function in Success-sustaining transitions was already performing well and that the majority of CIOs in this transition were Insiders who had knowledge of the organization's norms and structures. CIOs in these transitions were more likely to mention developing their IT leaders with more progressive programs (like rotations and formal training) and described incremental changes to infrastructure and processes.

Supply-side leadership in general offered the newly appointed CIO a high degree of discretion in making changes when taking charge. How the CIO exercised this flexibility was influenced by the transition type and the degree to which changes in supply-side leadership were expected.

3.8.3.2.2 Organizational socialization – Demand-Side

The CIO's integration in the Demand-side domain was dependent on two factors. One was his/her success in the Supply-side domain. These findings were described earlier and CIOs described their efforts in Supply-side leadership in successful terms. Assuming successful Supply-side leadership, the second factor that influences the Demand-side socialization outcome is transition type again. Transition type influenced Demand-side socialization in a manner similar to Supply-side leadership.

The Demand-side outcome for the CIO in this project in a Start-Up transition can be described as Assimilation. The CIO reported that he was not allowed to influence the strategy of the organization at all.

"They [TMT] *have no value for IT, it's a necessary evil. I tried to carry my* [strategic message] *to all the sites and all the parts of business and they were like, "Okay, that's nice. Now what about these 5 helpdesk files and that had been sitting there for 6 months? Where are we on those? They weren't really interested in what I'm going to do for the future." CIO-9*

This anecdote also suggests that CIO-9 had not yet achieved a level of Supply-side leadership credibility that would provide more Demand-side legitimacy.

The CIOs taking charge in the Turnaround reported a socialization process aligned with the Transformation outcome. The CIOs described having a high degree of influence on initiating changes that influenced the business strategy. This influence was the result of the need for significant change as required in a Turnaround situation. In the Turnaround the CIOs had a high level of support from the CEO/COO to make significant contribution to how the organization used information technology for competitive advantage. This contribution also was expected by the Top Management Team as the vision of the CEO was a more strategic role for IT.

CIOs in a Realignment transition tended toward a socialization outcome of Accommodation. The Realignment transitions generally included a desire to become more strategic in the use of IT the mandate was not as strong as the Turnaround. CIOs in this type of transition had to negotiate expectations more with the other members of the Top Management Team. These CIOs reported focusing their efforts to support TMT members who understood how IT could contribute to achieving their business objectives. TMT members that did have that understanding were given nominal support. As discussed in coordinating and integration knowledge, the CIO influenced TMT attitudes toward IT using examples set by IT savvy peers.

Success-sustaining transitions also resulted in CIO socialization of Accommodation. CIOs reported a high degree of accommodation with the expectations of the Top Management Team. This type of transition consisted of changes more incremental than a Realignment transition and the outcome of Accommodation was most common.

3.8.3.3 Summary

Socialization outcomes can be described differently for the domains of supply-side and demand-side leadership and are also influenced by transition type. Transition type influences the socialization outcome because role expectations are different under each transition type. Therefore how the CIO adjusts to those

expectations varies as well. The Table 3-9 below summarizes the findings of CIO domain socialization by transition type.

Transition Type	Supply-side socialization	Demand-side socialization
Start-Up	Transformation	Assimilation*
Turnaround	Transformation	Transformation
Realignment	Accommodation	Accommodation
Success-sustaining	Assimilation	Accommodation

*only one observation

Table 3-9 Domain socialization by transition type

In summary the integration of the CIO into the organization occurred in two separate domains of Supply-side and Demand-side leadership. The socialization outcome that resulted from the CIO taking charge was highly influenced by the type of transition they entered.

3.9 Discussion and conclusions

The study findings lead to three main conclusions. First, CIO background did not influence the taking charge process as much as the literature would suggest. Second, CIO socialization occurred differently in the domains of Supply-side and Demand-side leadership. Finally, transition type significantly influenced the taking charge process and socialization outcomes. These three conclusions will be discussed in the next sections.

3.9.1 CIO background

CIOs that took charge as Insiders did not generally report accelerated taking charge timelines as suggested by previous studies (Gabarro, 1987). The Insider CIOs still spent time in the Entry phase building relationships with their TMT peers. One reason for this might be that Insider CIOs in the project (except for one) had no previous CIO experience. The CIO role was a new one for them and therefore their relationship with TMT members had changed to one of a peer nature. This changed relationship required them to invest time in building trust and credibility with their new role group. The Insider with previous CIO experience was transitioning into a different organizational unit where he did not have previous relationships or business knowledge. He therefore still invested time in building those relationships and acquiring the knowledge specific for the geographic regions that were new to him.

Insider CIOs reported that they felt that their knowledge of the organization and its issues was beneficial to them however this did not impact their taking charge process compared to Outsiders as much as expected. This suggests that being an Insider is an advantage for a CIO with no previous experience in the role whereas CIOs with previous role experience will be more comfortable as Outsiders in a new appointment.

Proposition 1a: Insider status benefits those with no previous CIO experience the greatest.

Proposition 1b: Outsider transitions are more difficult for those with no previous CIO experience.

Prior role and industry experience have been identified as characteristics that influence the effectiveness of the CIO and the taking charge process (Fondas and Wiersema, 1997; Gabarro, 1987; Peppard, 2010; Smaltz et al., 2006). Gabarro even concluded that prior functional and industry experience "profoundly" influenced a new general manager's taking charge process (p. 6). This conclusion cannot be critically evaluated in this project as a vast majority of the participants had previous experience in the industry in which they were working. The taking charge process for those CIOs in the project without relevant industry experience was not significantly different from the other participants. The data does suggest that firms hiring CIOs from outside the organization prefer an executive with experience in a similar, if not the same, industry segment.

Only three participants reported having no prior experience in the industry of their current position. All three of these CIOs entered Turnaround situations. While they reported spending time on learning the business, they did this through relationship building primarily accomplished through one-on-one meetings.

Proposition 2: CIOs with relevant prior industry experience will not take charge significantly quicker than those with no prior industry experience

Research (Fondas and Wiersema, 1997; Gabarro, 1987; Peppard, 2010; Smaltz et al., 2006) also suggests that prior CIO role experience would provide an advantage. No advantage in the taking charge timeline was discernible as they still followed a similar timeline and activities in taking charge. It may have influenced the "quality" of their decisions, but the study could not determine that. The lack of prior experience did lead the new CIOs to seek out knowledge about the role from external sources such as books and professional networks that were not utilized by experienced CIOs to the same extent. It is reasonable

to conclude that prior CIO experience provides the executive with a deeper understanding of the role and its requirements.

3.9.2 CIO role socialization

The literature suggests there are different types of CIOs and that CIOs can experience role ambiguity and misalignment (Chun and Mooney, 2009; Deloitte, 2008; Hunter, 2010; Peppard et al., 2011). CIOs in this project did not report perceived ambiguity in their roles. They acknowledged that there can be a gap between the expectations of the CEO and the capability of the incumbent CIO but did not describe that sort of ambiguity in their experience. This might be explained in several ways. One is that an executive will be reluctant to describe a situation where they are not a good fit for the role. This might indicate some deficiency on their part and would probably be described as a "difference in opinion" with management.

Another potential source of ambiguity is the lack of a shared understanding between the CEO and the CIO regarding role expectations. Research has equated CIO role ambiguity with lack of alignment with the CEO's vision for IT (Feeny et al., 1992; Gupta, 1991; Jones et al., 1995; Peppard, 2010; Peppard et al., 2011). Fifteen of the twenty-one participants had been in their current appointment three years or less. Lack of role ambiguity might be a result of the recent appointment being based on their perceived fit with the CEO's role expectations. The other CIOs might also suggest a good fit if they have stayed in the role over three years.

In any case, no CIO reported ambiguity in what they thought the role should be and what the organization expected. The conclusion is that little role ambiguity exists with this sample of CIOs. This should not be interpreted as a general conclusion for all CIOs.

Proposition 3: Role ambiguity experienced by the CIO is directly related to the CEO's clarity of vision regarding information technology's role in the organization

3.9.3 Transition type and socialization

Transition type was the most influential factor in how the CIOs took charge of their appointment and the resultant socialization outcome. Transition type directly influenced the degree of change that the CIO was required to implement, but did not significantly influence the phases themselves nor the time described.

Proposition 4: Newly appointed CIOs experience socialization through similar processes, phases and timelines.

The degree of change implemented by new CIOs was described by Leidner and Mackay (2007) as “incremental” or “radical”. The data of this study suggests similar conclusions. CIOs in Turnaround transitions implemented more radical change than CIOs in Realignment or Success-sustaining transitions. Turnaround CIOs implemented radical change in most areas of their responsibility, IT leadership team, IT governance processes, infrastructure and applications. Realignment CIOs implemented radical change in those areas clearly requiring it and incremental change in other areas while CIOs in Success-sustaining transitions tended toward incremental changes across most areas. This conclusion is consistent with the definitions of the different transition types (Watkins, 2004). Different degrees of change were also observed by Gabarro (1987) between “turnaround” and “normal” situations.

The pattern existed that each transition type represented an increasing level of IT governance and TMT IT savvy. CIOs in a Turnaround transition generally reported low IT governance process maturity and low TMT IT savvy. CIOs in Realignment transitions generally reported medium levels and those in Success-sustaining transitions generally reported high levels of both characteristics

The Leidner and Mackay study (2007) linked CIO actions to the type of predecessor that they followed in the role. The research in this study suggests that predecessor type is not the driving factor. CIO actions in taking charge are

better described in terms of the transition type. However this is still not the fundamental driver. The data in this study would suggest that the CEO's strategic vision for IT is the primary driver for the degree of change implemented by new CIOs. The transition type is a function of the gap between the CEO's vision for IT and the current state of IT in the organization. Therefore, if the gap is large the CIO would have a turnaround situation. If the gap was small or non-existent the situation would be described as realignment or success-sustaining respectively.

Half of the turnaround situations were a result of a strategic shift by the CEO regarding the role of IT. The other half were reported as "IT is a mess, fix it" type turnarounds. Even in those situations the "mess" resulted from a lack of support by top management to invest in IT and make it successful. Lack of a strategic view of the role of IT resulted in an ineffective IT function that did not serve the organization's needs. This also helps explain why Turnaround transitions were led by CIOs hired outside of the organization. It is not surprising that, given a Turnaround, the predecessor CIO was not viewed as effective and subsequently replaced.

Most of Realignment transitions in the study were the result of a CEO who articulated a more strategic direction for IT. This new vision was the result of different drivers, a merger, geographic expansion, and other changes in strategic environment. The majority of Realignment transitions were led by CIOs outside of the organization indicating that the predecessor CIO was not viewed as being able to make the strategic shift successfully and was replaced.

Succession-sustaining transitions do not consist of radical changes in strategic direction. These were transitions where the CIO was chosen primarily from inside the organization. This transition was characterized by a chief executive who wanted to build on the stability and success of the current IT organization. This is not to suggest that Success-sustaining transitions are the same as having a strategic view of IT. In this study there were five organizations described as Success-sustaining transitions. Only two of those CIOs described

the organization's use of IT as strategic and the other three indicated it was not strategic when they arrived.

Proposition 5: Change implemented by the CIO in taking charge is determined by the transition type as defined by the CEO's view of a performance gap in IT.

The findings suggest that CIO background characteristics do not alone influence the taking charge process in terms of timeline. Background characteristics such as prior CIO experience and relevant industry experience did show an influence on specific activities and knowledge seeking done by CIOs while taking charge.

The findings also indicate that CIOs approach the taking charge process in several phases. The CIO tends to focus on Supply-side leadership activities in the Stabilization phase and Demand-side leadership in the Renewal phase. CIOs establish Supply-side leadership relatively early in their taking charge process, but it might be 18-24 months before they influence Demand-side outcomes.

Chen et al (2010) proposed a phased model of CIO leadership where Supply-side leadership influenced Demand-side. The findings of this study are consistent with that proposal. Denis et al (2000) found that a new CEO taking charge could experience socialization uniquely in two different domains. Similarly, this study suggests that CIOs experience socialization uniquely between Supply-side and Demand-side leadership domains and that the outcomes are linked as Chen et al described.

Proposition 6: The socialization outcome for a newly appointed CIO occurs in two leadership domains; Supply-side and Demand-side.

Proposition 7: The socialization outcome of Supply-side leadership domain influences the socialization outcome of the Demand-side leadership domain.

Proposition 8: The socialization outcome of both domains is influenced by the transition type.

The conclusions from this study suggest the previously proposed model for CIO mutual adjustment should be modified to account for the influence of transition type and different Supply-side / Demand-side socialization outcomes. The model also becomes “empirical” versus “conceptual” as it is now based on empirical data. The empirical model is presented below in Figure 3-4.

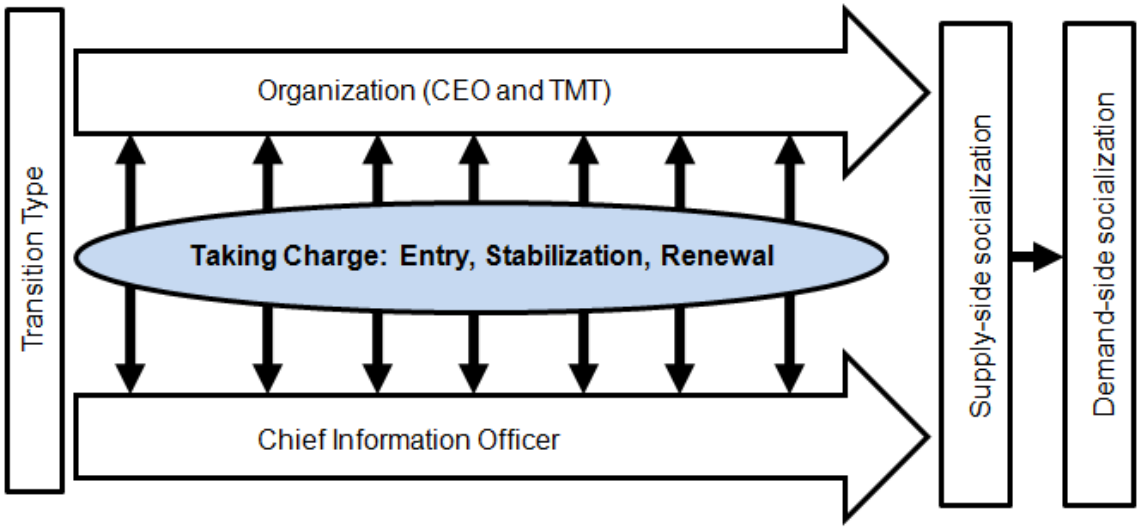

Figure 3-4 Initial empirical model of CIO socialization

CIOs need to clearly understand what type of situation they are entering and to whom do they report. The CEO’s strategic vision for IT will drive the reporting relationship for the CIO. In this study 90% of the CIOs reported to the CEO or the COO and were members of the top management team. CIO membership in the top management team has been found to indicate a more strategic role (Peppard, 2010; Preston et al., 2008b; Raghunathan and Raghunathan, 1989; Smaltz et al., 2006). This research study supports that assertion in a number of ways. One was suggested previously that the CIOs did not experience ambiguity in their role because they were closely aligned with the CEO’s expectations. That alignment likely is the result of a direct reporting relationship. Another supporting data is the quote from the CIO whose reporting relationship changed from the CEO to the CFO. That CIO described a significant change in their understanding of management decisions and strategies. Proximity encourages a shared role understanding.

Transition type influenced a number of factors. There was a pattern in the findings that transition type was associated with certain levels of maturity in IT governance processes and TMT IT savvy as well as the capability of the IT leadership team. CIOs entering Start-Ups or Turnaround transitions need a high degree of managerial discretion to implement the radical change required by the situation. The degree of latitude that the role offers should be understood by the candidate CIO. A CIO entering a Realignment transition should expect to make primarily incremental changes. A few targeted radical changes will be required as the organization seeks to move IT into a new direction. A Realignment leader making too many transformational changes may be rejected if those changes are not viewed as integral to the desired organizational direction. Likewise, the CIO entering a Success-sustaining transition should expect to align the organization's expectations of Supply-side leadership and introduce strategic change through negotiating with their top management team peers.

3.10 Reliability

Research design must address the issue of quality assurance in addition to bias and this study is no different. The quality of research is normally evaluated using the criteria of reliability and validity. There must be some practical standards to evaluate the quality of conclusions. Those standards address the question of whether the research and findings are *good* (Miles and Huberman, 1999).

This is an issue of trustworthiness in qualitative research. Johnson and Harris (2002) suggest that there are two ways to generate trustworthiness for qualitative research. The first is *confirmability*. Confirmability is effectively concerned with transparency of data interpretation. Miles and Huberman (1999) suggest questions to ask concerning confirmability that include the following:

- Are the study's general methods and procedures described explicitly and in detail?
- Can we follow the actual sequence of how data was collected, processed and transformed?
- Has the researcher been explicit and self aware as possible about personal assumptions, values and biases?
- Is there a record of the study's methods and procedures sufficient enough to provide an "audit trail"?

The quality factor of confirmability is one of transparency in all aspects of the research project. This study has addressed the challenge of confirmability in the following ways:

5. The study's methods and procedures are described explicitly and in detail (Sections 3.3 and 3.4)
6. A sequence of how the data was collected, analyzed and transformed through the process of coding and interpretation is provided (Sections 3.5 and 3.6)
7. An explicit discussion of researcher assumptions and bias is addressed (Section 3.6.3)
8. Data in the form of an NVivo file with coded data as well as un-coded transcripts are available for inspection in addition to the descriptions described previously can provide an "audit trail" of the study's findings and conclusions

The second is *authenticity* of the interpretations of the data. Miles and Huberman (1999) again suggest questions to ask that address authenticity. A few of these are mentioned as follows:

- Are the descriptions gained "thick" enough? In other words are they contextually rich?
- Does the account ring true, seem convincing, plausible?
- Have the rules for interpretation been made specific?
- Have rival explanations been considered or has only one explanation been considered from the start?

Authenticity is about the trustworthiness of the researcher's interpretation of the data and subsequent conclusions. A social constructionist position using qualitative research methods presents a challenge for the traditional concepts of reliability and validity.

An authentic interpretation of the data is presented in the study through the use of direct quotes from the participants that tell a true account of the data. Section 1.6.5 provided a discussion on how the data was interpreted under three different scenarios. Alternative explanations have been provided where required.

Trustworthiness is a critical factor in evaluating the findings and conclusions of a research study. This study has been explicit in describing the factors critical to building credibility and trust in the findings and conclusions. The findings and conclusions of the research are both confirmable and authentic.

3.11 Contributions

This research has developed a better understanding of how CIOs experience taking charge of a new appointment. This increased understanding makes a contribution to both the academic literature as well as practicing executives. These two areas of contribution are discussed in the following sections.

3.11.1 Contributions to research

There are two main contributions to the literature. The first is taking a processual view of the taking charge process for CIOs and the influence of transition type. The second is the identification of CIO socialization outcomes across the domains of supply-side and demand-side leadership integrates concepts from disparate research in leadership and CIOs (Chen et al., 2010; Denis et al., 2000; Fondas and Wiersema, 1997).

The CIO taking charge

The three phase model (see figure 3-5) increases our understanding of the CIO taking charge process extending the work of Leidner and Mackay (2007) by taking a processual view of the phenomenon. Aside from the work of Leidner and Mackay the literature is silent on the phenomenon of newly appointed CIOs. This phased model can be used to further explore CIO taking charge processes.

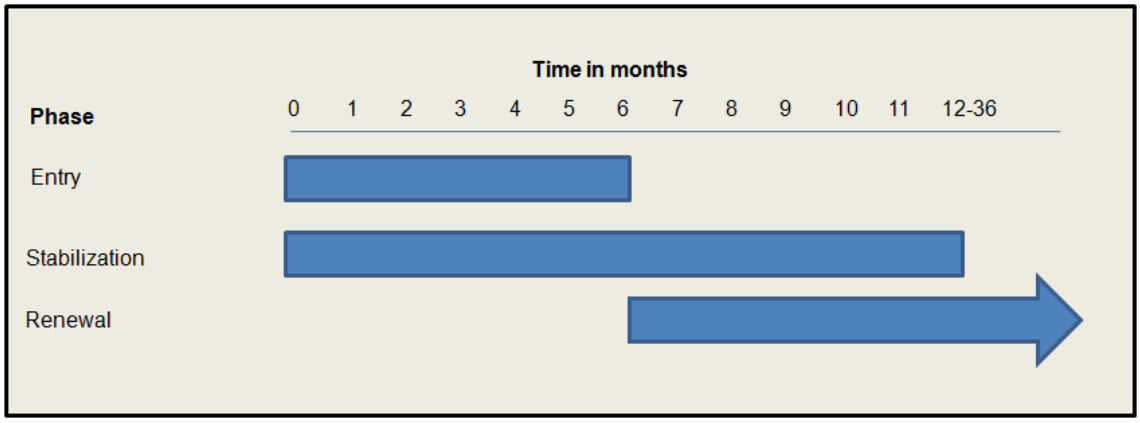

Figure 3-5 Taking charge phases over time

In contrast to the work done by Gabarro (1987), these findings indicate that CIOs experience overlapping rather than sequential phases. The phases have a temporal aspect and occur in broad timeframes. These phases and the associated activities were relatively consistent across insiders and outsiders regardless of the amount of previous CIO experience. Leidner and Mackay's (2007) study of new CIO transitions focused on the influence of predecessor type and identified whether CIOs introduced incremental or radical change. This study enhances the understanding of new CIO transitions by identifying specific activities and outcomes associated with each taking charge phase. These are shown in table 3-10 below.

Phase	**Entry**	**Stabilization**	**Renewal**
Timeframe	Month 0-6	Month 1-12	Month 6-24+
Key Activities	• Learning about the organization • Diagnosing service delivery issues • Building relationships • Assessing personnel • Evaluating IT governance	• Improving service • Delivering in-flight projects • Building IT leadership team • Implementing IT governance	• Influencing strategic initiatives • Enhancing the IT team • Building IT savvy with TMT
Outcomes	• Confidence • Understanding of issues • Action agenda	• Credibility as IT leader (Supply-side leadership • Influence via IT leaders • Control via governance	• Legitimacy as business leader (Demand-side leadership) • Increase IT strategic contribution • Improve TMT IT savvy

Table 3-10 CIO taking charge phases, activities and outcomes

The findings of this study move the conversation regarding newly appointed CIOs beyond the incremental / radical change topic to a deeper discussion of specific activities and the outcomes that CIOs' experience from those activities. The processes of building confidence, becoming a credible IT leader and stretching to be identified as a legitimate business leader have been hidden from the literature on newly appointed CIOs.

The influence of transition type in the CIO taking charge process extends our understanding beyond the limited perspective of predecessor identified by Leidner and Mackay (2007). The transition types identified by Watkins (2004) were meant to be applicable for all business leaders, but had not been applied previously to an empirical study of CIOs taking charge. This study clearly identified the transition type, as described by the CIOs themselves, as the key situational factor that influenced how they experienced the taking charge process. Both Leidner and Mackay (2007) and Gabarro (1987) identified "normal" versus "turnaround" situations but the use of Watkins' typology provides additional distinction between situational factors. While the previous authors can describe a turnaround situation it is less clear what "normal" actually means. Watkins' types provide additional clarity and distinction in identifying transitional situations for the incoming executive.

CIO socialization

There has been little empirical work done on the socialization processes of executive leaders. This study builds on previous work done by Gabarro (1987), Fondas and Wiersema (1997), and Denis et al (2000) in investigating leader socialization by using a unit of analysis of a non-CEO executive. This research also introduces the theoretical lens of leader socialization to the study of newly appointed CIOs for the first time.

Findings in this study suggest the initial empirical model of new CIO socialization as described in figure 3-6 below.

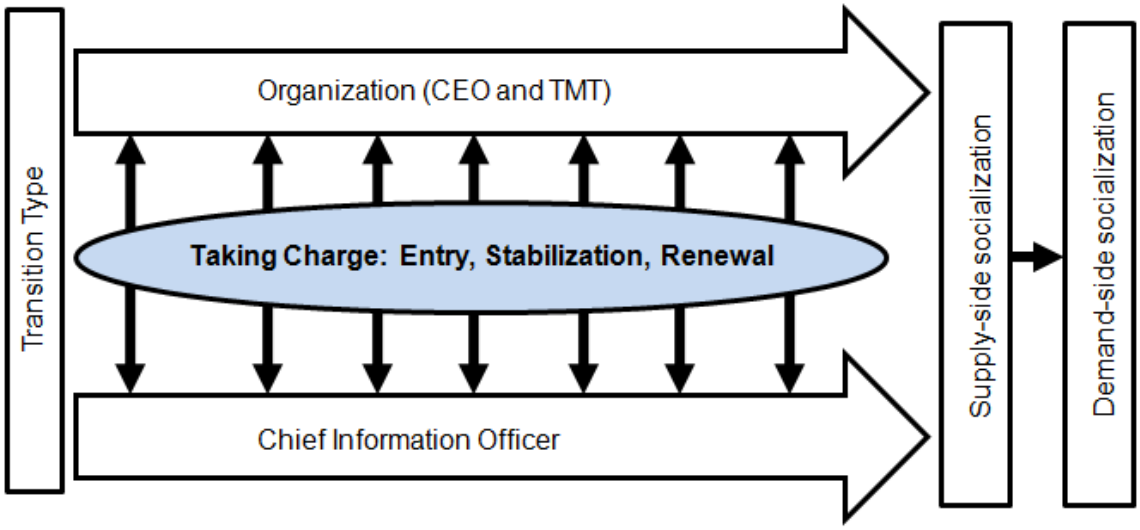

Figure 3-6 Initial empirical model of CIO socialization

The findings suggest that the transition type influences the CIO's taking charge process. The taking charge process consists of three phases with specific activities and outcomes that encompass the mutual adjustment between the CIO and the organization. This study extends the theoretical work of Fondas and Wiersema (1997) with an empirical investigation of leader socialization. The authors identified organizational and individual factors that would interact in the socialization process to produce strategic or care-taking types of change. Their model was theoretically rigorous but has not been empirically investigated. The findings of this study used similar factors to describe the mutual adjustment process of the CIO as a form of leader socialization. The findings are more robust by identifying phases, activities and outcomes related to the socialization process.

This study also extends findings of Denis et al (2000) by using a different unit of analysis, method and definition of activity domain. The authors studied a CEO using a longitudinal single case and found different socialization outcomes based on distinct stakeholder groups. This research studied the CIO as the unit of analysis using semi-structured interviews across a sample of twenty-one informants. The individual executive's experience was captured in his/her own words. Similar to Denis et al socialization outcomes were identified in unique

domains. The domains are different for CIOs and are represented by supply-side and demand-side leadership as described by Chen et al (2010). This concept is further enhanced by adding the influence of transition type as described in table 3-11 below.

Transition Type	Supply-side socialization	Demand-side socialization
Start-Up	Transformation	Assimilation*
Turnaround	Transformation	Transformation
Realignment	Accommodation	Accommodation
Success-sustaining	Assimilation	Accommodation

*only one observation

Table 3-11 Domain socialization by transition type

Applying the theoretical lens of leader socialization to the study of newly appointed CIOs contributes to both the leadership and the IS literature. The findings integrate concepts from leader socialization and the CIO leadership literature to provide a holistic, conceptual model of how newly appointed CIOs experience taking charge.

3.11.2 Contribution to practice

In addition to making a contribution to the research literature this study also can inform practicing executives. Chief Information Officers that are taking on a new appointment can incorporate this study's findings in a number of meaningful ways.

The study suggests it is critical that the newly appointed CIO have a shared vision of IT with the CEO and understand fully the type of transition situation in which they are entering. The transition type is the gap between the CEO's expectations and the performance of the IT function. It is critical that the incoming CIO understand this gap, but primarily they must understand the CEO's vision for IT. The study indicates that the current performance of IT will

mostly likely be worse than described in the interview process regardless of the due diligence performed. The real driver of the transition type is the CEO's vision for IT and discerning this should be a top priority for the CIO candidate. The newly appointed CIO needs to maintain frequent communication with the CEO regarding the IT function's contribution in order to maintain this shared vision. It is important for the CIO to observe the CEO's actions and decisions, not only the words that they use, in order to discern this vision. Building this shared vision needs to part of the new CIO's 90 day plan.

A newly appointed CIO should expect to experience three phases during their integration into the new role. There will be an initial phase of learning and diagnosis during which the CIO will also start building relationships with their top management team peers. This begins with the traditional 90-100 day plan. However, the CIO should expect that it will take approximately 4-6 months to feel comfortable with knowing the organization's business and IT issues as well as the political landscape in which he/she is operating. During this time they will develop an agenda for action. This timeline is generally the same regardless of transition type or the amount of previous experience as a CIO.

The CIO needs to demonstrate supply-side leadership and gain control over the IT function. Soon after they begin their transition they should expect to spend 9-12 months stabilizing the IT services and delivering projects that have already been launched. They will also start to implement leadership team changes and improve IT governance in an effort to earn credibility as an IT leader. In this way they solidify their control and influence over the IT organization and its performance. This is considered demonstrating supply-side leadership.

Only after they have earned this credibility as an IT leader will they have a legitimate claim to influence how IT enables the business strategy. They can exercise this influence by collaborating with IT savvy peers on projects that have a visible impact on business performance. Delivering these projects will demonstrate to other TMT members that the CIO is a collaborative peer who can help them achieve their business objectives.

CIOs will experience integration into the organization in different ways based on the transition situation in which they enter the role. If they are taking over a successful IT function they will be most likely expected to continue the behavior of their predecessor and conform to the expectations of the top management team. CIOs in turnaround transitions will experience a broad mandate for change whereas those in a realignment situation will find they will need to compromise more in regards to aligning to or changing top management expectations. A CIO should not misinterpret the transition type. If they enter a realignment transition with the approach of implementing broad, radical change they will likely experience a failed transition. The new CIO must align their approach with the type of transition they are entering.

3.12 Limitations

The study has limitations that should be discussed. Categorizing some of the study's data required interpretation of the individual's experience and how it was described. Numbers of informants with some specific characteristics are not sufficient to reflect patterns that might be present between industries or countries. There was only one occurrence of a CIO in a start-up transition type. The purpose was not to generalize, but to increase our understanding of how newly appointed CIOs take charge.

The unit of analysis was the individual CIO which was appropriate for the research question. However this does not provide data for how all new executives within the same organization might experience taking charge and subsequent organizational socialization. Nor does it provide insight into how a specific organization approaches integrating new executives. It also does not provide a view of CIO socialization from the CEO's or the TMT's perspective. The experience is solely of the CIO. Since this is a mutual adjustment process the view of the top management team is no less important.

Another limitation might arise from researcher bias as is the nature of qualitative research. As mentioned previously, the researcher has broad experience with and an informed opinion about CIOs and this cannot be completely eliminated

from the analysis and synthesis of the study. In sections 1.6.6 and 1.10 the researcher endeavored to address these issues of reflexivity and reliability.

The research method is an interpretive approach adopting a social constructionist view. The data is socially constructed from the dialog between the researcher and the informant during the interview process. Answers may have been affected, either consciously or subconsciously, by the informant's desire to portray their transition experiences in the most positive manner. This provides rich data to investigate, but can also be a biased account due to self-reporting rather than an objective observation by the researcher.

3.13 Implications for further research

While the findings of this study significantly advance the conversation regarding how newly appointed CIOs take charge there are interesting questions left to pursue. If transition types are so influential how do they come to be? Do they arise from the appointment of a new CEO executive or from a change in the incumbent CEO's perspective? What role does the predecessor CIO play that results in the performance gap that has been described?

The recruitment of CIOs also emerged from the study as an interesting phenomenon that is worthy of further study. The dynamic process that occurs between the CEO and the Executive recruiter and the CIO candidate might offer interesting insights to finding the "right" person for the job.

Further research is possible on detailed mechanics of how the CIO builds relationships and influences both the IT leadership team and the top management team.

A larger sample size might provide insights into differences across industries, company sizes or other demographics. In particular the findings suggest that taking charge in a government or university organization might be different from the private sector.

The question that emerges for this researcher that is most intriguing is concerning the top management team's perspective of this process. How does the top management team experience the integration of a newly appointed CIO? What role in that mutual adjustment process do they see themselves playing? How do they communicate expectations to the new CIO?

Extending this study by investigating one of these research questions was the objective of DBA Project 3 described in the next chapter.

4 Project 3: Exploring the CxO perspective

4.1 Introduction

DBA Project 2 explored the Chief Information Officer's (CIO) experience with the process of taking charge of a new appointment. This process is viewed as one of leader socialization. Leader socialization is described by Denis et al as a mutual adjustment process (2000) between the leader and the organization. It is a dynamic process and therefore the actions of the leader and those of the organization are not mutually exclusive, rather they interact in a complex social process. For the new CIO, the "the organization" is primarily their peers in the top management team (TMT). This project explores their perspective of information technology, the role of the CIO and what constitutes a successful transition.

This chapter is structured as follows. It begins with a discussion of the relevant literature in order to position the study within the extant research. The methodology will then be presented including an elaboration of the interview protocol development process, sampling and piloting the interview protocol. A detailed discussion of the main study, the resulting findings and conclusions will follow along with an argument for reliability. The chapter will end highlighting the study's contribution to research and practice, its limitations and the implications for further research.

4.2 Literature

Leadership attributes of a successful CIO are very similar to other CxO executives (Peppard, 2010), although others have suggested the CIO role presents leadership challenges in a context unique from other general managers; "CIO leadership is unique and idiosyncratic in its processual, structural and intellectual challenges" (Karahanna and Watson, 2006). The complexity and breadth of the role requirements has even provoked speculation that it is an assignment too big for one person (Earl, 2000). The findings of Project 2 indicated that newly appointed CIOs experience organization

socialization similar to other leaders, but with role specific dynamics and phases.

The literature on socialization and role theory describes the influence of “role-senders” in this process. Merton (1957) touched on this influence when he described how members of a role-set (a peer group) influence other members of the group. In the case of the CIO, members of their peer group are their colleagues in the C-suite. “Role senders” are typically those who have a vested interest in the newcomer’s successful transition (Graen, 1976; Katz and Kahn, 1978). These role senders communicate information regarding appropriate behavior and cultural norms within the organization. In the case of a typical organizational newcomer these role-senders would be superiors. For the CIO this would imply one of the primary role-senders is the CEO, contingent on the CIO reporting structure in the organization.

Research on the CEO/CIO relationship has developed substantially over time. One critical aspect of this relationship is for the CIO to clearly understand the CEO’s views on information technology’s role in the organization (Feeny et al., 1992). A shared understanding with the CEO also frames the expectations of the CIO and his/her strategic decision making authority (Peppard, 2010; Preston et al., 2008a). Frequent communication between an organization's CEO and CIO leads to greater convergence about the strategic role of IT (Johnson and Lederer, 2005).

In order to gain convergence on the strategic role of IT, the CIO must begin by creating a vision for how IT resources can be leveraged into a competitive advantage rather than simply a necessary part of doing business (Peppard, 2010). Providing this direction has also been defined by as “the ability to identify and evaluate the implications of IT-based opportunities as an integral part of business strategy formulation and define the role of IT” (Peppard, 2007).

Promoting IT as an agent for business transformation is a role that some CEOs expect from the CIO (Feeny et al., 1992) but this greatly depends on the CIO’s strategic decision-making authority. The CIO’s strategic decision-making

authority is the degree to which the CIO has the authority to engage in strategic decision making within the organization (Preston et al., 2008a). Preston et al found the CIO's strategic decision-making authority directly influences IT's impact within the organization. Demonstrating and proving the value of IT investment is a strategic challenge for the CIO (Peppard, 2010) and is a measure of his/her success.

While there is some research on the CEO/CIO relationship, it does not capture the dynamics of interactions between the CIO and the non-IT executives inherent in taking charge. In addition to the CEO, these top management team peers are significant role senders for the new leader. The primary agents of socialization within organizations are the other members of the group to which the newcomer is assigned (Van Maanen, 1976). The scholarly research on top management teams has focused primarily on correlating background characteristics with organizational outcomes (Boeker, 1997; Carpenter, 2002; Chaganti and Sambharya, 1987; Geletkanycz and Hambrick, 1997; Hambrick and Mason, 1984). Studies have indicated that top management team homogeneity influences acceptance or rejection of a member and drives turnover (Wei and Cho, 2005; Wiersema and Bird, 1993). These studies touch on leader socialization by looking at a set of socialization outcomes, but do not study team behaviors per se or the mutual adjustment process for a new executive.

Top management team support is critical to the success of a newly appointed CIO and the strategic decision-making authority of a CIO is directly related to those companies that have top management teams that support IT (Peppard, 2010; Preston et al., 2008a; Smaltz et al., 2006). This latitude is necessary for the CIO to make the types of changes in strategic direction that are needed by the organization.

Another leadership challenge for a new CIO is creating shared understanding between IT and the non-IT leaders. Reich and Benbasat (2000) defined this as a "social" dimension of alignment, describing it as *"the state in which business and IT executives within an organizational unit understand and are committed to*

the business and IT mission, objectives and plans". In creating a shared understanding of the role of IT in the organization the CIO must develop strong business knowledge and build relationships with their top management team peers. Moreover, they found that the frequency of communication between the CIO and the TMT was the strongest indicator of business-IT alignment.

CIOs are often perceived by the TMT as having low business-savvy and a significant way to overcome this stereotype is to "speak the same language" as their top management peers (Peppard, 2010). This requires that the CIO has some shared domain knowledge of the business, priorities and key drivers, and can communicate in business language rather than technical jargon (Enns et al., 2001). The CIO's business knowledge directly impacts the development of shared understanding with top management (Preston and Karahanna, 2009).

CIOs who are active members of the TMT have more frequent formal interactions that build the CIO's business knowledge and peer credibility (Armstrong and Sambamurthy, 1999). Business knowledge is crucial to the CIO's strategic decision making leadership. This "shared domain" knowledge also directly influenced creating a shared understanding about IT. This understanding is described as *"the ability of IT and business executives, at a deep level, to understand and be able to participate in other's key processes and to respect each other's unique contribution and challenges"* (Reich and Benbasat, 2000). Working with the top management team in this manner also contributes to overcoming the stereotype of the CIO as a "techie" (Peppard, 2010).

CIOs must influence other top managers to support and engage with strategic IT initiatives. It is crucial that the executives are involved with IT initiatives to increase the probability of realizing the planned business value from such investments (Peppard, 2010). However, a leadership challenge for the CIO is securing the engagement and active participation of business colleagues in IT issues. Barriers to gaining this commitment from other executives have been reported to be bringing IT projects not related to business strategy, using technical rather than business language, and not creating a compelling case for

change (Enns et al., 2001). Communicating a compelling, business focused case for change is consistent with a study of CIOs gaining commitment from the business for new, innovative IT initiatives (Watts and Henderson, 2006).

In summary, the research suggests the relationship that newly appointed CIOs have with their top management team peers is critical to their success. It encourages them to engage in a process of collaboration, knowledge-transfer and influence to create a shared understanding, identify strategic IT initiatives and gain executive commitment to those initiatives. In the process the CIO must also build their knowledge of the business. CIO research and top management team research suggests that a newly appointed CIO's organizational adjustment, and ultimately success, is highly influenced by their interaction with top management team peers.

4.3 Research question

While non-IT executives have a significant influence on the CIO taking charge process, this has not been explored in the literature. The systematic literature review (Project 1) conceptualized taking charge as a mutual adjustment process where the newly appointed CIO is socialized in their organizational role dynamically. This adjustment process includes the CIO, the CEO and their non-IT executive peers as the main participants. Project 2 explored the taking charge process from the CIO's perspective and resulted in the initial empirical model incorporating the influence of transition type, phases of the taking charge process and socialization outcomes in the domains of supply-side and demand-side leadership. This initial empirical model of CIO socialization is shown in Figure 4-1.

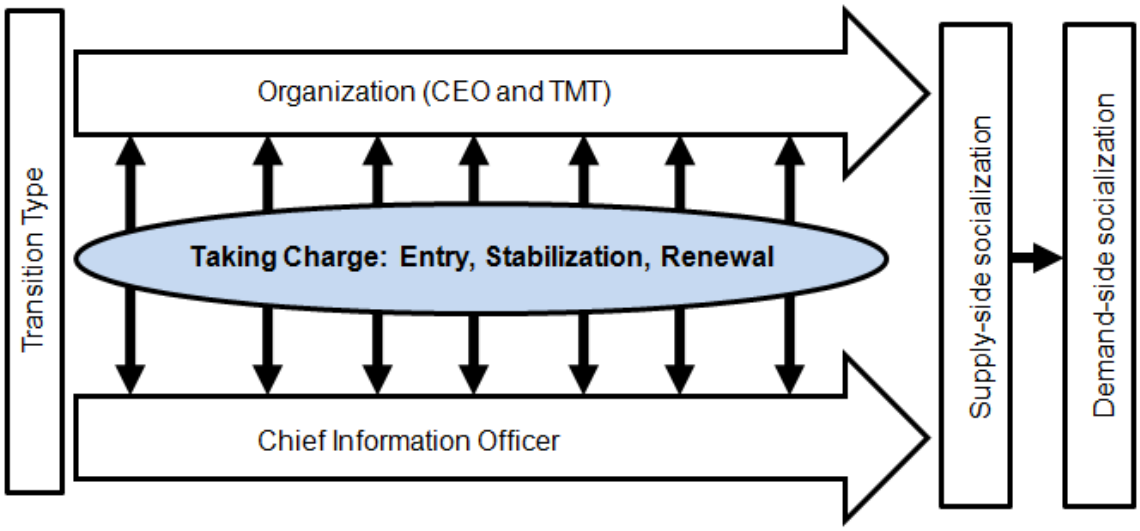

Figure 4-1 Initial empirical model of CIO socialization

The perspective of the organization or, more specifically, the top management team is the next aspect of the mutual adjustment process to study. The objective of this project is to explore the perspective of the non-IT executives who interact with the newly appointed CIO.

The research question for Project 3 is:

How do non-IT executives interact with a newly appointed CIO in the taking charge process?

4.4 Methodology

Exploring the non-IT executive's experience lends itself to applying an interpretive approach. This approach will allow the exploration of the range of experiences that non-IT executives have had with information technology and Chief Information Officers. The interpretative method selected for this study is the semi-structured interview. Semi-structured interviews yield data that is "rich" in the sense that it captures the executive's experience in his/her own words. As Kvale (1996) explains, "the qualitative research interview attempts to understand the world from the subject's point of view, to unfold the meaning of peoples' experiences, to uncover their lived world prior to scientific explanations." The methodology of this study, therefore, follows a similar form

as Project 2. The process of developing the final interview protocol is described in Figure 4-2.

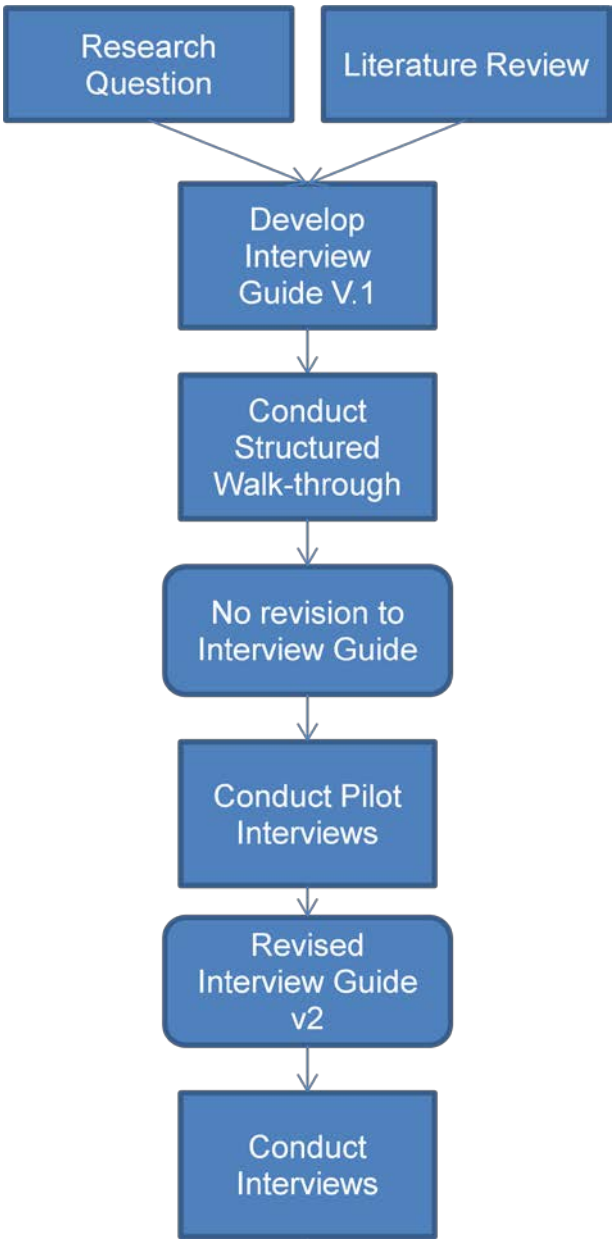

Figure 4-2 Interview protocol development process

The initial interview protocol is provided in Appendix A. Appendix A includes italicized notes on the purpose of each question which were not included in interview guides that were given to participants. The researcher reviewed the initial interview questions with two executives in a structured walk-through

format. The executives were not asked to answer the questions but rather to focus on the clarity of the question and whether executives would clearly understand them. They were also asked if there were questions that were missing. These reviews indicated that there was no need to revise the interview questions.

In addition to the structured walk-through, three interviews were conducted as a pilot. The pilot provided a way to assess both the interview guide as well as the interview process itself. This pilot project is described in the next section.

Interviews were recorded with the permission of the participant. Recording the interviews allowed a focus on their answers and guiding the interview process rather than taking notes. All interviews were done by telephone as the participants were located across multiple geographies.

4.4.1 The Pilot study

4.4.1.1 Selection of participants

A Pilot study was conducted with the initial interview protocol (Appendix CC). There were three executives who participated in the Pilot study. The participants did not know that their interview was being used as a pilot. The three executives were selected simply for convenience as they were the first three participants to schedule interviews. The objective of the Pilot study was to test the efficacy of the interview protocol in collecting the type of data that would support the research question.

4.4.1.2 Data collection

Interviews were conducted by phone and digitally recorded. Each participant provided informed consent regarding the parameters of the interview. The interviews were guided by the interview protocol in Appendix CC and lasted approximately one hour.

4.4.1.3 Analysis

The digital audio files of the interviews were sent to a transcription service for transcription into Word text documents. This process worked smoothly with the service provider. A confidentiality agreement was executed by the service provider in order to protect the information shared by the participants. The transcriptions were returned to the researcher via email. These were copied to an electronic folder. The files are stored with anonymous labels such as CxO-1, CxO-2 and CxO-3. These files were backed up automatically.

The pilot transcripts were loaded into NVivo to test the coding process. The initial coding structure was established from the interview questions.

The most valuable aspect of the Pilot Project was not the synthesized findings of just three interviews, but the testing of the efficacy of the interview protocol. This will be discussed in the following section.

4.4.1.4 Changes to Interview Guide

The Pilot study indicated that the Interview Guide v1 would elicit the data desired to address the research question. However there was one group of questions that did not elicit data related to a detailed transition. These are listed below.

8. *How would you describe the situation the CIO inherited? (Start-up, turnaround, realignment or success-sustaining)*
9. *Were there specific actions the CIO took to better understand the organization's…culture, priorities, issues, decision-making process, etc.*
10. *How long do you feel it takes for a new CIO to make an impact? To become an integral part of the top management team?*
    a. *Were there milestones in the CIO's transition that you can recall?*

It was found that even though executives had worked with a new CIO they struggled to recall the level of detail required to provide the desired data. It was also found that other questions in the Interview Guide elicited similar data such as CIO specific actions taken, length of time to get up to speed and learning the culture. Therefore the researcher decided to omit these questions from the

remaining interviews. The Pilot data was included in the overall data set since no significant changes to the other questions were made and this data was valid for the Main Study. The Interview Guide v2 can be found in Appendix FF.

4.4.2 The Main study

The Main study consisted of data from twenty-two (22) in depth interviews with non-IT executives following the interview protocol as described.

4.4.2.1 Participant sampling

Participant selection was limited to individuals who were non-IT executives at present or in the past. "Executive" was defined as anyone with a title of Director, Vice-President or CxO (Chief x Officer). Also included were titles such as President and Chairman. The participant also needed to be or have been part of the top management team of the organization.

Since the study was interested in understanding the non-IT executives' perspectives the sample did not have not *a priori* selection of executives from specific backgrounds, industries, company sizes, etc. This open selection added breadth to the data collected.

The sampling technique adopted is a combination of convenience and snowballing (Miles and Huberman, 1999). Executives were solicited from three primary sources. The first was the researcher's personal network of non-IT executives. The second was from the Dean's Council of the Kelley School of Business, a group of executives who serve on an advisory board to the dean of the business school. These were convenience samples. People in the researcher's professional network were also contacted for referrals and introductions. This approach incorporated snowball sampling. Examples of solicitation emails are in Appendix DD and EE.

4.4.2.2 Data collection

The use of an interview protocol enabled consistency across the interviewees while still allowing the opportunity for the participants to add issues relevant to them. Personal reflection and specific stories/narratives were encouraged.

Interviews were scheduled for 60 minutes and conducted by telephone given the broad geographic locations of the participants.

After twenty interviews the data reached a point of theoretical saturation in that no new information was coming from informants, given the research question and interview guide (Eisenhardt, 1989; Flick, 2009; Glaser and Strauss, 1966). Moreover, no new categories were emerging. Two additional interviews were conducted since they were already scheduled with the participants. Sampling was stopped at twenty two interviews.

4.4.2.3 Data analysis

Each interview was digitally recorded with the permission of the participant. The participant was also informed that their information and identity would remain confidential. The participants acknowledged that the interview was voluntary and that they had the privilege to refrain from answering any question and end the interview at any time. The interview transcriptions were subsequently loaded into NVivo for coding.

Data coding was done using the pattern coding technique. Pattern codes are explanatory or inferential codes, ones that identify an emergent theme, configuration or explanation (Miles and Huberman, 1999). Coding was done in three steps as follows:

1. Aggregate the responses across participants into first level codes
2. Analyze the data and code into second-level codes
3. Develop codes that summarize data into broader patterns, summarizing data in second-level codes

A comprehensive list of codes and their descriptions can be found in Appendix GG. Some explanation is helpful here. Codes start at level 1 with an

abbreviation identifying each category. Level 1 codes were derived from the interview questions. The code SAV, for example, is the level 1 code for executive's self reported level of IT savvy. Level 2 codes are then assigned to represent various responses, for example, H for "high". If executives described their level of IT savvy to be high then those responses were coded as SAV-H.

The majority of the coding was straight-forward in this way. Level 2 codes were created to represent unique responses to the interview questions and often represented the respondents' exact words *(in vivo)*. Descriptions such as *"high"* (SAV-H) and *"very good"* (SAV-VG) are examples of these types of codes. Compound codes were created using the same approach. For example, when a respondent answered the question whether the CIO faced unique leadership challenges (level 1 code CHAL) *"yes, they are unique because the technology is always changing"* this was coded as CHAL-UTECH. UTECH captures the notion that the challenges are unique (U) and related to the technology (TECH).

One area of coding which required some interpretation was the question related to the non-IT executive's role, if any, in on-boarding a new CIO. Compound codes were created that included whether the executive was describing a "passive" or "active" role. A "passive" role was interpreted from responses that described that the executive would help the new CIO if they were approached to do so. "Active" codes were assigned when executives described that they initiated contact with the new CIO. The first two steps of coding resulted in a working set of codes that accurately described the data.

Patterns

With the data summarized and initially coded into descriptive codes the analysis turned to investigating possible patterns. Pattern coding is a way to group these descriptive codes into a smaller set of inferential pattern codes. Appendix HH is a list of pattern codes and their descriptions. Patterns were assigned to specific codes as shown in Appendix II. Miles and Huberman (1999) describe pattern codes as usually turning around four summarizers: themes, causes /explanations, relationships among people, and more theoretical constructs.

Examples of identified patterns are described below in an effort to provide a clear understanding of these patterns.

Themes

There were three major areas where thematic patterns were identified. The first was the data regarding IT savvy where the data was describing the levels of IT savvy according to the executives' self assessments. These were pattern codes SAV-H, SAV-AVG and SAV-L. Leadership (LDR) related to when executives described CIO leadership and only occurred in the question about unique challenges. It was a pattern that included multiple descriptions of leadership. Figure 4-3 shows the pattern coding for the IT savvy Level 1 code.

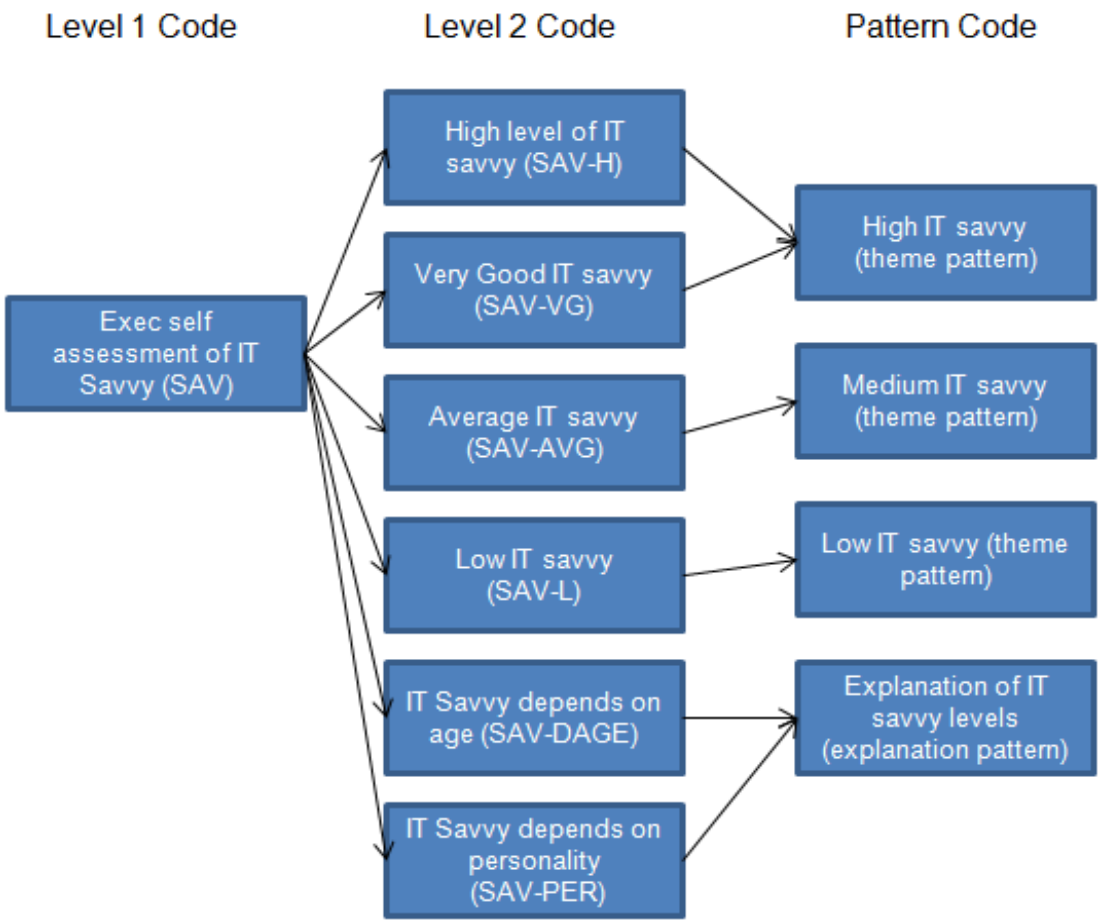

Figure 4-3 Example of coding IT savvy patterns

Understanding (UND) was a thematic pattern that occurred across multiple codes. Understanding the business (CHAL-SBUS), understanding the culture

(CHAL-SCUL), and learning the organization culture (TRAN-CUL) were all codes that showed a pattern for “understanding” some aspect of the organization for the new CIO.

Causes/Explanations

The most common patterns related to causes or explanations. This is reasonable because most of the interview questions elicited data that was describing explanations for success or failure of aspects of the CIO and IT projects. ROLE was a pattern that occurred as executives described the CIO’s unique challenges, but also when they described CIO’s as servants or consultants.

Patterns PROJ and BEN were aggregates of descriptions of IT investment success that either focused on project-oriented metrics (PROJ) or business benefits (BEN). An example of this coding is shown below in Figure 4-4.

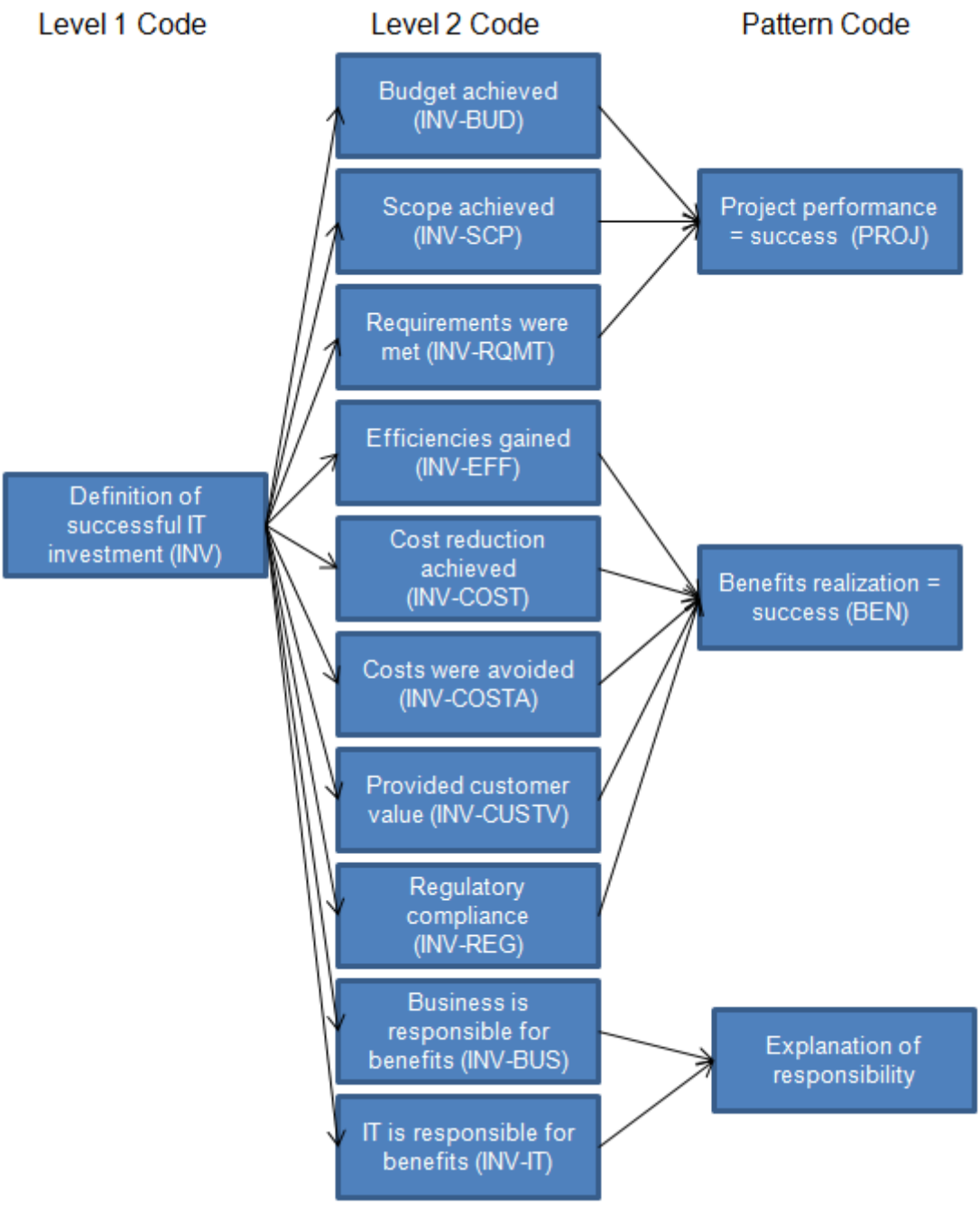

Figure 4-4 Example of coding explanatory patterns

Relationships among People

Personal relationships between people occurred in two places in the data. Executives mentioned that the CIO faced challenges building relationships as well as successful transitions depended on relationships between the CIO and CEO as well as their peers. Executives identified building relationships as a

challenge for new CIOs. They recognized that the CIO deals with a broad constituency of executives and that relationship building with many people is a challenging activity. When asked about characteristics of a successful or unsuccessful transition, executives often related that one factor was how successful the CIO was at building productive professional relationships with his/her peers. Therefore the Relationship pattern occurred in two different Level 1 codes as shown below in Figure 4-5.

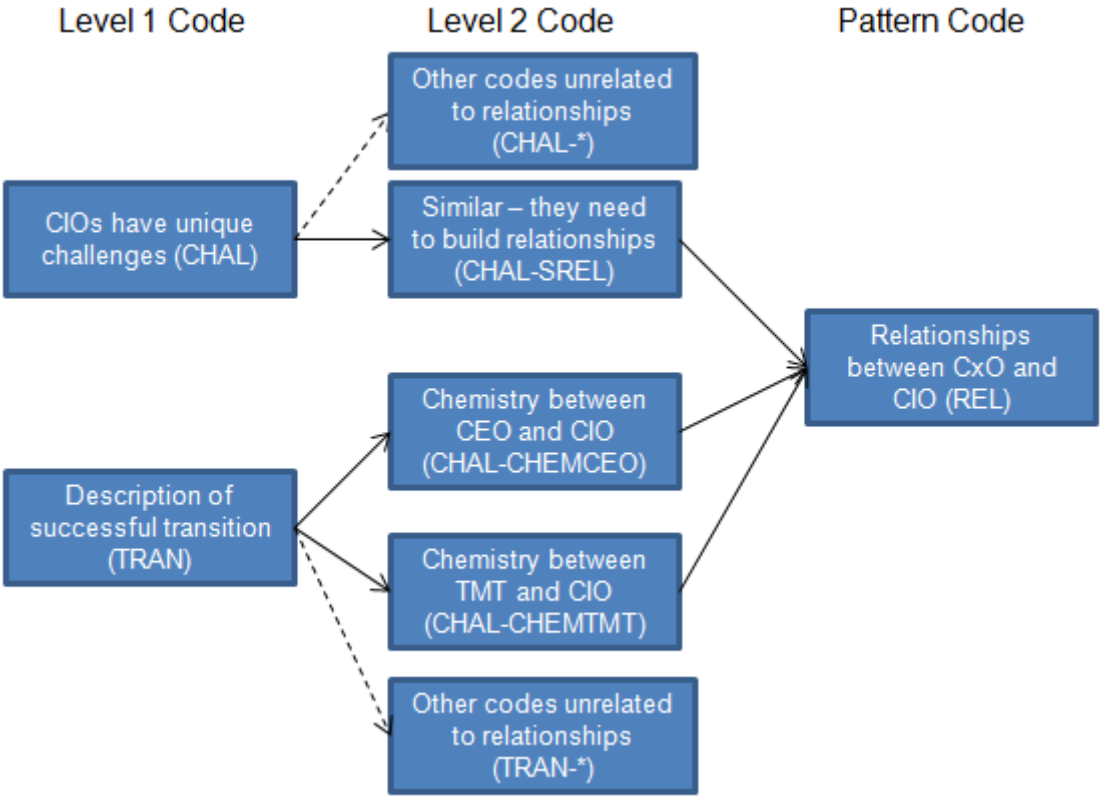

Figure 4-5 Example of coding relationship patterns

Theoretical constructs

Theoretical constructs emerged as the data was analyzed to attempt to summarize executive's expectations of the CIO. The constructs of different CxO types (TYPE1, TYPE2, TYPE3 and TYPE4) will be discussed in detail in the Conclusion section of this report.

This coding structure is shown in Figure 4-6.

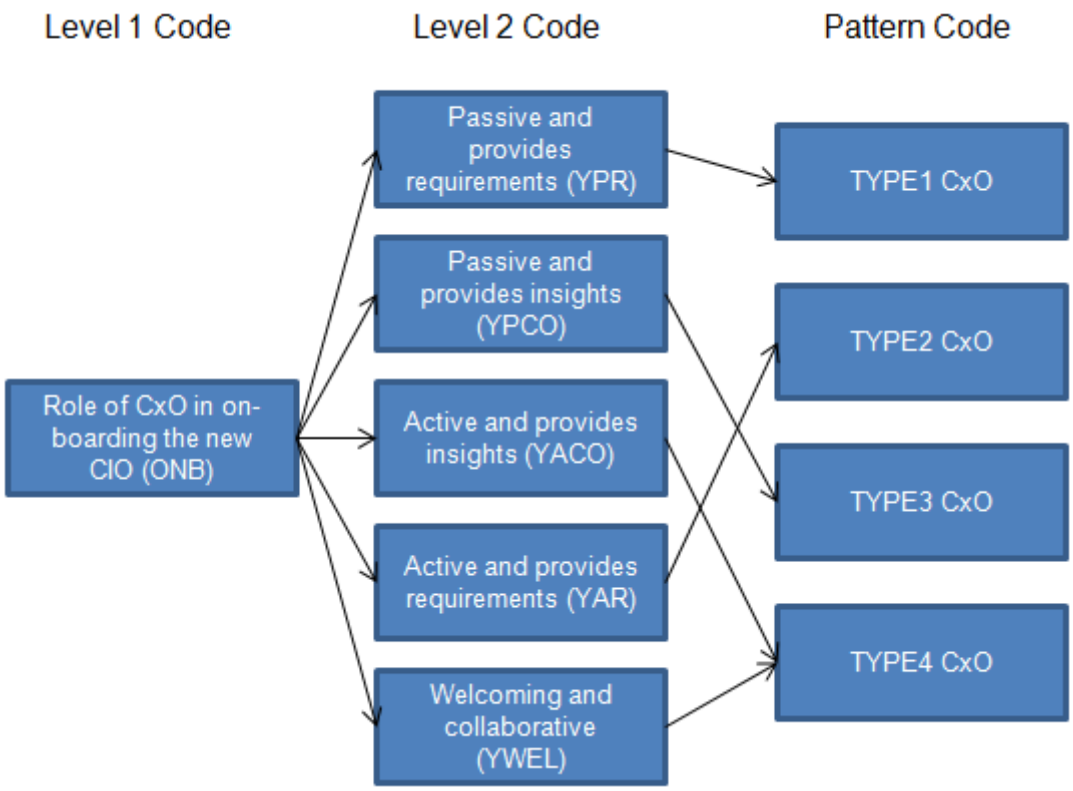

Figure 4-6 Example of coding on-boarding patterns

These examples provide insight into the coding process in more detail in an attempt to provide transparency in the analysis. The next section discusses the challenge of transparency in terms of reflexivity.

4.4.3 Reflexivity

Researcher bias is an important consideration in any research strategy. There are initially a number of biases in this research project. First is the adoption of a social constructionist approach implies that social reality is constructed by social actors rather than being a concrete, objective reality. Extending this position recognizes that the research process itself is a social construction between the researcher and the participant. Bias is also inherent in the fact that this phenomenon was chosen to study because of researcher interest. The researcher has previous experience working with non-IT executives in consulting and education and therefore holds some bias regarding how they typically view information technology. These perspectives will inevitably

contribute to shaping the data collection, analysis and synthesis processes (James and Vinnicombe, 2002). Personal biases of the researcher may unintentionally influence decision-making and interpretations.

Adopting a reflexive approach is one way that the researcher can challenge their intellectual assumptions and recognizing the influence and limitations that these have on the research (Cunliffe, 2003). Lofland et al (2006) advise that the researcher reflect on where you are and how your personal experience and biography influence you as a researcher. The researcher in this study accepts this limitation and attempts to mitigate it by using his experience as a point of departure rather than as embedded in the research project. Alvesson (2003) suggests that one result of reflexivity is a "preoccupation with the researcher self and its significance in the research process." He goes on to note that reflexivity for him stands for the conscious and consistent efforts to view the subject matter from different angles and to avoid privileging a favored angle a prior. The researcher has endeavored to maintain an awareness of these factors on the data collection, analysis and synthesis. It is important to note that adopting a reflexive approach reframes the researcher's self knowledge, but does not lead to a "better" or more "accurate" account (Johnson and Duberley, 2003). However, adopting a reflexive perspective will more effectively allow the data to speak for itself.

4.5 Participant background

Before discussing the findings of the research an understanding of the participant's backgrounds and situational characteristics is instructive. This background provides context for the comments made by the study participants. All the participants were active executives at the time of the interviews. A full description of the participants' background characteristics can be found in Appendix JJ.

The twenty-two executives participated in the study were primarily male (20). The gender imbalance was unintentional although the data provided by the female executives did not significantly vary from that of the male participants.

Twenty participants were from the United States, one from Italy and the other from Australia. This geographic bias was the result of the sampling method. The research questions were not geography sensitive. Seventeen industry segments were represented and the full list is in Appendix KK.

Eighteen of the participants worked in publically owned companies and four in privately owned companies. There were no participants from the public sector. The participant's job level in their organizations can be summarized in four positions as show in Table 4-1.

Level	Freq	% of Total
CEO/President	3	14
Senior Vice President	2	9
Vice President	15	68
Director	2	9

Table 4-1 Participants by job level

Executives also came from a broad range of functional areas of responsibility with the most common being general / executive management. There were six vice-presidents who had general management responsibility such as V.P.-Northwest Region and this accounts for the large number of occurrences. The full distribution is shown in Table 4-2.

Function	Freq
General Mgt	9
Supply Chain	3
R&D	2
Marketing	1
Finance	1
Sales	2
Human Resources	1
Corporate Strategy	1
Operations	2
	22

Table 4-2 Participants by Functional Area

A wide range of company size as measured by the annual revenue was represented. There were basically four groups of revenue ranges. Seven

participants were in companies with less than 1 billion USD in revenue. In the next group were nine participants in companies with more than 1 billion USD, but less than 10 billion USD in annual revenue. There were only two participants between 10.1 and 50 billion USD in revenue. However several executives had worked for larger organizations in the past. The final group consisted of four participants working in companies with greater than 50 billion USD in annual revenue. The entire distribution is shown in Table 4-3.

Revenue	**Frequency**
<1 Billion USD	7
1.1-10	9
10.1-20	1
20.1-30	0
30.1-40	1
40.1-50	0
>50	4

Table 4-3 Participants by Company Revenue

The study participants provided a broad sample of executives with whom to explore the research questions. This sample was adequate for an exploratory study and relevant limitations will be discussed in the Limitations section.

4.6 Findings

There are five key areas of study findings. First, the IT experience and savvy of the executives will be reported as described by them. The second and third sections explore the executives' views on whether CIOs face unique leadership challenges and the factors that contribute to a successful transition. Assessing the success of an IT investment is discussed in the fourth section and the final section describes how executives think they can assist a new CIO in assimilating into a new appointment.

4.6.1 CxO IT savvy

The IT savvy of the TMT is an important factor in the adjustment process of a new CIO. One of the CIO leadership challenges identified in Project 1 was building a shared understanding of the role of IT with the non-IT executive team. In order to build this understanding the newly appointed CIO must discern the top management team's baseline understanding of how information technology enables the organization to achieve its objectives. CIOs in Project 2 described the level of IT savvy of their peers. This project investigated how CxOs would describe their level of IT savvy.

Executives were asked if they had ever led or sponsored an IT initiative. All executives reported that they had either sponsored or led an IT initiative at some time in their careers. This experience included being the executive sponsor ("executive customer") as well as program management. This indicated that the participants all had enough experience with information technology to provide insights into the research questions.

Executives generally reported that their view of IT had evolved over the years to the point that their understanding of IT and what it could do for the business has increased. It is interesting to note that the majority of the respondents' careers have spanned the time that IT has had a significant growth in importance (circa 1980 to present day). These executives typically started their career during the age of the personal/mini-computer to today's leading edge information technology.

"IT savvy" was defined for the executives to be the level of understanding of how IT enables their business processes and performance. The respondents reported a wide variety of opinions regarding their and their peers' level of IT savvy. The levels reported in Table 4-4 are directly from the respondents.

Level of IT savvy	Frequency
High	4
Very Good	4
Pretty Good	1
Low / Needs Improvement	4
Depends on the individual	7

Table 4-4 IT Savvy Responses

Three respondents who described the level as "depends on the individual" stated that IT savvy varied by age group. Their hypothesis was that younger executives were more IT savvy than older ones because of the pervasiveness of consumer technology such as tablets, smart-phones, wireless networks, etc.

The following was an interesting observation made by one of the executives

"They [older executives] tend to have a more abstract assessment of what systems are because they came from the age when you had to do a lot of system thinking without the gadgets, without the tools. The younger people, they are the other extreme because they think that because they can send an SMS text in 3 seconds with language that nobody can understand…they understand IT…which is normally not the case" CxO-14

There is some irony in this observation regarding executives' familiarity with IT. A previous research study reported that CIOs *"hinted that executive's personal use of computers may work to the CIO's disadvantage, as executives who are strong computer users sometimes become overconfident about their understanding of IT…"* (Fiegener and Coakley, 1995). This was over eighteen years ago and expresses the same situation described by the informants in this study. Only the technology has changed!

One executive clearly explained why IT can be such a challenge for non-IT executives.

"Functional leaders generally don't learn about the role of IT applications and they help them to run their business. The CIO generally goes through his program and he generally learns stuff, learn programming; he can learn networks, he learns all kinds of IT stuff. MIS degrees [are] more likely than [a] MBA." CxO-17

Executives had a wide range of responses when it came to rating their peers' level of IT savvy. One common correlation was that IT savvy was described as High or Very Good when combined with a statement that IT was integral to the executive's business. In cases where IT savvy was described as Pretty Good or Low the executive also said that executives understood they had to improve their IT savvy. In these instances it was also common for the executive to describe IT in a less strategic context such as for efficiency or cost reduction.

4.6.2 CIO unique challenges

Another factor that influences the adjustment process for the CIO is whether his/her peers perceive that there are unique challenges to the CIOs transition. If they view the challenges as unique they may be more likely to provide support to the CIO to make the adjustment successful.

Executives were asked if a new CIO faces challenges unique from other executives when taking on a new appointment. The respondents stated that regarding leadership the CIO had similar challenges to other executives. Leadership was described by them as setting a direction and understanding the business.

Some representative comments follow:

"I would think they [leadership challenges] are pretty similar…. I would think that their challenges are the same. Meaning, you've got to come in. You've got to build relationships. You've got to understand how the business operated.

You've got to understand the strengths and weaknesses are and the opportunities. You've got to have a good head about you to be able to prioritize and go after the biggest bang for the buck and influence people. I think that no matter what, whether it's IT, Sales and Marketing I think it's very similar." CxO-1

"So, I don't think it's [unique], I mean I think the challenge for the [CIO] or the CTO is kind of similar to the CFO." CxO-12

"I don't think so. I would say they [CIO] have the same challenges as really one of any of the staff positions." CxO-13

Where executives recognized uniqueness was the "context" of the CIO's specific function. Executives mentioned the following broad areas:

- Being in a staff position vs. operations (this was mentioned to be similar to engineering, HR, etc.)
- Role ambiguity in the sense that there were many expectations of CIOs and typically these were not completely understood across the organization
- Technology was the most often cited challenge. The speed of technology change and the CIO's need to keep up with it and how it can enable the business

There were a group of comments that attributed unique challenges to any executive in a staff role rather than an operating leadership role.

"That's [being CIO] a unique challenge…He has all the similar political issues, all the similar capital resource needs issues, all those things that any managerial senior or leader has, but there's at technology component to it that the other people don't necessarily know how it is. So that person has to have the ability to translate that." CxO-7

"No question. I mean, they're like any support organization, and the one that you really don't think about until you have a problem and then all of a sudden you're thinking about the guy running the organization, and it's usually negative." CxO-6

Respondents mentioned some form of role ambiguity as a significant challenge for CIOs.

"The other difference I think is that you can go in an organization…almost always you walk into a situation where your peers get what you do and your role is accepted and understood, and in the CIO's case it's often times not the case. I mean everybody kind of gets what the VP of Marketing and the VP of Sales and the VP of Manufacturing and so forth do. This comes back to the role understanding question that I've talked about and never really fixed. That's been around for a while I think, unfortunately." CxO-10

"IT often times will be blamed for everything but the bad coffee and even they will be blamed for the bad coffee occasionally. So it was really changing that to -- that mindset if you will. You know, I do think that they are unique and that historically this is a new career that it is seen as a high cost function with little clarity. So suppose I am the new C.F.O I think most people probably the new C.F.O walks in they say this guy probably knows what he is talking about and you sort of see the role more clearly." CxO-11

"I think in some respects, it is a bit of a thankless task by taking over any IT organization. I'm struggling to think of any IT organization or I can think of very few which are real world-class operations, recognized as being so by the peers and other people in the company. I don't think necessary evil is the right phrase, but it's the best thing I can come up with. In most part, it is being viewed as a necessary evil. I mean everybody notices when things don't go well, whether it's an e-mail being down or whether there is some massive project failing. I think CIOs don't get huge amounts of credit normally when things go right, because people just expect it to go right." CxO-21

The third and by far the most common comments were regarding the unique challenges the CIO faces due to the rapidly change and complexity of information technology.

"I think it's a unique role. I can't think of any other disciplinary role that is driven so fast from what's happening in the world, I mean technology itself is growing, expanding and changing every single day. I don't think we can say that about Operations or Finance, but with technology in the world, for the IT leader, the unique thing is how do they stay on top of that and take what's happening around them and induce into an organization and it's changing every single day. So, I think that's the unique thing about an IT leader -- in that regard, I'm glad I'm in Human Resources!" CxO-1

"I think they do because there is always a new leading edge to what you are doing and if you pick Lotus notes 20 years ago and if you picked Outlook, you got it right. And then a lot of executives don't face those types of challenges, or at least not some that are measured in such open referendums that everyone can see, so I think that some of the challenges are unique." CxO-18

"I think that from an IT perspective it is untenable the amount of information and new technologies that are on the market and to be able to discern is this business value add, what business problem is this going to solve, is the velocity and volume that new technology comes out is just, like I said, untenable. And the biggest challenge is, what do I bring to the table and how do I know it's going to work." CxO-20

Generally executives recognize that some of the new CIO's challenges are common to any new executive while some are specific to the unique context of the CIO's job.

4.6.3 Successful transitions

An area of inquiry was regarding how the participants differentiated between a successful and unsuccessful transition by a new executive into the organization. They described three characteristics that contributed to success or failure. One was achieving results, basically performing one's expected job functions. Another was achieving results in a culturally acceptable way. Aligning to the organization's culture was seen as important. Lastly the quality of the

relationships the CIO developed with other executives was considered a factor in making a successful assimilation into the organization.

Getting results “the right way” was a description of a successful transition by one CxO.

“I think delivering results is a key coupled with that organization will say, you know, doing it the right way, and so whatever the right way happens to be [in] that organization.” CxO-16

Getting results was often mentioned and acknowledged as “obviously” necessary for success. This is the “doing the right things” aspect of success. Generally this was the result of understanding the business and the CIOs role in the organization to properly execute those projects successfully. Here are some representative comments directed at the CIO delivering results.

Based on the data from the CxOs, doing things the right way is focused on the organization’s culture. Culture was described a number of different ways by the executives and was cited by each one as crucial to a successful transition.

It was mentioned several times that aligning to the CEO’s vision of the CIO role was critical to being successful

“Looking at the ones that weren’t so successful, on the end it always seems like it’s the chemistry between the two. The [CEO] and the [CIO].” CxO-1

“Make sure that’s part of the conversation you have with your boss, and get in line that, “This is how I want to approach on-boarding,” and staying in line with your immediate supervisor.” CxO-9

“The guys and gals who come in and have been successful, the ones that figured out very quickly the CEO’s vision…” CxO-21

Organization culture was often described as simply the “way things are done here” and as the organization’s vocabulary.

“I’ve made mistakes thinking that when I transition from one company to another thinking that I can do the same thing that I did at the previous company the same way, getting the same results, assuming they were successful, and found out that wasn’t the case because the culture was really different, then you’ve got to come up with a different method of implementation or process of implementation because what works at one place does not necessarily work at another.” CxO-1

“So I think understanding the vocabulary, the hot buttons, just quickly being able to understand what those are, to learn the new culture that way.” CxO-6

“From an IT perspective or any function, you know you have a job to do, so you want to come in, hit the ground running, start moving forward and make things happen, right? Because everyone’s pretty much results driven across many fronts. And it takes them I think a lot of discipline to be able to come in and be able to say, “Okay, I really need to build a relationship.” And a key component of that is to be able to listen, to understand the culture of the business, the players so that you can then effectively think about, “How can I transition successfully?” So I think for those who probably don’t do as well are those who do the exact opposite of that.” CxO-9

“Are they prepared to be the team player and you know, play nice in the sandbox, be collegial, you know, don’t have a star system etc., he’ll put in the hours regardless of what’s required type mentality, which we have here. You need to understand the culture and what’s valued in that culture and you need to model that behavior. So, you better have done your homework before you join because that’s where you need to be – you need to model the successful executives and the culture and take that up or else, you know, you’re gonna be an odd duck.” CxO-12

The most common success factor mentioned for a CIO transitioning into a new organization was building relationships with the other executives on the top management team.

"First of all their ability to interact with the rest of the organization and to do it in a way in which they're accepted by the organization. The last thing you want is somebody who comes in who thinks they know it all and they immediately turn off everybody, and they never get that respect back. It doesn't matter how long they're here, because they've set the tone and that becomes the tone by which they're measured going forward." CxO-6

"It's the emotional intelligence that they show to be able to build relationships..." CxO-9

Executives also described examples of unsuccessful transitions where the CIO did not invest in building relationships adequately.

"The guy [CIO] proceeded to try to understand all the systems but, –The guy fundamentally forgot that there are human beings behind all those processes and all those systems. He totally ignored the relationships, the informal mechanisms, the informal systems." CxO-14

"I can think of an example where we hired someone in our food service business who went to an operations review, it was 2 weeks after he started, and we'd question why he'd do something a different way, and he'd tell us "you just don't understand, this is the way it needs to be done," and he'd been there only 2 weeks…We were thinking, "well, we see this isn't gonna work." He just wanted to prove what he knew. Frankly after a couple of weeks, we don't expect someone to know what to do…He didn't last that long." CxO-6

Other observations were that executives viewed the CIO role as one of "consultant" or "servant" to the rest of the business. The CIO was expected to understand the business and proactively bring solutions to CxO issues.

"They [CIOs] have to have the recognition that they are a servant to the organization, and they're not in charge of everything. They are a servant to the organization to serve the customers. You've gotta be an internal consultant, asking all the right questions. They have to have that attitude of servant's heart within the company so that when they talk to that other guy who's running that

division or that geographical area, or that department, or whatever it is, that they have to serve an interface with…That person feels like "this guy's my resource. This guy's not telling me how it is." CxO-7

"I think the successful ones are integrated and understand business and their real objectives that they are not really about technology, they are about -- and I keep using the term ensuring that technology they're delivering enables the company to do something with it whether it be close the books, serve the customer. I think that high quality Chief Information Officers are those who are integrated as part of senior management and understand the responsibilities that they have to bring technology to the business and serve a purpose whether it be financial processes, customer service, operations, inventory management, all of those things that link together. CxO-11

Several executives made the point that transition was a process of assimilation rather than one of education.

"We would assume at that level that it's more of an assimilation process rather than an educational process." CxO-2

This section discussed how participants described the critical factors for a successful transition by a new CIO. Successful CIO transitions are accomplished by *"doing the right things the right way"* as one executive described it. The importance of cultural assimilation was described also in this section, *"doing things the right way*". The next section will expand on the "do the right things" aspect of a successful transition by describing how executives assess the success of an IT initiative.

4.6.4 Assessing IT investment success

One of the criteria for successful transition identified by the interviewees is delivering results. Comments in the previous section touched on the CIO's role ambiguity and the fact that *"often they are blamed for everything including the bad coffee".* Executives were asked how they assess the success of an IT investment. The word "investment" was purposely used rather than "project".

Investment implies a business-oriented expectation of business benefits that exceed the amount of capital invested. The researcher wanted to avoid prompting the participants that such an investment was simply an IT project. However this did not stop participants from describing project success as well as business success.

IT investment success was described two different ways:

- Project success: on budget, on time, met requirements and is being used
- Business success: the organization realized the planned benefits

Project success was described similarly by all the respondents.

"Successful is ultimately – it's adopted and used by the organization. The second is was it done on time and was it done within in budget." CxO-3

"Are the IT applications really serving the purpose they were designed for." CxO-11

By far the most common description of "success" was focused on achieving business benefits. Business benefits were described in a number of different ways illustrating the broad range of benefits that can be realized from an IT investment. Efficiency, cost reduction, labor savings, inventory reduction, customer satisfaction, inventory accuracy, regulatory compliance and customer value were all types of business success mentioned. In addition, executives described initiating investments in information technology for regulatory, compliance and strategic reasons without metrics for success.

When asked if their organization did a good job of realizing those planned benefits and systematically managing that realization they overwhelmingly replied "no". There were several that answered "yes", but only a few.

"We track them [project benefits], we measure them and…we follow them through their life generally." CxO-4

"We would measure cost savings." CxO-6

"I've seen our company do a pretty good job of validating outcomes after the fact if the intended outcomes were actually achieved." CxO-13

Most executives reported that their organizations and others did not do well at managing benefits realization.

"I would say less than 20% of the time [executives determine whether an IT project delivered the planned benefits]. I think if they've got the new thing up and running, and it doesn't cause major disruption to the objectives, most business executive's view that as adequate performance, which is kind of a shame." CxO-10

"Nobody does that [benefits realization] well. Nobody does the post analysis." CxO-16

"I would say almost universally I'm not really aware of many organizations at all that once the business case is done, later on actually do go back and check the business case and see if what they thought they got out of it in this case is what they actually got. I'm aware of very few of those. But everybody is aware of when something works and doesn't work. At least to my knowledge, the one's universally, companies are extremely bad in actually doing that." CxO-21

An interesting comment was made by several respondents that they felt IT was responsible for this lack of follow-up.

"Rarely did I see, you know, as you start a new year, a new planning cycle, never did the IT group come in and give you post-analysis…" CxO-16

"I think IT can do better. I think the people that are directly involved in the project particularly on the IT side have a pretty big vested interest in painting a picture that might be rosier than it is. So, I think there is room for improvement there." CxO-19

Only one respondent acknowledged the role that non-IT business users play in benefits realization. This was from a company that uses information technology

strategically and where the executive described the TMT IT savvy as "sophisticated".

"They [benefits realization] get handed off, once they go from IT to the business owner or the functional group that's responsible. Then through a mechanism of accountability they are tracked, monitored and reviewed on a periodic basis." CxO-4

Intuition was cited several times as how they knew if things were successful. These executives stated that determining successful achievement of business benefits was difficult, if not impossible, to do quantitatively.

"Successful is ultimately -- its adopted and used by the organization and its improved working before that project. That's the ultimate one. The second is was it done on time and was it done within in budget. I think what we do is if the pain is reduced and people sense that, that's almost good enough in a lot of cases." CxO-3

"I guess the decision making process, do you have 80% of it pretty hard cost as best you can, and the other 20% as sort of instinct and seat of the pants, and just feeling that that's the right way to go." CxO-7

"There's not a full post-implementation audit. There is an intuitive, a general feel, you know, have the troops quieted down?" CxO-12

"You try to look at the project as it stands and then have some metrics that address that individual project as opposed to…what's my return. I think at times there are metrics, and I think there are times when you actually can do some quantification, but it's never precise." CxO-18

"We're saying IT applications investments in almost all case should pay for itself and there's a whole lot of reasons why they don't, but they're business reasons generally…What they don't understand is exactly what the impact will be on the business. If the goal is to reduce the inventory by increasing inventory turns exactly what does that mean and how do [executives] come up with a plan

that'll establish the base case that allows them to establish the methods that they're going to use to track the program and ultimately how are they going to know whether they succeeded or failed. I've talked about The Christopher Columbus School of Management. Mr. Columbus went on a great trip, didn't know where he is going, got there, didn't know where he was, he came back, and didn't know where he'd been." CxO-17

Unanimously executives measure the success of an IT investment as a project, that is, based on budget control, schedule achievement and satisfied users. Fewer viewed benefits realization as a measure of success and far fewer of those evaluated that achievement after the IT solution was implemented. The data suggests that many executives under-value the contribution that IT makes to the business because their focus is primarily on project metrics rather than business results.

4.6.5 On-boarding a new CIO

The data highlighted that there are clear organizational nuances that are important for the newly appointed CIO to recognize. These are how success is evaluated, how to fit into the organization's culture and building effective peer relationships. Gaining this knowledge is important to the CIO entering a new organization. Therefore executives were asked if they had a role to play in on-boarding a new CIO. Overwhelmingly they responded "yes". Although all the executives felt they had a role to play there was a bifurcation of how that role was described. About half of the executives described a passive approach and the others a more active involvement.

Executives using a passive approach stated they would help, but it wasn't a priority for them and the CIO would need to take the initiative in the relationship. Some comments from passive executives that describe this are as follows.

"I wouldn't say that there's a formal methodology to kind of on-boarding them, but I would say the expectation is that you'll see what's going on and you'll hear the words. Of course there's the written word and there's how people execute in

relation to the written word. I think there's the expectation that they'll observe what's going on and kind of fall in line, see how the team operate as a team as individuals and we'll sort of start to develop and see the culture and adapt to it. It gets back to we don't have a formal on-boarding for executives; I think there's an expectation of if you're being hired into that position, you'll figure it out." – CxO-8

"I'd like to believe that everybody has, if we are seeking this great team work team spirit collegial out of those individuals, we need to model it and so, I'd like to believe that people do reach out and informally mentor, you know, grab lunch, spend time, and if they are more of a direct report as what we do, you know, early, you know, sort of feedback, here's what's going well; here's that you need to watch out for." – CxO-12

"Yes, but no, it's not my day job, I am not in a HR function, but obviously, if someone is coming around you, and I am interacting with them, you try to be helpful, so in that regard I would say yes." CxO-18

Another set of executives described a process that was a more active approach. In the active approach the executives saw value in helping the CIO get up to speed. The following comments are descriptive of the active approach.

"We try to understand the culture of the company we are acquiring... We try to educate them about our culture and decision making." CxO–6

"Yes, yes, absolutely. I think, at least in my experience in the companies I've worked for, there's a high level of understanding that on-boarding is a critical success factor for people coming into the organization." CxO-9

"Oh, yes, I do. And a good company will set up a robust assimilation program when they're bringing in somebody from the outside to mitigate some of the downside risks that I spoke of; and the ultimate downside risk is, let's say it's the new CIO coming in from outside, the failure to do some of those things will ultimately result in a situation where either the company gets

frustrated…because they think that the external leader just hasn't taken the time to understand the company…. Or what can happen on the opposite end is that external leader gets frustrated because they believe that the company is backwards, they're not moving fast enough, why don't they see what I see because I have all this experience? Why doesn't this company give me the respect and acknowledgement for the experience and skills that I bring to the table? They said they wanted it and yet I got here and now they aren't really interested in hearing what I have to say. Those are day to day manifestations of what can often take place." CxO-13

Executives do believe they have a role to play in on-boarding a CIO. The perspectives on how they enacted that role varied between those who saw their role as a passive one and those who felt an active approach was valuable.

4.7 Discussion and Conclusions

The study findings lead to four main conclusions. The first conclusion is that there is no consensus among executives what constitutes a successful IT investment. The next conclusion is that relationships between the CIO and other executives are an important factor in taking charge. The third is that non-IT executives have a range of views of the role of the CIO. These role expectations can be categorized into three CIO role types. The final conclusion is that the newly appointed CIO will encounter different types of top management team members. These "types" of CxOs will each have a different preferred style of interaction with the CIO and a specific focus. These conclusions are discussed in detail in this section.

4.7.1 IT investment success is ambiguous

The executives in this study varied widely in their perspectives on what constituted a successful investment in information technology. Generally participants did not have an immediate answer to the question and several commented that the question "was a hard one".

Overall the participants described the two main categories of “success”; project success and business success that are commonly referred to in the literature (McAfee, 2002; Peppard and Ward, 2005; Peppard et al., 2007; SAP, 2007; Ward, 2006). However the fact that there was no consistent answer to the question among executives suggests that each one of them views “success” slightly differently. The IT organization was mentioned most often as being responsible for ensuring investment success even when success was described as delivering planned business benefits. This is consistent with observations made by Peppard et al (2011) that CxOs often do not understand their role in achieving value from IT spend. The authors also found similar ambiguity in terms of defining success for the CIO.

This study’s findings are also consistent with previous research on executive’s perceptions of the value of IT. Studies have highlighted that, in the absence of more quantitative measures, executives’ perceptions of success are equally or more important (Broadbent and Weill, 1993; DeLone and McLean, 1992).

The findings are also consistent with an earlier study of executive perceptions of the business value of IT (Tallon et al., 2000). These authors found that the use of pre-investment and post-investment evaluation was correlated with the corporate goals for IT (operations focused, unfocused, market focus or dual focus). Organizations with a higher strategic positioning (market and dual focus) were more likely to use post-investment evaluations in establishing business value achieved.

This is significant because delivering results was one of the factors that executives overwhelmingly mentioned contributed to the successful transition for a newly appointed CIO. Delivering results is about delivering business value through IT services and projects. If the standard of success depends on each individual executive’s perspective then the CIO may have difficulty fulfilling this wide range of expectations. Previous research found evidence that conflict regarding the value of IT can be specific to sub-units in the organization and that those units are influenced by the most powerful person in the group (Leidner and Kayworth, 2006). To compound the matter, the IT organization is

primarily seen as the responsible party for delivering success, regardless of its definition.

The data in Project 2 highlighted that delivering successful IT projects in the Stabilization and Renewal phases resulted in credibility and legitimacy for the newly appointed CIO. Therefore it is critical for the CIO to set and manage expectations of success before the IT investment is delivered. Negotiating IT performance measures will create a shared understanding among all executives on how the success of an IT investment will be evaluated (Fiegener and Coakley, 1995). It also sets clear objectives for the CIO to achieve in order to be viewed as delivering results. Delivering these results will contribute to the newly appointed CIO's successful transition.

4.7.2 CIO/CxO relationships influence adjustment

Most of the executives interviewed emphasized that the CIO must build productive relationships with them in order to be successful when entering a new organization. The executives' perspective on the importance of relationships is consistent with other IS research on management teams (Armstrong and Sambamurthy, 1996; Peppard, 2010; Preston et al., 2008; Reich and Benbasat, 2000). Studies have also explored how CIOs influence their executive peers to support IT initiatives (Enns et al., 2001; Enns et al., 2003; Enns et al., 2007; Kaarst-Brown, 2005) and that relationships are a crucial way that CIOs can add value (Earl and Feeny, 1994; Fiegener and Coakley, 1995).

Previous research has drawn these conclusions based on data from CIOs and executive team peers. This study did not anticipate concluding anything to the contrary. The existing literature describes relationship building as something the CIO must do. Research suggests that CIOs should build relationships, but offer little in the way of explanation of how non-IT executives view those overtures. This study did find that non-IT executives take two approaches to the CIO/CxO relationship building: passive or active.

Some executives take a passive approach to building a relationship with the CIO. They view this relationship as something that the CIO should initiate and in which they will participate to varying degrees (this argument is developed in section 7.4). They are more or less willing to help the CIO, but only if approached. These executives view relationship building as solely the responsibility of the CIO and not necessary for them to reciprocate.

The other group of executives described adopting an active approach to building relationships with a newly appointed CIO. They viewed a good relationship with the CIO as in their best interest. They contributed to the relationship in varying degrees (again discussed in section 7.4), but they were not reluctant to initiate the process or even actively manage it.

This study concludes that positive relationships are important between the CIO and CxO individuals consistent with prior research. CxOs described both passive and active approaches to their role in building these relationships. The CxOs in the study also described different expectations for the CIO role and those will be discussed in the following section.

4.7.3 CxOs reinforce CIO role ambiguity

The executives in this study described varying expectations of the CIO and perceptions of the role. The CxOs in the study characterized the role of the CIO in three distinct categories:

- Service Provider
- Solutions Provider
- Strategic Contributor

Each executive interviewed had a specific role in mind for the CIO in their organization. These perspectives were not defined by the organizational structure or the CIO's reporting level. It was the personal perspective of the executive regarding the role of the CIO in any organization. The CxOs in this

study described the CIO's role as defined by their degree of strategic influence. Role types along this continuum are shown in Figure 4-7.

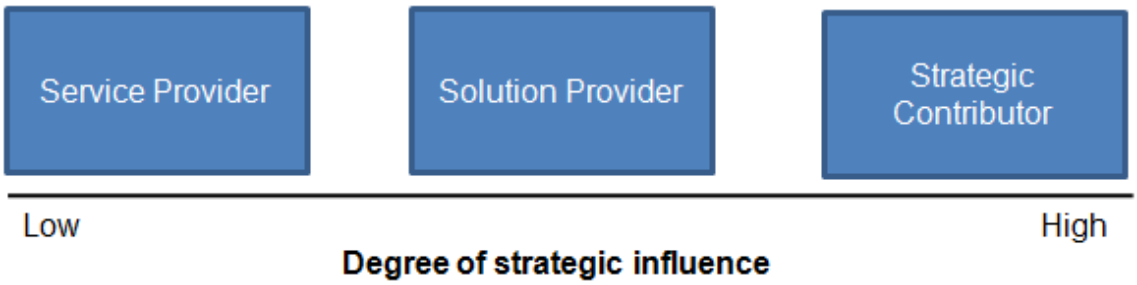

Figure 4-7 CIO role types as perceived by CxOs

The **Service Provider** role is defined by a low degree of strategic influence and a relationship with CxOs that focuses on providing services to their part of the business. These executives view the CIO role as a technical service provider and a support staff manager. While they may appreciate the complexity of information technology and the challenge that presents for the CIO, they do not view the role as equal to other operating executives. They do not expect strategic input from the CIO, nor do they want it. They expect the CIO to "fix" their IT problems and that is the extent of their expectation. The specific term "servant" was often used by the participants who held this view, however it was never used as a derogatory description, just one that best described the relationship between the CIO with the rest of the organization.

A second role type is called the **Solution Provider**. This role is characterized by a higher degree of strategic influence than the Service Provider. The CxOs described the Service Provider in terms of providing "solutions" to business issues. These CxOs expected that they would present business problems to the CIO and that he/she would find IT solutions to address those problems. They also expected the CIO to actively understand their problems and behave like a consultant in designing solutions to them. These executives perceive that the CIO role is not equivalent to that of non-IT executives and is a support role. However in contrast to the Service Provider, the executives who view the CIO

as a Solutions Provider have a higher degree of respect for the role and an expectation that the CIO will engage in business problems in addition to technical ones.

The **Strategic Contributor** is significantly unique from the Service and Solutions Providers. As a Strategic Contributor the CIO is viewed by the CxOs as a peer in the top management team. They expect the CIO to engage with them at a strategic level in addition to providing IT solutions and services. They expect the CIO to act as a strategic advisor to the operating executives, proactively bringing IT ideas that will influence business strategy. They expect the CIO to be proactive and to have an extensive knowledge of the business.

CIO research has identified many typologies of “role” (Chen and Preston, 2007; Chun and Mooney, 2009; Deloitte, 2008; Peppard et al., 2011; Smaltz et al., 2006) and these have included data from non-IT executives. However these typologies have always presented an aggregate view of different types of CIOs along various dimensions. The results of this study are not significantly different. The specific number and descriptions of the CIO role vary from previous research but the essence remains the same.

Kaarst-Brown (2005) identified five perceptions of IT based on how an organization viewed five dimensions. Her conclusion was that the CIO should know what the organization’s perceptions are in order to effectively employ different strategies that addressed those perceptions. This study indicates that non-IT executives view their CIO colleague as one of three possible types.

Rather than suggest another broad CIO typology this study presents these types from the perspective of the non-IT executive alone, in other words, how the CxO views the CIO role. Because the individual CxOs have different views on the CIO role and engage in the relationship differently there emerged a variety of CxO types with which the CIO must work effectively. These CxO types are discussed next.

4.7.4 CxO taxonomy

In addition to a range of perspectives on information technology and the role of the CIO, the study revealed that the newly appointed CIO will interact with executives with varying styles and focus. The data indicates these dimensions suggest different types of CxOs and this taxonomy is shown in Figure 4-8.

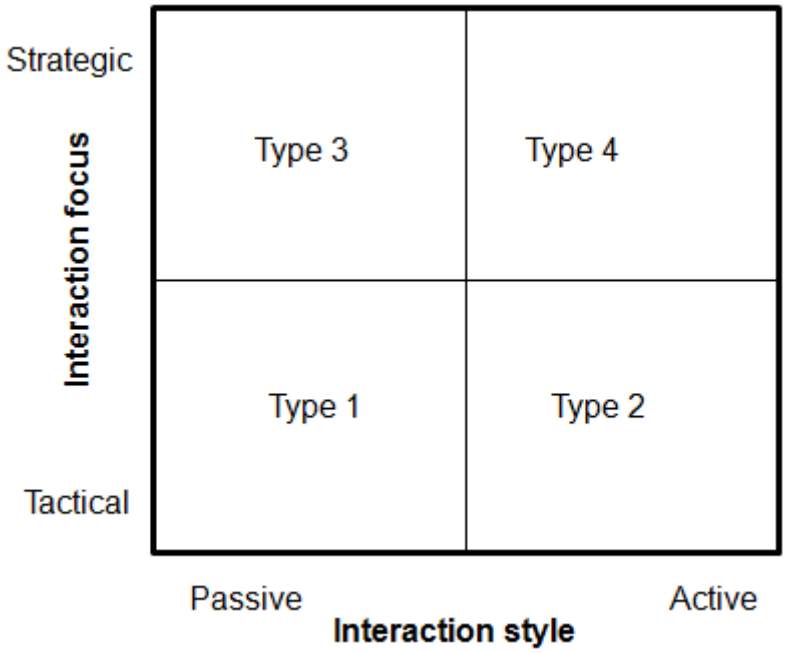

Figure 4-8 CxO taxonomy

The dimension of interaction style indicates whether the executive is passive or active regarding interacting with the newly appointed CIO. An active style is one where the CxO expects the CIO to take the initiative in the relationship. Active CxOs take the initiative in connecting with the CIO.

Interaction focus is either tactical or strategic. Tactical focus centers on IT services that the CIO provides and requirements that need to be fulfilled. A more strategic focus describes how the CIO can provide business solutions and influence business strategy.

The **Type 1** executive has a tactical focus and a passive interaction style. This type of executive is most likely to view the role of the CIO as that of Service Provider described in the previous section. They view the CIO as a technical

service provider and the head of a support function. They do not expect the CIO to contribute to strategic business problem-solving or planning. The Type 1 executive does not initiate interaction with the CIO, but rather expects the CIO to come to them. The interaction consists of the CxO communicating their needs and expectations to the CIO so that they are fulfilled. The Type 1 executive would not offer advice on the political power structure or insights on the organization's culture. This passive approach reflects the perception of power distance between the CxO and the CIO. This was not described by the participants as a lack of respect for the CIO, but as an honest perspective of the role.

Another type of executive with a tactical focus is the **Type 2**. The Type 2 executive takes an active approach to interacting with the CIO. They will take the initiative to schedule meetings with the CIO on a regular basis. However the focus is on the tactical issues of services provided to the executive's function as well as the executive's IT "wish list". The executive still views the CIO role as one of Service Provider. Proactively engaging the CIO is viewed by this executive as a politically shrewd way to get their priorities to the top of the CIO's list rather than sit back and be passive like the Type 1. Like the Type 1, this executive will not offer advice or insight on organization politics or culture. The Type 2 executive is using this active interaction style to gain an advantage over their peers to get their share of limited IT resources.

The **Type 3** is a type of executive that has a passive interaction style and a focus more on the strategic input of the CIO. Type 3 describes an executive that will help the CIO if the CIO takes the initiative. This type typically sees the CIO role as one of Solutions Provider. While they appreciate that the CIO can contribute to providing business solutions that enable strategy, they still do not view the role as a top management peer. They are willing to work with the CIO and provide them insights into the organization's power structure and unique cultural aspects. Type 3 executives share this information as part of their role in the top management team.

Finally, the **Type 4** takes an active approach to engaging the CIO on strategic issues. The Type 4 views the CIO role as “Strategic Contributor” and will take the initiative to engage the newly appointed CIO in strategic business issues. They view the role as a peer on the top management team and recognize the contribution the CIO can make to innovation and influencing business strategy. In fact they expect the CIO to make such contributions as a member of the top management team. They view this active collaboration as a normal part of their role just as they would with any of their operating executive peers.

CIOs will interact with four different types of top management peers with unique combinations of interaction style and focus. Influence tactics and relationship strategies will need to be tailored for each one of these CxO types in the mutual adjustment process of the new CIO.

4.7.5 CIO socialization

This research project posited that the non-IT top management team provided information to the newly appointed CIO about organizational expectations and culture. In this way the top management team members are significant role-senders to the CIO. The data indicates that this is potentially true but that some CxOs might withhold that information and some will freely share it. The CxO taxonomy described in the previous section suggests the types of non-IT executives that will provide role information to the CIO and the way in which they will provide it.

CxOs can have individual role expectations for the CIO. This role ambiguity must be managed by the CIO during their transition. Discerning each executive’s expectations of the role and customizing their relationship building accordingly is a significant part of the adjustment process for the new CIO. A CIO will find it difficult to develop a productive relationship with an executive if the CIO fails to recognize whether the executive views them as a service provider, solutions provider or strategic contributor. A mis-alignment of these expectations may result in a failed transition if a shared understanding is not developed.

In summary, Project 3 explored the perspective of the non-IT executive on issues of importance to the newly appointed Chief Information Officer. The objective of the research was to understand how the non-IT executive interacts with the newly appointed CIO and to "fill in some gaps" in the initial empirical model of the mutual adjustment process. The conclusions regarding CIO expectations and the types of non-IT executives with which the newly appointed CIO will need to work extends the model again. The final empirical model of a newly appointed CIO taking charge is shown in Figure 4-9.

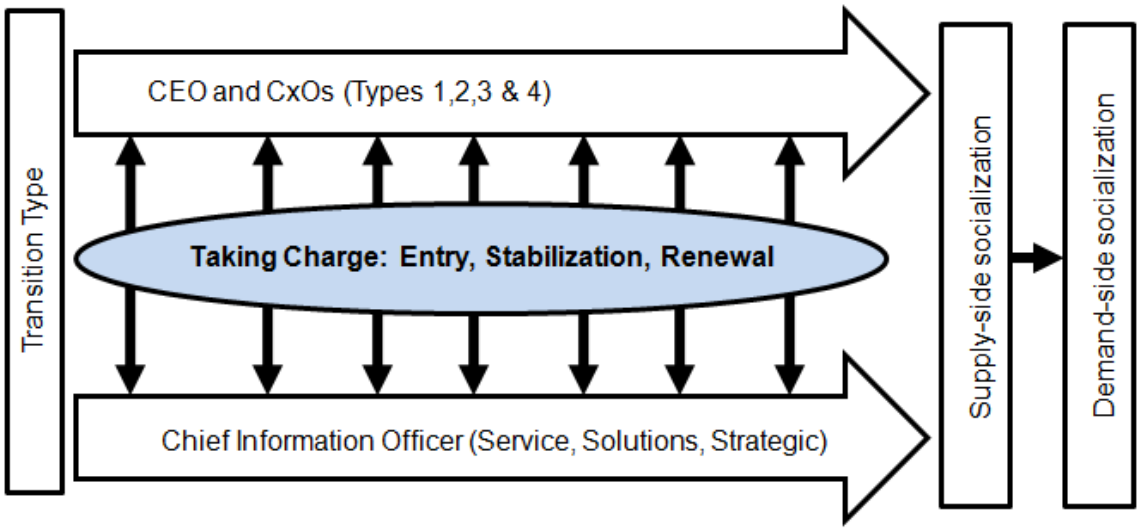

Figure 4-9 Final empirical model of CIO socialization

The model incorporates the findings of Project 3. The arrows between the CEO/TMT and the CIO represent the interaction between the two (mutual adjustment). CIOs can be viewed as Service Providers, Solutions Providers or Strategic Contributors as they interact with CxOs who may be Type 1, 2, 3 or 4 executives.

4.8 Reliability

Research design must address the issue of quality assurance in addition to bias and this study is no different. The quality of research is normally evaluated using the criteria of reliability and validity. There must be some practical standards to evaluate the quality of conclusions. Those standards address the

question of whether the research and findings are *good* (Miles and Huberman, 1999).

This is an issue of trustworthiness in qualitative research. Johnson and Harris (2002) suggest that there are two ways to generate trustworthiness for qualitative research. The first is *confirmability*. Confirmability is effectively concerned with transparency of data interpretation. Miles and Huberman (1999) suggest questions to ask concerning confirmability that include the following:

- Are the study's general methods and procedures described explicitly and in detail?
- Can we follow the actual sequence of how data was collected, processed and transformed?
- Has the researcher been explicit and self aware as possible about personal assumptions, values and biases?
- Is there a record of the study's methods and procedures sufficient enough to provide an "audit trail"?

The quality factor of confirmability is one of transparency in all aspects of the research project. This study has addressed the challenge of confirmability in the following ways:

9. The study's methods and procedures are described explicitly and in detail (Section 4)
10. A sequence of how the data was collected, analyzed and transformed through the process of coding and interpretation is provided (Section 4.4)
11. An explicit discussion of researcher assumptions and bias is addressed (Section 4.4.3)
12. Data in the form of an NVivo file with coded data as well as un-coded transcripts are available for inspection in addition to the descriptions described previously can provide an "audit trail" of the study's findings and conclusions

The second is *authenticity* of the interpretations of the data. Miles and Huberman (1999) again suggest questions to ask that address authenticity. A few of these are mentioned as follows:

- Are the descriptions gained “thick” enough? In other words are they contextually rich?
- Does the account ring true, seem convincing, plausible?
- Have the rules for interpretation been made specific?
- Have rival explanations been considered or has only one explanation been considered from the start?

Authenticity is about the trustworthiness of the researcher’s interpretation of the data and subsequent conclusions. A social constructionist position using qualitative research methods presents a challenge for the traditional concepts of reliability and validity.

An authentic interpretation of the data is presented in the study through the use of direct quotes from the participants that tell a true account of the data. Alternative explanations have been provided where required.

Trustworthiness is a critical factor in evaluating the findings and conclusions of a research study. This study has been explicit in describing the factors critical to building credibility and trust in the findings and conclusions. The findings and conclusions of the research are both confirmable and authentic.

4.9 Contributions

This research has developed a better understanding of non-IT executives’ perspectives on information technology and the role of the CIO. This increased understanding makes a contribution to both the academic literature as well as practicing executives. These contributions are discussed in the following sections.

4.9.1 Contributions to research

There are three contributions to the existing research literature. These are the CIO role types, CxO taxonomy and the model of CIO leader socialization.

CIO role types

The first contribution of CIO types is an extension of the existing research. As mentioned previously there are many examples of CIO typologies which are more detailed than this one. The contribution that can be claimed is identifying CIO types from the non-IT executive's perspective rather than synthesizing more diverse data. It is interesting that CxOs hold these different perspectives of the CIO role and likewise have different expectations of what that role should contribute to the organization as a whole. Differing expectations of a role among role senders is called *inter-sender conflict* (Kahn et al., 1964; Katz and Kahn, 1978; Van Sell et al., 1981). The contribution of CIO types from the CxOs perspective is a contribution to the IS literature. It also extends the research into how individual executives view CIOs.

CIO research has identified many typologies of "role" (Chun and Mooney, 2009; Peppard et al., 2011; Smaltz et al., 2006) and these have included data from non-IT executives. However these typologies have always presented an aggregate view of different types of CIOs along various dimensions. Previous research has not presented these role types strictly from the non-IT executives' perspective. Smaltz et al (2006) identified six types of CIOs in health organizations. Chun and Mooney (2009) presented four types of CIOs. Peppard et al (2011) suggested that there were five types of CIOs found in organizations. This study does not suggest that any of these typologies are inaccurate only that CxOs might view the continuum of CIO types in a more simplistic and concise way.

The extant research on CIO typology always includes a CIO's strategic influence as one dimension of the typology and this study is no different. The contribution of this research is to present this solely from the CxO perspective. How they view the relationship with the CIO is a contribution to the existing research literature on CIO typologies.

CxO taxonomy

The second contribution is the taxonomy of CxOs with which the CIO will interact when taking charge of a new appointment. This contribution contributes a perspective that is missing in the extant literature on CIOs. Defining a model of top management team role senders for the newly appointed CIO is a new contribution. It was mentioned previously that many other studies have identified the importance of the CIO/CxO relationship. Research has significantly less to say about the different types of CxOs with which the CIO interacts and how this is linked to the type of CIO they perceive him/her to be.

This research study contributes insights into what kind of relationship the CxO is looking for from the CIO. This is clearly related to the first contribution described above regarding CIO types, but expands the concept of CxO/CIO relationship by viewing it along the dimensions of interaction focus and interaction type.

The IS literature is generally silent on describing the perspectives of CxOs regarding information technology and the role of the CIO in a way that clearly suggests the roles and taxonomy resulting from these exploratory study.

CIO leader socialization

Another contribution is enhancing the empirical model of CIO mutual adjustment to provide a more holistic view of CIO leader socialization. The objective of this study was to explore the mutual adjustment process of the newly appointed CIO from the non-IT executive's perspective. This study has shed some light on the other side of the "mutual" concept of leader socialization to enhance the model with how CxOs view the CIO role, what kind of interaction style they might prefer and what the focal point of the interaction might be with the CIO.

Little attention has been paid in the leader socialization literature regarding the voices of the role-senders in the process. This research provides a glimpse into non-IT executive perspectives in on-boarding a new CIO leader. This insight

comes directly from the executives themselves, in their own words, and adds to our understanding of the dynamics of the socialization process.

This model is the first empirical model of new CIO leader socialization. There is only one previous study on new CIOs transitions (Leidner and Mackay, 2007) and it did not explore the dynamics of leader socialization. The model also contributes to building on the extant literature on leader socialization in that it describes an empirical model for a non-CEO executive role that requires a high degree of peer engagement. Previous research on leader socialization in corporate organizations has focused primarily on the CEO or the leader of a business unit (Denis et al., 2000; Fondas and Wiersema, 1997; Gabarro, 1987) rather than a member of the top management team.

4.9.2 Contribution to practice

In addition to making a contribution to the research literature this study also can inform practicing executives. Chief Information Officers that are taking on a new appointment can incorporate this study's findings in a number of meaningful ways.

The newly appointed CIO should first acknowledge that beyond the CEO's view of the role, individual operating executives hold their own biases about the CIO role and information technology's contribution to the business. They must keep in mind that there may not be a shared understanding of the role among the entire TMT. The findings of this study reinforce the previous research that the CIO role has significant ambiguity across executives. This recognition will help them understand individual points of view when they are in the diagnostic Entry phase of taking charge.

The taxonomy of CxOs is the most useful contribution for newly appointed CIOs. Using this taxonomy they can map individual relationships with executives based on how they interact and what their expectations are. In initial meetings the new CIO can ascertain what the executive's primary focus is, tactical or strategic, and get a sense of their preferred interaction style. Initially

they may only focus attention on Types 1 and 2 to fulfill their basic service obligations during the Stabilization phase. They can focus their relationship building on the Types 3 and 4 who have an expectation of a more strategic contribution. IT initiatives can be planned that will deliver the business value expected by these executives and this success will build the CIO's legitimacy as a business leader (demand-side leadership). They should also exploit the willingness of the Type 3 and 4 executives to share their insights into the organization's culture and how to successfully assimilate into it. Newly appointed CIOs can experiment with different influence tactics for each type of executive with which they work.

The ambiguity of IT success is also important for the new CIO to consider. They should not assume that everyone in the organization will use the same measure of success for IT investments. The new CIO needs to proactively negotiate and set the success criteria for a given investment prior to its launch. They must also manage and monitor the realization of those benefits in order to overcome barriers that might exist to successful benefits realization. Whether it is conceptually "right" for IT to be responsible or not, the new CIO cannot leave the success of an IT investment to chance.

4.10 Limitations

The findings of this study have yielded insights that contribute to both research and practice. However there are several limitations that require discussion. Categorizing some of the study's data required interpretation of the individual's experience and how it was described. Numbers of informants with some specific characteristics are not sufficient to reflect patterns that might be present between industries or countries. There were, for example, no participants from the public sector. It is reasonable to consider that leaders in the public sector may have a different view of the CIO as would those in countries outside of the U.S.

The unit of analysis was the individual CxO which was appropriate for the research question. It does not provide insight into how the organization's formal

on-boarding processes work, if they exist at all. It also limits the view to that of the individual executive and not the collective TMT perspective in their organization. One might assume that in organizations where information technology is considered a strategic asset that most, if not all, top executives would have similar views of the questions asked in this study. This test of "homogeneity" within a top management team was not investigated.

Another limitation might arise from researcher bias as is the nature of qualitative research. As mentioned previously, the researcher has broad experience with and an informed opinion about CIOs and non-IT executives and this cannot be completely eliminated from the analysis and synthesis of the study. In previous sections the researcher endeavored to address these issues of reflexivity and reliability.

The research method is an interpretive approach adopting a social constructionist view. The data is socially constructed from the dialog between the researcher and the informant during the interview process. Answers may have been affected, either consciously or subconsciously, by the informant's desire to portray their transition experiences in the most positive manner. This provides rich data to investigate, but can also be a biased account due to self-reporting rather than an objective observation by the researcher.

The study is one of an exploratory nature which resulted in tentative models, not tested hypotheses or propositions. It provides valid descriptions of a process within the context of the study. It is not meant to develop a generalizable theory beyond the research context and sample. Nor did the study attempt to capture and account for all moderating variables such as industry, country, or simply a measure of how strategically the organization uses information technology. For example, the taxonomy of executives is not likely to change drastically, but these moderating variables would influence how executives would cluster in the taxonomy.

These limitations notwithstanding, the study opens up additional areas of research that will be discussed next.

4.11 Implications for further research

There are opportunities to build upon the research in this study. The opportunities are two-fold: CIO/CxO relationships and understanding the CxO taxonomy in a deeper way.

The CIO / CxO relationship is complex because it really is a one-to-many framework. The CIO must manage relationships with multiple executives who may have varying views of the CIO role and therefore expectations of the relationship. This was also an area of further research highlighted previously in Project 2. There may be an opportunity to apply relationship / account management frameworks from professional services/marketing to this challenge of the CIO. CxOs are similar to internal buyers of the IT function's services. In many ways the CIO acts as an "account manager" balancing a complex set of relationships and expectations while providing services to the organization. This area of inquiry has promise.

The CxO taxonomy suggested in the study would be worth exploring with a much broader sample via a survey instrument. Whether the taxonomy would hold up to broader scrutiny is an interesting research question. A survey might provide the opportunity to also explore whether the executive's view of IT is formed more as a function of the individual or organizational level. This was not investigated in the current study. How executives might "cluster" in the taxonomy within or across organizations might provide insights when considered in light of other variables such as industry and strategic view of IT. In addition, does the CIO in such an organization experience "role conflict" to any great degree because of varying CxO perceptions and how do they manage this among different members of the role set?

Lastly, with regard to method, these dynamics would lend themselves to a longitudinal study within an organization. Being able to study the dynamics on a more frequent basis over a 2-3 year period of time would provide another degree of robustness.

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Appendices

Appendix A Review panel membership

Name	Organization	Expertise
Professor Joe Peppard	Cranfield School of Management	Chief Information Officers, Lead supervisor
Professor Kim Turnbull-James	Cranfield School of Management	Leadership, Panel Chairperson
Dr. Emma Parry	Cranfield School of Management	Systematic Review Specialist, Panel member
Mrs. Heather Woodfield	Cranfield School of Management	Information specialist

Appendix B Initial literature sources

Source	Value to the review
Academic Journals	Primary source of published academic research
Academic texts	Secondary source of published academic research
Conference papers and proceedings	Primary source of un-published academic research
Practitioner research reports	Primary source for practitioner oriented data
Material requested from key authors and practitioners in the field	Tertiary source for in-process academic research as needed

Appendix C List of academic journals

Journal	Rating
Academy of Management Journal	4
Academy of Management Perspectives	3
Academy of Management Review	4
Administrative Science Quarterly	4
California Management Review	4
Decision Sciences	4
European Journal of Information Systems	3
Harvard Business Review	4
Human Relations	4
Human Resource Management	4
IEEE Transactions on Engineering Management	3
Information & Management	3
Information Systems Journal	3
Information Systems Research	4
International Journal of Human Resource Management	3
Journal of Applied Behavioral Science	2
Journal of Applied Psychology	4
Journal of Management	4
Journal of Management Information Systems	3
Journal of Management Studies	4
Journal of Occupational and Organizational Psychology	3
Journal of the AIS	3
Leadership	3
Leadership Quarterly	4
Management Science	4
MIS Quarterly	4
MIS Quarterly Executive	2
Organizational Dynamics	3
Organization Science	4
Organization Studies	3
Organizational Behavior and Human Decision Processes	4
Sloan Management Review	4

Appendix D Initial database sources

Source	Value to the review
ProQuest	A top aggregator of academic research
EBSCOhost	A top aggregator of academic research
JSTOR	A top aggregator of academic research
IUCAT (index of all books in Indiana University's library system)	Primary source of Indiana University's collection
Cranfield University library catalogue (webcat)	Primary source of Cranfield University's collection
IUCAT periodical search of relevant journals	Primary source of searching individual journal titles

Appendix E Quality assessment criteria

Criteria	Description
Theory	Does the paper test, create, or extend management theory in a meaningful way? Does the study inform or improve our understanding of prior theory? Are major concepts clearly defined?
Literature Review	Does the paper cite appropriate literature and provide proper credit to existing work on the topic
Method	Do the sample, measures, methods, observations, procedures, and statistical analyses ensure internal and external validity? Are the statistical procedures used correctly and appropriately? Are the major assumptions of the statistical techniques reasonably well met (i.e., no major violations)?
Integration	Does the study provide a good test of the theory and hypotheses, or sufficient empirical grounds for building new theory? Is the method chosen -- qualitative or quantitative -- appropriate for the research question and theory?
Contribution	Does the paper make a new and meaningful contribution to the management literature in terms of theory, empirical knowledge, and management practice? Is the topic important and interesting

Appendix F Reference data fields

- Author
- Year
- Title
- Journal
- Location of study
- Empirical or Theoretical focus
- Key findings summary
- Context or industry
- Sample size
- Method of data collection
- Method of data analysis
- CIO leadership challenges identified
- Leader socialization framework, model or process
- Quality criteria 1: Theory
- Quality criteria 2: Literature review
- Quality criteria 3: Method review
- Quality criteria 4: Integration
- Quality criteria 5: Contribution
- Included (yes or no)
- Reason for exclusion
- Key terms

Appendix G Final inclusion/exclusion criteria

Search term	Inclusion	Exclusion
CIO	CIO as unit of analysis	CIO as peripheral variables, not CIO personal attributes
Challenge*	Leadership challenges for the CIO specifically	Challenges related to the information technology function in general
Effectiveness	Effectiveness of the CIO as an executive	Effectiveness of the IT function in general or a project specifically
Leader*	Leadership of the CIO	IT or project management
CEO, Executive, Leader	Executive, CEO, CIO or Leader as unit of analysis	Not related to the process of socialization, context such as education, military, government
Transition	Socialization	Related to career changes or expatriates
Induction	Socialization	Not related to executives or focus on training / development
Honeymoon	Related to socialization	Not related to socialization
Assimilation	Socialization	Expatriates, training & development
Integration	Socialization	Mergers & Acquisitions, expatriates
Socialization	Executives or leaders	Non-executive level newcomers, Leader-Member exchange, not government or education contexts

Appendix H Quality assessment – CIO literature

Source	Papers Accepted	Papers Rejected	Acceptance rate
California Management Review	1	1	50%
Decision Sciences	1	0	100%
European Journal of Information Systems	1	0	100%
IEEE Transactions on Engineering Management	1	2	33%
Information & Management	2	1	67%
Information Systems Research	2	0	100%
Information Technology and Management	0	1	0%
International Conference on Information Systems	1	0	100%
International Journal of Computers, Systems & Signals	0	1	0%
Journal of Information Technology	0	1	0%
Journal of Management Information Systems	2	0	100%
Journal of Strategic Information Systems	2	0	100%
Journal of Systems Management	0	1	0%
MIS Quarterly	3	0	100%
MIS Quarterly Executive	2	1	67%
Totals	**18**	**9**	**69%**

Appendix I CIO literature descriptive summary

Appendix I CIO Leadership Literature Descriptive Summary

Reference	Type of Study	Key Findings
ARMSTRONG, C. & SAMBAMURTHY, V. 1999. Information technology assimilation in firms: The influence of senior leadership and it infrastructures. Information Systems Research, 10, 304-327.	Matched pair survey of 235 CIOs and TMT	IT assimilation is linked to line mgrs ability to identify IT opportunities -a CIOs knowledge of both business and IT must be at a high level. CIO membership in TMT is important.
CHEN, D., PRESTON, D. S. & XIA, W. 2010. Antecedents and effects of CIO supply-side and demand-side leadership: A staged maturity model. Journal of Management Information Systems, 27, 231-271.	Matched pair survey of 174 CIOs and TMT members	CIOs are expected to contribute to demand-side leadership (strategic) but only after providing supply-side leadership (tactical)
ENNS, H, HUFF, S, & GOLDEN, B 2003, CIO influence behaviors: the impact of technical background', *Information & Management*, 40, 5, p. 467	Matched pair survey of 69 CIOs and TMT members	CIOs with technical background could influence top management in contrast to socialization theory propositions
ENNS, H, HUFF, S, & HIGGINS, C 2003, CIO lateral influence behaviors: Gaining peer's commitment to strategic information systems, *MIS Quarterly*, 27, 1, pp. 155-176	Matched pair survey of 69 CIOs and TMT members	Rational persuasion and personal appeal influenced peer commitment whereas exchange and pressure did not.
ENNS, H. G., HUFF, S. L. & GOLDEN, B. R. 2001. How CIOs obtain peer commitment to strategic is proposals: Barriers and facilitators. Journal of Strategic Information Systems, 10, 3-14.	Matched pair survey of 14 CIOs and TMT members	High information intensity industries are more open to strategic IT planning. Successful CIOs bring initiatives forward linked to business strategy and can execute successfully.
FEENY, D, EDWARDS, B, & SIMPSON, K 1992, 'Understanding the CEO/CIO Relationship', *MIS Quarterly*, 16, 4, pp. 435-448	Matched pair interviews of 14 CEOs and CIOs	A shared vision is critical to transformation. CIO is accepted as member of TMT

Appendix I CIO Leadership Literature Descriptive Summary continued

Reference	Type of Study	Key Findings
JOHNSON, A, & LEDERER, A 2005, The Effect of Communication Frequency and Channel Richness on the Convergence Between Chief Executive and Chief Information Officers, *Journal of Management Information Systems*, 22, 2, pp. 227-252	Matched pair surveys of 202 CEOs and CIOs	Frequent communication and increased channel richness resulted in higher convergence (shared understanding) and increased IS financial contribution
JOHNSON, A, & LEDERER, A 2010, 'CEO/CIO mutual understanding, strategic alignment, and the contribution of IS to the organization', *Information & Management*, 47, 3, pp. 138-149	Matched pair surveys of 202 CEOs and CIOs	Greater mutual understanding between CEO and CIO led to increased IT strategic alignment
LEIDNER, D. E. & MACKAY, J. M. 2007. How incoming cios transition into their new jobs. MIS Quarterly Executive, 6, 17-28.	semi structured interviews with 36 CIOs	Type of change initiated by new CIOs was a function of the type of predessor they followed
PEPPARD, J 2007, The conundrum of IT management, *European Journal of Information Systems*, 16, 4, pp. 336-345	reports from research without details on method or sample	Realizing value from IT investments requires the business involvement and CIOs play a knowledge integration leadership role
PEPPARD, J 2010, Unlocking the Performance of the Chief Information Officer (CIO), *California Management Review*, 52, 4, pp. 73-99, Business Source Premier	grounded theory based on 42 extensive interviews of CIOs, executives and recruiters	Concept of the "hero" CIO is a myth. TMT IT savvy and other organizational context variables influence CIO effectiveness
PRESTON, D, CHEN, D, & LEIDNER, D 2008, Examining the Antecedents and Consequences of CIO Strategic Decision-Making Authority: An Empirical Study, *Decision Sciences*, 39, 4, pp. 605-642	matched pair survey of 174 CIOs and TMT members	Organizational context and TMT influence CIO strategic decision making

Appendix I CIO Leadership Literature Descriptive Summary continued

Reference	Type of Study	Key Findings
PRESTON, D. S. & KARAHANNA, E. 2009. Antecedents of is strategic alignment: A nomological network. Information Systems Research, 20, 159-179.	matched pair survey of 243 CIOs and TMT members	shared domain knowledge and formal interactions increased shared understanding. Informal interactions do not.
PRESTON, D. S. & KARAHANNA, E. Mechanisms for the development of shared mental models between the CIO and the top management team. In: International Conference on Information Systems, 2004.	6 CIO interviews to develop the hypotheses, survey of 382 CIOs to test them	CIO membership in TMT and formal knowledge sharing mechanisms contribute to developing shared mental models. Social systems and proximity do not influence this development.
REICH, B. & BENBASAT, I. 2000. Factors that influence the social dimension of alignment between business and information technology objectives. MIS Quarterly, 24, 81-113.	semi structured interviews with 45 CIOs	Shared domain knowledge, IT project success, communication between IT and business and integrated planning resulted in alignment
SMALTZ, D., SAMBAMURTHY, V. & AGARWAL, R. 2006. The antecedents of CIO role effectiveness in organizations: An empirical study in the healthcare sector. IEEE Transactions on Engineering Management, 53, 207	matched pair survey of 136 CIOs and TMT members	Strategic (vs. tactical) leadership requires high CIO capability, membership in TMT and organizational support for IT
WATTS, S. & HENDERSON, J. C. 2006. Innovative it climates: CIO perspectives. Journal of Strategic Information Systems, 15, 125-151.	interviews with 36 CIOs inform grounded theory approach	Describes how CIOs create innovative organizational climates via knowledge integration and formal structures

Appendix J Quality assessment – leader socialization

Source	Papers Accepted	Papers Rejected	Acceptance rate
International Journal of Human Resource Management	1	1	0%
Journal of Management Studies	2	0	100%
Harvard University Press	1	0	100%
Totals	**4**	**1**	**100%**

Appendix K Leader socialization descriptive summary

Leader Socialization Descriptive Summary		
Reference	**Type of Study**	**Key Findings**
DENIS, J. L., LANGLEY, A. & PINEAULT, M. 2000. Becoming a leader in a complex organization. Journal of Management Studies, 37, 1063-1100.	Single case study of new CEO over a two year period	Socialization as a mutual adjustment process that results in one of four outcomes and is dynamic over time and across activity domains.
FONDAS, N. & WIERSEMA, M. 1997. Changing of the guard: The influence of CEO socialization on strategic change. Journal of Management Studies, 34, 561-584.	Theory building from literature in socialization and strategic change	Theoretical model of CEO socialization and impact on orientation to strategic change (custodial or independent)
GABARRO, John J. 1986. *The Dynamics of Taking Charge*. Harvard University Press.	4 division presidents studied over 3 years, 10 retrospective interviews	"Taking charge" occurs in 5 stages. Factors such as insider/outsider, turnaround/non-turnaround affect length of stages

Appendix L Summary of CIO leadership challenges

Challenge	Activity	References
Setting Strategic Direction	Creating IT plans	(Enns et al., 2001; Reich and Benbasat, 2000; Smaltz et al., 2006)
	Influencing business strategy	(Feeny et al., 1992; Peppard, 2007; Peppard, 2010; Preston et al., 2008a)
Building a Shared Understanding	Building CEO understanding	(Enns et al., 2001; Feeny et al., 1992; Johnson and Lederer, 2005; Peppard, 2010; Preston et al., 2008a)
	Building TMT Understanding	(Armstrong and Sambamurthy, 1999; Enns et al., 2003a; Enns et al., 2001; Leidner and Mackay, 2007; Peppard, 2010; Preston et al., 2008a; Preston and Karahanna, 2004; Reich and Benbasat, 2000; Smaltz et al., 2006; Watts and Henderson, 2006)
Gaining Commitment	Building and motivating the IT leadership team	(Leidner and Mackay, 2007; Peppard, 2007; Peppard, 2010; Watts and Henderson, 2006)
	Influencing the TMT	(Enns et al., 2003a; Enns et al., 2001; Peppard, 2007; Peppard, 2010; Preston and Karahanna, 2004; Watts and Henderson, 2006)
Integrating Knowledge	Sharing knowledge with enterprise	(Peppard, 2007; Peppard, 2010; Preston et al., 2008a; Preston and Karahanna, 2004; Smaltz et al., 2006; Watts and Henderson, 2006)

Appendix M CIO organizational context variables

Organizational context variables	References
• Structure	(Watts and Henderson, 2006)
• CIO structural power • organizational support for IT • IT vision	(Chen et al., 2010)
• Hierarchical level of CIO • Strategic orientation (firm)	(Smaltz et al., 2006)
• CIO member of TMT • Organization support for IT	(Preston et al., 2008a)
• CIO predecessor type (proxy) • Quality of IT team	(Leidner and Mackay, 2007)
• Strategy and role of IT • IT savvy of the CEO and CxOs • CEO/CIO expectations • IT operating model • IT decision-making processes • IT value realization processes • Capability of IT leadership team	(Peppard, 2010)

Appendix N CIO leadership practices

Leadership Challenge	Activity	Practice	Impact	References
Setting Strategic Direction	Creating IT plans	Focusing IT spending plans that support the business plan	IT investments on projects that enable implementing business strategies	(Enns et al., 2001; Reich and Benbasat, 2000; Smaltz et al., 2006)
	Influencing business strategy	Implementing innovative information and technology solutions to advance competitiveness	New business models and processes that provide a competitive advantage	(Feeny et al., 1992; Peppard, 2007; Peppard, 2010; Preston et al., 2008a; Watts and Henderson, 2006)
Building a Shared Understanding	Building CEO understanding	Formal, frequent and rich communications with the CEO	Mutual vision on the role of IT and its contribution to the firm's strategy	(Enns et al., 2001; Feeny et al., 1992; Johnson and Lederer, 2005; Peppard, 2010; Preston et al., 2008a)
	Building TMT Understanding	• Formal interactions with TMT to build intimate business knowledge • Formal education sessions and other interactions to inform business on IT potential	• CIO viewed as credible member of the TMT • TMT understanding of the role of IT	(Armstrong and Sambamurthy, 1999; Enns et al., 2003a; Enns et al., 2001; Leidner and Mackay, 2007; Peppard, 2010; Preston et al., 2008a; Preston and Karahanna, 2004; Reich and Benbasat, 2000; Smaltz et al., 2006; Watts and Henderson, 2006)
Gaining Commitment	Building and motivating the IT leadership team	• Develop leadership in IT function • Change people, revise roles, set expectations	High performing IT leadership team with credibility with the business to implement IT initiatives	(Leidner and Mackay, 2007; Peppard, 2007; Peppard, 2010; Watts and Henderson, 2006)
	Influencing the TMT	Using formal interactions with rational influencing techniques	• TMT commitment to the success of strategic IT initiatives • Business engagement to realize value from IT	(Enns et al., 2003a; Enns et al., 2001; Peppard, 2007; Peppard, 2010; Preston and Karahanna, 2004; Watts and Henderson, 2006)
Integrating Knowledge	Sharing knowledge with enterprise	Formal interactions to integrate knowledge across the enterprise regarding processes, technology and projects	• Increased knowledge of IT potential • Synergy across business functions	(Peppard, 2007; Peppard, 2010; Preston et al., 2008a; Preston and Karahanna, 2004; Smaltz et al., 2006; Watts and Henderson, 2006)

Appendix O Comparison of theoretical perspectives

	Theoretical Perspectives			
Characteristics	**Leader Socialization**	**Organizational Socialization**	**Managerial Learning**	**Managerial Control**
Individual influences	Yes	Somewhat	Yes	Yes
Organization influences	Yes	Yes	No	No
Mutual adjustment perspective	Yes	Somewhat	No	No
Process orientation	Yes	Yes	Yes	Somewhat
Dynamic over time	Yes	Yes	Somewhat	Somewhat
Peer-oriented and collaborative contexts	Yes	Somewhat	Yes	No
Focus on executive (versus managers or other professionals)	Yes	No	Yes	Yes, but primarily CEOs
Representative literature	(Denis et al., 2000; Fondas and Wiersema, 1997)	(Allen and Meyer, 1990; Buchanan II, 1974; Saks and Ashforth, 1997; Schein, 1971; Van Maanen and Schein, 1979)	(Argyris, 1976; Davies and Easterby-Smith, 1984; Kolb, 1973; Kolb et al., 2001)	(Gabarro, 1987; Gilmore and McCann, 1982; Greiner and Bhambri, 1989; Guest, 1962; Kelly, 1980; Simons, 1994)

Appendix P Initial CIO interview guide v2 (Pilot)

Introduction

This research project is being conducted by the Information Systems Research Centre at Cranfield School of Management as part of our on-going research into the role of the Chief Information Officer. The purpose of this project is to better understand the dynamics involved when a CIO takes on a new appointment. This might be the result of a promotion within their current organization or a transition into a new organization.

Background questions

Some background questions:

- How long have you been in your current position?
    a. To whom in the organization do you report?
- Do you have prior experience in IT? If so, how long?
- Do you have prior experience as a CIO? If so, how long?
    a. To whom did you report?
- Do you have prior experience in the industry in which they are currently working? If so, how long?
- In what other industries have you worked? How long in each?

(The purpose of these questions is to gather background data that can be used in the analysis. These are characteristics identified in the literature)

Organizational context

1. Looking back over your first several months, how would you describe the organizational situation in which you were hired? How much of an advance briefing did you receive about the context of the organization and their expectations?

(The purpose of this question is to understand the initial organizational situation, how did the CIO learn about the issues (job preview)).

2. Given all the organizations you know about, how turbulent or crises-laden would you describe the firm when you arrived? Was the situation as described to you before you took over similar to what you found yourself?

(The purpose of this question is to determine if the CIO was entering a "turnaround" situation, whether they had any sort of mandate upon starting and how accurately the situation was described to them during the interview process.)

3. What was the business climate that influenced tactical efforts that had to be undertaken? Did these efforts impact your ability to set your IT Strategy for the future?

(This question is related to Question 2. The purpose of this question is to explore context that the CIO might not view as "crisis-related", but that would influence their strategy – such as an emphasis on cost management during a recession versus more aggressive investment in growth)

4. How would you describe the top management team's (TMT) IT savvy when you arrived? What was their strategic view of IT and its contribution to the business?

(The purpose is to understand the degree to which the top management was IT savvy as well as the CIO's perspective on how the organization utilized IT (will later be mapped to the academic literature categories))

5. How would you describe the maturity of the IT governance processes when you arrived?

(The purpose is to understand starting point for IT governance and decision-rights as important organizational context.)

Taking Charge Process

6. How did you go about learning the ropes of your position?

(The purpose is to provide an open ended question meant to elicit the CIO's personal experience as they describe it.)

7. As you look back on your first three years, are there events that stand out in your mind as important milestones and/or turning points? Could you describe each one?

(The purpose of this question is focused on understanding events and timing of those events during the CIO's transition period. This might indicate stages or significant aspects of their experience of the process.)

8. Did you build one or more "trusted relationships" with current IT employees that help provide the "true picture" of the current condition within your new department and the organization's perception of IT? If so how did you go about building the trust with these employees?

(This question probes an aspect of information seeking and also relates somewhat to the quality of the IT team)

Socialization

9. What challenges did you face in adjusting to a new role / organization?
    a. How did you manage this adjustment?
    b. What type of organizational pressures did you face?

c. How did you decide what aspects of the organization to accept and which ones to attempt to change?
d. How would you describe your level of integration into the organization at the end of your first three years on the following scale:

0: you were not at all aligned with the top management team (TMT)

1: you totally accepted the TMT's expectations and views

2: you mostly accepted the TMT's expectations and views

3: you balanced accepting some of the TMT's expectations and influencing change in some of their views

4: you accepted a few of the TMT's expectations, but mostly influenced changing the TMT's views

5: you completely transformed the TMT's expectations and views of IT

(The objective of this question is to capture descriptions of the adjustment process, the main influencing factors and the CIO's reaction to those factors. Finally, eliciting a personal evaluation of their level of integration (which can be later compared to existing academic research))

General

10. Have your views of IT leadership and the CIO role have changed since you began? If so, how? If not, why not?

11. What advice would you give to new CIOs based on your experience?

12. Is there anything else that you see as important that we have not covered?

(These are general wrap-up questions to elicit final insights)

Appendix Q Example introductory solicitation email

Dear CIO <insert name>,

I would like to invite you to participate in a CIO research project. I am a Clinical Associate Professor of Information Systems with the Kelley School of Business at Indiana University – Bloomington and I am conducting research with the Information Systems Research Centre at Cranfield School of Management in the U.K. Our research is focused on understanding how newly appointed CIOs take charge in a new appointment. This project will give you a chance to have an impact on the future success of newly appointed CIOs.

The research seeks to understand the transition process as one of mutual adjustment between the organization (primarily represented by the top management team) and the newly appointed CIO. Our interest is in how the newly appointed CIO addresses the challenge of adjusting to a new role/organization and how they influence the top management team in their first three years on the job. The research report will be made available to you if you would like a copy.

Your participation would consist of an interview of approximately 60 minutes. The objective is to complete the interview by March 1, 2012. Your identity will remain confidential and no identifying information of your organization will be disclosed. I have attached an executive summary of the project for your reference.

If you are interested in participating or would just like to know more about the project, please contact me via email: tgerth@indiana.edu or call +1 812.272.3069. Thank you in advance for your contribution to this project.

Sincerely,

Tony Gerth

Appendix R Example email to contacts for nominations

Name of colleague,

I am conducting a research project as part of the Information Systems Research Centre at Cranfield School of Management in the U.K. The research is focused on understanding how newly appointed CIOs take charge in a new appointment. I am contacting you to make you aware of the project and request that you consider any of your clients or contacts as potential participants. The executive does not need to be a “new” CIO. Experienced CIOs can make an insightful contribution to the project.

The research seeks to understand the transition process as one of mutual adjustment between the organization (primarily represented by the top management team) and the newly appointed CIO. Our interest is in how the newly appointed CIO addresses the challenge of adjusting to a new role/organization and how they influence the top management team in their first three years on the job. The resulting report will be made available to all participants who request it.

In order to understand this dynamic process, I am interviewing CIOs for approximately 60 minutes. Their identity will remain confidential and no identifying information of their organization will be disclosed. I have attached an executive summary of the project.

If you have clients or contacts you think might be interested feel free to forward this email to them. If you or they have any questions, please contact me via email: tgerth@indiana.edu or call my mobile +1 812.272.3069. Thank you in advance for contributing to this project.

Sincerely,

Tony Gerth

Appendix S Executive summary of research project

Introduction

The investment in information technology (IT) has steadily increased over the past twenty years[1]. According to the annual survey by CIO Magazine[2], the IT budget averages about 6% of total revenues and 16% of respondents said it was over ten percent. This investment has resulted in enabling more efficient and effective business processes, customer experiences, lean supply chain operations and even business model innovations built upon a foundation of information technology. Emerging information technology challenges such as big data, business analytics, social media and cloud computing promise more progress in the future.

The role of the Chief Information Officer (CIO) has evolved into an executive who holds significant responsibility for leading the organization through these changes. Paradoxically, it is the non-IT executives who control the resources required to realize value from IT investments. Although the CIO's resources are limited, the burden of realizing value from IT disproportionally falls on their shoulders many times.

The first three years of an executive's tenure is a critical time when they are expected to understand the organization, diagnose and solve its most critical issues. This is a time of "taking charge"[3]. The process of taking charge in a new appointment is far from straight-forward and executives may take almost three years to fully take charge; developing mastery and influence in a new assignment[4]. This is a process that requires building trusting relationships and demonstrating the credibility to lead.

Research also shows that the CIO cannot be successful solely on their personal competencies, but that organizational contextual factors have a significant influence on their performance. Executives are typically recruited into roles based on their past accomplishments with the expectation that they will replicate that success in the new organization. The new CIO may apply practices that have been successful in the past and experience resistance or rejection in a new organizational context.

The influence of organizational context presents a challenge for any new leader. The newly appointed CIO must discern a number of factors such as the firm's business strategy and IT vision, the IT savvy of the top management team (TMT), current IT governance processes and the attitude toward IT. In addition the CIO must understand the power relationships, decision-making culture and political agendas of the TMT overall and its individual executives.

The TMT's expectations of the CIO role are also important. The role of a CIO can be highly ambiguous because of differing views among TMT members and the CIO's own understanding of the role. For example, if the TMT's view of the CIO is of a technology manager and the CIO views himself as a strategist then tension will occur. Divergence in role understanding within the TMT has been shown to increase executive turnover. Therefore it is critical for the new CIO to "fit in" in order to influence the TMT in ultimately realizing value from the investment in information technology. Meeting these leadership challenges for the CIO requires excelling at the social processes of credibility-building, trust-building, influence and knowledge sharing.

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[1] Donahoe, M., Morgan, E., Muck, K. & Stewart, R. 2010. Annual industry accounts. U.S. Bureau of Economic Analysis.
[2] CIO Magazine 2010. 2010 state of the CIO survey. *CIO Magazine.*
[3] Gabarro, J. J. 1987. *The Dynamics of Taking Charge*, Harvard Business School Press.
[4] Ibid.

A mutual adjustment process for newly appointed CIOs

The process of a CIO taking charge in a new role can be viewed as one of mutual adjustment between the executive and the organization. The newly appointed CIO must penetrate the role and organization by determining how to influence the top management team's expectations and processes. Simultaneously the organization, in the form of the top management team, is influencing the CIO through pre-existing knowledge, perspectives, biases and processes.

The dynamic process of mutual adjustment captures the characteristics of the new CIO taking charge process. The taking charge process is dynamic and develops over time. It is constructed through the actions of the CIO, the Top Management Team and other members of the organization. There is a potential tension between the CIO's actions in taking charge and the structures already in place in the organization. This mutual adjustment process results in socialization of the new CIO and is described graphically in Figure 1.

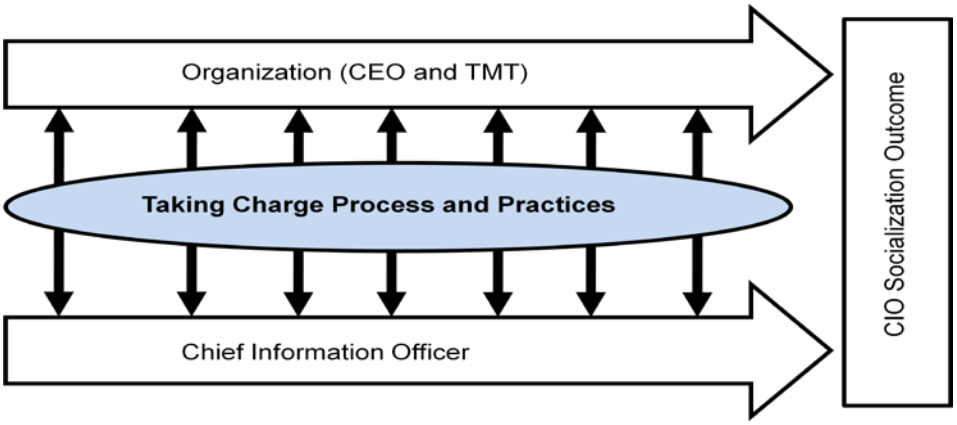

Figure 1: New CIO socialization as mutual adjustment process

The taking charge process requires that the CIO and the organization make adjustments over time as they move toward a socialization outcome for the CIO. This outcome is the degree to which the CIO's and the organization's trajectories reach some degree of convergence. Academic research on new leaders has described four different types of outcomes; 'transformation', 'assimilation', 'accommodation', and 'parallelism'[5]. 'Transformation' implies that the new leader successfully imposes their own views on the roles and activities of the organization and that its members willingly accept the new leader's perspectives. 'Assimilation' is the opposite of transformation in that the outcome implies that the new leader adopts all of the organization's expectations and beliefs. The 'accommodation' outcome describes a compromise between the new leader and the organization. Accommodation implies that the process of new leader socialization results in a degree of convergence between the trajectories of the new leader and the organization. 'Parallelism' describes the outcome that represents persistent divergence between the leader and the organization.

While all the outcomes describe a degree of convergence, only the first three (transformation, assimilation, and accommodation) could be described as successful, while the outcome of 'parallelism' would indicate failure. The notion of leadership might be most associated with the 'transformation' outcome where the new leader successfully transforms the organization into his/her image. This leadership notion is completely absent in the outcome of 'assimilation'.

[5] Denis, J. L., Langley, A. & Pineault, M. 2000. Becoming a leader in a complex organization. *Journal of Management Studies,* 37**,** 1063-1100.

The research project

The Information Systems Research Centre at Cranfield School of Management has launched a research project to increase our understanding of the dynamics of the mutual adjustment process that newly appointed CIOs experience when they take charge. Academic research has generally ignored this critical time in a newly appointed CIO's tenure.

The research will investigate and provide a deeper understanding of a number of questions regarding this process:

- How can the taking charge process be described?
- How does the CIO's background influence the taking charge process?
- How does organizational context influence the taking charge process? To what extent can/does the CIO change these factors over time through the taking charge process?
- How do CIOs experience this mutual adjustment process?

The project will consist of semi-structured interviews with CIOs and explore their experience in taking charge of a new appointment. The focus will be on the first three years of the assignment as research suggests it takes at least this long for an executive to master a role[6].

The objective of the project is to provide insights to both practitioners and academics as to how CIOs experience the process of taking charge. Academic research will benefit from the contribution to research on CIO leadership as well as how new executives in the top management team experience new leadership assignments. Practitioners will benefit from insights gained from experienced CIOs on how to effectively take charge of a new leadership role.

Researcher profile

Tony Gerth is a Clinical Associate Professor of Information Systems with the Kelley School of Business at Indiana University – Bloomington. He teaches courses in information systems, management consulting and supervises student projects for external clients. He is also associated with the Information Systems Research Centre at Cranfield School of Management in the U.K. where he conducts research on the evolving role of the CIO.

Prior to his academic career he spent over 25 years in manufacturing and consulting. His consulting experience focused on supporting clients in large transformation programs and IT strategy and effectiveness. He was a Partner with Infosys Consulting, a Vice President with EDS and a Partner with Deloitte Consulting. His global experience consists of serving clients across the U.S., Mexico, Brazil, the United Kingdom, the Netherlands, Switzerland, Germany, France and Singapore. His clients were primarily CIOs of Fortune/FTSE 1000 companies.

Tony is a graduate of the Kelley School of Business with a B.S. in Operations Management. He earned an M.B.A. in Management from Ashland University and is finishing a D.B.A. at Cranfield School of Management in the United Kingdom.

He has been a frequent speaker regarding business transformation with enterprise applications. He is a member of APICS, SIM, AIS and the Academy of Management. He is a former President of the Canton, OH APICS chapter. He serves as a Senior Editor for the Information Systems Management Journal. He has been recognized by the MSIS students at Kelley with the Outstanding Faculty Award three times and by the MBA students for a teaching excellence award.

[6] Gabarro, J. J. 1987. *The Dynamics of Taking Charge*, Harvard Business School Press.

Appendix T Response to interested participants

Great! Thanks a lot. I appreciate your support for the project. I'd like to get something on your calendar. I am scheduling interviews during the following times:

Interview Dates 2011
Wk of Oct. 31
Wk of Nov. 7
Nov. 21 or 22
Wk of Nov 28
Wk of Dec 5
Wk of Dec 12

Interview dates 2012
Jan 9 - Feb 29

Please let me know if you have a specific date/time available in this range. We should plan on a one hour time slot. After hearing back from you I will send you an Outlook meeting invitation for your calendar.

The request will include two attachments. One will be the interview questions so you know what I will be asking. The second will be a one page "informed consent" form that I'd like you to sign. This form informs you of your rights as a research participant. This allows me to comply with academic ethical and confidentiality guidelines.

Please let me know if you have a question on either document when you receive the invitation. Thank you again for volunteering to participate in this research project. Your insights will be invaluable. I look forward to speaking with you.

Appendix U Informed consent form

Research title: How Newly Appointed CIOs Take Charge
Researcher: Tony Gerth
Telephone Number: +1 812.272.3069
Information Systems Research Centre – Cranfield School of Management

Tony Gerth has requested your participation in a study entitled, *How Newly Appointed CIOs Take Charge.* You understand that this participation is entirely voluntary and that you can withdraw your consent at any time and discontinue participation. If you choose to withdraw from participation in this research, all records collected and identifiable to you will be destroyed and removed from the research database. Your notification of withdrawal will be in writing to the researcher. You may also skip any interview question at any time.

You understand that the purpose of this study is to explore how newly appointed CIOs take charge in a new organization. You appreciate that there are no costs associated with participating in the study, and there is no compensation for taking part in this study. If you do have concerns, the researcher, Tony Gerth, will attempt to address them to your satisfaction.

The interviews will be digitally recorded and then transcribed. Your name will not be revealed in the study. You will have the opportunity to receive a copy of the audio recording, and, upon request, you may obtain a copy of your transcribed interview.

You understand that the dissertation will be published along with related articles, and that it may be presented at conferences or other educational programs. Steps to assure your confidentiality include: 1) digital recordings and transcripts will be stored on the researcher's password-protected, private computer, and, 2) transcriptions will contain only coded initials for all proper names, pseudonyms will be utilized in the research report, plus, organizational data will be disguised. Although confidentiality cannot be fully guaranteed, confidentiality is a priority that will be recognized throughout the study and addressed wherever possible. You understand that at any time you may request the removal of particular data from the study, and the researcher will eliminate that material from the study files and from consideration in the study.

You understand that at any time during the course of this study, Tony Gerth will address any questions that you may have. He can be reached at +1 812.272.3069 or emailed at tgerth@indiana.edu.

Should you have questions regarding your rights as a research participant, you may contact the director of the Information Systems Research Centre at Cranfield School of Management, Dr. Joe Peppard via email joe.peppard@cranfield.ac.uk .

Your signature below acknowledges that you have read the above statements, discussed this study with Tony Gerth to your satisfaction, and that you agree to take part in this study. You understand that by signing this informed consent form, you do not give up any legal rights.

_____ _____

Participant Signature Date

Appendix V Final Interview Guide (version 3)

Introduction

This research project is being conducted by the Information Systems Research Centre at Cranfield School of Management as part of our on-going research into the role of the Chief Information Officer. The purpose of this project is to better understand the dynamics involved when a CIO takes on a new appointment. This might be the result of a promotion within their current organization or a transition into a new organization.

Background questions

Some background questions:

- How long have you been in your current position?
    a. To whom in the organization do you report?
    b. What attracted you to the role?
- Do you have prior experience in IT? If so, how long?
- Do you have prior experience as a CIO? If so, how long?
    a. To whom did you report?
- Do you have prior experience in the industry in which they are currently working? If so, how long?
- In what other industries have you worked? How long in each?

Organizational context

1. Looking back over your first several months, how would you describe the organizational situation in which you were hired?

2. How much of an advance briefing did you receive about the context of the organization and their expectations?
    a. Was the situation as described to you before you took over similar to what you found yourself?

3. How would you describe the top management team's (TMT) IT savvy when you arrived?

4. How would you describe the maturity of the IT governance processes when you arrived?

Taking Charge Process

5. How did you go about learning the ropes of your position?
    a. How long did it take?

6. As you look back on your first three years, are there events that stand out in your mind as important milestones and/or turning points? Could you describe each one?

7. Describe relationships that you found valuable during your transition, either in the business or within your IT team?

Socialization / Mutual Adjustment

8. Describe your experience of becoming integrated into the organization and the role

General

9. Have your views of IT leadership and the CIO role have changed since you began? If so, how? If not, why not?

10. What advice would you give to new CIOs based on your experience?

11. Is there anything else that you see as important that we have not covered?

Appendix W Comparison of V2 and V3 Questions

Version 2 (before Pilot Project)	Version 3 (After Pilot Project)

Background questions
 	
Some background questions:
• How long have you been in your current position?
  a. To whom in the organization do you report?
• Do you have prior experience in IT? If so, how long?
• Do you have prior experience as a CIO? If so, how long?
  a. To whom did you report?
• Do you have prior experience in the industry in which they are currently working? If so, how long?
• In what other industries have you worked? How long in each?
	Background questions
	
	Some background questions:
	• How long have you been in your current position?
	  a. To whom in the organization do you report?
	  b. What attracted you to the role?
	• Do you have prior experience in IT? If so, how long?
	• Do you have prior experience as a CIO? If so, how long?
	  a. To whom did you report?
	• Do you have prior experience in the industry in which they are currently working? If so, how long?
	• In what other industries have you worked? How long in each?

Organizational context 1. Looking back over your first several months, how would you describe the organizational situation in which you were hired? How much of an advance briefing did you receive about the context of the organization and their expectations? 2. Given all the organizations you know about, how turbulent or crises-laden would you describe the firm when you arrived? Was the situation as described to you before you took over similar to what you found yourself? 3. What was the business climate	**Organizational context** 1. Looking back over your first several months, how would you describe the organizational situation in which you were hired? 2. How much of an advance briefing did you receive about the context of the organization and their expectations? a. Was the situation as described to you before you took over similar to what you found yourself? 3. How would you describe the top management team's (TMT) IT savvy when you arrived?

that influenced tactical efforts that had to be undertaken? Did these efforts impact your ability to set your IT Strategy for the future? 4. How would you describe the top management team's (TMT) IT savvy when you arrived? What was their strategic view of IT and its contribution to the business? 5. How would you describe the maturity of the IT governance processes when you arrived?	4. How would you describe the maturity of the IT governance processes when you arrived?
Taking Charge Process 1. How did you go about learning the ropes of your position? 2. As you look back on your first three years, are there events that stand out in your mind as important milestones and/or turning points? Could you describe each one? 3. Did you build one or more "trusted relationships" with current IT employees that help provide the "true picture" of the current condition within your new department and the organization's perception of IT? If so how did you go about building the trust with these employees?	**Taking Charge Process** 1. How did you go about learning the ropes of your position? a. How long did it take? 2. As you look back on your first three years, are there events that stand out in your mind as important milestones and/or turning points? Could you describe each one? 3. Describe relationships that you found valuable during your transition, either in the business or within your IT team?
Socialization 1. What challenges did you face in adjusting to a new role / organization? a. How did you manage this adjustment? b. What type of organizational pressures did you face?	**Socialization / Mutual Adjustment** 1. Describe your experience of becoming integrated into the organization and the role

c. How did you decide what aspects of the organization to accept and which ones to attempt to change? d. How would you describe your level of integration into the organization at the end of your first three years on the following scale: 0: you were not at all aligned with the top management team (TMT) 1: you totally accepted the TMT's expectations and views 2: you mostly accepted the TMT's expectations and views 3: you balanced accepting some of the TMT's expectations and influencing change in some of their views 4: you accepted a few of the TMT's expectations, but mostly influenced changing the TMT's views 5: you completely transformed the TMT's expectations and views of IT	

General	General
1. Have your views of IT leadership and the CIO role have changed since you began? If so, how? If not, why not? 2. What advice would you give to new CIOs based on your experience? 3. Is there anything else that you see as important that we have not covered?	1. Have your views of IT leadership and the CIO role have changed since you began? If so, how? If not, why not? 2. What advice would you give to new CIOs based on your experience? 3. Is there anything else that you see as important that we have not covered?

Appendix X Coding template

Organization Context		
Tree node	**Organization situation**	
Tree node	**IT governance processes**	
Tree node	**IT savvy of TMT**	
Tree node	**IT leadership team**	
Tree node	**Individual factors**	
	Tree node	**Job preview**
	Tree node	**Reason for leaving previous post**
	Tree node	**Reason for taking current post**
Taking Charge		
Tree node	**Learning the ropes**	
	Tree node	**Milestones**
	Tree node	**Duration**
Tree node	**Relationships**	
	Tree node	**Internal**
	Tree node	**External**
Socialization		
Tree node	**Adjustment**	
Tree node	**Exercising influence**	
Tree node	**Building credibility**	
CIO leadership views		
Advice to new CIOs		
Other views		

Appendix Y Participant profiles

CIO	Years in most recent CIO position	Gender	Reports to	Insider / outsider	Transition type	Current industry	SIC Code	Ownership	Annual Revenue (Millions)	Prev CIO years	Total IT years	Total non IT years	Total Work Years	Prev exp in current industry	Other industry experience
4	1.25	M	CIO	insider	sustaining	consumer	20350000	Public	58,660	5	15	5	20	Y	various
5	6	M	CEO	outsider	realignment	electronics	50650000	Public	26,530	5	20	0	20	Y	various
6	1.1	M	CEO	outsider	turnaround	computer	57340000	Public	4,800	2	11	10	21	Y	various
7	0.75	M	CEO	outsider	realignment	semiconductor	36740000	Public	3,540	4	25	0	25	Y	no
8	2	M	CEO	outsider	turnaround	engineering CAD	73720000	Public	134	15	20	10	30	Y	various
9	1.1	M	CEO	outsider	start-up	petroleum refining	29110000	Private	211	5	29	0	29	Y	various
10	2	M	COO	outsider	sustaining	regulation	96510000	Government	475	6	28	0	28	Y	various
11	1.5	M	COO	outsider	turnaround	insurance	64110000	Private	22	0	15	0	15	Y	various
12	2.75	F	COO	outsider	realignment	air ambulance	45220000	Public	562	0	18	0	18	Y	various
13	2	M	COO	outsider	sustaining	consulting	87420000	Public	305	0	17	0	17	Y	various
14	4.5	M	CEO	insider	sustaining	university	82210000	Government	1,930	0	20	0	20	Y	no
15	2.5	M	CEO	outsider	turnaround	hotels	70110000	Private	3,650	12	20	0	20	N	various
16	3	M	CEO	outsider	turnaround	casinos	79990000	Public	829	0	16	0	16	N	various
17	7	M	CEO	insider	realignment	hand tools	35460000	Private	38	0	30	0	30	Y	various
18	1	F	CEO	outsider	realignment	beer and ale	51810000	Public	7,570	6	15	10	25	Y	various
19	10	M	COO	insider	sustaining	consulting	87420000	Public	27,350	0	24	0	24	Y	various
20	2	M	CEO	outsider	realignment	clothing	56510000	Public	14,660	4	18	0	18	Y	various
21	5	M	CFO	insider	realignment	pharmaceutical	28349909	Public	461	0	25	0	25	Y	no
22	0.75	M	CEO	outsider	turnaround	municipal govt	91210203	Government	1,500	10	25	4	29	Y	various
23	1.25	M	COO	outsider	realignment	natural gas	49240000	Public	8,450	0	18	14	32	Y	various
24	2	F	COO	insider	turnaround	petroleum refining	29110000	Public	39,900	0	2	26	28	Y	retail
AVG	**2.8**								**Averages**	**3.5**	**19.6**	**3.8**	**23.3**		

Appendix Z Industry segments represented in study

Air ambulance

Beer and ale

Casinos

Clothing

Computer

Consulting (2)

Consumer

Electronics

Engineering CAD

Hand tools

Hotels

Insurance

Municipal government

Natural gas

Petroleum refining (2)

Pharmaceutical

Regulation

Semiconductor

University

Appendix AA Frequency of IT governance maturity by transition type

IT Governance maturity	Start-Up	Turnaround	Realignment	Success sustaining
Low	1	5	2	-
Medium	-	2	4	1
High	-	-	1	4

Appendix BB Frequency of TMT IT savvy by transition type

TMT IT Savvy	Start-Up	Turnaround	Realignment	Success sustaining
Low	1	5	1	1
Medium	-	1	5	1
High	-	1	1	3

Appendix CC Initial CXO interview protocol v1 (Pilot)

Background

1. How long have you been in your current role? Previous positions, firms?

General question to warm up the participant and understand their experience

2. Tell me about your experiences with IT throughout your career?

Open ended question to elicit how they describe their experience

3. Have you ever sponsored / led an IT initiative? Can you provide a brief outline of this? What role did you play?

Objective is to determine if they have ever led or sponsored an IT initiative or have had some other role related to IT

View of Information Technology

4. How do you assess whether an IT investment has been a success? What metrics would you look at? Why?

Objective is to understand how they define "success"

5. How would you describe the IT savvy of your fellow top managers?

Want to understand their assessment of how executives understanding of how IT enables their business strategy

6. Has your view of IT changed over the years?

Open ended to understand the evolution, if any, of their thinking about IT

7. Is there anything else regarding IT in the business that you would like to share?

Open ended to capture any additional data

Role of a new CIO

Have you experienced working with a newly appointed CIO? If so…go to Q8. If not, go to Q11

8. How would you describe the situation the CIO inherited? *(Start-up, turnaround, realignment or success-sustaining)*
9. Were there specific actions the CIO took to better understand the organization's…culture, priorities, issues, decision-making process, etc.
10. How long do you feel it takes for a new CIO to make an impact? To become an integral part of the top management team?
    - Were there milestones in the CIO's transition that you can recall?

The objective of the questions above is to better understand the executive's detailed experience with the CIO to elicit data that can be compared with that gathered from the CIOs in Project 2

11. In your experience what separates successful transitions from unsuccessful ones? What separates successful CIOs from unsuccessful ones?

Gather the executive's description of factors that influence the success or failure of a transition

12. Do you have a role to play in on-boarding a new CIO? If so what is it? If not, why not?

Elicit the executive's view of his/her role in the socialization of the new CIO

13. What advice would you give a new CIO entering the organization?

Elicit the executive's advice

14. Do you think that a newly appointed CIO faces challenges unique from other executives? Why or why not?

Understand whether the executive views the role as unique. IS research makes the argument that IS leadership is unique. Do non-IT executives agree?

15. Is there anything else I haven't asked that you would like to share?

Open ended to elicit any additional data

Appendix DD Example introductory solicitation email

CxO name,

I am a Clinical Associate Professor with the Kelley School of Business at Indiana University-Bloomington. I am conducting a research project in collaboration with the Cranfield School of Management (U.K.) and would like to invite you to participate.

The objective of the research is to better understand how non-IT executives view information technology and role of the Chief Information Officer.

Participation consists of a one hour interview by phone at your convenience. I will send you a list of the questions prior to the interview for your reference. Your participation will be confidential and you will receive a report of the findings.

Your participation in the project would make a significant contribution to better understanding how information technology supports overall business operations.

If you would like to participate please respond and I will coordinate with your executive assistant to schedule a convenient date/time. Thank you in advance for your contribution.

Sincerely,

Tony Gerth

Appendix EE Example email to contacts for nominations

Name of colleague,

I am conducting a research project to better understand non-IT executive's view on information technology and the role of the CIO. If you have any contacts who might be interested in participating in a one hour phone interview please let me know. I am interested in speaking to CxO or V.P. level executives.

I will send the interview questions ahead of the meeting, their participation will be confidential and they will receive a report of the research findings.

Sincerely,

Tony Gerth

Appendix FF Final interview protocol (version 2)

Background

1. How long have you been in your current role? Previous positions, firms?
2. Tell me about your experiences with IT throughout your career?
3. Have you ever sponsored / led an IT initiative? Can you provide a brief outline of this? What role did you play?

View of Information Technology

4. How do you assess whether an IT investment has been a success? What metrics would you look at? Why?
5. How would you describe the IT savvy of your fellow top managers? *(their understanding of how IT enables their business strategy)*
6. Has your view of IT changed over the years?
7. Is there anything else regarding IT in the business that you would like to share?

Successful transitions

8. In your experience what separates successful CIOs from unsuccessful ones?
9. Do you have a role to play in on-boarding a new CIO? If so what is it? If not, why not?
10. What advice would you give a new CIO entering the organization?
11. Do you think that a newly appointed CIO faces challenges unique from other executives? Why or why not?
12. Is there anything else I haven't asked that you would like to share?

Appendix GG Code descriptions

Code	Level	Description
SAV	1	Executive's self assessment of IT savvy
SAV-H	2	assessment level as high
SAV-VG	2	assessment level as very good
SAV-AVG	2	assessment level of pretty good
SAV-L	2	assessment level of low
SAV-DAGE	2	IT savvy depends on age
SAV-DPER	2	IT savvy depends on personality
CHAL	1	Does CIO face unique challenges
CHAL-SLDR	2	Similar leadership challenges
CHAL-SBUS	2	Similar - needs to understand business
CHAL-SREL	2	Similar - needs to build relationships
CHAL-SCUL	2	Similar - needs to understand organization culture
CHAL-USTF	2	Unique - staff vs. operations role
CHAL-UAMB	2	Unique - CIO role is ambiguous vs. others
CHAL-UTECH	2	Unique - technology related challenges
TRAN	1	Transition success factors
TRAN-RES	2	Success is getting results
TRAN-CHEMCEO	2	Success is chemistry with the CEO
TRAN-CHEMTMT	2	Success is chemistry with peers
TRAN-CUL	2	Success is understanding organization culture
TRAN-CON	2	Success is being a consultant to operating management
TRAN-SERV	2	Success is being a servant to operating management
INV	1	IT investment success factors
INV-BUD	2	Success is within budget
INV-SCP	2	Success is within scope
INV-RQMT	2	Success is meeting requirements
INV-EFF	2	Realize efficiency
INV-COST	2	Realize cost reduction
INV-COSTA	2	Realize cost avoidance
INV-CUSTV	2	Increases customer value
INV-REG	2	Addresses regulatory compliance
INV-BR	2	Business is responsible for benefits realization
INV-ITR	2	IT is responsible for benefits realization
ONB	1	Executive's role in on-boarding CIO
ONB-YPR	2	Yes, the role is passive and provides requirements
ONB-YPCO	2	Yes, the role is passive and provides insights
ONB-YACO	2	Yes, the role is active and provides insights
ONB-YAR	2	Yes, the role is active and provides requirements
ONB-YWEL	2	Yes, the role is to be welcoming and collaborate

Appendix HH Pattern descriptions

Pattern		
Code	**Description**	**Type**
TYPE1	Type of CxO: Passive interaction – focus on requirements	Construct
TYPE2	Type of CxO: Active interaction – focus on requirements	Construct
TYPE3	Type of CxO: Passive interaction – provides insights	Construct
TYPE4	Type of CxO: Active interaction – provides insights	Construct
SAV-D	IT savvy depends…	Explanation
ROLE	Pattern related to role definition/ambiguity	Explanation
FUNC	Pattern related to organizational function	Explanation
PERF	Performance of the CIO in getting results	Explanation
PROJ	Investment success based on scope, budget, meeting rqmts	Explanation
BEN	Benefits realized is definition of success	Explanation
REL	Descriptions involving relationships between CIO and other exec	Relationships
SAV-H	IT savvy as high or very good	Theme
SAV-AVG	IT savvy as pretty good	Theme
SAV-L	IT savvy as low	Theme
LDR	Where the word “leadership” was mentioned	Theme
UND	Where “understanding” was mentioned	Theme

Appendix II Pattern coding

First level code	Second level code	Pattern Code	Pattern Description	Pattern Type
SAV	H	SAV-H	High	Theme
SAV	VG	SAV-H	High	Theme
SAV	AVG	SAV-AVG	Average	Theme
SAV	L	SAV-L	Low	Theme
SAV	DAGE	SAV-D	Depends	Explanation
SAV	DPER	SAV-D	Depends	Explanation
CHAL	SLDR	LDR	Leadership	Theme
CHAL	SBUS	UND	Understanding	Theme
CHAL	SREL	REL	Relationships	Relationship
CHAL	SCUL	UND	Understanding	Theme
CHAL	USTF	ROLE	Role definition	Explanation
CHAL	UAMB	ROLE	Role definition	Explanation
CHAL	UTECH	FUNC	Function	Explanation
TRAN	RES	PERF	Performance	Explanation
TRAN	CHEMCEO	REL	Relationships	Relationship
TRAN	CHEMTMT	REL	Relationships	Relationship
TRAN	CUL	UND	Understanding	Theme
TRAN	CON	ROLE	Role definition	Explanation
TRAN	SERV	ROLE	Role definition	Explanation
INV	BUD	PROJ	Project success	Explanation
INV	SCP	PROJ	Project success	Explanation
INV	RQMT	PROJ	Project success	Explanation
INV	EFF	BEN	Benefits realized	Explanation
INV	COST	BEN	Benefits realized	Explanation
INV	COSTA	BEN	Benefits realized	Explanation
INV	CUSTV	BEN	Benefits realized	Explanation
INV	REG	BEN	Benefits realized	Explanation
INV	BR	BEN	Benefits realized	Explanation
INV	ITR	BEN	Benefits realized	Explanation
ONB	YPR	TYPE1	Type of executive	Construct
ONB	YPCO	TYPE3	Type of executive	Construct
ONB	YACO	TYPE4	Type of executive	Construct
ONB	YAR	TYPE2	Type of executive	Construct
ONB	YWEL	TYPE4	Type of executive	Construct

Appendix JJ Participant profiles

Interview No.	Gender	Position	Sponsor or led IT project	Country	Public	Revenue (millions)	Industry
1	M	VP Operations	Y	US	Y	32	Wire & Cable Mfg
2	M	VP Human Resources	Y	US	Y	4500	Plastic & Rubber Prod
3	M	VP Sales	Y	US	N	999	Plastic & Rubber Prod
4	M	VP Strategy	Y	US	Y	53000	Express Delivery Service
5	M	VP Global R&D	Y	Italy	N	999	Pet food
6	M	CEO	Y	US	Y	3200	Plastic resin manufacturing
7	M	Chairman	Y	US	N	95	Insurance & brokerage
8	M	VP Procurement	Y	US	Y	3200	Plastic resin manufacturing
9	F	Dir - Global Mktg	Y	US	Y	999	Food products
10	M	VP NW Region	Y	US	Y	19000	telecommunications
11	M	EVP & CFO	Y	US	Y	8500	Natural gas distribution
12	M	Managing Director	Y	US	Y	39000	Banking and finance
13	F	President	Y	US	Y	7000	Banking and finance
14	M	VP R&D & Quality	Y	Australia	Y	3000	Food products
15	M	VP Supply Chain	Y	US	Y	3300	Heating / Air Conditioning
16	M	VP Private Brands	Y	US	Y	53000	Retail
17	M	Dir - Operations	Y	US	Y	9999	Chemical manufacturing
18	M	Managing Director	Y	US	Y	110000	Banking and finance
19	M	VP Sales	Y	US	Y	1600	Security systems
20	M	VP Supply Chain	Y	US	N	999	Logisitics services
21	M	SVP & COO	Y	US	Y	203	Professional services
22	M	VP & General Manager	Y	US	Y	484000	Petroleum

Appendix KK Industry segments represented in study

Frequency	Industry segment
1	Wire & Cable Mfg
2	Plastic & Rubber Prod
1	Express Delivery Service
1	Pet food
2	Plastic resin manufacturing
1	Insurance & brokerage
2	Food products
1	telecommunications
1	Natural gas distribution
3	Banking and finance
1	Heating / Air Conditioning
1	Retail
1	Chemical manufacturing
1	Security systems
1	Logistics services
1	Professional services
1	Petroleum
22	**17 industry segments**