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Realizing Shared Services - A Punctuated Process Analysis of a Public IT Department

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**REALIZING SHARED SERVICES –
A PUNCTUATED PROCESS ANALYSIS OF A PUBLIC IT DEPARTMENT**

BY

Timothy John Olsen

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Doctor of Philosophy

In the Robinson College of Business

Of

Georgia State University

GEORGIA STATE UNIVERSITY

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2012

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ACCEPTANCE

This dissertation was prepared under the direction of the Timothy John Olsen's Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctoral of Philosophy in Business Administration in the J. Mack Robinson College of Business of Georgia State University.

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ABSTRACT

**REALIZING SHARED SERVICES –
A PUNCTUATED PROCESS ANALYSIS OF A PUBLIC IT DEPARTMENT**

BY

Timothy John Olsen

20 August 2012

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IT services are increasingly being offered via a shared service model. This model promises the benefits of centralization and consolidation, as well as an increased customer satisfaction. Adopting shared services is not easy as it necessitates a major organizational change, with few documented exemplars to guide managers. This research explores a public IT unit's realization of shared services with the intent to improve the transparency of its value proposition to their stakeholders. An ethnographic field study enabled in-situ data collection over a 24-month period. We analyzed the resulting, rich process data using the Punctuated Socio-Technical IS Change (PSIC) model. This resulted in several contributions: an explanatory account of shared services realization, an empirically grounded punctuated process model with seventeen critical incidents, and twelve key lessons for practitioners. Several extensions to extant process research methods are developed. These contributions combine to form a detailed and nuanced understanding of the process of realizing IT shared services at a large public university over a multi-year period.

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1 RESEARCH BACKGROUND AND INTRODUCTION

The management and delivery of information technology (IT) services in organizations constitutes a core interest of research in the academic discipline of information systems (IS) (Boynton and Zmud 1987). Several operating frameworks to aid organizations in managing the delivery of IT services have arisen in the IS literature. (Bharadwaj et al. 1999; Ray et al. 2005; Sambamurthy et al. 2003). Recently, one operating model called shared services has been lauded for achieving lower costs while better aligning with business needs (Sia et al. 2010). At this moment, many corporations are adopting IT shared services (Council 2012). However, there are few case studies on IT shared services, and fewer yet that describes the process by which existing IT units can realize them. This research seeks to develop an in-depth process account detailing the realization of IT shared services. This introductory chapter introduces the research question and the approach taken after the field setting in which this research was conducted is described.

1.1 Research Context

Uni-IT provides IT services and support to a large university in the United States. In 2010, this department employed approximately 210 personnel. Uni-IT faced pressure from the many university departments and colleges to show cost accountability and provide visibility regarding how IT funds were being used. A number of IT services such as email, telephone, and network services were organizationally mandated. All other uses of Uni-IT's services were optional for each university division because each college of the university operated autonomously and could make its own IT purchasing decisions. Uni-IT knew it was losing "business" to various college and departmental units who decided to use off-campus IT service providers and/ or develop their own solutions with in-house staff and contractors.

In 2006, Uni-IT hired a new Chief Information Officer CIO who had extensive experience at another large public university. Upon his arrival, he noted that the administration would ask the already busy IT staff to take on new projects. In response, he informed the administration that new services were impossible without hiring more people, or dropping current projects. After the CIO continued to make the argument for a larger budget, the university administration demanded to know how the current budget was being used. Unfortunately, the CIO could not provide an

adequate answer to this question. So, he sought out ways to provide an answer to the question: “How are you currently spending your budget allocation?”

A few months later, at an industry conference, a member of the Uni-IT’s group of directors came in contact with an external consultant whose claimed expertise was in “running IT as a business”. The consultant was eventually contracted to help the Uni-IT’s management discover their cost of providing IT services to the university. To this end, a staff member of Uni-IT was appointed as change facilitator. His first task was to obtain a list of the services every manager provided both internal and external to the Uni-IT department.

Enumerating each internal or external service that they could provide or “sell” proved extremely difficult for managers. This constituted a radical departure from traditional thinking about what one “*did*” in a job role within Uni-IT. Once this process was complete, all services were combined into a database to produce a catalog with respective prices based on internal rates. This enabled benchmarking of prices with services available on the market.

From this exercise it was discovered that several different sub-units provided identical services at different price structures to the university. For example, six different sub-units provided server-hosting solutions, while five provided video recording and distribution services. Furthermore, due to lack of coordination, the department was maintaining 70 different video surveillance systems across the university.

After exposing widespread duplication of services and the unsustainability of current operations, it became apparent there was a need to transform the organization. This became the pivotal point in Uni-IT’s progression as they moved from simply trying to define and account for existing services as they had evolved over time, to a fresh look at their service offerings in terms of who the customer was, what was needed, and the cost of providing it.

The initial service re-definition was initiated through a series of daylong meetings in which 40 employees presented their views on the services to be offered and how best to organize them into a new Uni-IT organizational structure. Through an iterative process, these proposals were combined and eliminated until a consensus was achieved.

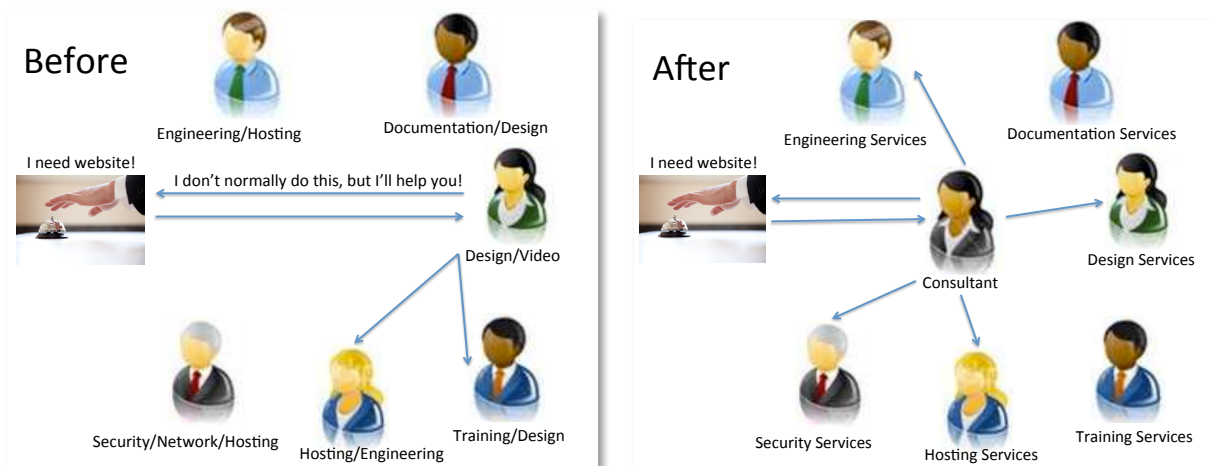
Once this structure was conceptually defined, they were fleshed out in specific detail by the creation of “Domain Statements”. A memorandum defined Domain Statements as “descriptions

that summarize the specializations and expertise of each unit and subunit in the new organization” and cited their importance for “ensuring that we will have no gaps or overlaps in functionality within the new organization.”

During this reorganization process, the reason why duplication had developed across internal functions became evident -- it resulted from not having a single point of contact for customers. As a result, individual managers would work directly with a customer, not involving other managers whose services could benefit the customer. To avoid this from happening again, a new role of customer consultant was created. These consultants were charged with meeting with the customer and understanding their needs, then sharing this opportunity with all the service delivery managers.

Figure 1.1 illustrates interaction with customers before (left side) and after (right side) the introduction of shared services. Both sides depict manager interactions after a customer requests a service, in this case website services. On the left side, a person who does not normally produce websites is asked for help, obliges and contacts a small number of friends to help. On the right side, a customer requesting the website is directed to the default point of contact – a consultant. The consultant works with the customer to understand their needs and then brings the opportunity before the team where each manager has an opportunity to propose which, if any, of their services are needed in the project.

Figure 1.1 Customer Interaction Before (Left) and After (Right) Shared Services



To gain “experience” with the proposed service-aligned organizational structure, Uni-IT practiced how it would initiate a number of hypothetical new service contracts using a technique called a walkthrough. These were described by the Uni-IT as communicating understanding of “who will be doing what for whom in [the department] related to the delivery of products and services.” A walkthrough resulted in “clear workflows, providing step-by-step documentation, as well as validation [of the divisions of the new organization].”

Practicing the performance of new business processes occurred for several months. A communication plan to announce the new organization to the university was concurrently developed. A ‘press day’ was scheduled and university administrators and every member of Uni-IT were invited. The rationale for creating shared services was announced, and the managers who had helped build it explained details of the new organization. Over the next eighteen months, Uni-IT continued its transformation towards shared services.

1.2 Motivation and Research Question

The problems faced by Uni-IT are not unique. In 2005, less than 25% of business leaders rated their organization’s IT as effective in delivering the services their business required (Council 2012). Despite IT striving to capture value, understand processes, and focus on customers, this number has not changed (Council 2012). Recent research suggests that a shared service approach to managing IT service delivery reduces costs while increasing customer responsiveness (Sia et al. 2010; Weill and Ross 2009). Indeed, more companies implemented shared services during 2009 & 2010 than in the prior fifteen years (Scully and Levin 2010). Fast adoption rates combined with scant literature on IT shared services (IT-SSs) has caused a call for more research in this area (Becker et al. 2009; Miskon et al. 2009).

IT-SSs is a management method that consolidates services into a semi-autonomous organization managed like a business unit competing in the open market to promote greater efficiency and internal customer satisfaction (Goh et al. 2007). Instituting or creating IT-SSs entails a major change to all business processes aligned with IT (Jackson 1997), just as any alteration of a business service will alter its underlying business process (Welke 2005). Thus, the success or failure of realizing IT-SSs relies on managing this change process in the organization. While definitions and descriptions of IT-SSs have been developed, they are largely normative

illustrations of industry best practices, leaving managers without clear plans of action for how they should be adapted and implemented (Addy 2007). This dissertation seeks to address this gap by exploring the process by which IT-SSs are realized. The guiding research question is therefore:

RQ: How does a functionally organized IT unit transform to a shared services delivery model?

The ‘How’ in this question is interpreted by this research to mean ‘by what sequence of events’ (Van de Ven and Poole 2005). This research utilizes process theory as it allows us to study “how” a shared service approach to IT delivery was realized by providing explanations in terms of patterns of events, activities, and choices over time (Langley 2009). This was accomplished by focusing on adaptation and implementation challenges during a field study conducted between April 2009 and April 2011. During these 24 months of field contact, real-time fine-grained data was collected. The research site was selected both opportunistically and purposefully based on high-level access to the organization and a belief that a longitudinal study of their efforts to realize IT-SSs would make a significant contribution to research in this area.

1.3 Research Approach

As previously noted, there are few case studies and little knowledge about how functionally arranged IT units transform to a shared services model. Therefore, we believe the research question (RQ) best lends itself to a process theoretic case study approach. The case in this research is Uni-IT, a unit that provides IT services to a large research university in the southeastern United States. The study is based on an ethnographic field study (Levina 2005) into the process in which the unit engaged to realize IT-SS over a 24-month period. Rich data consisting of 145 hours of meeting discussions was generated through participant observation at weekly meetings, as well as other types of data sources such as documents used and referenced.

We used the Punctuated Socio-Technical IS Change (PSIC) model to guide our analysis of the *process* of realizing IT-SSs (Lyytinen and Newman 2008). We adopted Pettigrew’s framework for studying organizational change with its emphasis on: 1) *content*, 2) *context*, and 3) *process* of service delivery in a public IT department (Pettigrew 1987, 1990). This framework is useful as it supports longitudinal investigations of how change efforts unfold in organizational settings.

Interactions among the three areas (content, context, and process) are used to gain insight and understanding and as a basis for developing lessons on managing change under similar conditions in other organizations.

Drawing on the IT management literature, the *content* is focused on the nature of IT service delivery and the steps necessary to realize it. The *context* is described by an organization-centric analysis of the management practices, organizational structures, people, and technical systems involved in the change effort.

We also used Applegate's (1994) framework to analyze the relationships between the different parts of the organizational system enacted to deliver IT services.

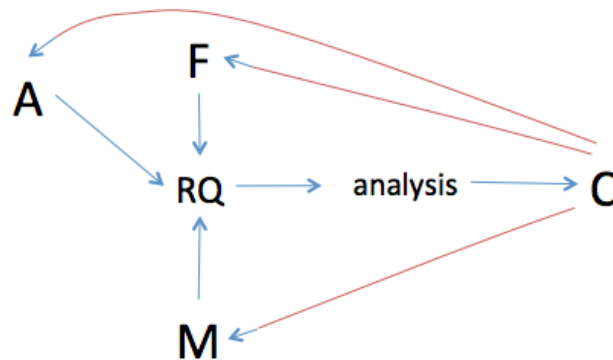
We can summarize the resulting research approach using the compositional elements of qualitative research as outlined by Mathiassen et al. (2009) (see Figure 1.2): area-of-concern under investigation (A), conceptual framing of the investigation (F), method of investigation (M), research question (RQ) and contributions to practice and theory (C). They are presented here to give the reader a concise framing of the research.

Figure 1.2 Compositional Elements of Academic Research (Mathiassen et al. 2009)

A	area of concern
F	framing or theory lens
M	method
C	contributions
RQ	research question

The area of concern (A), framing (F), and method (M) of choice are considered when forming the research question (RQ). The framing or theory used to guide the study can be related to the area of concern, or independent of it. The research question (RQ) then drives the research analysis process that ultimately may contribute knowledge to the A, F, or M. Figure 1.3 summarizes the relationship between these elements.

**Figure 1.3 Relationships Between Compositional Elements of Academic Research
(Mathiassen et al. 2009)**



In summary, based on a qualitative case study we used the PSIC model to investigate how a functionally organized IT unit engaged to realize IT-SSs. The resulting contributions consist of a narrative account of the process of realizing IT-SSs, a normative process model grounded in empirical data, and lessons for practitioners. Also, contributions are made to process theory methodology. Table 1.1 describes in detail the compositional elements of the study including its contributions.

Table 1.1 Compositional Elements of This Research

Compositional Element	Description
Area of Concern (A):	Service delivery from IT departments in large professional organizations (Mintzberg 1983)
Framing of A (FA):	Existing literature on shared services and IT service delivery theories
Framing independent of A (FI):	PSIC model (Lyytinen and Newman 2008; Newman and Zhao 2008) that includes Pettigrew’s contextual approach (1987), and Applegate’s Socio-technical model (1994)
Research Method (M):	Qualitative, single case study, with retrospective and real-time longitudinal analysis (Leonard-Barton 1990), using ethnographic field study (Levina 2005), and rooted in critical realism (Bhaskar 1997; Dobson 2001; Mingers 2004)
Research Question (RQ):	How does a functionally organized IT unit transform to a shared services delivery model?
Contribution to A (C):	An explanatory, descriptive account of the process undertaken by Uni-IT to transform from a traditional functional model to shared services
Contribution to FI (CFI):	Normative process model grounded in the case as well as literature about service delivery
Contribution to FA (CFA):	Develop understanding of key practitioner issues in realizing shared services
Contribution to M (CFM):	Explication of process theorizing method through the use of abstraction and ethnographic data

1.4 Structure of the Dissertation

This dissertation has the following structure. First, the theoretical foundations of this research (Chapters 2, 3) are introduced. Next, the details of the empirical investigation (Chapter 4) are given. Finally, we articulate and contextualize the research contributions (Chapters 5, 6, and 7). In more detail, Chapter 2 provides an overview of the literature informing the work that was conducted noting specifically the literature on services and IT service management. Chapter 3 motivates process theory as a fruitful lens that can be used to investigate the research question. It consists of a review of process theory, its advantages, and the details of the Punctuated Socio-Technical IS Change (PSIC) model. Chapter 4 presents the research design and its philosophical underpinnings, the qualitative case study as the chosen method, the data collection, and the data analysis process. Chapter 5 presents the analysis of the empirical material. In Chapter 6, key takeaways for practitioners of shared services are presented. Chapter 7 describes the conclusions and contributions of this research.

2 SERVICE ORIENTATION AND IT DELIVERY

In this chapter, we review the service literature on IT Shared Services (IT-SSs). First, we provide a brief review of recent developments in the service literature, noting its implications for changes in management practices. Then we review literature on shared services in general, and IT shared services specifically. This section also highlights how we seek to contribute to the literature.

2.1 Service Literature

In the past several decades, services have become a major component of the economy of the United States. Services produced by private industry accounted for 67.8% of US gross domestic product (GDP) in 2006 and 80% of private sector employment (Karmakar 2005). As the importance of services has risen in the economy, so it has in the academic literature. The marketing and operations disciplines have a sizable body of literature on services. Much of the research has come from the service marketing field that evolved between 1970 and 1990, spurred by rapid growth in the service sector (Maglio and Spohrer 2008). Ideas developed in the marketing and operations literature have emerged in other business disciplines as well as computer science, engineering, and economics, and have even given rise to a cross disciplinary sub-field of “Service sciences” (Maglio et al. 2006).

Many goods-based firms have started to offer services and solutions through their products (Almeida et al. 2008; Vandermerwe and Rada 1988). In this process, known as servitization, product identity evolves from a solely material content to one where material content is inseparable from services (Morelli 2003). This practice has the benefit of product differentiation based on accompanying services, prolonged relationship with customers, and opportunities for growth in higher margin market segments (Brax 2005).

Vargo and Lusch (2004) suggest marketing thought has passed a “tipping point” from a goods-centered to a service-centered logic. This tipping point has been enabled by IT, which allows for real-time coordination of dispersed organizational activities and synchronized customer contact (Day et al. 2004). This service perspective is viewed as being superior to a good-centered perspective because it emphasizes solutions and “points to opportunities for expanding the market by assisting the consumer in the process of specialization and value creation” (Vargo and Lusch 2004). One of the central tenants of service-dominant market logic is the role of the

customer as a co-producer. In co-production the service is adapted and modified by the customer for their unique need or usage situation. However, not all services require consumer co-production.

The increasing demand for customized solutions, combined with dynamic markets, new regulations and emerging technologies, has led to an increased need for research on services (Christensen and Raynor 2003; Vargo and Lusch 2004). Although the benefits of the adoption of such practices are numerous, the service concept has been and still is difficult for established managers to grasp (Magnusson and Stratton 2000). Table 2.1 provides some implications for how a service-dominant logic changes traditional business practices.

Table 2.1 Implications of Service-Dominant Logic (Demirkan et al. 2008)

From	To
Focus on goods	Focus on services
Cost reduction through manufacturing efficiency	Revenue expansion through services
Standardization	Customization
Mass marketing	One-on-one marketing
Transactions	Relationships
Function oriented	Coordination oriented
Limited ability to store and process data	Improved ability to store and process data
Limited information sharing capabilities	Improved information sharing capabilities
Application silos	Integrated solutions
Tightly coupled applications	Loosely coupled solutions
Service as a noun	Service as a verb
Contracts	Service-level agreements

Nuanced definitions of “services” arise from various academic disciplines (notably Economics, Marketing, Operations, and IT). However, the definition put forth by Vargo and Lusch (2004) is adopted in this study: “Services are outcomes, capabilities or competencies that one person, organization, enterprise, or system provides for another.” This definition has been used by others in the IS literature (Bardhan et al. 2010; Rai and Sambamurthy 2006). It emphasizes the near simultaneous exchange of consumption and production, the value produced in customer-provider engagement, and the intangibility of services that is applicable to IT services (Peppard 2003).

2.2 IT Service Literature

The increasing use of concepts from the services marketing (and operations management) literature, and economic growth of service provision present exciting opportunities for IS scholars (Rai and Sambamurthy 2006). Services marketing concepts have been applied to many areas of the IS literature including value co-creation (Grace et al. 2008), service systems (Spohrer et al. 2008), curriculum (Galup et al. 2007), and IT management (Bardhan et al. 2010). IT can be viewed *as a service* (Klosterboer 2007; Niessink and Van Vliet 1998), or *as an enabler of services* (Mathiassen and Sørensen 2008). While most of the literature on services describes IT as an enabler of services, this study adopts the perspective of IT as a service.

In one of the first papers using service concepts applied to IT management, Galloway and White (1989) argued that while design, programming, and test are often managed as back office activities, they should be considered as front office. The idea that managing IT may be similar to managing services is not new. Rockart (1982) found “service and the perception of that service” to be a critical success factor for IT managers. This broad view of services contrasts with the narrower perspective held by IT managers. The concept of IT service management in the literature has come to mean services that are necessary to keep systems running (Peppard 2003). Although the ITIL Service Management framework has become a standard for designing IT services in many organizations (Chen 2008), it does not provide much guidance on the creation of service-level agreements, or the development and use of a service catalog (Niessink and Van Vliet 1998). Nor does it provide much information on the best way to implement service processes that have been characterized as: “jigsaw puzzle pieces, some of which have a precise fit, and some of which overlap or do not fit together accurately” (Office of Government Commerce 2001).

Managing IT as a portfolio of services is a significant departure from traditional IT management. First, IT can become a key enabler of critical business processes rather than being just a cost center and provider of business support (Zhao et al. 2007). Second, choreography of business-to-consumer and business-to-business services can enable government of service delivery systems across organizational boundaries (Papazoglou & van den Heuvel 2007; Kephart & Chess 2003). Third, traditional management of the “plan-build-run” paradigm is replaced by a service-oriented model of managing a company within a company (Feridun and Rodosek 2003) where IT

becomes a service provider, “emancipated” from the organization (Grover and Segars 2005). Fourth, inter-organizational processes for procurement, cost allocation and relationship maintenance become much more important because of increased interdependencies (Goul et al. 2005).

2.3 Structuring Service-Oriented Management

2.3.1 Shared Services

In the late 1980s, large decentralized organizations found it uneconomical to maintain duplicate business units across organizational divisions. As they were combined into a single unit, the idea of a shared services unit was born (Ulrich 1996). A stand-alone unit could focus exclusively on delivering business services at the lowest possible costs and highest quality. Whirlpool opened a shared service unit in Dublin in 1995 that consolidated finance work from more than fourteen different operations in Europe achieving considerable costs savings. Pacific Bell reported a 54% reduction in cost and increased customer satisfaction after consolidating seven separate internal support services into a single shared service unit (Forst 2001). Shared service units focus on supporting “business partners” who are either internal business units or external clients (Schulman 1999). This external customer focus entails the definition of service level agreements, as well as an avenue for feedback, resulting in superior quality and service delivery when compared to typical in-house services (Bergeron 2003).

In the last decade, the promise of cost savings through shared services has been very well received by government administrations in the USA, UK, and Australia. In 2004, an independent efficiency review of the UK public sector suggested sharing services between units of government (Gershon 2004). Australia’s government has been a heavy adopter of the shared services since 2002 (Walsh et al. 2008). In the USA, New Jersey and New York have seen many government led shared service initiatives (Nayer 2009).

Shared services are often confused with centralization. For decades organizations have struggled with the “centralization-decentralization” issue of where to place the locus of IT decision-making power. While decentralization maintains customer-focused support services tailored to individual business units, it is prone to higher costs, duplicate efforts, and variable standards. Centralization is often seen as remote and unresponsive to customer needs, yet lower cost, and more

standardized (Yee 2009). The flexible nature of decentralization may lead to variable technology standards that may result ultimately in lower flexibility. Likewise, the specialized nature of centralization incurs the risks of bounded rationality and information overload (Simon 1991). The federal IT model combines the benefits of both and allows for centralized IT infrastructure decisions and decentralized IT application decisions (Rockart et al. 1996; Sambamurthy and Zmud 1999). While shared services are similar to a “federal” IT structure -- both maintain the benefits of centralization and decentralization -- it is distinctly different (Handy 1990). Table 2.2 offers an overview of how shared services are distinct from federated, centralized, and decentralized models of IT organizational structures by comparing positive drivers for instituting each model.

Table 2.2 Positive Drivers for Instituting IT Governance Structures (Adapted from Peterson 2004)

Desirable Outcomes	Alternative IT organization models			
	Centralized	Decentralized	Federated	Shared Services
<i>Process Integration</i>	+	-	+	+
<i>Standardization</i>	+	-	+	+
<i>Specialization</i>	+	-	+	+
<i>Customer responsiveness</i>	-	+	+	+
<i>Business ownership</i>	-	+	+	+
<i>Flexibility</i>	-	+	+	+
<i>Operated like a 3rd-party vendor</i>	-	-	-	+
<i>Transparent costs</i>	-	-	-	+
<i>Competitively priced services</i>	-	-	-	+
<i>Service Level Agreements</i>	-	-	-	+

(+) Contributes to outcome/ (-) Does not contribute to outcome

Shared services can be confused with outsourcing relationships. The principle difference is that the outsourcing organization is a separate legal entity whereas the shared service organization belongs to its parent organization (Ulbrich 2006). Table 2.3 presents a summary of general differences between outsourcing and shared services. As shared services units are owned by a parent organization they have high startup costs yet yield lower long-term costs. In addition, the autonomous yet strong cultural relationship between the shared service unit and the business

units it supports enables cost effective yet customized IT service delivery. These cost and customer foci are the main motivations for realizing shared services, whereas gaining access to external competencies is often the motivation for outsourcing. As a result of not outsourcing, knowledge and competencies are developed within the organization over time through the use of shared services.

Table 2.3 Differences Between Shared Services and Outsourcing (Yee 2009)

Factor	Shared Services	Outsourcing
Motivation	Reduce cost while improving service delivery (David 2005; Forst 2001)	Gain access to external competencies, cost of internal transaction exceeds that of external (Belcourt 2006; Martinsons 1993; Yang and Huang 2000)
Ownership	Owned by organization but has high degree of autonomy (Bergeron 2003; Forst 2001)	Owned by legally independent third-party
Orientation	Process and internal customer oriented (Bergeron 2003; Schulman 1999)	Goal oriented, often “one off” jobs
Cost Savings	Yields cost savings through continued improvement throughout lifespan (Quinn et al. 2000)	Short term contracts yield higher cost savings (Lacity and Willcocks 1998)
Client Relations	Strong relations with parent company and deep knowledge of its culture	Often only a contractual relationship
Security Risks	Minimal or no threat to security (information is kept internal)	Possible threat to security and confidentiality (Hoecht and Trott 2006; Martinsons 1993)
Knowledge Management	Knowledge is kept and developed within the organization	Knowledge is developed and withheld outside the organization

In summary, the principles that shared services are based have similarities to many other forms of service delivery including outsourcing and federation. It is the combination of these forms combined with a cost and service focus that yields the unique approach of shared services. Shared service use in the public sector enables the efficient use of public funds while providing superior service (M. Janssen and Joha 2006a).

2.3.2 IT Shared Services

Major areas that the IS literature has observed IT-SSs include public administrations (M. Janssen and Joha 2006a, 2006b; Janssen and Wagenaar 2004), finance (Lacity and Fox 2008),

government agencies (Ulbrich 2006, 2009; Ulbrich et al. 2010), and differences from outsourcing (Sako 2010; Yee 2009). Literature that discusses IT-SSs includes a case study of the IT unit of a manufacturing firm (Goh et al. 2007), an explication of Proctor & Gamble’s IT-shared service unit (Sia et al. 2010), and a review paper that seeks to establish a coherent definition (Schulz et al. 2009). As IT is an important enabler of communication necessary to sustain any type of private or public shared service unit, much IS literature has focused on IT’s role in *supporting* shared services (e.g. Accounting, Finance, HR). In contrast, this research seeks to study how a (public) IT department can *itself* realize IT-shared service delivery.

The literature on IT shared services has focused mainly on three broad themes: defining IT-SSs, conceptualizing issues with adopting IT-SSs and uncovering important lessons for managers who may seek to implement IT-SSs. We arrange the review of the literature in these areas accordingly.

Definitions

Frequently referenced definitions from the IS literature that define generic shared services and IT shared services are provided in Table 2.4. These definitions exemplify how shared services address the problems of traditional modes of IT service delivery by breaking down the existing service provision functional silos (Ulbrich et al. 2010).

Table 2.4 Definitions of IT Shared Services

Source	Definition
(Schulz et al. 2009)	“IT-shared services is an organizational concept—or management idea—that consolidates IT services within a large organization in order to reduce redundancies, delivers support services as its core competency, is usually a separate organizational unit within the organization, is aligned with external competitors, has cost cutting as a major driver for adoption, has a clear focus on internal business units, and is operated like a business.” (Schulz et al. 2009)
(Sia et al. 2010)	“IT shared services are structural units that consolidate common IT functions (for example, helpdesk, operations, development) to achieve scale by providing standardized services.” (Ulbrich et al. 2010)

This study adopts the definition presented by Schultz et al. (2009) from Table 2.4 above. Specific characteristics of an IT-shared service unit are highlighted by this definition. First, IT-shared

service units compare their service delivery costs to third-party vendors, and develop pricing benchmarks (Sako 2010). Second, although not a separate legal-entity, IT-shared service units operate as “partly autonomous” entities signifying they are managed like an independent business but remain dependent on the parent company for operating capital (Bergeron 2003). Third, it is a main goal for implementing shared services to cut the cost of service delivery while increasing service quality levels (Forst 2001; Ulbrich 2006). Fourth, because it is operated like a third-party vendor, IT-services are delivered to customers with the functionality that they are willing to pay for. Fifth, a service-oriented focus aims at optimizing the customer (internal client) experience by defining an agreeable service level (Colleen 2005). This runs counter to traditional IT departments that are often more focused on improving technologies and less on customer service (Schulz et al. 2009). Figure 2.1 presents a tri-partite definition of shared services as defined by Schulz et al. (2009).

Figure 2.1 Definition of IT Shared Services (Schultz 2009)

<p>Shared Services Definition: The consolidation of services into a semi-autonomous organization that is:</p> <ul style="list-style-type: none">• Managed like a business unit (business within a business)• Competes with the open market <p>To promote:</p> <ul style="list-style-type: none">• Customer focus (internal customer satisfaction)• Greater efficiency <p>Resulting in:</p> <ul style="list-style-type: none">• Services delivered for agreeable fees• Cost transparency• Benchmarking against external providers

Concepts

Realizing shared services requires much more than a change in organizational structure. Siloed businesses processes must be broken into modular independent services that can be used in loosely coupled dynamic business services (Demirkan and Goul 2008). Staff must be taught how to involve customers in service design and delivery. Likewise, organizational incentive mechanisms need to be changed to encourage this collaboration (Keel et al. 2007). Organizational metrics should reflect the success of the organization in supplying services to

customers. All of these differences entail a major culture change that require strong top-down and bottom-up organizational support, and time to implement (Demirkan et al. 2008).

Many of these managerial, political, and culture changes necessary to implement shared services have been discovered in the literature. Uruthirapathy (2011) examined how work practices changed with the introduction of shared services in a large public organization and found an increase of task-independence in IT-SSs. Fonstad et al. (2009) pointed to the need to train and motivate employees. From a study of eleven shared service centers in Australia, Borman (2009) concluded that establishing accountability for work required, and managing cultural change contributed to successful implementations of shared services. After studying a failed implementation of IT-SSs, Huang (2007) concluded that, in the absence of a strong organizing vision, IT-SSs will be shaped by the vested interests of several parties. Dollery and Grant (2010) conclude that technical and task related change progress faster than people and process changes, thus concluding the importance of managing people and their culture adoption.

Managerial Challenges

As adopting shared services requires major cultural and structural change, understanding key lessons for managers has been a common theme in IT-SSs research. Based on a case study of three shared service entities of the Dutch government, Knol and Sol (2011) found ten managerial challenges based on technological, managerial, and organizational change. Through conducting a focus group with CIOs in Canada, McKeen and Smith (2011) concluded the importance of redrafting the relationship between IT and the business, and managing communication difficulties. From a retrospective analysis of seven case studies, Ulbrich et al. (2010) found seven managerial lessons that were common across each case.

In summary, considerable research has been performed recently to understand IT-SSs. This research has developed and defined the concept of IT shared services, and illuminated relevant concepts that help explain the means by which shared services are realized. From these studies lessons have been drawn for managers who seek to adopt shared services.

Therefore prior research is considerable and rich in insight, however, no research chronicles the process (sequence of events) by which shared services are realized, but instead discusses aspects of a shared service unit that has existed for some time. While this is helpful for understanding the

nature and definition of IT-SSs, it does not contribute to knowledge of how IT-SSs are developed over time. This research seeks to understand how a functional IT department can transform to a shared services model.

3 A PROCESS ANALYSIS APPROACH

This chapter describes the process analysis approach utilized in this research. First, we present a description of process research and motivate its use in this study. Next, we offer a description of the Punctuated Socio-Technical IS Change (PSIC) model with detailed descriptions of its constructs and the concrete steps of how it can be used to arrive at a process theory.

3.1 Process Models

Studies in social sciences have concentrated on two different types of research questions: 1) *What* are the antecedents or consequences of the issue and 2) *How* does the issue emerge, develop, grow and terminate over time (Van de Ven and Huber 1990).

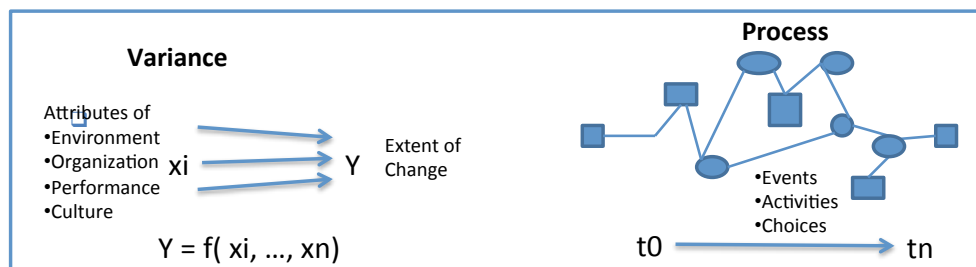
These ‘what’ and ‘how’ research questions require different methodologies that are based on different assumptions and epistemologies. ‘What’ questions entail a variance model (Mohr 1982) wherein predictor (independent) variables are used to explain variance in levels of outcome (dependent) variables (Van de Ven 2007). Variance models “snapshot” reality, and assume “if all other things are equal, variance in any one of the independent variables is necessary and sufficient to cause variance in the dependent variables” (Seddon 1997). ‘How’ questions necessitate a process model or ‘event-driven’ explanation of the temporal order and sequence in which events occur based on a story or narrative (Bruner 1991). Indeed, the general term “process” is defined as “a narrative describing how things develop and change” (Van de Ven and Poole 2005). To attempt to uncover causality, ‘what’ questions require evidence of co-variation, temporal precedence, and correlation between independent and dependent variables (Blalock 1972). ‘How’ questions use narratives that explain a sequence of events in terms of a presumed, underlying generative mechanism that have the power to cause events in the particular circumstances that occur when these mechanisms operate (Tsoukas 1989; Van de Ven 2007).

The majority of IS research to date has focused on ‘what’ questions (Orlikowski and Baroudi 1991). However, there has been a growing interest in studying ‘how’ questions (Langley 2009). Process studies are fundamental for developing and testing theories of ‘how’ social entities adapt, change, and evolve over time. Indeed, “since time is an inescapable reality, process conceptualizations that take time into account offer an essential contribution to our

understanding of the world that is unavailable from the variance-based generalizations” (Langley 2009).

Different epistemologies underlie the approaches necessary to investigate research questions dealing with the ‘what’ and the ‘how’. Aldrich (2001) separates ‘what’ and ‘how’ questions in terms of outcome-and event-driven explanations. “Outcome-driven explanations are built backward, from an awareness of observed outcomes to a prior causally significant event. Event-driven explanations are built forward, from observed or recorded events to outcomes” (Aldrich 2001). Process models seek to form event-driven explanations by adopting a temporal and longitudinal view of reality, and demonstrating how combinations of events and their particular sequence lead to certain outcomes. Each event is viewed as potentially necessary, but not sufficient, to cause the outcome (Seddon 1997). Where a theorist with a variance approach might posit that an increase in system quality of an IS (a property) would increase the use of an IS (another property), a process theorist would posit that after the system is created (an event), the system will be used (a second event) (Delone and McLean 2003). Figure 3.1 depicts these differences between process and variance models.

Figure 3.1 Variance and Process Models (Van de Ven 2007)



Aldrich (2001) asserts that researchers often fail to make explicit distinctions between event-driven and outcome-driven explanations. This problem may be exacerbated by two different definitions of ‘process’ used in the literature: 1) a category of concepts or variables that pertain to actions and activities; and 2) a narrative describing how things develop and change (Van de Ven 1992). When the first definition is used, the research typically corresponds to a variance model. The second definition is typically associated with process studies of the temporal sequence of events (Pentland 1999; Poole et al. 2000). This approach to process theory is different than developing an a priori phase model wherein different stages are delineated, such as

Nolan's IS growth model (Nolan 1979). These phase models are limiting because they portray only one possible sequence of events that the organization is expected to follow (Boudreau and Robey 1999; Poole and Roth 2006). This research is not guided by a phase model, and thus is not constrained by any a priori definition of stages of change. In this sense, its approach is closer to Grounded Theory where higher-level concepts and "stages" are derived directly from field observation rather than being imposed by a priori stages models derived from, say, learning curves.

As stated previously, the research question for this study is: How does a public IT department engage to realize shared services? A keyword in this question is 'how'. This word suggests a process research approach, using the process definition as a narrative for describing how things develop and change through a sequence of events (Van de Ven 2007). Indeed, 'how' in this context is synonymous with the words 'by what sequence of events'. This illustrates the research aim of building an event-driven explanation of how shared services can be realized by (public) IT units. A process analysis enables this by allowing us to construct a story of episodes and events that explain why a certain IT service delivery outcome emerged (Abbott 1990; Kimberly and Bouchikhi 1995).

3.2 Process Model Advantages

In seeking to understand the observed outcomes of an attempt to realize an IT service delivery model, process models offer some advantages. The limitations of variance models highlight the virtue of process models as Newman and Robey (1992) point out: "factor models...do not explain how outcomes occur... they provide only partial guidance to the practitioner who must assume responsibility for attaining positive outcomes. The attainment of system success can be likened to a puzzle wherein the pieces can be identified but where the implementer is left to his or her own resources to put the puzzle together. The process approach... focuses on the dynamics of social change, explaining how and why the results...are achieved". The process approach seems to provide preferred solutions to address the nature of this dissertation's research question.

The agenda underlying an introduction of IT-SSs is to build an organization-wide system of behaviors to coordinate, manage, and sustain 'effective' delivery of IT services (Peppard 2003).

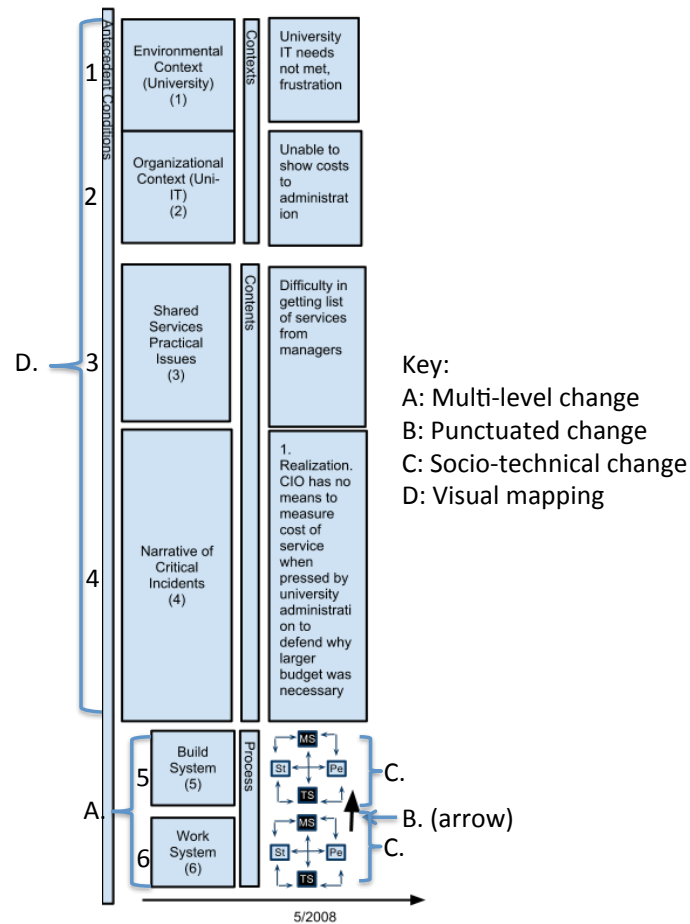
In this sense, IT-SSs can be viewed as an entrance of a new organizational form that interacts with existing organizational norms. The realization of IT-SSs then depends on whether the final organizational form can be developed through a stream of events that modify existing networks so that the intended organizational form will emerge and take hold. Therefore, the process view is used appropriately in studying the development of an IT shared service organization.

3.3 Punctuated Socio-Technical IS Change (PSIC) Model

Past process studies have arrived primarily at descriptive or prescriptive process explanations of IS change (Robey and Newman 1996). They describe and understand the complexity and uncertainty associated with IS change. However, they have limitations. First, they often tend to forego interactions with multiple systems and the organizational environment as they mostly focus on one level of change (Lyytinen and Newman 2008). Second, they tend to focus either on technical or social change, and view both changes without respect to the context in which they occur. Third, they fail to view IS change as complex, multi-level, episodic change where simultaneous processes interact creating unpredictable and dynamic outcomes (Lyytinen and Newman 2008). Citing these limitations, Lyytinen and Newman (2008) develop the Punctuated Socio-Technical Information System Change (PSIC) model.

A detailed review of the PSIC model is beyond the scope of this document. The remainder of this chapter reviews the key concepts of the PSIC model. This is done using a holistic approach, wherein concepts are presented in brief detail, then expanded more in subsequent sections. Figure 3.2 represents key elements of the model that are labeled by letters and numbers in parentheses. Using these labels, the PSIC model can be dissected into component parts. Label A represents the multi-level nature of change, 'B' represents punctuated change, 'C' represents socio-technical change, and each row number in label 'D' accounts for different aspects of the context, content and process of change. This figure forms a visual map (Langley 1999) or a timeline. The Y-axis represents time, and the X-axis represents the context and description of critical incidents. Figure 3.2 only illustrates the first critical incident. Our final rich picture depicts a total of seventeen critical incidents. Further explanation of Figure 3.2 is presented below the figure.

Figure 3.2 A Holistic View of PSIC Model Components



Each of the preceding labels (A-D) is described in greater detail in the following sub-sections. In addition to the labels A-D, six row numbers appear. These rows (1-6) are explained at the end of this section.

3.3.1 Multi-Level Change

IS change re-configures a *work system* of information-related work that is characterized by processes of low malleability, and are highly complex (Alter 2002). Because of this, a separate *building system* is created to carry out this change (Lyytinen et al. 1996). Change happens in both systems necessitating two parallel processes with hierarchical interaction (Pan et al. 2006). The building system commands resources to carry out change and address uncertainty, ambiguity and complexity by wielding power to overcome resistance and legitimize change (Markus 1983).

The building system temporally precedes the work system, although in actual analysis they need to be viewed as co-evolving (Orlikowski 1992).

Both the building and work systems are embedded within the organizational environment. Recognizing the environment brings pivotal factors that influence and direct change to the foreground. This environment can be divided into two parts: the *environmental context* (row 1 – Figure 3.2) and the *organizational context* (row 2 - Figure 3.2) (Pettigrew 1990). The organizational context is the immediate organizational environment of the building system that includes the authority, culture, and political system in which the change unfolds (Pettigrew 1990). The environmental context includes an organization’s social, economic, political, and regulatory environments that influence and are influenced by other system levels (Lyytinen and Newman 2008).

Table 3.1 Constructs Related to Multi-Level Change

Construct	Meaning
Building system	A socio-technical system separated by space and time from work system – that commands and enacts a set of resources and routines through explicit rules and regulations and tacit and embedded competencies of individuals to generate IS change.
Work system	Socio-technical system that executes, coordinates, and manages information-related work activities.
Environmental context	An environment, which covers the organization’s social, economic, political, regulatory and competitive environments and that influences and is influenced by all other systems during IS change.
Organizational context	Immediate organizational environment of the building system that cover the resource, authority, culture, political systems in which the IS change unfolds

3.3.2 Punctuated Change

Theories of change distinguish between two paradigms (Gersick 1991; Tushman and Romanelli 1985): one of continuous *incremental adaptation* where change happens slowly; and another of episodic *punctuations* where short periods of metamorphic change (revolution) are followed by periods of stability and small mutations (equilibrium). The arrow labeled ‘B’ in Figure 3.2 represents punctuation; the absence of an arrow signifies incremental adaptation. Incremental adaptation is rooted in the idea of Darwinian mutations, where change occurs through small

additive steps. In punctuated change, the change alternates episodically through rapid and abrupt periods followed by slow and incremental periods (Gersick 1991).

Table 3.2 Constructs Related to Punctuated Change

Construct	Meaning
Punctuation	Socio-technical elements and their interactions are significantly re-configured so that the system exhibits a totally new range of responses and thus exhibits new emergent properties (Gersick 1991).
Incremental adaptation	Gradual and stepwise adaptation of one or several system components (Gersick 1991).

These models have the benefit of distinguishing dramatic changes from those that are incremental (Gersick 1991; Lyytinen and Newman 2008). Using shared services as an IT service delivery model can be hypothesized to constitute a dramatic change (Goh et al. 2007). For this reason, a punctuated view of change is adopted for this research. This leads to a view in which organizational change is seen as a construction of a sequence of incremental adaptations and punctuations representing periods of equilibrium and disequilibrium within organizational and external contexts (Gersick 1991; Lyytinen and Newman 2008; Newman and Robey 1992; Pettigrew 1990).

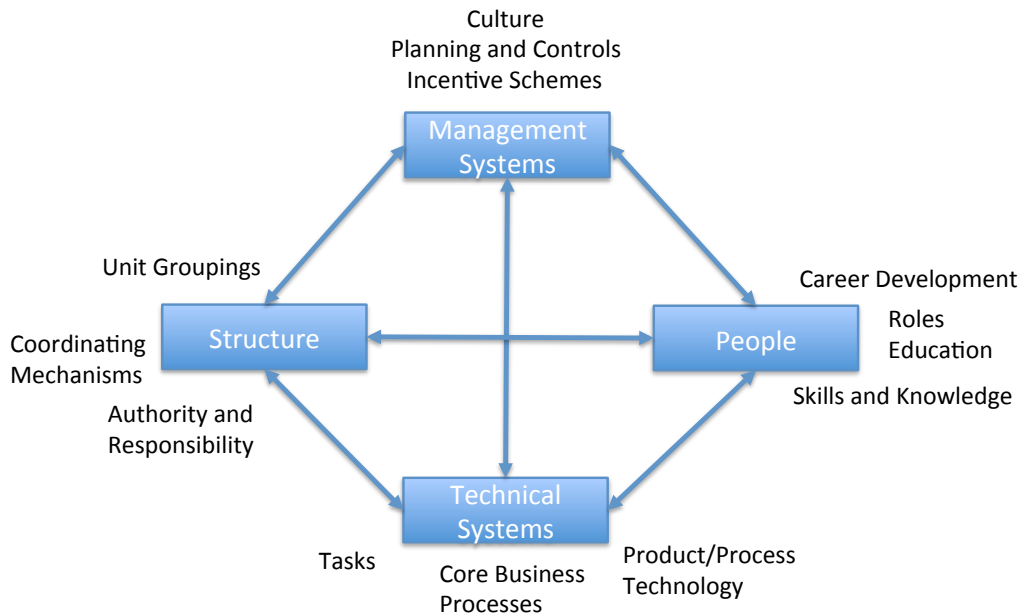
3.3.3 Socio-Technical Change

Socio-technical (S-T) theory was adopted to characterize the engine of change; that is, to describe the different types of tensions that give rise to management action. This was done for several reasons. First, it provides a simple, comprehensive, and flexible vocabulary to characterize elements and describe changes due to punctuation and incremental adaptation. Second, it offers a means to detect the origins of both incremental adaptations and punctuated responses. For these reasons, S-T dimensions and their connections can be regarded as a lexicon for describing generative mechanisms and outcomes (Lyytinen and Newman 2008).

Applegate’s S-T model (1994) (see Figure 3.3) views organizational systems as multivariate *socio-technical systems* of four interacting and aligned dimensions – *structure (ST)*, *people (PE)*, *management (MS)* and *technical systems (TS)*. This is similar to Leavitt’s (1965) socio-technical change model that has been used to explain IS change, but Applegate’s framework was extended

to deal with nuances dealing with the organizational aspects of IT. Figure 3.3 clarifies the content of these dimensions and their connections. Applegate’s model exhibits the virtues of a good classification system: it is simple, encompassing, and if needed, can be extended easily with other categories (Davis et al. 1992; Kwon and Zmud 1987). Label C in Figure 3.2 is a smaller version of the ‘diamond’ model below.

Figure 3.3 Applegate's Socio-Technical Framework

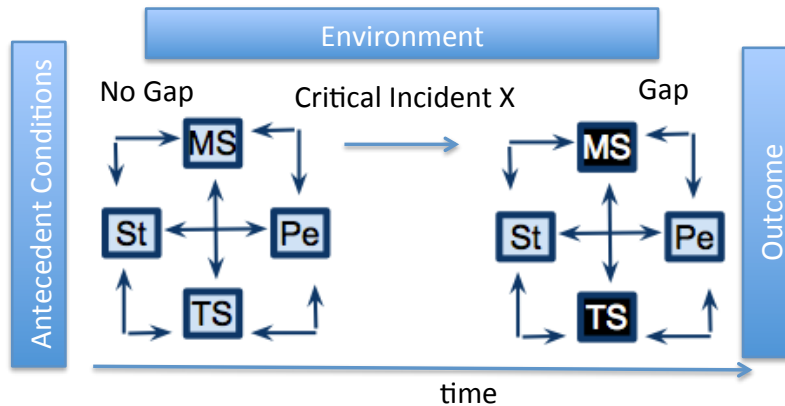


3.3.4 Punctuated Socio-Technical Change

Occasionally, incompatibility between two or more of the four structural dimensions arises due to increased variation (e.g. learning, replacement, malfunctioning) producing a structural misalignment that is labeled a *gap*. A gap is any contingency in the organizational system that if left unattended, will reduce the organization’s performance and threaten its viability (Lyytinen and Newman 2008). Events that generate a gap can be abrupt, such as a crisis or system failure, or can be gradual change wherein one component reaches a tipping point (Plowman et al. 2007). Any event that generates a gap is a *critical incident*. Accordingly, critical incidents form the necessary conditions for a system state to change. Had the critical incident not occurred, the gap would not have occurred. Critical incidents are thus seen as events that affect system states in a ways that can threaten or significantly decrease or change its performance. The concept of

critical incident is illustrated in Figure 3.4. The blackened boxes represent the gap generated by the critical incident. For example, in the figure we see the boxes labeled TS and MS blackened, signifying a gap between the technical system and the management system.

Figure 3.4 A Critical Incident

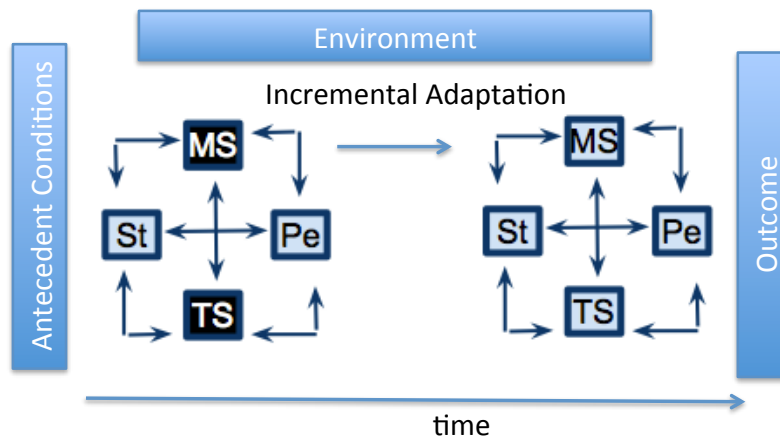


A gap can invite two types of responses from the organizational system. The first is an incremental and gradual adaptation of system components as dictated by the organizational system's deep structure. The deep structure consists of the set of fundamental 'choices' an organization system has made concerning: 1) the parts of which its units will be organized, and 2) the activity patterns and principles of interaction that will maintain its existence" (Gersick 1991). Deep structures are stable and are based on historical patterns (Garud and Karnøe 2001). The concept of an incremental adaptation is illustrated in Figure 3.5. Table 3.3 summarizes the constructs outlined in this section.

Table 3.3 Constructs Related to Punctuated Socio-Technical Change

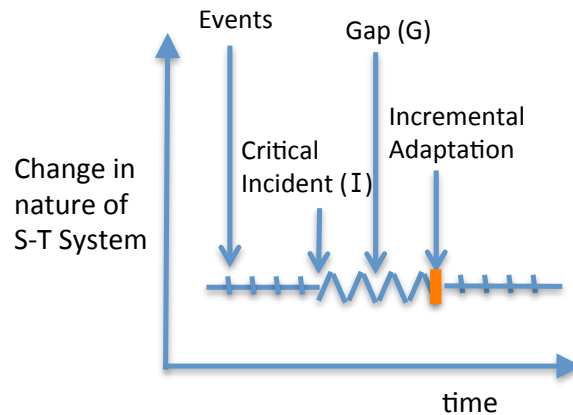
Construct	Meaning
Critical incident	An event that results in a gap.
Event	Any change in the system state that can be observed.
Gap	Any contingency in the organizational system that if left unattended, will reduce the organization's performance and threaten its viability.
Socio-technical system	Any organizational system viewed as a multivariate system consisting of four interacting and aligned dimensions – task, structure, actor, and technology
Socio-technical system state	The salient properties of socio-technical dimensions and their systemic relationships in a given socio-technical system at any point of time.
S–T System stability	A state of a socio-technical system where the four dimensions are aligned and the system is balanced where the system responses or its performance is not deteriorated.

Figure 3.5 Incremental Adaptation



Included in this example are the elements of organizational (inner) and external (outer) contexts (Pettigrew 1990) as these may affect critical incidents. In these interventions, the deep structure of the process remains intact (Gersick 1991). Figure 3.6 depicts an alternate way of representing incremental adaptation. Events are depicted by the hashmarks on the line that shows the progression of time. Critical incidents are events that immediately precede a gap. A gap is a contingency in the socio-technical state that if left unattended would reduce the organization's performance. The gap is resolved through incremental adaptation that does not fundamentally change the nature, or deep structure, of the socio-technical system.

Figure 3.6 Temporal Illustration of Incremental Adaptation



The second type of response is a *punctuation* -- where actors re-examine and change fundamental assumptions about how work is accomplished or how the organization is structured, thereby rewriting the organizational system's deep structure. During punctuation, organizational system elements are re-configured and afterwards exhibit new emergent properties. These types of changes are infrequent. The start of a transformation effort nearly always involves punctuations, first in the project system where the effort is initiated and later when it replaces the prior structure (Newman and Zhu 2009). Figure 3.7 shows a successful punctuation and a resulting change in the deep structure (Gersick 1991).

Figure 3.7 Punctuation

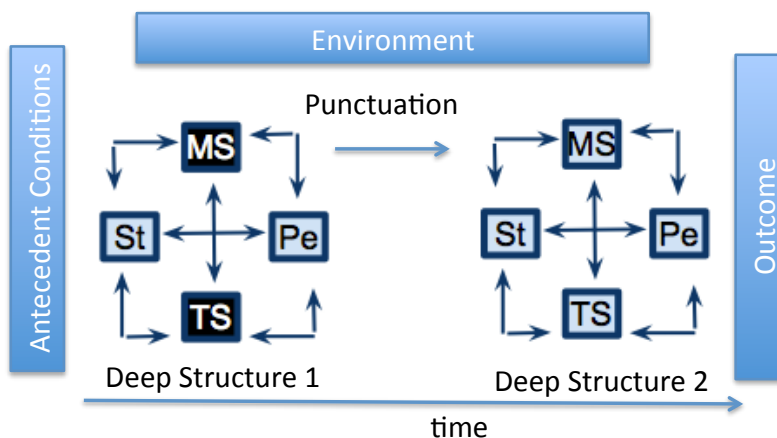
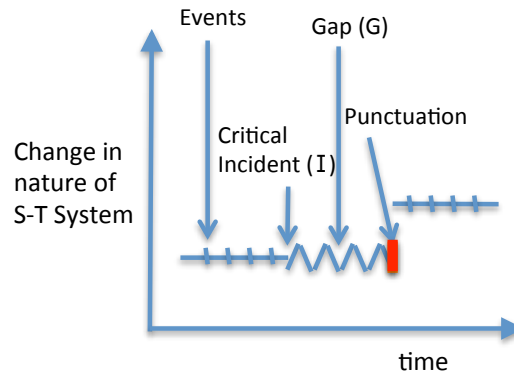


Figure 3.8 represents an alternative way of illustrating a punctuated response. Unlike an incremental adaptation, a punctuated response fundamentally alters the nature (deep structure) of the socio-technical state.

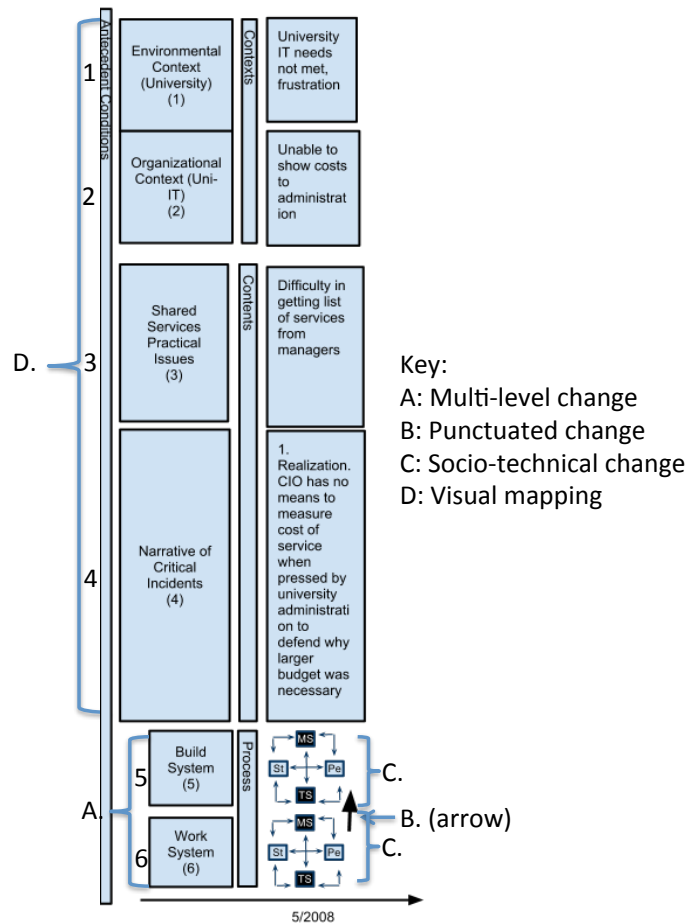
Figure 3.8 Temporal Illustration of Punctuation



3.3.5 Visual Mapping Strategy

Once data is analyzed it is arranged using a visual mapping strategy (Langley 1999), depicting dependencies between context, events and outcomes by organizing them according to sequence, gaps, system levels, punctuations, and interventions. Figure 3.2 (reproduced below as Figure 3.9) reviews the basic structure of the PSIC model when arranged using the visual mapping strategy. In this figure, row 1 describes significant elements of the *environmental context*. Row 2 illustrates the *organizational context* including the changes in resources, mandates, or prevailing concerns. Row 3 identifies in short points the practical issues experienced in the realization of shared services. Row 4 identifies in brief narrative the critical incidents that occurred. The gaps that arose from these critical incidents are depicted in Row 5 in the form of S-T diamonds. The blackened boxes represent the gaps that arose between socio-technical dimensions. The lowest row – row 6 – shows the S-T coding for critical incidents in the work system.

Figure 3.9. A Holistic View of PSIC Model Components



Organizing the events of the transformation process in this way creates a sense-making device used to understand the nature and role of different events in the context of realizing IT shared services (Lyytinen and Newman 2008; Weick 1993). The visual map shows the work system, the development system, and a description of critical incidents in the context of the organization and its environment. It is designed to build an accurate process narrative about a situated transformation effort that can later be generalized (Eisenhardt 1989). In this way, the completed visual map can become a theory-building device (Doty and Glick 1994).

3.3.6 Summary

The PSIC model can be used to analyze the overall process of realizing IT-SSs (Lyytinen and Newman 2008). This describes change in the IT organization by a period of stability that is challenged by critical events that may create disequilibrium by producing gaps, narrating how

and why the IT service delivery model emerged. A visual map depicting critical incidents with their gaps in the context of organizational and environmental issues can be utilized as a theory-building device analyzed by three analysis techniques (punctuated, horizontal, vertical). However, the basis by which incremental and critical (punctuated) transitions occur can be further understood by augmenting the basic model with the S-T model of Applegate to provide deeper characterizations and understanding of how incremental and critical events arise over the course of a transformation such as the adoption of a shared services model for IT.

4 RESEARCH METHOD

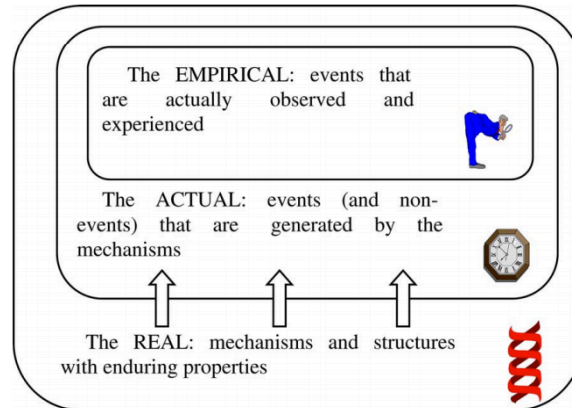
This chapter begins with an examination of the philosophical foundations of critical realism and why it is well suited for engaged scholarship and process theoretic studies. Next we describe the adopted qualitative case study approach, its strengths and fit for critical realism and process studies, and how our research data was collected. A short history of the research site, Uni-IT, is then presented including the goals that motivated their move to shared services. Finally, we provide a detailed account of the data analysis process.

4.1 Research Philosophy

An important aspect of this research was to study the way a functionally aligned IT unit can transform into an IT shared service unit. A single, critical realist, longitudinal case study (Lee 1999; Yin 2003) was undertaken. Case studies are useful for gaining detailed knowledge about phenomena to which theoretical propositions have not yet been applied (Eisenhardt 1989). They are well suited to describe IT management issues in practice, and capture organizational contexts in rich detail (Benbasat et al. 1987; Lee 1999). This is consistent with the principles of engaged scholarship (Van de Ven 2007). Advantages of case studies include rich description and an appreciation for the social context in which events occur. Limitations of case studies include lack of easy comparison, and lack of experimental controls, both of which threaten internal validity, and the strength of causal arguments that might be drawn from the data. However, employing both longitudinal real-time and retrospective data gathering methods strengthens internal validity (Leonard-Barton 1990).

Critical realism has been established recently as an alternative to positivist and interpretive IS research (Dobson 2001; Mingers 2004; Smith 2006; Volkoff et al. 2007). It assumes that reality exists independently of our knowledge of it, and it is stratified into three domains (Archer and Bhaskar 1998). The first, real domain consists of physical and social objects (the whole of reality) that have capacity for behavior caused by mechanisms that have enduring properties. These mechanisms may (or may not) generate events in the second domain of the actual. These events may (or may not) be observed or experienced in the third, empirical domain. In this way, what the researcher observes (empirical) can be seen as “emerging” from events in the domain of the actual and “generative mechanisms” in the real domain (Mingers 2004). These relationships between domains are represented in Figure 4.1 below.

Figure 4.1. The Three Domains of the Real (Mingers 2004)



Critical realism holds that there is no predefined or predetermined method to judge the veracity of our knowledge (Van de Ven 2007). This does not imply epistemic relativity, as some theories approximate reality better than others. In this way reality is seen as an external referee in editing and developing theories (Van de Ven 2007). Accordingly, scientific progress evolves using an approximation process between “blind variation and selective retention” (Campbell 1965).

Critical realism does not seek to uncover general laws, but to understand the underlying generative mechanisms through a process of *retroduction*. Retroduction, also called abduction (Locke et al. 2008), is a form of description and analysis, in which hypotheses about the mechanisms which, if they existed, would cause the emergence of the unexplained phenomenon observed (Reed 2009). This process is repeated, acknowledging that alternative explanations exist, while working towards eliminating some and supporting others (Bygstad 2008; Mingers 2004). Due to this, one can arrive at plausible explanations based on justified reasons that may nevertheless be falsifiable.

Utilizing the PSIC model is congruent with the adoption of a critical realist ontology and epistemology (Lyytinen and Newman 2008). First, socio-technical structures have enduring properties that exist in the *real domain* of mechanisms that generate events in the *empirical domain*, some of which can be recorded and interpreted by investigators in the *epistemic domain* (Lyytinen and Newman 2008). Second, using socio-technical analysis and process models to understand in hindsight why certain outcomes emerged is in line with critical realism’s idea of improving through retroduction explanations of the epistemic domain (Lyytinen et al. 2009). Third, the use of simplified models to understand in hindsight why certain outcomes emerged is

in line with critical realism’s idea of improving the explanatory power of the resulting theory. Fourth, the PSIC model honors epistemic modesty by allowing for multiple interpretations of the same data while establishing those that are plausible, and acknowledging other interpretations that may be falsifiable.

4.2 Data Collection

Our field research effort occurred over a 24-month period (2009-2011). Data was collected using an “ethnographic field study” approach (Levina 2005). Typical ethnographies are focused on understanding culture and involve data collection methods that usually consist of spending time as a member of the organization being studied (Van Maanen 1988). In contrast, ethnographic field studies use ethnographic data collection methods, but rather than focus on understanding culture they focus on understanding something (i.e. a transformation) *in situ* (Levina 2005). Table 4.1 presents an overview of data sources utilized in this study.

Table 4.1 Overview of Data Source Types

Data Sources	Description
Meetings (Observations)	Weekly meetings for leaders and managers to discuss the change effort and discuss how future work would be done in the “new organization. These meetings varied between 2 to 4 hours in duration.
Archival Email	The principal researcher received a copy of all emails sent to the leadership team.
Informal Conversations	As the researcher was able to occupy a workspace in a cubicle in the field this facilitated numerous opportunities for informal and unrecorded conversations related to the shared service effort.
Workshops	Three workshops presented by the organization for new employees were attended and audio recorded.
Meeting Minutes	Meeting facilitators produced meeting minutes, the researcher was granted access.
Documents	Documentation pertaining to the shared service initiative of Uni-IT, project plans relating milestones in the project, internal memos, business process models.
Internal Survey and Report	Data obtained from two internal surveys carried out by management teams within Uni-IT investigating customer and employee satisfaction.

The majority of the data consists of participant observation, retrospective and real-time interviewing, and the collection and analysis of archival documents, both public (organization website, press releases) and private (emails, photos, documents). These three qualitative data

sources (documents, observations, interviews) are known to have complementary strengths (Mason 2002). From a temporal point of view, documents are rooted in the past, observations are embedded in the present, and interviews are temporally versatile as respondents can draw on the experiences to link events across time. All data was collected according to the guidelines of a protocol approved by the IRB. Real names have been changed in the presentation of the data to protect the identity of personnel.

Table 4.2 displays the variety and amount of data that were collected and analyzed. With regard to content, documents are important for determining chronology, observations are useful for determining how interactions and behaviors evolve, while interviews are versatile, with the capacity to access a more candid perspective of participants (Langley 2009). A description and justification for the use of these three data sources follows.

Table 4.2 Data Sources from Uni-IT

Meeting Observations	Meeting Transcripts	Document Analysis
<ul style="list-style-type: none"> ▪ Management Workshops (9) ▪ Press Conferences (1) ▪ Weekly leadership meetings (50) ▪ Staff training (3) ▪ New hire training <p>63 total meetings 145 recorded hours</p>	<ul style="list-style-type: none"> ▪ Partial Transcripts of Full Length Meetings ▪ Segments based on events observed and recorded in notes ▪ Events confirmed by listening to audio <p>94 total transcripts 17 hours transcribed</p>	<ul style="list-style-type: none"> ▪ Internal documents ▪ Presentations (5) ▪ Meeting notes (49) ▪ Emails (1157) ▪ Internal reports and memos (4) ▪ Process models (5) ▪ Org Charts (7) ▪ Photos (11) ▪ External documents ▪ Public data (from organization website)

4.2.1 Meeting Observations

Longitudinal meeting observations were made during weekly meetings. In these meetings management teams are taught principles of shared services, discuss how to implement new service requests from customers, plan transformative actions, and discuss problems they encounter along the way.

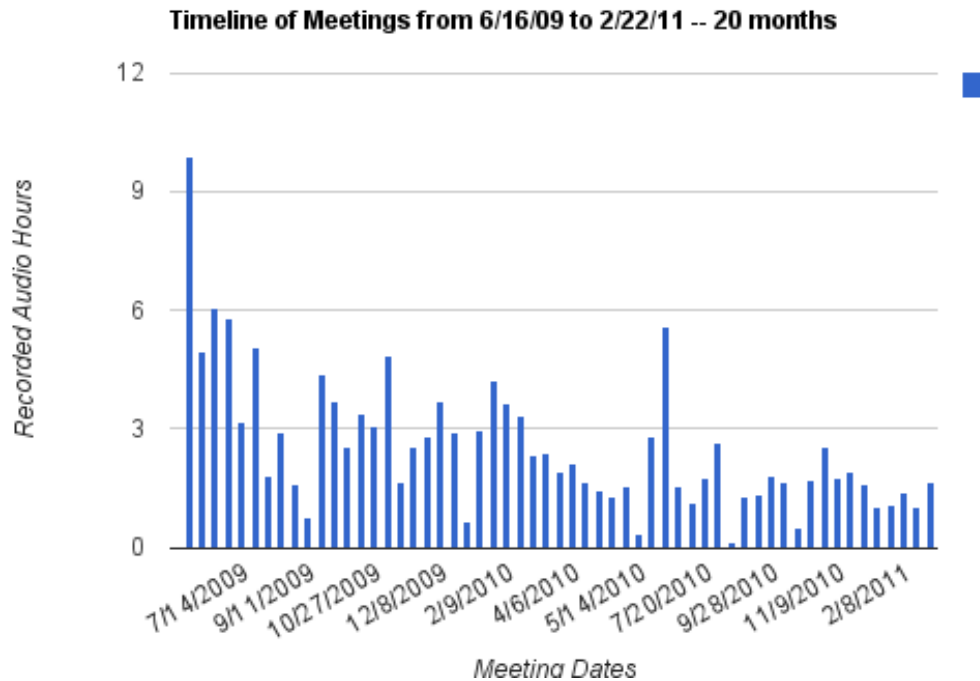
Table 4.3 gives an overview of the types of managers who were in attendance. These meetings were recorded with the consent of those present. Although those in attendance at the meeting varied slightly, in general 31 managers were present.

Table 4.3 Overview of Meeting Participants

Role	Division	Number of People in Role
Consultant	Consultancy	4
Director	One from each division	7
Manager	Coordination and Planning	4
Manager	Business Support Services	4
Manager	Professional Services	5
Manager	Applications Engineering	3
Manager	Technology Engineering	4
Manager	Production Services	3
Manager	Technical Support Services	3
Executive	CIO	1

The researcher recorded reflections from the field and personal notes later that same day (Barley 1996). Pictures of the meetings were taken for the sole purpose of aiding the researchers' memory of the events and ambient factors. Figure 4.2 shows the total hours of recorded audio from each meeting attended.

Figure 4.2 Timeline of Meetings Observed and Recorded



Participant observation was also possible as permission to occupy an office in the working area of the implementation team was granted by the CIO. Being on site facilitated informal interaction, such as casual conversations and observations that are supplemental to field notes. When possible, and when consent was given, casual conversations were audio recorded; these and other field notes were coded in the same manner as the other data sources.

4.2.2 Document Analysis

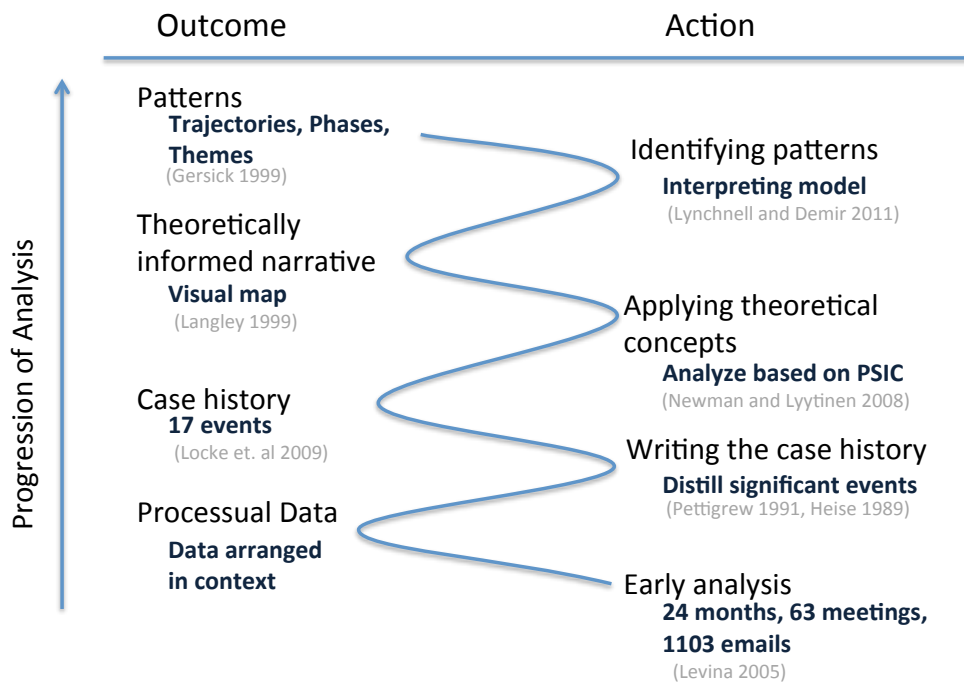
Document analysis enables us to obtain the language and words of informants that they have deliberately composed in an unobtrusive manner (Creswell 1998). Access to a shared drive used to house documents related to the shared service organization was given to the researchers. This included organizational charts, service-level agreements, meeting minutes, photos, and customer service requests. Access to the leadership email list was given for the duration of the project. These emails along with meeting minutes and other documents used in meetings allow us to triangulate between observations in project meetings and what is produced outside of the

meeting. In addition, they provide needed context to interpret meanings derived from meeting observations and interviews.

4.3 Data Analysis

Developing plausible explanations for temporal dynamics is a partly creative process that is hard to detail specifically (Langley 2009). Locke et al. (2008) refers to the process of developing temporal explanations based on sensitizing devices as abduction. While much systematic analysis and verification lies behind the development of temporal explanations, the process remains a creative one for which formal procedures do not exist (Langley 2009; Robson 2002). However, Demir and Lychnell (2011) offer some directions in the steps outlined below that we adopted in our data analysis as presented in Figure 4.3. This approach consists of four actions, each with an outcome. These actions are early analysis, writing the case history, applying theoretical concepts, and identifying patterns. The next four sections describe each of these four actions in detail to demonstrate how this method was used to analyze the data.

Figure 4.3 A Method for Process Theorizing



4.3.1 Early Analysis

In ethnographic studies, data analysis begins during the data collection process. While in meetings and informal conversations, notes were taken in addition to audio recording the meetings. Moments of tension, surprise or disagreement were described in the notes, with a timestamp noting where in the audio recording they occurred. Later these portions of audio were reviewed and summarized further. Four different people transcribed portions of the audio that corresponded to notes marked for further review. This resulted in transcripts from 60 different meetings comprising 17.5 hours of audio transcribed. Table 9.1 in the appendix summarizes a list of all meetings attended, recorded, and transcribed. The outcome of this analysis action was a research database with meeting minutes, project emails, and notes taken from document analysis and observations.

4.3.2 Writing the Case History

At the end of the data collection process notes, audio summaries, and summaries of email conversations were arranged chronologically. 1,103 emails were summarized capturing central dialogues between managers. These emails reduced to 89 email threads that were arranged chronologically. Transcriptions, meeting notes, and audio summaries were combined to form 94 additional occurrences that were arranged chronologically. These were combined with the email conversations, forming a timeline of 183 occurrences that largely marked points of tension, disagreement, discovery or progress. The emails illuminated the context for the items found in the meetings. Through a process of iterative combination and abstraction these occurrences yielded seventeen critical incidents. Flanagan's (1954) critical incident technique was followed by observing situations where reasons for not achieving expected outcomes were discussed. One pre-planned event was also included to aid the researcher to identify temporal patterns (Langley 2009). A member check was performed wherein these 17 critical incidents were confirmed with two key informants (Klein and Myers 1999). Each informant independently verified the gaps that were created by each critical incident. The insights gained from this process were used to refine the model of research outcomes. These incidents were re-examined using Ethno, an event structure analysis tool (Heise 1989). This provided the researcher with added clarity of the origins of the incident, as the software forces the research to establish precedent relationships.

An example event structure created by the Ethno software can be seen in Figure 9.1 in Appendix A. The outcome of this analysis step was a list of 17 critical incidents.

4.3.3 Applying Theoretical Concepts

Each of the 17 gaps were then coded according to Applegate's (1994) S-T model identifying them as one of six gap types. These features were found using a microscopic approach (Strauss and Corbin 1998) consisting of line-by-line coding of the interview and meeting transcripts with a coding scheme developed using a procedure similar to Cousins et al. (2007). In this procedure, a team of two researchers conducted a coding pilot in four stages. In each stage the percent of coded items in agreement rose, until they maintained a level consistently above 80%. This was done to assure that the main researcher had an adequate knowledge of what constituted each socio-technical state. Table 4.4 presents the data analysis guide based on Applegate's (1994) framework. This guide offers key questions for each socio-technical perspective that was used to build a coding scheme similar to the procedure prescribed by Cousins *et al.* (2007). The questions reflect the researchers' interpretations of how these elements apply to IT organizations (Newman and Zhu 2009).

Table 4.4 Data Analysis Guide Based on Socio-Technical Elements

Perspective	Questions	Concepts
Structure	How does migration from one operating structure to a new operating structure occur? How does authority and responsibility of employees enable their job performance?	Unit Groupings Coordinating Mechanisms Authority and Responsibility
Management Systems	How do employees respond to incentive schemes to fulfill their assignments? How does management make a calculated change at instilling a new culture?	Culture Planning and Controls Incentive Schemes
People	How do actors make sense of the organizational goals based on past experience? How do actors respond to changes from a career development perspective?	Career Development Roles Education Skills and Knowledge
Technical Systems	How do core business processes change? How do technical systems enable the IT service delivery process?	Tasks Core Business Processes Product/Process Technology

Once the gap-types for the critical incidents were established, and the response to each gap was analyzed as either an incremental or punctuated change, the environmental and organizational context was determined using a summary of the official meeting notes, email conversations, and field notes.

The outcome of this step of analysis was the visual map included at the end of this chapter (see Figure 4.4). This visual map chronicles the realization of shared services from its birth to its end as a sequence of events determined by the four socio-technical dimensions and their variations and interactions. As the visual map is a tool mainly useful to the researcher because of its complexity, it is not summarized in the text. Analyses based on the visual map are presented in Chapter 5.

4.3.4 Identifying Patterns

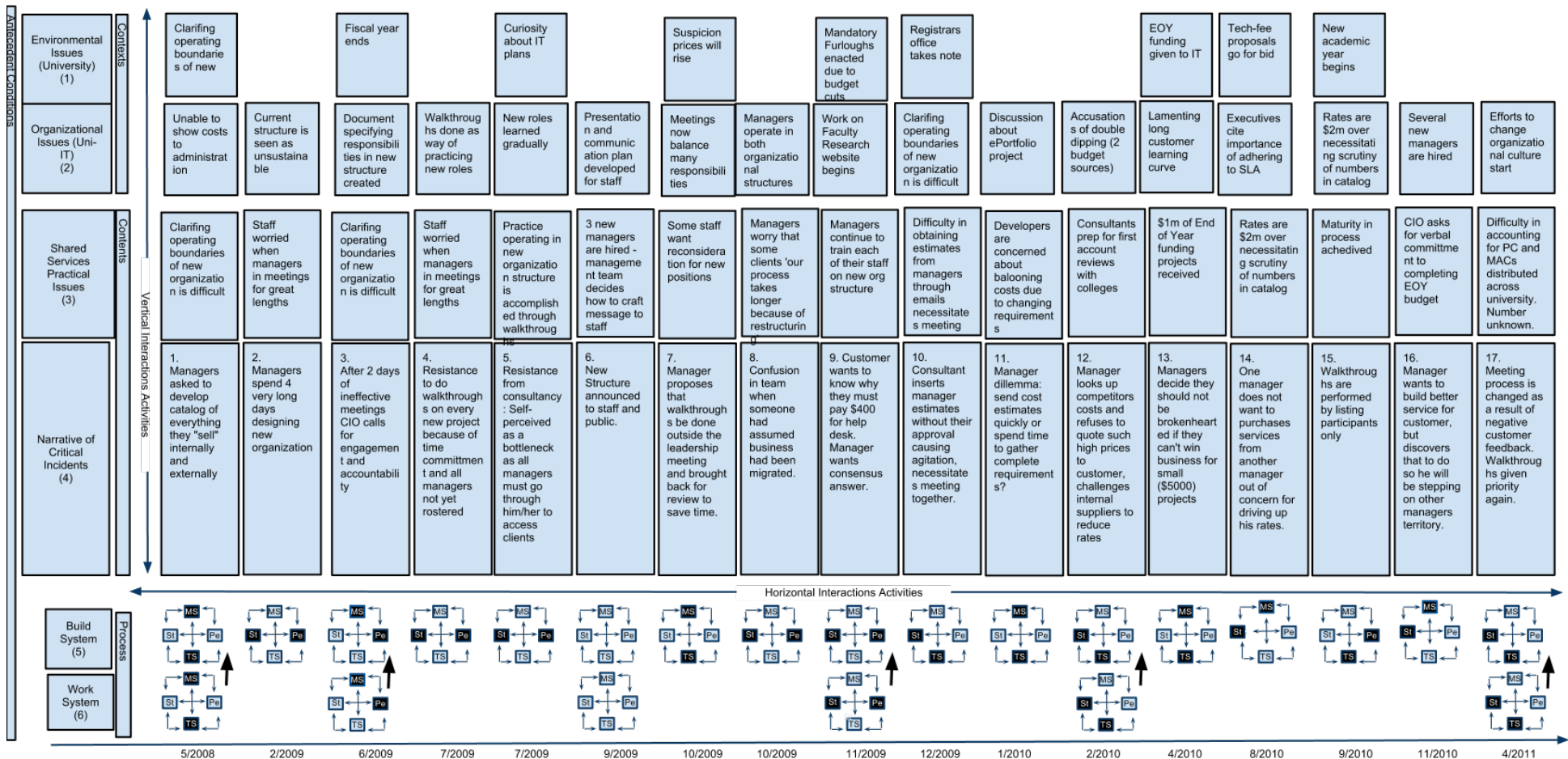
The final analysis step consisted of identifying patterns that emerge from the visual map. In this sense the visual map is used as a theorizing tool. Lytinen and Newman suggest three analyses

techniques that can generate theoretical insight using the data summarized by a visual map of PSIC elements. In summary, the *punctuated* analysis investigates alternations between incremental adaptation and punctuations by analyzing the response to each gap. The *horizontal* analysis investigates temporal connections between individual critical incidents. The *vertical* analysis unpacks dependencies between system levels for individual critical incidents as described by their socio-technical state. Table 4.5 summarizes these analysis techniques, and more details about how these analyses were performed are presented in Chapter 5.

Table 4.5 Three Analysis Techniques

Analysis Technique	Description
Punctuated	Analyzing change through characterization of alternations between longer periods of incremental adaptation – and briefer periods of revolutionary upheaval or episodic change (punctuations).
Horizontal	Analyzing temporal interactions between critical incidents to reveal trajectories of change. (Lyytinen and Newman 2008)
Vertical	Unpacking interdependencies between two consecutive system levels as to explain IS change.

Figure 4.4 Visual Map of Shared Service Realization



5 UNDERSTANDING THE REALIZATION OF SHARED SERVICES AT UNI-IT

This chapter presents the findings based on three analyses of the visual map of the PSIC model (see Figure 4.4). This visual map has three dimensions (punctuated, horizontal, and vertical), each inviting an analysis technique (Lyytinen and Newman 2008). Punctuated, horizontal, and vertical analyses were adopted to develop a nuanced understanding of how IT shared services were realized at Uni-IT using critical incidents, gaps, and responses. Table 5.1 represents the distinct focus of each analysis: the punctuated analysis narrates responses to gaps resulting from critical incidents into five phases, the horizontal analysis focuses on temporal connections between critical incidents, and the vertical analysis focuses on the type of gaps that emerged from critical incidents.

Table 5.1 Relation Between Analysis Techniques

Analysis Technique:	Punctuated	Horizontal	Vertical
Unit of Analysis:	Gaps (G) and Responses (R)	Critical Incidents (I)	Gap (G)
Outcome of Analysis:	Five Phases	Four Trajectories	Four Themes

The labels horizontal and vertical refer to the visual map (Figure 4.4) in Chapter 4. The horizontal dimension represents time, and this analysis investigates temporal connections between critical incidents. The vertical dimension represents the context, content, and gap type of a critical incident, and this analysis examines interdependences between these levels for a critical incident. The vertical and horizontal arrows in Figure 4.4 represent the vertical and horizontal dimensions described here. Table 5.2 summarizes the definitions of the three types of analyses.

Table 5.2 Definitions of Punctuated, Horizontal, and Vertical Analyses (Lyytinen and Newman 2008)

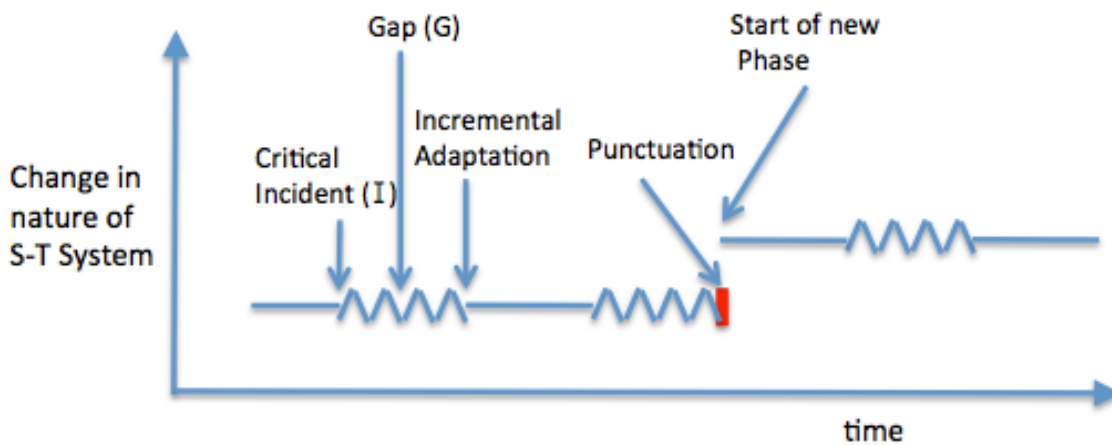
Analysis Technique	Description
Punctuated	Analyzing change as alternations between longer periods of incremental adaptation – and briefer periods of revolutionary upheaval of episodic change (punctuations). (Gersick 1991)
Horizontal	Analyzing temporal interactions between critical incidents to reveal trajectories of change. (Lyytinen and Newman 2008)
Vertical	Unpacking interdependencies between two socio-technical dimensions to explain IS change. (Lyytinen and Newman 2008)

The following sections present the analyses by providing empirical evidence and presenting connections between critical incidents, gaps, and responses. A summary of the three analyses can be viewed in Table 5.17 at the end of this chapter.

5.1 Punctuated Analysis: Moving from Phase to Phase

The punctuated equilibrium model (Gersick 1991) is used to analyze responses to critical incidents. The punctuated model describes change as relatively stable (evolutionary) periods that are punctuated by shorter, turbulent (revolutionary) periods, resulting in a narrative that consists of a chain of events linked together by their antecedents and consequences in a process trajectory (Newman and Robey 1992; Pentland 1999). The key constructs (critical incidents, gaps, and responses) are reviewed in Figure 5.1. The reader is referred to Chapter 3 for detailed information about the constructs employed in punctuated theories.

Figure 5.1 Illustration of Relationship Between Gap, Critical Incident, and Two Types of Response



In summary, a critical incident results in a gap. A gap is a period of non-equilibrium between four socio-technical dimensions that threaten the long-term viability of the system. There are two possible responses to a gap: incremental adaptation and punctuation. An incremental response exhibits a gradual or stepwise adaptation of the system. A punctuated response fundamentally alters the nature of the socio-technical system and precedes a new phase. A phase ends when another punctuation occurs, spurring the start of a new phase. Although a punctuation precedes each phase, in the discussion below we discuss the punctuation that preceded the phase at the start of the phase (rather than the end of the prior phase). This is done to aid the reader, and to increase readability of the text. The definitions of these constructs are presented in Table 5.3.

Table 5.3 Definitions of Constructs Related to Punctuation

Process Concept	Definition
Critical incident	An event that results in a gap (Newman and Zhu 2009).
Gap	Any contingency in the organizational system that if left unattended, will reduce the organization’s performance and threaten its viability (Lyytinen and Newman 2008).
Incremental adaptation	Gradual and stepwise adaptation of one or several system components as a response to a gap (Gersick 1991).
Phase	A temporal period between punctuations (Gersick 1991).
Punctuation	Socio-technical elements and their interactions are re-configured so that the system exhibits a totally new range of responses and thus exhibits new emergent properties (Gersick 1991).

Punctuations reconfigure socio-technical elements, and result in sudden or pronounced change (Gersick 1991). For example, a punctuation occurred after the CIO issued a mandate for meeting participants to be “mentally present” in meetings, or else they would be fired. Immediately following this, one manager volunteered to keep a prioritized list of those wishing to speak, and called on them in turn. Other managers gained the necessary confidence to motion for an end to unproductive discussions. These changes were permanent and constitute an example of a response to a critical incidence. From this point forward, the meeting culture was never the same.

Incremental adaptations are not marked by sudden, abrupt, or pronounced change. An incremental adaptation occurred when managers gradually persuaded a consultant that she would be able to successfully perform her role. She had feared that others actions would prevent her from successfully fulfilling her role. This concern was addressed over a period of a few weeks through conversations with other managers in meetings.

This chapter chronicles the critical incidents, gaps and their responses depicted in the visual map represented in Figure 4.4. We adopt several abbreviations: [Gi] references the gap caused by critical incident *i* (*i* being one of the 17 events described in the visual map). [Gi-R] represents how the ‘gap’ was resolved either by incremental adaptation or punctuation. [Ii] represents critical incident *i* that led to Gi.

The following five sections (5.1.1 – 5.1.5) describe a series of critical incidents, gaps, and responses. This narrative describes the process of realizing shared services at Uni-IT.

Each section represents a phase initiated by punctuation. To provide background, the gap that immediately precedes a new phase is described at the beginning of each phase. Each gap is coded as one of six varieties of tensions between the four socio-technical elements in Applegate’s model (1994). A more detailed analysis is presented in Appendix B.

5.1.1 Phase 1: Necessitating

The critical incidents that characterize this phase convey how top- and mid-level managers realized major problems with their organizational structure and the initial actions taken to rectify them. Table 5.4 summarizes the gaps that stemmed from the critical incidents in this phase.

Table 5.4 Critical Incidents in 'Necessitating' Phase

Critical Incident	Gap (G):	Response to Gap (R):
I1	G1: Realization. CIO had no means to measure cost of service (MS) when pressed by university administration to defend why larger budget was necessary (TS) Tension: MS-TS	G1-R: Punctuation. CIO hired consultant who directed staff to enumerate which services they sold, thereby kicking off a change initiative
I2	G2: Duplication. Managers discovered extensive and unsustainable (PE) amounts of duplicate services (ST) in Uni-IT Tension: PE-ST	G2-R: Incremental adaptation. Over a four day summit 40 managers came to consensus on new structure which would eliminate internal duplication of services

Realization

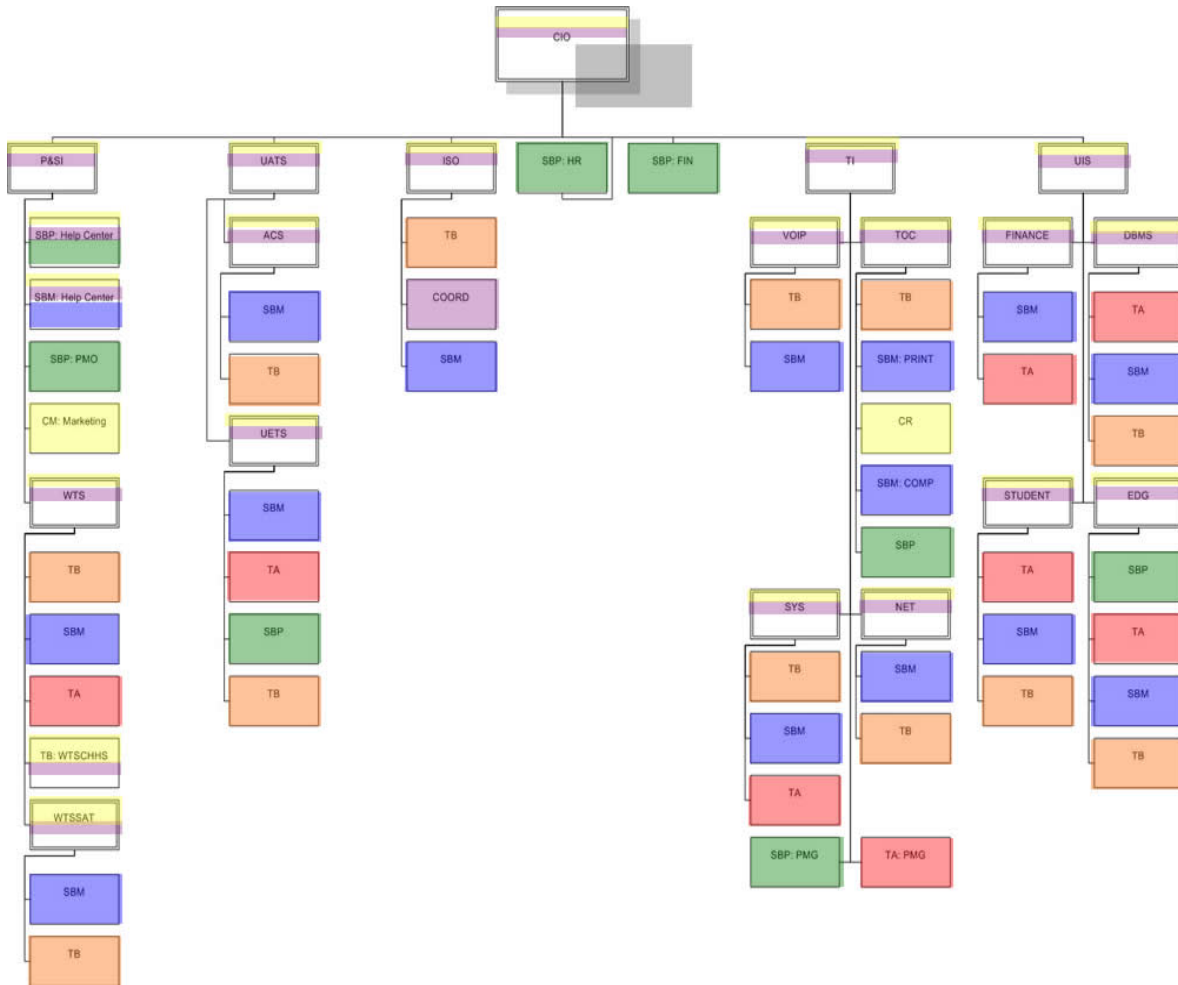
The university administration had characterized Uni-IT as a “budgetary black hole.” It was common for requests for new services to be denied or sent to a long queue, as IT staff was already fully committed. Not surprisingly, the administration demanded to know how the large twenty-one million dollar budget was used. With no costing process in place, the CIO *realized* he could not easily defend his request for budget increases [G1]. As a response, a consultant was contracted to provide management training and best practice service costing tools [G1-R].

Duplication

The consultant led managers through a series of exercises to determine the true cost of the services they provided. The first exercise required each manager to enumerate both internal and external services. The mid-level manager appointed to coordinate this exercise described that getting managers to participate was like “pulling teeth.” This exercise constituted a radical departure from traditional thinking about what one “*does*” in a job role to thinking of services that one “*sells*” to a customer. It took considerably longer than expected – two months. The exercise resulted in a list of over 1,000 services that could be compared across functions and ultimately assigned a specific unit cost.

This list of over 1,000 services were grouped together in eight service types such as engineering, file hosting, server hosting, network management, and support. These service types were then assigned colors and each manager’s role was colored in on the existing org-chart. The result was called a “rainbow organization chart” (see Figure 5.2). The same color in different organizational divisions represents *duplication* of services across divisional silos. For example, a green coloring represents file-hosting services, while a purple coloring represents application development services, or an orange coloring represents documentation and technical writing services.

Figure 5.2 Rainbow Org-Chart Showing Duplicate Services



For example, six different units provided file servers and five groups provided video recording and distribution services, all charging different costs. As a result of working in relative isolation, managers struggled to perform their core duties, and they were also doing many tasks that their colleagues were better suited to perform. The security manager illustrated this point:

“We were facing escalating demands for security reviews and risk assessments, but we we’re also spending a lot of time managing the growing server farm, trying to roll out new applications -- things that we found other groups [in Uni-IT] were more proficient in doing. (78:4)”

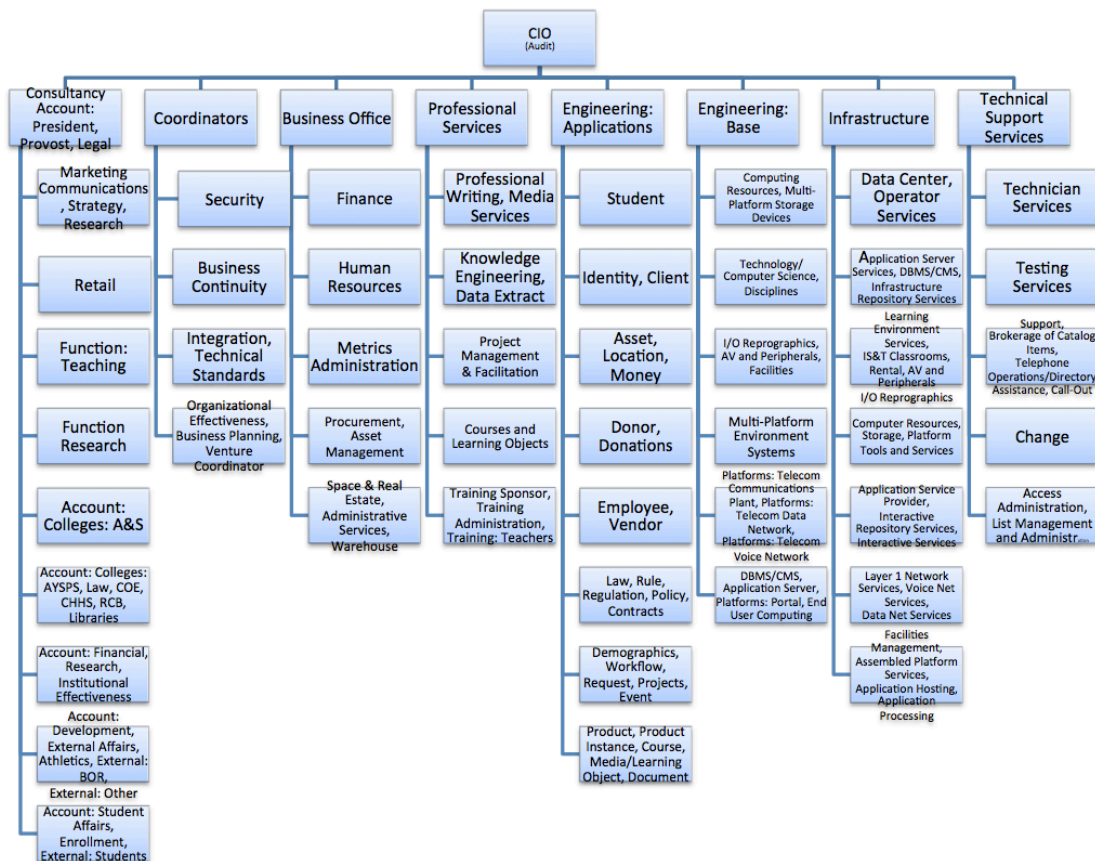
With evidence of inefficiencies painfully apparent [G2], managers were motivated to restructure the organization. A few volunteered to help develop the new structure and were asked to independently create an organization chart to “ensure no gaps or overlaps

in functionality.” Managers convened a four-day summit that began with organizational charts reflecting each of their ideas as to what the structure should be. Each of the 40 charts was reviewed individually over two long days. To aid in this process, managers were counseled to not think about what they “did at work” but rather what services they “sold” as illustrated by the following quote from a senior manager:

“One of the first hurdles that we had to get over was the old way of thinking -- the silos that we were used to working in and thinking in terms of the tasks that we were all doing.” (78:1)

After four days of discussion, voting, passionate arguments, and high levels of energy, each manager verbally committed to the CIO their willingness to support the new organizational design [G2-R], even though they didn’t know their future role within it. The resulting org-chart, with no-names applied to it, is seen as Figure 5.3. A month later, managers began the process of applying and interviewing with the CIO for positions within the new organization.

Figure 5.3 Proposed Org-Chart from Manager Summit (Mar 29, 2009)



5.1.2 Phase 2: Organizing

The critical incidents that characterize this phase convey how top- and mid-level managers started to learn new processes and roles necessary to operate in IT Shared Services. Table 5.5 summarizes the gaps that stemmed from the critical incidents in this phase.

Table 5.5 Critical Incidents in 'Organizing' Phase

Critical Incident	Gap (G):	Response to Gap (R):
I3	G3: Detachment. Managers (PE) were dis-engaged in meetings due to poor meeting process (MS) which allowed for unproductive arguing leading to ineffective meetings Tension: PE-MS	G3-R: Punctuation. CIO issued an ultimatum, and laid ground rules for more effective meeting process
I4	G4: Hesitation. Managers (PE) were reluctant to commit to adhering to the new customer intake process (ST) as the positions in the organization (ST) had not been filled Tension: ST-PE	G4-R: Incremental adaptation. Managers made a tenuous commitment to do walkthroughs for each new project even though they were months away from formally “going live”
I5	G5: Identification. Assuming a new role, and lacking experience for it a consultant (PE) expresses concerns with her role related to other roles (ST) Tension: ST-PE	G5-R: Incremental adaptation. Consultant adjusted to working in new role
<i>E6</i>	E6: Annunciation. This event was planned public unveiling of the new organization, included to aid discovery of temporal patterns (Langley 1999).	n/a
I7	G7: Duration. The core business process (TS) of conducting walkthroughs came to be seen as taking up far too much time during meetings (MS) Tension: TS-MS	G7-R: Incremental adaptation. Resolved immediately as managers voted to move all walkthroughs outside of the weekly meetings
I8	G8: Miscommunication. A manager erroneously stated that he was no longer responsible (PE) for a particular service, as it had been migrated (ST) Tension: ST-PE	G8-R: Incremental adaptation. Resolved over time as responsibilities were assumed through a step-wise process

Detachment

With the new organization structure determined, the process of staffing each role began. The CIO interviewed managers as they applied for positions in the new organization over the course of a month. Once managers were accepted, they continued work in their prior role while defining their future responsibilities in the shared service organization.

An unclear division of responsibilities was one issue that caused inefficiencies. Detailed definitions of responsibilities called “domain statements” were created to prevent problems from reoccurring. A company memorandum defined domain statements as: “Descriptions that summarize the specializations and expertise of each unit and subunit in the new organization ...” and cited their importance for “... ensuring that we will have no gaps or overlaps in functionality within the new organization.” While explaining the importance of these divisions to the staff, a manager said:

“Each manager must work diligently to ensure that their group not only covers the work defined by their domain, but also refrain from straying into what is covered by another’s... There is no slack-hiding place within this organization... Each business unit is really a business within a business. (78:3)

With divisions clear, Uni-IT began practicing how core business processes would be conducted in the shared service organization. Practice was conducted using a formal technique called a ‘walkthrough’. Walkthroughs were described as communicating understanding of “who will be doing what for whom in relation to the delivery of products and services.” The goal of a ‘walkthrough’ was to arrive at “clear workflows, which provide step-by-step documentation, as well as validation [of the divisions of the new organization].”

Considerable amounts of group discussion often occurred during walkthroughs. As a result, managers would ‘tune-out’ of the discussion (becoming *detached*) when it was only of interest to a select few, causing frustration and ineffective meetings [G3]. The CIO had heard about such a meeting when he and other top-management were not present. When the ineffective meeting management behavior returned a few days later, he stood up and issued the following ultimatum:

You guys got to learn to work together and become the consensus and drive things to a common goal. Heck, you're disengaged. You're surfing the net; you're doing your work back at the office but you're not engaged. If you want this job, you better show me you want it because I'm sitting back here looking and paying attention. I'll be retired before you get it done at the rate we're moving right now. I know you didn't do well on the Friday because nobody will talk to me about what happened on the Friday and I wasn't here. If I'm not here and you can't get it done, what am I going to do expecting you to deliver for me on my behalf? That's why you got appointed as leadership. It's time to get to work. This is your thing. You put it together. (21:1)

This ultimatum [G3-R] had immediate and long-term influence on the activities of the managers. Immediately after the CIO spoke, a manager volunteered to be keeper of the 'queue,' a running list of who would like to speak. The 'queue' keeper was in charge of calling on people to speak and insured order to the meetings. This developed into a practice that was used hereafter.

In addition, the managers also developed a habit of stopping the meeting when unproductive discussion arose. As managers had differing views about which services pertained to their future area of responsibility, it was common for a clarification discussion between two managers to arise. These clashing mental models created disagreements that were often better addressed outside of the meeting.

Hesitation

The next month was perhaps the most time-intensive of all for the managers involved in the new organizational structure. They spent two full days a week working on issues related to the upcoming transition to shared services. The prior week they had met for three days to map the prior budget to the structure of the new organization. As outside hiring for several of the positions in the organization was not yet complete, managers were forced to serve 'double duty' on a few assignments. At this time of stress, top-management asked if the leadership team would make a commitment to do a walkthrough for each new project. Managers *hesitated*, protesting that many spots in the 'org chart' were not yet filled, which would make performing the walkthroughs difficult [G4].

Facilitator (F): *If we start every project with a walkthrough, then you will have all the costs upfront, known costs, to deliver basic standards of quality.*

Manager (M): *We might need to start that, as of when?*

F: How about now?

M: How about when we have T1s and T2s in place?

F: How about right now, with any new work that comes in. Wouldn't it make sense to do a walkthrough? Why wait?

M: Not if a T2 doesn't know what a walkthrough is. (32:19)

This was a stressful time for managers for several reasons. First, they were already working longer hours because of the extra meetings and tasks they had been charged with. Second, although they knew the role they would assume in the new organizational structure, at this point they had not assumed those roles. This made doing walkthroughs an imaginary exercise with its attendant uncertainty. Third, not all of the managers had been staffed for the new organization, so others would have to fill in for these positions. Fourth, managers were still carrying out their old duties in addition to all of these exercises. However, after a brief protest, the managers acquiesced to the wishes of top-managers [G4-R]. This incident showed the commitment to practicing how work would be done in the new organization even at times of stress and low availability of resources.

Identification

As managers continued to practice operations in the shared service organization, one of the consultants expressed concerns about her role (*identity*) [G5]. The consultant was charged with being the public face of the organization, meeting with customers to determine their needs before bringing these needs back to the leadership team where managers would then identify who would be the “prime” (e.g. prime contractor) on the project and the individual managers whose services were requisite to complete the project.

“One of the reasons why consultancies fail is because technologists don't sell the whole store. Technologists sell business they know... Then you're missing out on the opportunity to sell the store for the other things that person may need.” (42:5)

The change was significant because it changed lines of communication. No longer could managers initiate new services without the aid of consultants. This was done by design. Prior to this, managers would often only sell the services that they provided; thereby the

organization would lose the opportunity to meet the needs of the customer with other services. The consultant, an unbiased person who could sell the services of the entire organization, was seen as the answer to this. [G5-R]

Annunciation

While managers had been meeting for long hours over many months, line staff only knew select details of the new organization. After months of practicing operations, the leadership team had planned a four-hour ‘all-hands’ company meeting where all 150 staff members were invited as well as the Provost of the university and other administrators [E6]. A large private theatre was rented; videos and speeches were prepared and practiced during two dress rehearsals.

Managers reviewed the problems they had found in the organizational structure, and related how they had each worked to build the new org-chart. The new org-chart was then introduced (*annunciated*), and staff discovered their new role in the organization. This event was symbolic of the hard work managers had put in and served as a figurative end to designing the shared service organization and the beginning of operations as the same.

Duration

A month had passed since the announcement of the new organization. Long meetings continued to be commonplace. Managers expressed discontentment about being away from their staff for an extended *duration* and had started to grow uncomfortable with the long meeting times [G7]. As walkthroughs comprised the bulk of the meeting time, one manager proposed:

Do we have to do each walkthrough in here as a management team? Can we not put the quotes that we need out there and people who think that they are affected – can send an estimate of their time on walkthrough versus us sitting here and trying to do ten all together. (88:1)

While other managers agreed with the proposal, meeting facilitators were initially hesitant because they felt they would be relinquishing control. After some discussion, managers unanimously voted to do walkthroughs outside of the meeting but give their review the priority on the agenda each week [G7-R].

Miscommunication

This was a time of migration from old to new roles. Meeting facilitators coordinated the transference of duties over the period of the next three months. On a few occasions, managers who had not completed the migration process redirected internal service requests prematurely. This resulted in confusion [G8], as one manager related:

'Now I have got two customers I have got to keep happy because I don't know if it's the old person or the new person.' (89b:4)

Some managers were eager and even happy to transfer certain responsibilities to others. When this was done prematurely, confusion resulted, as managers were now unsure where to go for the services they needed. This type of *miscommunication* was exactly what the meeting facilitators had tried to prevent. As managers continued to communicate and pass-off duties during the migration period as well as openly discussing these challenges in weekly meetings, this confusion was gradually resolved [G8-R].

5.1.3 Phase 3: Migrating

In this phase, managers dealt with issues that arose from *migrating* roles and processes to their new owners. Three critical incidents depicted significant challenges overcome by the fledgling shared service unit. Table 5.6 summarizes the gaps that stemmed from the critical incidents in this phase.

Table 5.6 Critical Incidents in 'Migrating' Phase

Critical Incident	Gap (G):	Response to Gap (R):
I9	G9: Consensus. Managers had no consensus (ST) on how they should respond to customer inquiries (PE) about why they now need to pay for <i>some</i> services Tension: ST-PE	G9-R: Punctuation. Resolved through long and heated discussion where managers realized customer relationships which they had built over years could be damaged
I10	G10: Usurpation. Authority of managers (ST) was usurped as consultant made commitments for them due to change in core business process of walkthroughs (TS) Tension: ST-TS	G10-R: Incremental adaptation. Resolved as consultant learned from mistake and leadership changed core business process
I11	G11: Agreement. Managers were not happy with response times (MS) from customer request for service to quote delivery (TS) Tension: TS-MS	G11-R: Incremental adaptation. Resolved as managers changed coordination process of walkthroughs placing higher priority on responsiveness

Consensus

After months of planning and imagining operations in a shared services organization, the proverbial rubber was (finally) meeting the road. Each week, managers met to discuss the difficulties and issues encountered. As the campus community continued to learn about the new organization, managers found themselves fielding a variety of questions. During one meeting, managers sought *consensus* on how to respond to the following question [G9]:

“We’ve got a customer who is questioning why they should have to pay \$400.00 a year for the help desk to answer support calls. So, I wanted to make sure that the answer we gave them was the same answer that Larry is going to give them next week...(101:1)

In the past, customers (other departments) had often asked for services for which there was no funding. If spare resources were not available, the service could only be delivered if funding was made available from the customer. Charging for services through a ‘fee-for-service’ arrangement was heralded as the solution. While this appeared good on

paper, it was a drastic shift to operations requiring managers to essentially become sales people.

During this discussion, managers concluded they shouldn't hesitate to ask customers to pay for services. They noted that if departments did not want to pay for their services, then the onus fell on them to devise ways to earn their business. After a long, productive discussion, just as the meeting was set to close, a manager offered this warning:

*If we want to **ruin** our PR related to our restructuring, the best thing for us to do is to go out there and relate it to doing fee for service. We've all kind of jumped on this bandwagon like we're ready to go out there and start charging for things where we haven't charged for them in the past. We can start doing fee for service, but most of us aren't used to doing that very well and I don't see the need to rush into that. We will not go out of business tomorrow if we don't charge to work on a project. We need the time to get this right. (102:8)*

The truth in this warning was recognized immediately: managers had come to place too much importance on costs, at the expense of developing customer relations. This quelled the zeal with which managers approached winning fee-for-service contracts [G9-R].

Usurpation

Managers had been performing walkthroughs outside of the main meeting, relying on email coordination and small meetings for two months. A consultant had entered quotes for managers without their permission on a critical project for a faculty member who faced a grant deadline [G10]. While presenting this quote for feedback in the weekly meeting, the consultant faced anger from several managers:

"M-G: It's not my range so I would prefer if you take it off until I can get my own numbers. (106:43)

The meeting facilitator agreed that making commitments for each other (*usurpation*) was one of the central problems discovered in the prior organization.

"Others can't decide what rates budget managers will sell their products and services by. We can't make commitments for each other."(106:45)

This issue of making commitments for others demonstrated the importance of performing 'walkthroughs' together as a group. The meeting facilitator called for the group to restart

the practice of doing walkthroughs together, even though it might extend the meeting [G10-R].

This meeting -- it may not be four hours -- exists precisely for the reason of doing walkthroughs and project quotes. Look how many of us there are. There is no way to get all of us together unless we schedule it far in advance so don't think that this meeting is going to completely disappear from your calendar. Personally, I think it's too beneficial, for all of us to be in the room on a regular basis. (106:1:01)

Agreement

Because there had been many questions and conversations regarding the process of responding to requests for service [G11], the meeting facilitator had spent time codifying this process into graphical form to obtain common understanding and *agreement*. The process documented the point from which they were initially made aware of an opportunity, through to Uni-IT's response to the customer - a proposal and a rough cost estimate. After the facilitator presented a graphic depicting the customer intake process for feedback the CIO gave his response:

The thing is you have to educate them right up front: We're talking a half million dollars to get started here. Do you want to go forward with this or not? I mean sometimes they don't want to hear those kinds of just practical things but that's the reality of the situation. Now if they're willing to take on that effort to try and find the money, then that's okay. (110:17)

After discussing for an hour how the process for responding to customer requests for service should work, management arrived at a shared understanding [G11-R] of the tradeoffs between gathering complete requirements (time intensive) and responding quickly to the customer with a quote.

5.1.4 Phase 4: Costing

This phase was characterized by a concern for cost. One of the capabilities that the unit had worked hard to develop was that of producing accurate costs, billable by project. The critical incidents in this phase summarized the effects of managing IT with accurate costs for the first time. Table 5.7 summarizes the gaps that stemmed from the critical incidents in this phase.

Table 5.7 Critical Incidents in 'Costing' Phase

Critical Incident	Gap (G):	Response to Gap (R):
I12	G12: Refusal. A 'prime' manager did not think it ethical or savvy (TS) to charge his customer four times more than they could get the same service externally because of costly internal services required (ST) Tension: ST-TS	G12-R: Punctuation. Resolved same day as managers involved in service delivery stayed to discuss how costs could be reduced to be more competitive
I13	G13: Aberration. Using detailed planning and budgeting tools (MS) managers struggled to produce a quote (TS) for a budget strapped customer Tension: TS-MS	G13-R: Incremental adaptation. Resolved as team decided to have customer choose most important design features that they were willing to pay for
I14	G14: Acquiescence. Manager hesitated buying internal training service (ST) out of concern (MS) for driving up cost Tension: ST-MS	G14-R: Incremental adaptation. Resolved quickly as manager conceded to buy the service
I15	G15: Maturation. Managers comfort level (PE) with walkthroughs required a change to meeting process (TS) Tension: PE-TS	G15-R: Incremental adaptation. Managers changed business practice
I16	G16: Sovereignty. A manager tried to improve (MS) the customer service by creating a one-stop shop for software downloads but was impeded by other managers who sought to retain their sovereignty (ST) over how they delivered services Tension: ST-MS	G16-R: Incremental adaptation. Not immediately resolved

Refusal

The server-hosting manager was upset. He had prepared a quote for the hosting of a new ticket management system for the school's concert hall and was disappointed to see that the service cost four times that of the highest-priced competitor. He *refused* to give the quote to the customer knowing how expensive it was.

I am going to have to be ethically correct; I am going to have to show them what else is available out there. So we have got to figure what we are going to do,

because the annual fee that we are charging, \$3500 on the low end. What the commercials are charging is \$1500 - \$1600 a year.” (135:9)

The meeting facilitator recognized that this unease stemmed from managers having transparent information on costs for the first time:

“We have gone through selling people on the idea that we are opening the books, letting you see everything, well that also opens the books on doing the same thing Justin did, which is go, surf around and find out whatever everybody else is charging for these things. This is a good thing, but this new -- this system makes us do this. Because in our old model there was no pressure to ask these questions, we didn’t.” (135:6)

As the server-hosting manager had a meeting with a customer later that week, he demanded a solution [G12]. For 40 minutes managers discussed the reasons why there was a vast difference in cost, and what could be done about it. Finally, everyone left the room except the involved managers who worked together to whittle down estimates to lower the total cost by 50% [G12-R].

This was an exciting day, and managers could feel it. This quote from a meeting facilitator captured the moment.

“These are awesome conversations to be having. This is really the right thing. Two years ago there was no flipping way you would have had this conversation without blood on the floor. And there would be no resolution.” (135:11)

Aberration

Two months after coming together to decrease the price of service delivery for the customer, a similar situation arose. A consultant had *substantially deviated from prescribed processes* by not followed the standard process of conducting walkthroughs for new service requests in the meeting. After receiving a request for a full featured solution to track internships, she had an application developer manager price out a quote. The quote for the fully featured database was \$200,000, while the customer’s budget was \$5,000 [G13]. Needing to respond to the customer, the consultant sought help and presented the situation to the management team, apologizing for not having done it to begin with. The ensuing discussion first focused on whether it was smart to present the

\$200,000 quote to the customer. The meeting facilitator expressed his view that it was acceptable:

“It’s my opinion that we have produced right here is entirely reasonable to bring back to the customer. It may not be what they want to hear, it may be beyond all of the things that they would like to do with their existing application and it may be beyond their budget. We have to be prepared for the fact that we’re producing numbers that are to a level of accuracy I don’t think we’ve ever had. We just have to be realistic about the total cost for us to provide what they want and then hopefully provide alternatives.” (185:22)

Most managers agreed with this view, stating: *“We figured out they want a Lamborghini and we figured out they can’t afford one.” (185:30)* Continuing with the metaphor, a manager proposed they tell the customer: *“you can’t afford a Lamborghini... are you willing to entertain public transportation?” (185:45)* Another manager voiced a more serious concern, *“the elephant in the room is we all looked at this and went... ‘Holy crap, its \$200,000!’ That’s a lot of money! We can’t possibly go talk to our customer about that.” (185:42)* This comment deterred the group from agreeing to show the extremely high quote to the customer, but rather a list of prioritized requirements that could be accomplished given the budget limitations [G13-R].

Acquiescence

Uni-IT began to engage in the internal sales process. During this time all managers listed services they planned to provide to other service lines over the coming year. The costs of these services were added to the rates of the services to which they contributed. For example, one group that provides training might forecast that they will sell training services to another group who installs new operating systems on user desktops.

Often the decision to accept or reject a proposed sale was made in seconds. It appeared that these purchasing decisions were made with a high level of subjectivity. Initially, the server-hosting manager was hesitant to purchase training services as it would drive up his rates [G14]. However, the training services manager successfully *persuaded* the manager to buy his services [G14-R].

Maturation

By this point in the transition to shared services, managers had been using a shared service structure for over a year. As they continued to perform walkthroughs, they developed considerable skill (*matured*) in performing this recurring process. This led to mid-level managers initiating a change to the established walkthrough process [G15]. Managers would independently create a list of managers who ought to be involved, based on similar past projects. The meeting facilitator adapted [G15-R] to the change by recording the names of various service functions, allowing anyone else who thought they should be included to self-identify. This incident showed maturation of trust in dealing with interdependences among the various service groups.

Sovereignty

A few weeks later the app-hosting provider proposed a new initiative that would make it easier for students, faculty, and staff to find software for download. He was responsible for hosting the majority of software packages. However, another manager, who also hosted software packages, took issue with this initiative. It would cause other managers to change their documentation, effectively dictating how they would ‘run their business’ [G16].

*“You're saying we're going to rewrite all of the documentation for those pieces of software. All I'm saying is those pieces of software belong to a domain. The state of their documentation for a piece of software that they distribute ought to **be their thing** and **if they** want that to be updated and they should, **they need** to start something to go do that. (254:25)”*

Although the app-hosting provider had good intentions, the *sovereignty* of managers required deference. Each manager had to decide how to run their business, and this proposal was seen as stepping on their toes. Thus the intrapreneurial sovereignty of managers caused roadblocks in the endeavor to work together for the common good of the customer. This issue was resolved gradually [G16-R], as managers continued to learn how to work together.

5.1.5 Phase 5: Serving

This phase resulted from an agile response to negative feedback from an important customer. It demonstrated the continual balance between customer orientation and internal efficiency. Table 5.8 summarizes this gap and the critical incident for this phase.

Table 5.8 Critical Incident in 'Serving' Phase

Critical Incident	Gap (G):	Response to Gap (R):
I17	G17: Discontentment Negative feedback from important customer (TS) necessitated re-evaluation of coordinating mechanisms (ST) Tension: ST-TS	G17-R: Punctuated adaptation. Directors reacted swiftly, enacting changes to customer intake process and walkthrough initiation

Discontentment

Three months earlier, a consultant had initiated contact with the administrator in charge of new student orientation. The administrator expressed a desire to utilize iPads to allow new students to register for classes and approached Uni-IT for service. A walkthrough was performed, and service managers who needed to be involved were identified. After several back-and-forth sessions with the customer, the key requirements were identified and an estimate was given to the administrator.

After the service had been delivered, the CIO and other leaders in the organization received an email with negative feedback from the administrator in charge of the new student orientation [G17]. The administrator related that he had spent dozens of hours preparing for this project over three months and was still getting conflicting stories about resources required. He had become *discontented* with the level of detail and ranges provided on the estimate stating

“You’re suggesting to me that it might take 2 to 10 minutes for your staff to configure each iPad... and they will move three to five carts on average back and forth”

Due to this detailed analysis he had grown to prefer to *“stay out of the details of this estimate and just give a sum amount to cover my fair share of the project.”*

Citing the length of time it took to complete an estimate and the large range of numbers and costs involved, he concluded the email by calling into question the practice of creating estimates in the first place:

“It really does worry me that so many people in your shop and mine--including you and me--have devoted so much time, not to executing the project that the President and Provost have instructed us to execute, but to working on and talking about an estimate that is neither very helpful nor very meaningful. (Email 3/21/2011)”

The managers at Uni-IT took this email very seriously. The next day, the head project manager sent an email to the leadership team stating:

We would like to use the next leadership team meeting to walk through the initiation of this project and determine any lessons that can be learned in order to improve the process for future project requests from customers. (Email 3/23/2011)

The project management office was asked to lead a “lessons-learned” discussion in the weekly management meeting. Although the customer was not pleased with the amount of time it took to obtain the final estimate, the project was a complete success and other departments later requested iPads for use in similar events. Additionally, the lessons learned led to many process improvements in the organization.

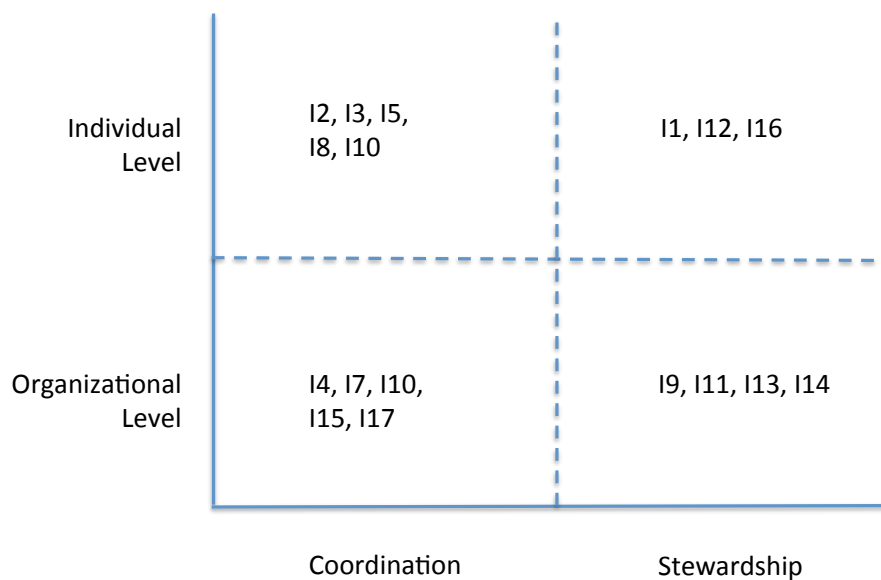
This critical incident signifies the grave concern by management leading to swift corrective action. Senior leadership was quick to learn from the customer feedback, and quick to respond. Previously, such feedback was never brought to the group at large as they were “powerless to change anything in the organization” (291:114) and could only resort to ‘taking the person out to lunch’ to make amends.

This was a “starting point” for improving the estimation process. Efforts were undertaken to reduce the time necessary to respond to customers. This change included a weekly deadline of 5pm Friday for new leads or opportunities to be put on the agenda [G17-R]. Each manager was given time to review each opportunity and identify if their services should be included on the project charter.

5.2 Horizontal Analysis

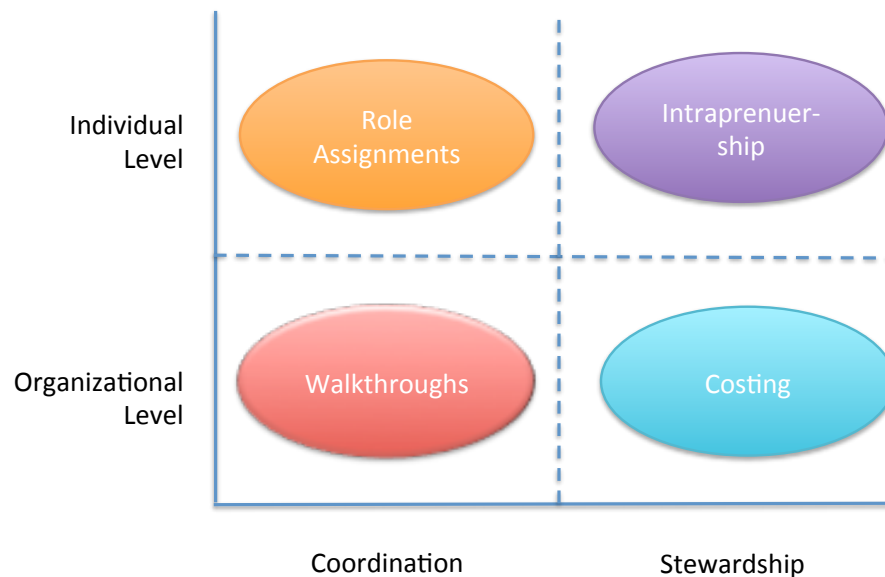
Next, the horizontal interactions that emerged from the analysis of the visual map of the events at Uni-IT are described (Figure 4.4 in Chapter 5). Horizontal analysis focuses on “interactions at a single level, for example, development activities, or work processes, or organizational activities.” It resulted in four dominant trajectories that explain developments and outcomes at Uni-IT: Roles Assignments, Walkthroughs, Intrapreneurship, and Costing. These trajectories can be understood in the context of two dimensions: Individual versus Organizational Level and Coordination versus Stewardship. The first dimension captures whether the critical incident arose from an organizational or individual action. The second dimension describes whether the critical incident was based on coordination among several people or stewardship over a resource or service. Figure 5.4 summarizes the coding of critical incidents according to their horizontal characteristic types.

Figure 5.4 Critical Incidents Arranged by Characteristics



Each of the four clusters was analyzed to identify interactions between critical incidents that could be formed into a generalized trajectory. A trajectory is a chosen or taken course which explains how an outcome was achieved (Abdel-Hamid and Madnick 1991). Figure 5.5 reveals the trajectories that emerged from the horizontal analysis. The next four sections (5.2.1 – 5.2.4) describe each trajectory in detail.

Figure 5.5 Trajectories Emerging from Horizontal Analysis



5.2.1 Walkthroughs

‘Walkthrough’ was the colloquial name given to the internal planning process wherein the internal services necessary to meet the demands of a customer were determined. A facilitator gave a conversational definition of a walkthrough: *“It’s all about making sure everybody understands what is expected of them on a project.”* (291:57). As walkthroughs were done at every meeting, changes to this process served as a ‘bell weather’ for the health and maturity of other aspects of the organization.

During a walkthrough, a manager (typically the “consultant”) who had received a business request from a customer would present the functional requirements. After reviewing the requirements for a few minutes, managers of IT service lines would respond with clarifying questions. Next the group decided who should be the lead manager on the project. The lead would then attempt to state which services he needed to buy from other managers in order to produce what the customer needed. Others not directly specified by the lead manager could offer their services if they saw a fit with the new project. Since this was done in an open meeting, there were often lengthy debates about which services were necessary. Although walkthroughs used significant amounts of time and resources, a manager explained why they were worthwhile:

You want everybody who is in a position of management to be aware of the opportunity that came to the door because frankly one person on this side of the room may not know what the other person can provide. The walkthrough -- defining accountability, I am not sure how you could start a project without that... then using that to generate an estimate.” (291:59)

This section illustrates how walkthroughs became an organizing process in Uni-IT and how this process changed as the organization matured. Table 5.9 summarizes the key incidents that illustrate the walkthrough trajectory.

Table 5.9 Walkthroughs Trajectory

Critical Incident	Description	Illustrative Quote
I4	Managers committed to do <i>walkthroughs</i> every week	“Why would you bid a project now, without at least getting this team to do a walkthrough on it?” (21:4)
I7	Voted to do <i>walkthroughs</i> outside of meetings (too time intensive)	“Do we have to do each walkthrough in here as a management team?” (88:1)
I10	Communication difficulties arose, <i>walkthroughs</i> brought back in meetings	“This meeting -- it may not be four hours -- exists precisely for the reason of doing walkthroughs and project quotes.” (106:101)
I15	Maturity demonstrated as <i>walkthroughs</i> were done in a matter of minutes	“I’m going to read through the list of who I’ve got and see who we’ve left out.” (228:3)
I17	Negative feedback changed process to reduce time to perform <i>walkthroughs</i>	“It really does worry me that so many people in your shop have devoted so much time to talking about an estimate that is neither very helpful nor very meaningful. (Em 3/21/11)”

Before announcing the IT-SS organization (E8), managers practiced with mock service requests, such as “customer requests a modification to their website” or “email needs to be sent to the entire campus community”. Walkthroughs were conducted on a whiteboard with the lead manager holding a pen and saying from whom he or she would buy services. The person named would then come to the whiteboard and state from whom (if any) they would need to buy services. This continued until the group deemed that all services necessary for the project were accounted for. At this stage, the purpose of the walkthrough was to reinforce the divisions of the organization and what services

individual managers sold. This process proved very time consuming. However, managers committed to conduct a walkthrough for every new service request they received [I4].

Three months after the announcement day, the team was spending on average three hours per week conducting walkthroughs for new service requests. Seeking to reduce meeting times, one manager proposed that the walkthroughs be done outside of meetings [I7]. The idea was approved after some discussion. As a result, consultants tried to accomplish tasks through email that they normally would have done during the meeting. When managers did not respond quickly through email, consultants inserted 'best guess' estimates for the managers in order to expedite the process. Managers were extremely unhappy with this, [I10] and as a result, walkthroughs were moved back into the meetings a few weeks later.

A full year after announcing the shared service organization to the university community, managers had become very familiar with the process of walkthroughs and would often name the service providers which they had identified prior to the meeting. The level of familiarity enabled this process to be completed in minutes, instead of hours [I15].

As a direct result of negative customer feedback [I17] regarding the length of time and high coordination costs to receive a quote, the process for conducting walkthroughs changed once again. As soon as requests came in, they were emailed to the management team. The managers self-identified if their services were necessary two days before the meeting. These managers would then convene during the last hour of the meeting and discuss how things would work.

5.2.2 Costing

The ability to show customers the cost of services was deemed a key component of the shared service model. Most managers had never managed costs at this level of detail. As a result managers were forced to adapt to working with accurate and detailed cost information. Table 5.10 summarizes the key incidents that illustrate the cost trajectory.

Table 5.10 Cost Trajectory

Critical Incident	Description	Illustrative Quote
I9	Managers discuss how to respond to new customer inquiries about <i>cost</i>	“We’ve got a customer who is questioning why they should have to pay \$400.00 a year for the help desk to answer support calls.” (101:1)
I11	Managers debate the merits of accurate vs. quick <i>costing</i> processes	“Most of our customers have a champagne and caviar appetite and they got a hamburger and Coke checkbook.” (120:17)
I13	Managers struggle to meet the <i>cost</i> requirements of customer	“We figured out they want a Lamborghini and we figured out they can’t afford one... Are they willing to entertain public transportation?” (185:30)
I14	Manager declines internal purchase (training) in effort to reduce <i>cost</i> for customer	“You know, we’ve never had much interest in those types of classes [training]” (224:12)

Managers first struggled with communicating about costs with customers for the first time, later they sought to lower costs for customers. The discussion of the costing trajectory is presented in these two parts: Communicating Costs and Lowering Costs.

Communicating Costs

Soon after the new organization was announced the word quickly spread around the university. Managers found themselves answering questions about the new organization, typically related to the subject of cost. The most common question asked if prices would increase as a result of adopting IT-SSs. It was easy for managers to answer ‘No’ to this. Shortly after a customer had received a detailed quote for service, they had asked why they needed to pay for services from the help desk when they had never paid for these services before. This marked the first time that managers had been faced with this question. They sought group consensus on a standard answer for this question [19].

Providing accurate cost information was just as important as responding quickly to requests for service. On several occasions debates between meeting facilitators and engineers arose on the subject of costing. Engineers favored taking time to gather requirements while facilitators favored getting a rough estimate back to the customer as

soon as possible. Both had strong arguments. The CIO weighed in [I11] with the message that the goal was to figure out how serious the customer was, by showing them options and costs. If features were desired but no funds were available for development costs, Uni-IT could aid the customer in finding funds.

Lowering Costs

A few months later, a consultant who had not followed the mandate for responding quickly with a rough quote apologetically brought forth an agenda item for discussion at the weekly meeting [I13]. She recounted that she had been working with engineering on a quote for an internship database for the college of Education for two months. The quote came in at \$200,000, and she had since discovered that the customer's budget was \$5000. She sought direction and advice from her peers. Most managers stated that it was a good thing to show the quote to the customer as it let them know the true cost of service.

*“I think part of the process was supposed to be to demonstrate to our customers how much we really cost. That shouldn't be an inflated cost, but it shouldn't be a cut rate we can't really deliver on that cost either. I think if we can't compete on a piece of business this small, I'm not sure we should be brokenhearted about it.”
(185:41)*

Showing the true cost of service was one of the motivations for adopting IT-SSs, and managers quickly came to consensus that the consultant should show the cost to the customer. One manager quickly raised his voice and warned that the positive press which they had created surrounding the move to IT-SSs could be lost if this quote were to get out. Other managers were swayed, and they urged the consultant to give a modified quote to the customer that would describe the features they could receive on their budget.

Each manager was able to purchase services from others such as training services, video production services and technical writing services. However, each purchased service increased internal rates, ultimately raising prices for customers. Because of this, a few managers exercised caution when purchasing services they deemed unnecessary. In one situation, one manager was hesitant to buy training services, as it would increase his customers' rates. After a skillful sales job, the manager purchased the service [I14].

5.2.3 Role Assignments

The defining and learning of new roles was a dominant feature of critical incidents in the first two phases of the process. During this time, new roles were defined and assumed, creating issues to which managers needed to respond. This section summarizes the interactions between several critical incidents that revealed how this happened and its effect on the organization. Table 5.11 summarizes the key incidents that illustrated the roles trajectory.

Table 5.11 Role Assignments Trajectory

Critical Incident	Description	Illustrative Quote
I2	Managers agree to ‘org chart’ without knowing their new <i>roles</i>	“All team members signed on with absolutely no names assigned to any of the boxes and no implied assignments.” (78:3)
I3	Managers explicitly define new <i>roles</i> in form of domain statements	“It is your responsibility to have ownership and help others make decisions about their own roles because you never know when they may be your role.” (21:5)
I5	Still learning <i>role</i> consultant expresses many concerns	“All the technicians have to go through consultancy and I’m only one person.” (41:1)
I8	Transferal of duties and <i>roles</i> goes awry, causing alarm	“Now I have got two customers, I have got to keep happy because I don’t know if it’s the old person or the new person.” (89b:10)

Defining Role Assignments. After the “rainbow exercise” discovered many duplicate functions in the organization, haste was taken to arrive at a new organizational model that would eliminate these inefficiencies. Many duplicate functions had arisen out of political differences. At the four-day management summit, passions and emotions ran high as many long-held grudges and political disparities that had prevented people from collaborating in the past, emerged. As a result, the team worked late into the night on several days during the summit. The hard work paid off and resulted in a new organization chart that all managers committed to without knowing the role they would assume in it [I2].

For the next month, the CIO interviewed internal applicants for the newly created organization. After the majority of functions had been staffed, managers began to explicitly define the responsibilities for each ‘box’ of the org chart. These responsibilities were known as domain statements.

During the formation of domain statements, more political predicaments appeared. Due to the legal and encompassing language employed in the formation of the statements, it was common for two managers to argue about the semantics of a service that might pertain to a domain. Arguing caused unproductive meetings, which spurred the CIO’s rallying cry for focus and ownership [I3].

Learning Role Assignments. The responsibility of most managers only changed slightly. However, the consultant performed completely new responsibilities, as this position had no counterpart in the old organization. The consultant expressed some serious concerns about her position [I5]. Because her position was new, she grew concerned that other managers would continue to conduct business as usual and not allow her to lead-out in customer relationships. During the meeting, she received reassurance from other managers, and in subsequent weeks, this fear subsided.

Assuming Role Assignments. After the shared service organization was officially launched, the migration process began. This consisted of managers accepting new services that pertained to their new domain and handing-off services that belonged to others. Some managers were eager to hand-off responsibilities while others were reluctant to assume certain responsibilities. The process was carefully managed to insure that all handoffs went smoothly. However, on one occasion, a manager incorrectly reported that he had already passed-on his responsibilities [I8]. This caused confusion for other managers who were now unsure where to obtain the needed services. One response to this was a new initiative to train staff to ‘lead-pass’. A manager described this:

“We really have to train our people to take that lexicon out of their vocabulary. We have to train them to say that, ‘Morgan now does that,’ not, ‘I don’t do that.’ Or, ‘Let me transfer you now’ or, ‘I can take that request to them for you,’ or something to help it get there, but ‘I don’t do that anymore,’ can’t be an acceptable response.”

In summary, learning role assignments and having the confidence to perform them was key to realizing shared services. Discussions regarding the specific duties of all managers were a hallmark of the first several critical incidents. A shared understanding of individual roles was the result of many clarifying discussions. Several times managers expressed the importance of knowing the others' roles to allow for lead passing.

5.2.4 Intrapreneurship

A unique aspect of Uni-IT's approach to shared services is the emphasis on managers as intrapreneurs. An intrapreneur can be characterized as a 'self-starter' who need not ask for permission to act (Sharma and Chrisman 1999), who pursues opportunities without regard to resources they currently control (Stevenson and Jarillo 1990) and who pursues something which deviates from the status quo (Antoncic and Hisrich 2003). This section summarizes the interactions between several critical incidents that reveal this trajectory and its effect as summarized in Table 5.12 on the organization.

Table 5.12 Intrapreneurship Trajectory

Critical Incident	Description	Illustrative Quote
I1	Managers develop sense of <i>intrapreneurship</i> through "service paradigm"	"One of the first hurdles that we had to get over was the old way of thinking -- the silos that we were used to working in and thinking in terms of the tasks that we were all doing." (78:1)
I12	Internal issues with others' <i>intrapreneurship</i> pricing	"You're telling me \$400 a month when I can go online to the number one ranked people in the world and get it for \$100." (135:4)
I16	<i>Intrapreneurship</i> causes coordination issues, as managers can opt out	That ought to be their thing and if they want it to be updated and they need to start something to go do that (254:25)

Excitement about Intrapreneurship. During the first management meeting the researcher attended, managers were directed to introduce themselves, not stating what they "did" in Uni-IT but what they "sold". It was evident that the managers were proud of their role in their organization and took pride in being the sole person authorized to

perform their role. The notion that managers should be acting as intrapreneuers by “running their own business” came as a result of an exercise where each manager was asked to ponder four simple words: “What do I sell?” With these words, each manager was asked to contemplate the services they provided, not the functions they ‘did’. As a result, each manager created a list of services for which he or she was responsible.

This exercise had two lasting effects. First, managers started to think about their job in terms of selling and providing services. The livelihood of their individual businesses was dependent on their internal or external sale of these services. Business ‘growth’ was considered expanding the variety of services provided in order to meet the needs of customers. Managers were enabled to hire contractors in order to meet growing demand if full-time employee resources were not available. Second, there was a stark realization that the current structure “conditioned managers to compete against each other” (78:35). For example, “five groups provided video capture services” and “every group ran a file server” (78:34). Such competition promoted “internal conflicts... and low morale” (78:34). Seeking to avoid these problems in the future, explicit ‘domains’ or divisions of labor were created which explicitly defined the services specific to each functional group. When announced, the meeting facilitator explained these intrapreneurial ideals:

Each manager has their own business unit. Each business unit is really a business within a business. In running a business successfully, you want to see new business while at the same time managing the pressures of cost and resource availability. Our new business model gives each manager a solid planning tool to support the decisions about the operations of their unit. If new business comes along, do you have the resources to handle it? If not, would it be better to hire a contractor to do that work or bring in a contractor to do work that’s currently in progress? Will this be an ongoing project? Should we hire people next year to cover that work? (78:35)

Managers were certainly excited about being able to develop and provide new services pertaining to their domain. However, as it was a radical departure from business as usual, this initiative came with a steep learning curve. Said one manager:

“It was six months (after announcement day) before I felt like I owned my business enough to actually be an entrepreneur. Because, I’m trying to understand my business and what my role is in the organization and how I interact with customers and with my coworkers. So I would only imagine that

others are having that same issue; they're trying to learn what their responsibilities are before you can really grow your business” (196:14).

Issues with Intrapreneurship. Even after a substantial learning curve of six months, several other problems with adopting intrapreneurship surfaced. Two critical incidents exposed these difficulties. [I12] represents what happens when several managers slightly overestimated their proportional costs of service. [I16] represents the difficulty of coordinated action when dealing with sovereign entrepreneurs.

During [I12] a service manager could not bring himself to present a quote for a virtual server, as he found other universities provided the same services at far lower costs. He lobbied for other service managers to lower their estimates, and was able to lower the price to a more comfortable level.

This example illustrated positive and negative sides of intrapreneurship. On the positive side, the manager felt empowered to serve his customer the way he saw fit. This enabled him to challenge other managers to lower their prices. Consequently the prime met with the managers and arrived at a solution that resulted in a lower cost for the customer. Managers recognized that this form of coordinated action was landmark, and indicative of how far they had come. At the end of the meeting the facilitator said:

“These are awesome conversations to be having. This is really the right thing. Two years ago there was no flipping way you would have had this conversation without blood on the floor. And there would be no resolution.” (135:11)

Although this incident ended by managers reducing the cost for the customer, the issue that prompted higher prices was not resolved. Each individual manager produced slightly conservative estimates resulting in a price that the lead manager deemed too high for the customer to pay. Speculation arose that some managers with little perceived incentive to take on more work might have overestimated the amount of work required on a project.

One of my concerns is that some of the groups don't need more work. They're busy, they're swamped, they're overloaded and when we come to them with these little projects and these one offs, it's really burdensome for them. Everybody handles it differently, you know, some people say, “I'm gonna price myself to the point where the customer can't or isn't interested or would rather go to an outside vendor. If I needed the work, I would price my services differently.” (196:16)

Several months later, a coordination problem caused by the intrapreneurial sovereignty emerged. On this occasion, a manager had sought to take a course of action that would improve the customer experience by centralizing where software could be downloaded [I16]. Although the majority of downloads fell into his responsibility, other managers also provided software to users. Managers had the liberty of deciding how they would provide software to their customers. Although the project would have created a better customer experience, protocol required that deference be given to each manager to decide how to run his or her business, and this project was seen as stepping on their toes. Thus the intrapreneurial sovereignty of managers caused roadblocks in the endeavor to work together for the common good of the customer.

Summary

In summary, these horizontal trajectories form four subtexts or subplots that illustrate the relationships between critical incidents. They illustrate how one critical incident may have influence on another incident that happens months or years later. In addition they illustrate the evolution of walkthroughs, costing, role assignments, and intrapreneurship – breaking down the overall process consisting of seventeen critical incidents into four trajectories.

5.3 Vertical Analysis

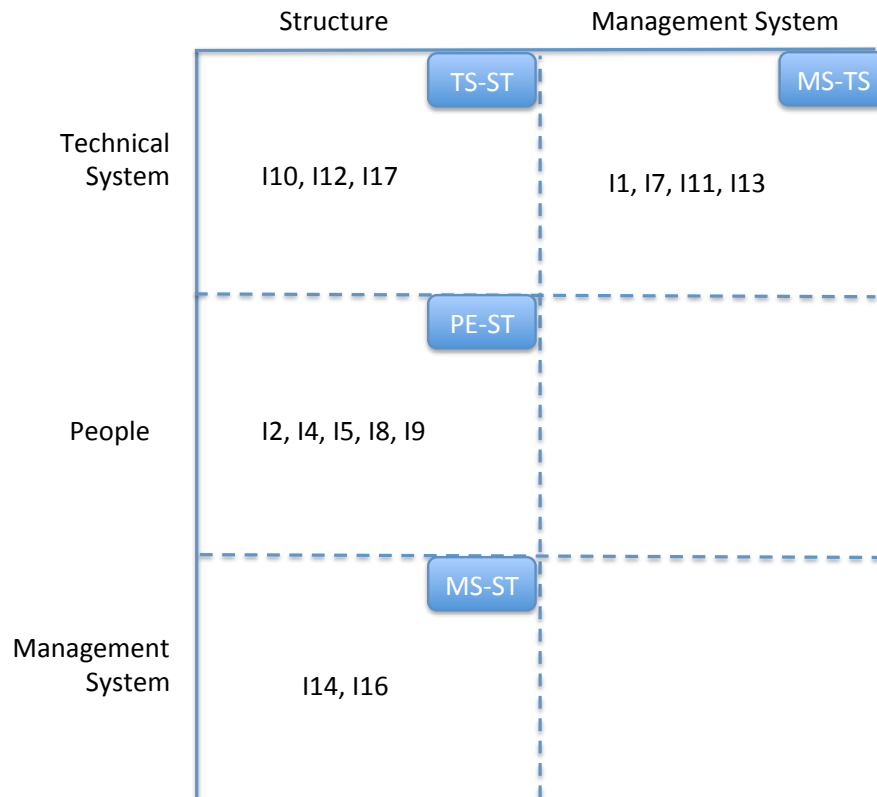
A third analysis unpacks interdependencies of vertically arranged elements of the visual map (Figure 4.4) of events at Uni-IT. This analysis focused on gaps in the socio-technical system resulting from a critical incident, comparing and contrasting critical incidents with similar gap-types. Each gap was coded as a tension between two of four possible dimensions, which allowed us to place them on an interaction matrix (see Figure 5.6). The resulting six gap types are represented in the squares of the matrix. For example, gaps characterized by tension between Structure and Technical System are listed in the top-left square of the matrix.

Figure 5.6 Critical Incidents Arranged According to Gap Type

	Structure	Management System	People	Technical System
Technical System	I10, I12, I17	I1, I7, I11, I13	I15	x
People	I2, I4, I5, I8, I9	I3	x	
Management System	I14, I16	x		
Structure	x			

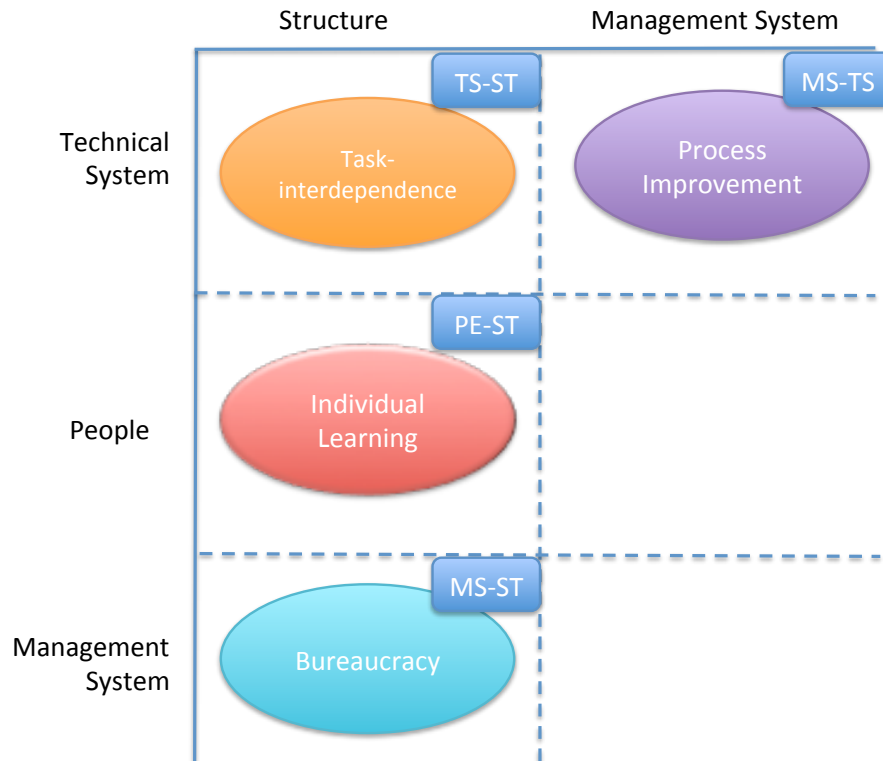
Two gap types, *People – Management System* and *People – Technical System*, were only represented in one critical incidence. Upon analyzing these events in the context of the four other categories, they were found to add little theoretical significance and were removed from the vertical analysis summary (Weick 1989). Figure 5.7 represents the result of this simplification.

Figure 5.7 Critical Incidents by Gap Type (simplified)



Subsequently, commonalities between the critical incidents sharing the same gap type were analyzed to uncover the related themes. These themes characterized key tensions that arose and were resolved as IT Shared Services were realized at Uni-IT. Accordingly, the vertical analysis yielded four types of gaps: Task-interdependence, Individual Learning, Bureaucracy, and Process Improvement as summarized in Table 5.8. The following sections (5.3.1 – 5.3.4) describe each of the related themes.

Figure 5.8 Summary of Vertical Analysis



5.3.1 Bureaucracy (MS-ST)

Gaps between Management System and Structure can be characterized by manager initiatives hindered by structural constraints or bureaucracy. The structure was designed to allow each manager to develop expertise and provide services within specialized domains. This section describes gaps that arose out of issues with this specialized structure. Table 5.13 describes the gaps that resulted from bureaucratic constraints and how they became manifest. The remainder of this section describes how the theme of bureaucracy was illustrated by these gaps.

Table 5.13 Gaps Between Management Systems and Structure

Critical Incident	Manifestation of Gap	Gap (G)
I14	Hesitancy to buy internal services due to costs	Cost concerns (MS) inhibited purchase of internal services (ST)
I16	Proactivity seen as infringement of ownership	Service improvement initiative (MS) struck down by sovereign intrapreneurs (ST)

The hosting services manager did not prefer to purchase unnecessary internal services that would drive up the costs customers would pay for services [G14]. One of the features of the structure was to allow each manager to make purchasing decisions independently. In practice however, social pressure caused unnecessary purchases, as happened in this case. In the following dialogue the training services provider successfully lobbied to sell training for Windows 7:

Hosting Services Manager: You know we've never had much interest in those types of classes [training].

Training Services Manager: Our classes actually are pretty full these days; I think you should give it a shot.

Initially the hosting services manager was hesitant to purchase the service, as he did not want to drive up the cost for customers. The services he had deemed unnecessary were purchased due to salesmanship and social-pressure from a fellow manager.

A few months later, a manager who was charged with hosting software packages proposed a new initiative to improve the customer experience [G16]. Seeing that software was hosted in multiple websites, he proposed that the software available for download be centralized making it easier for the customers. This would have required others managers to change how they performed their business, and his efforts were promptly struck down.

“All I'm saying is those pieces of software belong to a domain. The state of their documentation for a piece of software that they distribute ought to be their thing and they want that to be updated and they should, they need to start something to go do that. (254:25)”

5.3.2 Process Improvement (MS-TS)

Gaps between Management System (MS) and Technical System (TS) can be characterized by manager dissatisfaction with current processes performance and proposing improvements. Managers voiced frustrations with processes in weekly meetings, and planned to improve them. Table 5.14 describes the gaps that stemmed from process improvement initiatives and how these gaps were manifested to the researchers.

The section describes how the theme of process improvement was illustrated by these gaps.

Table 5.14 Gaps Between Management System and Technical System

Critical Incident	Manifestation of Gap	Gap (G)
I1	Frustration from unknowable costs	Cost controls and planning (MS) were not used (TS)
I7	Frustration with lengthy meetings	Planning process (TS) extended meetings unnecessarily (MS)
I11	Slow customer response times	Emergent customer intake process (MS) delayed quote delivery (TS)
I13	Manager found quote costs unacceptably high	Planning tools (MS) not useful for producing quote (TS)

After continual inquiries by the administration, top-management became frustrated with their inability to adequately defend their incapacity to complete all requests for service due to budget constraints [G1]. They had no ability to measure and define service costs and knew that in order to give a satisfactory answer, a major initiative to attain the cost of providing service would need to occur.

After having worked long hours and through many long meetings related to realizing shared services, managers grew frustrated when meeting times remained lengthy [G7] well after the initial development period. In response, a manager proposed that walkthroughs – a meeting item which consumed the majority of time in meetings- be done outside the meeting:

“I think we can make walkthroughs immensely more effective with intelligent and appropriate progress outside.” (88:1)

As a result of performing walkthroughs outside of the main weekly meeting, the amount of time required to complete a customer quote lengthened. Concerned with this [G11], a meeting facilitator reviewed how the process should work which led to a discussion of the trade-offs between rapid vs. thorough quotes. The CIO had the last word on the argument:

I think the dilemma is trying to scope the project right up front. Most of our customers have a champagne and caviar appetite and they got a hamburger and Coke checkbook.

The CIO favored scoping the project at the initial stages of the project, as the customers' appetite was often larger than their checkbooks. Managers generally understood this. However, no hard policy or process was put in place to ensure project governance, and discretion was given to consultants who often started projects as they saw fit. This absence of a policy gave rise to another gap.

After receiving a request for a new internship-tracking database, a consultant worked with an engineer for two months and produced a detailed quote for \$200,000. Unsure of whether she should scrap the expensive quote or show it to the client, the consultant asked the management team for ideas [G13]. The majority favored presenting the quote. However, one manager was strongly opposed and was able to change the opinion of other managers with this comment:

I think one of the elephants in the room is some of us are having a really hard time digesting \$200,000 for a custom app. We all looked at this and went, "Holy crap, its \$200,000." That's a lot of money! We can't possibly go talk to our customer about that.

5.3.3 Task-Interdependence

Gaps between Structure and Technical System can be characterized by the difficulties communicating and coordinating an organizational structure with high task-interdependence. Table 5.15 describes the gaps that stemmed from task-interdependence and how these gaps were manifested to the researcher. The remainder of this section describes how the theme of task-interdependence was illustrated by these gaps.

Table 5.15 Gaps Between Structure and Technical System

Critical Incident	Manifestation of Gap	Gap (G)
I10	Vocally upset managers	Intrapreneurial authority usurped (ST) by new process (TS)
I12	Refusal to give expensive quote to customer	Manager benchmarked (TS) costs with competitors (ST)
I17	Negative email received from customer	Coordination mechanisms (ST) not customer friendly (TS)

After managers did not respond to emails with estimates, an impatient consultant inserted his best guess as to what the estimated values might be. When managers discovered this at the next management meeting, they were extremely upset that someone would usurp this authority [G10].

“Others can't decide what rates budget managers will sell their products and services by. We can't make commitments for each other. That's been a common theme throughout this reorganization.”

The independence of decision-making, and ‘ownership’ of domains was taken very seriously. When each manager was able to price their own services, a little price inflation by several managers sometimes led to services that were not competitively priced. After price benchmarking a quote he was about to present, the server-hosting service manager found that it was four times greater than what competitors were charging [G12]:

So we have got to figure what we are going to do, because the annual fee that we are charging, \$3500 on the low end. What the commercials are charging is \$1500 - \$1600 a year.” (135:9)

Refusing to give such a high quote to his customer, the manager forced the contributing service managers to scrutinize and lower their estimates thus reducing the overall cost.

Several months later, the consequences of decentralized decision making emerged again. After many delays and changes to the initial quote due to more accurate information, an important client of one of the vice-provosts wrote:

It has taken 3 months to get an estimate, which no one in your shop can explain with any coherence. In fact, the stories have been all over the map. (Email 3/21/2011)

In an effort to perform their individual duties with exactness, the experience of the customer was overlooked [G17]. Realizing this prompted a major revision in how new projects were managed and swung the pendulum from internal efficiency to customer focus.

5.3.4 Individual Learning

Managers learning how to perform in new roles characterize gaps between Structure and People. This form of tension characterized the most common form of gap that appeared. Table 5.16 describes the gaps that stemmed from individual learning and how these gaps were made manifest to the researcher. The remainder of this section describes how the theme of individual learning was illustrated by these gaps.

Table 5.16 Gaps Between Structure and People

Critical Incident	Manifestation of Gap	Gap (G)
I2	Managers unanimously conceded need to restructure	Inefficient processes and duplicate services (ST) were seen as unsustainable (PE)
I4	Verbally expressed reluctance	Incomplete org-chart led (ST) to reluctance (PE) to do walkthroughs
I5	Verbally expressed doubts and concerns	New consultant (PE) concerned with internal relationships (ST)
I8	Verbal frustration at manager action	Confused manager (PE) stated responsibilities had changed (ST)
I9	Lengthy manager deliberation	Manager sought consensus (PE) over coordinated customer response (ST)

After conceding that the current organizational form was untenable and unsustainable, managers met together during a four-day summit where they presented their own organizational charts; after these four days of deliberation, they finally arrived at a structure that was unanimously accepted [E2]. Most importantly, the future role of individuals in the new structure was not determined, but all agreed that an application and interviewing process would occur to staff the new positions.

Two months later, the interviewing process was complete. Managers were now tasked with fulfilling their responsibilities for the old structure while planning their responsibilities that they would soon assume. In some cases, these future responsibilities were completely orthogonal to current responsibilities. In an effort to practice operating under the new structure before actually assuming new roles, mock walkthroughs were performed. In this exercise, a manager would propose a common service request whereupon managers would ‘walk through’ what individual services were necessary to bundle together to produce a solution for an external customer. This was a time consuming process as managers were operating solely with their imagination of what their role would be. Furthermore, several spots on the ‘org-chart’ were not staffed, necessitating other managers to fill-in. When top-management requested that a walkthrough be performed for each new service request [E4], managers gave considerable pushback.

One of the roles in the new organization that had no counterpart in the old structure was the role of consultant. The consultant was to be the public face of the organization as well as the default point of contact for customers. The consultant described her role as follows: *“my business is to go out and sell services and business (108:41).”* This was a radical departure from her former role as a line staff member who helped faculty on an ad-hoc basis. The consultant expressed concern that other managers would view her role as a bottleneck to getting work done [E5] and as a result, would by-pass her by working directly with customers. She argued that her role was important as others would *“sell the business they know... not the whole business.” (42:7)* This would lead, she argued, to managers only offering to solve solutions based on services that they sold and not by passing on business to others.

After the organization went live, the new roles were not assumed over-night but rather through a staged migration. Each manager had the imperative duty to assure that all obligations to all customers were passed-on to a receiving manager. A calculated plan was developed to manage this migration of duties, which was carefully followed except an occasion when one manager had told another he was no longer responsible for a

particular service request. This caused confusion for the reasons stated by the manager below:

If your project manager/facilitator doesn't know whom he's reporting to anymore, it's not migrated because all the related parties didn't know what was going on. The definition of migration is to make sure all of those steps get covered, and until all parties agree, it's not migrated yet.

All managers now found themselves in a new role as representatives of the new IT unit. As university departments received news of the move to a new form of IT service delivery, they naturally had questions. Managers found themselves fielding questions about costs that they felt uncomfortable answering [E9] without first consulting with all other managers in a weekly meeting. The principle question related to why

"We've got a customer who is questioning why they should have to pay \$400 a year for the help desk to answer support calls. So, I wanted to make sure that the answer we gave them was the same answer that Larry is going to give them next week...(101:1)

5.4 Summary

Each of the punctuated, horizontal and vertical analyses provided unique insight into the process of realizing shared services at Uni-IT. The punctuated analysis revealed five distinct phases describing tensions and their resolutions through incremental adaptations or punctuations. The horizontal analysis revealed four trajectories that characterize the temporal connections between critical incidents. The vertical analysis revealed four primary themes characterizing common types of gaps, partially explaining the engine of change. Table 5.17 presents a summary of the seventeen critical incidents, gaps, and responses. The left-most columns present the first letter of the respective trajectory or theme. In review, the horizontal trajectories are: Role Assignments (R), Walkthroughs (W), Cost (C), and Intrapreneurship; the vertical themes are: Bureaucracy (B), Process Improvement (PI), Task-interdependence (T), and Individual Learning (IL). In conclusion, the analyses provided fruitful ways to uncover the process by which shared services were realized.

Table 5.17 Critical Incidents, Gaps, and Responses

#	Critical Incident	Gap	Gap Resolution	HA Trajectory	VA Theme
1	Realization CIO has no means to measure cost of service when pressed by university administration to defend why larger budget was necessary	Cost controls and planning (MS) are not used (TS)	Punctuation. CIO hires consultant who directed staff to enumerate which services they sold, thereby kicking off a change initiative	I	PI
2	Duplication Managers discover extensive and unsustainable amounts of duplicate services in Uni-IT	Inefficient processes and duplicate services (ST) are seen as unsustainable (PE)	Incremental adaptation. Over a four day summit 40 managers came to consensus on new structure which would eliminate internal duplication of services	R	IL
3	Detachment Managers disengaged in meetings due to poor meeting process which allowed for unproductive arguing leading to ineffective meetings	Managers (PE) had not learned requisite meeting skills to operate in a collaborative environment (MS).	Punctuation. CIO issued an ultimatum, and laid ground rules for more effective meeting process.	R	IL
4	Hesitation Managers are reluctant to commit to adhering to the new customer intake process as the positions in the organization had not been filled	Incomplete org-chart leads (ST) to reluctance (PE) to do walkthroughs	Incremental Adaptation. Managers made a tenuous commitment to do walkthroughs for each new project even though they are months away from formally “going live”	W	IL
5	Identification Assuming a new role, and lacking experience for it, a consultant expresses concerns with her role related to other roles	New consultant (PE) concerned with internal relationships (ST)	Incremental adaptation. Consultant adjusts to working in new role	R	IL
6	Annunciation Announcement Day	n/a	n/a		
7	Duration The core business process of conducting	Planning process (TS) unnecessarily extends	Incremental Adaptation. Resolved immediately. Managers vote to move all	W	PI

8	Miscommunication A manager erroneously states that he is no longer responsible for a particular service, as it had been migrated	Confused manager (PE) states responsibilities have changed (ST)	Incremental Adaptation. Resolved over time as responsibilities are assumed through a step-wise process	R	IL
9	Consensus Managers have no consensus on how they should respond to customer inquires about why they now need to pay for <i>some</i> services	Manager seeks consensus (PE) over coordinated customer response (ST)	Punctuation. Resolved through long and heated discussion where managers realize the goodwill they have created could easily be lost if they dwell on costs	C	IL
10	Usurpation Authority of managers is usurped as consultant makes commitments for them due to change in core business process of walkthroughs	Intrapreneurial authority usurped (ST) by new process (TS)	Incremental Adaptation. Resolved as consultant learns from mistake and leadership changes core business process	W	T
11	Agreement Managers were not happy with response times from customer request for service to quote delivery	Emergent customer intake process (MS) delays quote delivery (TS)	Incremental adaptation. Resolved as managers change coordination process of walkthroughs placing higher priority on responsiveness	C	PI
12	Refusal A 'prime' manager does not think it ethical or savvy to charge his customer four times more than they could get the same service externally because of costly internal services provided	Manager benchmarks (TS) costs with competitors (ST)	Punctuation. Resolved same day. Managers involved in service delivery stay after to discuss how costs can be reduced to be more competitive, becomes a landmark in realization of shared services	I	T
13	Aberration Using detailed planning and budgeting tools managers struggle to produce a quote for a budget strapped customer	Planning tools (MS) not useful for producing quote (TS)	Incremental adaptation. Resolved as team decides to have customer choose most important design features that they are willing to pay for	C	PI
14	Acquiescence Manager hesitates buying internal training service out of concern for driving up cost	Cost concerns (MS) inhibit purchase of internal services (ST)	Incremental adaptation. Resolved quickly as manager concedes to buy the service	C	B
15	Maturation Managers become adept at walkthroughs necessitating a change in meeting process	Managers (PE) experience advances and accordingly the walkthrough process	Incremental adaptation. Managers change business practice	W	IL

		(TS) needs to be changed			
16	Sovereignty A manager seeks to improve the customer service by creating a one-stop shop for software downloads but is impeded by other managers who seek to retain their sovereignty over how they deliver services	Service improvement initiative (MS) struck down by sovereign intrapreneurs (ST)	Incremental adaptation. Not immediately resolved	I	B
17	Discontentment Negative feedback from important customer necessitates re-evaluation of coordinating mechanisms	Coordination mechanisms (ST) not customer friendly (TS)	Punctuation. Directors react swiftly, enacting changes are made to customer intake process and walkthrough initiation	W	T

6 LEARNING FROM A REALIZATION OF SHARED SERVICES

This chapter describes management issues that arose during the two-year process of realizing shared services at Uni-IT. Twelve issues were identified through a process of iterative aggregation and then presented and described according to the type of analysis from which they stem. Each of these lessons were presented and discussed with a key informant from Uni-IT. Lessons naturally arose from the horizontal and vertical analyses as they characterize the process by trajectories and themes. The third, punctuated analysis, while structuring the overall account of this transition, did not lead to it's own, separate, managerial lessons. The lessons from the horizontal analysis pertain to the trajectories discussed in Chapter 5 (Walkthroughs, Costing, Role Assignments, Intrapreneurship) while the lessons from the vertical analysis pertain to the themes discussed in Chapter 5 (Task-interdependence, Individual Learning, Bureaucracy, Process Improvement). To summarize, Table 6.1 describes seven lessons that arose from the horizontal analysis and Table 6.2 describes five lessons that arose from the vertical analysis. Each lesson is described below. These twelve lessons have been given short, direct, and actionable names. More detailed and context specific sub-headings in italics are presented with each lesson in this section.

Table 6.1 Lessons from Horizontal Analysis

#	Lesson
1	Preach the service paradigm
2	Acclimatize before going live
3	Transparency brings scrutiny
4	Expect hostility from some customers
5	Cost focus can be perilous
6	The intrapreneurial metaphor has limits
7	Manage changes in personnel expectation

Table 6.2 Lessons from Vertical Analysis

#	Lesson
8	Rally the troops
9	Make divisions clear
10	Migration needs to be deliberate
11	Presenting costs requires finesse
12	Specialization spreads you thin

6.1 Horizontal Analysis Lessons

6.1.1 Lesson 1: Preach the Service Paradigm

Don't think of what you 'do,' think of what services you 'sell' to others.

Service-oriented thinking is a significant departure from traditionally espoused management paradigms. The first exercise initiated by meeting facilitators required each manager to enumerate the service that they provided or “sold” internally or externally. This enabled managers to start viewing their job functions from a service perspective. On the surface, this seemed like a simple exercise. However, it proved difficult and required two months because it constituted a radical departure from traditional thinking about what one “does” to what one “sells” to internal or external customers. The result of service-thinking was a paradigm shift from task performance – “what I do” – to service provision – “what I deliver.”

The requisite shift in thinking from what one does to what one provides did not come about without going through a great deal of education and follow-up. Although this exercise was initially performed with the purpose of accounting for the cost of services performed, it also succeeded in laying the conceptual groundwork for the new way of thinking that would be required for the move to shared services. A manager explained:

“One of the first hurdles that we had to get over was the old way of thinking and the silos that we were used to working in and thinking in terms of the tasks that we were all doing. Instead, we had to start thinking about what others were expecting and would like to have for us to provide.” (78b:1)

This lesson is similar to conclusions of the services marketing literature which highlight the differences in managing the provision of goods versus services (Ostrom et al. 2010; Vargo and Lusch 2004). Specifically, we found that employees of Uni-IT were able to adopt a service-oriented paradigm, facilitating the realization of shared services. This is consistent with Vargo and Lusch (2004) who assert that a new operating logic is necessary to fully understand the management of services. A paradigmatic shift in the way employees’ view their job function has not been identified in the literature on shared services.

6.1.2 Lesson 2: Acclimatize Before Going Live

New roles need to be practiced before they are assumed.

Before the new organizational structure was operational, Uni-IT practiced the process of initiating a new service contract through a technique called a ‘walkthrough.’ Walkthroughs were described as communicating understanding of “who will be doing what, for whom, in relation to the delivery of products and services.” The goal of a walkthrough is to arrive at “clear workflows, which provide step-by-step documentation, as well as validation [of the divisions of the new organization].” By rehearsing key business processes by conducting dozens of walkthroughs, Uni-IT had a smoother transition from task to service-oriented delivery.

The importance of obtaining clarity of ownership and responsibility was also asserted by Cooke (2006). Cooke noted the confusion employees might have, unsure of whom to turn to for requisite services. This lesson confirms and extends Cooke’s finding by giving a descriptive account of how clarity of ownership was attained. Section 5.2.1 provides more detail regarding how walkthroughs were used to obtain clarity on individual responsibility of service production. This specific practice has not been developed in the practitioner or academic literature on shared services.

6.1.3 Lesson 3: Transparency Brings Scrutiny

Cost transparency enables price benchmarking which leads to lower costs for customers.

For the first time, managers prepared and delivered price quotes for requested services. Knowing that customers could easily check the prices for similar services, managers would often do the same before delivering the quote. If the price was deemed too high, efforts were often taken to reduce the overall cost of service. Here a manager reflects on the changes due to cost transparency:

“We have gone through selling people on the idea that we are opening the books, letting you see everything, well that also opens the books on doing the same thing George did, which is go, surf around and find out whatever everybody else is charging for these things. This is a good thing, but this new -- this system makes us do this. Because in our old model there was no pressure to ask these questions, we didn’t. (131:8)”

While others have found that customers struggle with new pricing mechanisms (Knol and Sol 2011; Ulbrich et al. 2010), we illustrate the personal struggle managers face when first confronted with the full price of delivering services to the client. Our research extends prior research by illustrating manager difficulty in presenting high costs of service to the client, and therefore actively trying to lower the cost of service. .

6.1.4 Lesson 4: Expect Hostility About Detailed Costing From Customers on Several Levels

Be prepared for strong reactions by other units who assume ulterior motives.

Soon after the new organization was publicly announced, rumors started to circulate that the motive for the move to IT-SSs was solely monetary and that services would become more expensive. Each year the CIO met with the dean of each academic college to show them the cost of the services they were provided that year. Here, the CIO relates a dean's concern:

“The dean’s first thought was how are we going to get money out of this? I finally said this is about transparency; this is not about generating more money.” (123:8)

Other customer reactions included contempt that estimates of the cost of service were being produced. One manager suggested that other departments started to feel threatened or inferior because they could not produce detailed provisioning cost statements similar to those of UNI-IT:

“I think there are some folks around campus who are threatened by the whole process: Uni-IT is starting to know what it costs to run their shop, and I have no idea how much it costs to run my shop or where my money goes.” (291:1:03)

Customer fears were quelled as managers defended that the accurate cost statements were for the purposes of transparency and defending the IT budget, not about making more money. Similar lessons are identified in the literature. Janssen et al. (2009) warned that individual interests could generate resistance to change or create internal conflicts. Cooke (2006) warned that formalized procedures and new processes often alienate staff. Ulbrich et al. (2010) assert that helping clients overcome struggles with new pricing mechanisms is a management challenge unique to shared services. To avoid this issue, McKeen and Smith (2011) suggest developing a transparent process of goal alignment. Our study further supports and illustrates this literature by grounding the challenge in specific cost issues that customers struggled with.

6.1.5 Lesson 5: Cost Focus Can be Perilous

IT managers, new to managing costs, tend to overly focus on them.

Knowing the cost of services they provided was empowering for managers. Many had never previously known this information in their career. Costs were discussed for every new project, and each manager was well aware of the rates which other managers were being ‘billed’ for their services. In most cases, actual money did not change hands, as it was mainly used as a management and communication tool. Although customers were often not ‘charged’ for services, they informed managers that they disliked how much discussion about costs dominated conversations. As a result, Uni-IT realized that too much emphasis had been placed on accounting for the costs of services. During this period, the team received an email from the university registrar who expressed frustration over the time it took to receive a clear estimate:

“It really does worry me that so many people in your shop and mine have devoted so much time... to working on and talking about an estimate that is neither very helpful nor very meaningful.” (E 3/5/2011)

This was a sobering email. It caused managers to rethink the message they were sending customers. As a result, they shortened the length of time necessary to give customers a quote by coordinating via email rather than waiting until the weekly management meeting.

Two lessons from the literature inform why the costing of new services challenged managers. Ulbrich et al. (2010) contend that managers are challenged to describe IT services to business units due to their intangible nature and suggest managers develop new communication practices. Borman (2010) finds that shared service staff often lack in “communication, results orientation, cooperation, and customer orientation” due to the nature of providing services in a public organization. Prior to adopting shared services, the observed managers spent little time budgeting resources, but after some training on service costing they were eager to carry out this new duty for the first time. This lesson extends the literature by describing the communication pitfalls stemming from over-eager managers excited to reduce costs, while losing their service focus.

6.1.6 Lesson 6: The Intrapreneurial Metaphor Has Limits

Initial excitement about intrapreneurship wears thin with many managers.

One of the unique aspects of the composition of shared services at Uni-IT was its heavy use of intrapreneurial principles. At the outset, managers were very excited by the idea of being able to build their own business and act intrapreneurially to identify new services that they could add to their “service offerings”. However, while many managers were successful in doing this, others did not see the incentives for intrapreneurial efforts. They perhaps felt that they were taking on more work and increasing workload without some kind of reward .

To lessen the amount of incoming work, a few managers priced their services “to the point where the customer [wasn’t] interested” (196:5). This caused other managers to purchase less of their services and not include them on projects. A manager expressed this with the statement: “[when you] need the work you're more competitive on your pricing than when you are up to here and don't need the work.” (196:5)

Managers who performed well as intrapreneurs stood out among their peers and rose to the top of management. In contrast, shirking managers discovered that they could hide by “*inflating their estimates in order to make the case [that] they can't do any more work*” (291:1:22) and finding ways to commit their resources to various projects. Higher prices meant less demand and less work for managers. Reflecting on this problem, one manager reflected on the limits of the intrapreneurship metaphor:

“You are an entrepreneur but you do not have capital on the line, but you are beholden to a university, to the CIO and your peers and there will likely be consequences for acting apart from the group.” (291:118)

Literature on shared services does not address the possible role or benefit of combining an intrapreneurial culture with the structure and governance of shared services. Our findings suggest that these two management methods are complimentary. This insight relates to Uruthirapathy's (2011) conclusion that the implementation of shared services introduces increased levels of task-interdependence in the organization. The introduction of intrapreneurship also brings increased levels of task-interdependence (Jong and Wennekers 2008). Our lesson highlights the need for further research into the role of complementary role of an entrepreneurial culture on servitization.

6.1.7 Lesson 7: Manage Changes in Personnel Expectations

Changing organizational structure does not change the organizational culture.

During the long transition from task to service orientation, much time and effort was spent defining new organizational roles and learning new work practices. No additional time was given to help manage the changes in expectations of managers. Although these managers had worked with each other for many years, they were now working in new and different ways, and tensions between managers arose out of these new working relationships. One manager reflected:

“In a specialized structure, you have to be able to engage in the people process, group member tension counseling and setting expectations.” (291:52)

“We went into the budgeting and structure process with accountability issues, and an inability to form clear agreements that have followed us throughout and now they are at the forefront.” (291:1:29)

As managers had issues with being accountable to agreements made before the reorganization process. These issues surfaced again, long after the initial excitement of adopting shared services.

This lesson is similar to those identified in the literature. Joha and Janssen (2010) conclude that “individual interests and associated behaviors which can generate resistance to change or create internal conflicts” are a common barrier to successful implementation. The quotes presented above illustrate how Uni-IT largely failed to manage the culture change process. Lacity and Fox (2008) argue that the success of shared services stem from a “sourcing redesign,” including the retraining of personnel. While the structural transformation was the focus of managers enacting shared services, the culture change process was largely ignored at Uni-IT.

6.2 Vertical Analysis Lessons

6.2.1 Lesson 8: Visualize the Problem, Then Rally the Troops

Motivate by making inefficiencies painfully obvious.

Large-scale organizational change efforts, such as moving to a shared service environment, require motivation and buy-in on the part of those affected by the change. In this case, the need for change was made apparent by first combining each manager’s list of provided services. As

the lists were combined into a single spreadsheet and sorted by category, it became obvious that there were many duplicate services. The extent of inefficiency and duplication came as a surprise to many and came to be viewed as unsustainable, necessitating reorganization. This exercise illustrated to managers that they spent a great deal of time providing services outside their area of expertise, services which their colleagues were better suited to provide.

Managers discovered that their then-existing structure was organized around the clients they served, not the function they performed. An organization chart was made and color-coded according to service provided (see (Janssen et al. 2009)). This gave rise to the term “rainbow organization”. This visual representation of duplicate services helped the managers make sense of the internal competition and conflict that characterized their organization. This quote reflects the security manager’s acknowledgement of her development of servers and application hosting – areas which belonged to other managers:

“We were facing escalating demands for security reviews and risk assessments, but we were also spending a lot of time managing the growing server farm, trying to roll out new applications -- things that we found other groups in [Uni-IT] were more proficient in doing.” (78a:5)

The literature on shared services generally espouses a top-down approach where executives mandate shared services (Hochstein, Ubernickel, et al. 2009). This lesson argues for engaging and motivating employees to make the necessary changes to adopt shared services. Literature on organizational change management suggests the importance of obtaining “buy-in” from employees (Kotter 1995). Lacity and Fox (2008) suggest making people an integral part of the change process but falls short of making specific recommendations of how to motivate employees to desire to adopt shared services. This lesson presents a unique aspect of how Uni-IT was able to realize shared services.

6.2.2 Lesson 9: Make Divisions Clear by Domain Statements

Go to great lengths to assure managers know what the scope and boundaries of their new roles are.

“The structure is specialized, I liken it to a circuit board, you have all these different components and they all have a job to do and together they complete some larger application or task.” (291:5)

One of the reasons for adopting shared services was to eliminate the provision of duplicate services. With much fervor and passion, managers set out to exactly define roles and functions so there would be no room for ambiguity. A few weeks after agreeing upon a new organizational chart, managers spent several weeks writing “domain statements” -- comprehensive definitions that described each position in the new organizational chart. A Uni-IT memorandum defined domain statements as “descriptions that summarize the specializations and expertise of each unit and sub-unit in the new organization” and cited their importance for “ensuring that we will have no gaps or overlaps in functionality within the new organization.” A manager illustrated the importance of domain statements:

“Each manager must work diligently to ensure that their group not only covers the work defined by their domain, but also refrain from straying into what is covered by another’s... You should notice that we must all work as a team to succeed as there are many dependencies built within our structure, some of which are multi-level. There is no slack-hiding place within this organization... Each business unit is really a business within a business.” (78:5)

This lesson illustrates another method by which Uni-IT was able to establish clear division of roles and responsibilities through the use of “domain statements”. Two other studies have concluded the importance of establishing clear ownership boundaries. Lacity and Fox (2008) find the importance of making people whose work will be transferred accountable for successful migration. Cooke (2006) suggests that lack of clarity of ownership of responsibilities can lead to employees unsure of whom to request internal services. We extend these lessons by describing the method used to make these divisions clear: the creation of domain statements.

6.2.3 Lesson 10: Migration Needs to be Deliberate

During migration staff propensity to pass-off responsibility causes confusion.

With the new organization formed and announced publicly to the university, the staff began a process of migration of duties and responsibilities. Managers and staff had to take on new responsibilities while handing-off other responsibilities. This process was carefully managed and occurred over several months. In the following conversation, a manager mentions a situation where someone assumed responsibility for a service before it had officially migrated. The ensuing surprise and frustration of others shows the severity of migrating without the agreement

of the previous service owner. The concluding statement by Manager A indicates the confusion that results from the practice, as he is not sure which customer to serve.

“But it’s issues like that that keep coming up. Virtual computing lab is another one that’s a big issue. Because Mike has been the prime running for so long and now we are told, ‘No, it’s Dorian’s now, so that Mike can focus on his sales team.’ And this is the comment that I am getting – my team is getting – and they are coming to me. Who do I – now I have got two customers, I have got to keep happy because I don’t know if it’s the old person or the new person.” (121:18)

Accordingly, Uni-IT maintained two parallel organizational structures for several months during the migration period. They had officially adopted a new organization chart designed around shared services, but continued to perform their old job functions and maintain the same reporting structure. This migration practice is not mentioned in the shared services literature. Lacity and Fox (2008) assert the importance of keeping transition managers until the new service model is stable, but provide no guidance on the migration of duties for staff. Due to the parallel implementation of shared services alongside the prior IT organization structure, this lesson appears to be unique.

6.2.4 Lesson 11: Presenting Costs Requires Finesse

Managers discover there is a steep learning curve to presenting quotes to customers.

Detailed and accurate pricing of services had a huge effect on internal management and customer interactions. Never before had Uni-IT been able to provide detailed estimates of service costs to their customers; this caused unexpected responses from customers and major changes to work practices.

“I think we underestimated the finesse that it takes, you learn that every time I quote a price to someone there is a little dance that happens.” (291:44)

The discussion in meetings typically evolved around a dichotomy of showing all cost details or no cost details. As one manager summed it up, *“Those are complexities for people to grasp, those who have never been in the private sector. The thing they are not getting is, it depends.” (291:45)*

Lower costs are a commonly cited reason for adopting shared services (Goh et al. 2007; Quinn et al. 2000). A focus on costs presents challenges for managers who often lack experience with

presenting detailed costs to clients. Ulbrich et al. (2010) assert that communicating costs to customers is a skill that managers in shared service organizations must learn. This lesson illustrates the learning curve faced by managers not accustomed to presenting costs to clients.

6.2.5 Lesson 12: Specialization spreads you thin.

Specialization requires increased accountability.

One of the major problems identified with the prior organization was the duplication of expertise.

“In the old structure we had a lot of duplication so frankly, people could drop ball right and left and there was someone to pick it up gain, but you were also loosing economies of scale, people with the same depth expertise in two different areas that should have been collaborating but they were actually competing.” (291:6)

In designing operations in the shared service environment, each role was specialized with an intense emphasis on not performing others’ functions. However, this emphasis came with a price. It created a huge dependence on other people to accomplish tasks. This became a problem, as some managers did not handle their responsibility well. As they were slow to communicate time estimates for new projects, this slowed down other work. Even when one or two managers were ineffective, this had a profound effect on the work of others. One manager explained the problem:

“It creates single points of failure, if you have an ineffective budget manager it effects the entire team, it ripples immediately, commitments are based on commitments made by others, one person in that chain drops the ball and it ripples throughout the whole organization.” (291:7)

In hindsight, managers reflected that they should have addressed issues of accountability and working relationships at the very beginning of the transition. The specialized nature of the new structure exacerbated the problems caused by under-performing managers. One manager explained why it took them so long to recognize these issues:

“We were in a place where we bought a new car and whatever challenges we had we attributed to the new car. You are focused on that one thing, and anything that is wrong you are going to attribute to that new thing.” (291:1:29)

The intense focus on the organizational structure caused them to overlook potential issues with the operations of people within it. Obtaining the cost of service estimates necessary to produce a

timely response for the customer was not easy. This required the coordination of several managers who each ran their own service line. As the success of the unit depended on the efficient running of independent units, the director made it clear that each manager would be evaluated on this efficiency.

Director: You guys have got to start digging into this. You're running a business; you've got to run it right. You will be evaluated on how you run your business because I'm writing it into every job requirements for yearly evaluation. (178:5)

This lesson illustrates the importance of individual accountability when operating in a highly specialized organizational structure. As staff becomes dependent on each other, the importance of accountability for assumed responsibility increases (Uruthirapathy 2011). Uni-IT staff demonstrated a propensity to focus on the organizational structure and neglected to cultivate a culture of accountability. Lacity and Fox (2008) assert the importance of making individuals accountable for the successful migration of their work, but do not cite the ongoing importance of accountability in a highly specialized, or task interdependent organizational structure.

6.3 Summary

This chapter presents twelve key lessons managers in Uni-IT learned while adopting shared services. These lessons are related to similar lessons identified in the shared service literature. This can be used as a guide for executives preparing a move to a shared service model, and also for current shared service organizations as they face related challenges.

7 DISCUSSION

Chapter seven summarizes the results of this study and presents its contributions to the IT shared service literature and to the PSIC model. Questions for future research studies that emerge from this work are then presented followed by limitations of this research.

7.1 Contributions to IT Shared Services

This research has examined the transformation of a functionally aligned IT department to a shared services model based on a punctuated socio-technical analysis. Through the in situ study of the transformation process, the study provides a detailed explanation of how and why change was accomplished. This study was guided by the following research question:

RQ: How does a functionally organized IT unit transform to a shared services delivery model?

The results of the analysis of this research question have resulted in three distinct contributions that can be generalized more broadly. Each of these contributions can be seen as subsections of the main research question above. First, based on the lexicon of the Punctuated Socio-Technical Information Systems Change Model (PSIC) we provide a detailed empirical account chronicling how a large IT unit adopted shared services. Second, based on a horizontal (temporal) and vertical (structural) analysis of the empirical account, we detail the temporal nature of eight significant concepts in the realization of shared services. Third, based on further analysis of the data, we arrive at twelve lessons learned by managers, arranged according to the horizontal and vertical analysis. In the following sections we summarize the results and contributions of each of these areas.

7.1.1 An Empirical Account

First, we present a descriptive explanatory account of how Uni-IT realized shared services. This empirical process account contributes to knowledge on the inner workings of the process of adopting IT-SSs. This is similar to other detailed process accounts of IS phenomena (Crowston 2000; Montealegre and Keil 2000; Napier et al. 2009; Newman and Robey 1992; Sabherwal and Robey 1995; Singh et al. 2010). This account provides insights into the patterns that led to the successful realization of IT shared services at Uni-IT. This contribution is significant and

warranted as recent literature has explored shared services as a useful management concept for private (Goh et al. 2007; Lacity and Fox 2008) and public organizations (M. Janssen and Joha 2006a; Marijn Janssen and Joha 2006; Janssen and Wagenaar 2007).

This is the first process account in the literature highlighting the process by which IT shared services is realized. This process account yields insight into the sequence of events necessary to transform from a functional IT department to IT shared services. In the past, many retrospective case studies have yielded significant insights into success factors for adopting shared services (Becker et al. 2009; Ubernickel et al. 2009). As a result of this research we are able to provide a succinct account that is empirically based on two years of ethnographic data that is analyzed through the lens of the PSIC model. In review, we present a summary of the seventeen critical incidents that chronicle how IT shared services were realized in Table 7.1.

Table 7.1 Chronological Summary of Critical Incidents

Critical Incident	Description
Realization	Unable to defend how budget was spent, the CIO hired a consultant who directed staff in developing a service catalog for internal use.
Duplication	During the creation of the service catalog many duplicate services were discovered, spurring managers to restructure along lines of service.
Disengagement	Poorly managed meetings caused disengagement among participants prompting the CIO to issue an ultimatum leading to immediate change.
Hesitation	With initial reluctance, managers commit to perform a new customer intake process called a <i>walkthrough</i> for every new project.
Identification	Unsure of new identity in the shared service organization, a consultant expressed concern about new responsibilities.
Annunciation	The shared service organization was announced to all IT staff and the university community during a four-hour long offsite meeting.
Duration	Managers grow tired of long meetings and vote to perform walkthroughs outside of the weekly meeting.
Miscommunication	Confusion arises when a manager prematurely hands-off his responsibility for providing certain services causing a more careful and purposeful migration of duties.
Consensus	Managers seek consensus on the proper response to customers asking about why they need to start paying for some services, decide to not dwell on costs.
Usurpation	Consultant irks managers by usurping managerial authority to provide quotes for their respective services.
Agreement	Unhappy with lengthy customer response times, meeting facilitator works to obtain agreement on how customer response process should work.
Refusal	Manager refuses to provide a quote to a customer that is four times higher than competitors. Managers then work together to cut costs for customer.
Aberration	Consultant fails to conduct a <i>walkthrough</i> causing difficulties in producing a cost effective quote.
Persuasion	A manager is successfully persuaded to buy services he was initially hesitant to purchase due to a desire to keep costs low for customer.
Maturation	Familiarity with process for conducting a walkthrough causes managers to change how this is performed.
Sovereignty	A customer improvement initiative is stifled as managerial sovereignty impedes coordination necessary to improve service.
Discontentment	Negative feedback from an important project leads to further refinements of processes for increased responsiveness to customer inquiries.

7.1.2 A Conceptual Account

This research builds upon many studies that have provided a conceptual account of issues arising from either adopting or working within shared service models. We elucidate eight concepts that

emerged from the vertical and horizontal trajectories that help illustrate the common issues involved with adopting shared services. We found support for the major challenges identified by (Lacity and Fox 2008) when adopting shared services. We extend the work of Lacity and Fox (2008) by providing detailed accounts of the challenges of business process redesign and sourcing redesign.

This research highlights the nature of work at an IT-SSs. We extend the work of Uruthirapathy (2011) by chronicling how task-interdependence was achieved, and its positive and negative effects on the work environment. We also conclude that a customer-service orientation was instilled in the shared service organization, only after a period characterized by an internal efficiency focus. We describe how IT personnel were trained and motivated to adopt IT-SSs, extending and confirming the work of Fonstad et al. (2009). In review, we present a summary of the eight concepts that emerged from the vertical and horizontal analysis.

Walkthroughs

Walkthroughs were used as a coordinating device to determine which services from internal managers would need to be pooled to meet the requests from a client. Initially these walkthroughs required significant amounts of time, but as managers gained experience the time required to perform them was decimated. Performing walkthroughs had two significant effects; it reinforced manager responsibility and enabled each manager to be aware of how their services might be able to be bundled to meet the needs of a client.

Costing

Considerable work went into being able to know the true costs of providing IT services. This detailed and transparent cost information led to the successful defense of the IT budget, but also yielded several unforeseen challenges and benefits. First, most managers had never presented a quote to a client before and thus faced a steep learning curve. Second, after realizing their expensive pricing after benchmarking the customer quote with competitors, a few managers refused to present the quote to the customer. In response, managers worked together to lower the cost of service.

Role Assignments

Adopting shared services was done through a complete organizational redesign that involved a major change to the responsibilities and role assignments of managers and staff. This research describes the process of defining, learning, and assuming new role assignments. To ensure mutual awareness of responsibilities, the entire team in joint meetings established role assignments. Individual managers relinquished responsibilities to one or several managers while also assuming responsibilities from others. This necessitated a migration phase wherein the relinquishing and assumption of new role assignments was carefully managed.

Intrapreneurship

From the outset of the transformation the virtues of intrapreneurship were taught to managers. It was seen as the anecdote to an organization that had several groups providing the same service. Managers were excited to have autonomy, grow their business lines, and be the sole experts for their respective service domain. As time progressed, the realities of work settled in as the romantic ideas of intrapreneurship subsided. Managers realized that they had little incentive to grow their business as this meant more work for the same pay. In addition, new initiatives that required the collaboration of managers were often viewed as usurping the sovereignty of intrapreneurs. However, success was met from this intrapreneurial culture; a few managers successfully grew their business, not for monetary motivations, but for the success of the IT department as a whole.

Task-Interdependence

Prior to adopting shared services, Uni-IT had low levels of task-interdependence and consequently many staff members and managers developed expertise and provided duplicate services. The shared service organization was organized with clear divisions of labor to avoid the inefficiencies of duplication. Managers were empowered by the knowledge that they were the dedicated service provider for a given set of services. While managers were excited about this increased autonomy, they were not accustomed to the coordination necessary to work in an environment where they were the sole provider of a given service.

The result of task-interdependence was both positive and negative. Managers developed a sense of responsibility and ownership for the services they provided. Task-interdependence also led to increased coordination which often led to final quotes which were often deemed too high to present to the end customer and slow response times.

Bureaucracy

The business processes of Uni-IT changed with the adoption of shared services. Formal processes were followed when new requests for service were received. In addition, each manager was given the authority to manage the way in which his or her responsibilities would be carried out, consistent with the principles of intrapreneurship. This however caused a new level of bureaucracy that impeded managers who wanted to enact change across domains.

Process Improvement

Much of the progress that was made in transforming the organization to a shared service model came from managers who were dissatisfied with inefficient business processes and proposed remedies. This may have stemmed from the intrapreneurial culture of Uni-IT that empowered managers with the freedom to provide their own services as they saw fit. When managers felt that organizational level policies or processes hindered their intrapreneurial autonomy they sought redress by proposing changes.

Individual Learning

Once each of the roles in the shared service organization was developed on paper, managers had to apply to assume them. This required a formal application process complete with an interview by the CIO. While some positions were similar in nature to prior positions others were completely new. Many of the tensions that arose stemmed from managers who were unsure of what their responsibilities were, or who lacked confidence that others would respect their new authority. In addition to learning their own individual roles, managers had to learn new skills such as presenting quotes to customers, answering customer inquiries about cost, conducting detailed internal budgeting, and buying and selling internal services.

7.1.3 Managerial Lessons

We identify managerial lessons and organizational issues in realizing IT shared services. This is consistent with other research on shared services (Knol and Sol 2011; Ulbrich et al. 2010). As adopting shared services entails a major cultural and structural change, an important and common area of research on IT-SSs is providing lessons for managers seeking to enact such change. The research method employed in this study allowed for the discovery of these lessons to occur in the field as they happened, rather than a retrospective interview (Levina 2005). This extends the work of Ulbrich et al. (2010) by identifying lessons for managers who are adopting shared services. By collecting ethnographic data we are able to arrive at twelve lessons for managers, and describe their context and temporal order (Levina 2005).

The twelve managerial lessons that we conclude from our analysis support and build on others in the literature which have been described through case studies (Ulbrich et al. 2010; Uruthirapathy 2011) and focus groups (McKeen and Smith 2011). However, the manner in which these lessons were discovered yield two significant contributions. First, these lessons were considered in the context of the empirical process account, and are arranged according to the analysis (vertical, horizontal) from which they emerge. Second, the exact moments managers were learning these lessons was recorded and revisited while constructing these lessons. Accordingly, lessons are supported by quotes from managers as they are in the very act of learning said lesson, or soon thereafter (Klein and Myers 1999). This yields lessons that are empirically grounded and nuanced by the context in which they occur (Pettigrew 1987). The twelve lessons for managers found from the data are reviewed in Table 7.2.

Table 7.2 Lessons from Horizontal Analysis

Lesson
1. Preach the service paradigm
2. Acclimatize before going live
3. Transparency brings scrutiny
4. Expect hostility from some customers
5. Cost focus can be perilous
6. The intrapreneurial metaphor has limits
7. Manage changes in personnel expectation
8. Rally the troops
9. Make divisions clear
10. Migration needs to be deliberate
11. Presenting costs requires finesse
12. Specialization leaves no room for slack

7.2 Contributions to Punctuated Socio-Technical IS Change (PSIC) Model

The Punctuated Socio-Technical IS Change (PSIC) model is a recent contribution in a long history of IS research process models. It develops and extends several process models in the IS literature (Markus and Robey 1988; Pan et al. 2006; Robey and Newman 1996). We found it useful to use, as the concepts it draws upon are sufficiently developed and the creation of a visual map is useful for process theorizing, and holistic thinking about the entire process. As the central elements of the process (critical incidents, gaps, resolutions, context and context) are arranged temporally, this yields a powerful visual map that serves as a theory-building device.

We add four extensions to the PSIC process model. First we incorporate Applegate's (1994) socio-technical model to understand the nature of the gaps for each of the seventeen critical incidents. This framework is useful in identifying key tensions that occurred and were resolved as the process unfolded.

Second, we provide a detailed account, with analysis steps undertaken, to theorize about processes. A daunting aspect of conducting process studies is the creative and understudied methods of interpreting data to arrive at a process theory (Demir and Lychnell 2011; Langley 2009). This research gives a detailed account of the analysis events undertaken and their respective outcomes. This, in turn, allows the reader to ascertain the method by which the data was analyzed to arrive at the process theory presented. This extends the work of Lyytinen and

Newman (2008) by providing an alternate way of creating the PSIC model from observational and archival data. Due to the nature and length of dissertations, we are able to give a detailed account of the analysis process and the role of abstraction. This answers the call for research into the creative process of theorizing about processes (Boudreau and Robey 1999).

Third, we utilize the PSIC model with real-time, ethnographic data. Other research that has utilized the PSIC model has done so with retrospective data often collected from interviews (Lyytinen et al. 2009; Newman and Zhu 2009; Newman and Zhao 2008). Data collected through ethnographic means allows the researcher to observe events as they happen rather than hear about them afterwards. This changes the process of discovering critical incidents, as the researcher can utilize awareness of context to interpret the nature of events.

Fourth, we explicate a method for conducting horizontal and vertical analysis. Lyytinen and Newman (2008) cite the importance of these analyses, but leave little direction or guidance on how they can be performed. We draw a clear connection between *horizontal trajectories* and *critical incidents* and *vertical themes* and *gap types*. This contributes to knowledge of how the PSIC model can be used to conduct vertical and horizontal analyses of a process.

Fifth, we develop the vocabulary of the PSIC model by further defining the relationship between *critical incidents*, the *gaps* that lead to them, and the *resolutions* of the gaps through *punctuation* or *incremental adaptation*. We do this by explaining the relationships between these terms using graphical illustrations, and examples from empirical data. In addition, for each of the seventeen critical incidents we illustrate their respective gaps and describe each response. Understanding these constructs and their relationship is a pre-requisite for utilizing the PSIC model in process research. Our descriptive explanations with empirical examples, and graphical representations will aid future researchers who seek to utilize the PSIC model.

7.3 Future Research

Qualitative research is known to yield insights that are ripe for further research (Klein and Myers 1999). While there is many which could be discussed here, we present three broad areas that can yield significant contributions to the literature.

Intrapreneurship. Prior research has cited the importance of having ‘enterprising managers’ in a shared service environment (Hochstein, Uebernickel, et al. 2009). This research highlighted the

role of intrapreneurship in facilitating managers to be proactive and maintain a service-orientation. This is the first time this concept has emerged in the shared services literature. Further research into the benefits and drawbacks of using intrapreneurial principles in a shared service environment would be of great value to the literature. We propose this question for further research: How can culture of intrapreneurship aid the adoption of shared services?

Coordinating devices. IT-SSs work environments have been shown to have higher levels of task-interdependence (Uruthirapathy 2011). In this research we observed and explained the important role that walkthroughs played in organizing new work projects and developing shared understanding. In this way, a walkthrough can be viewed as a coordinating device or “boundary object” (Carlile 2002, 2004). Future research could study the coordinating devices used or developed in other instances of IT-SSs and perhaps study the relationship between type of coordinating device and success of IT-SSs. A fruitful research question could be: How do coordinating devices enable IT transformations?

Costing. The ability to know the exact cost of service is one of the most radical changes surrounding Uni-IT’s adoption of shared services. Although this knowledge enabled managers to make informed decisions and present quotes with confidence to customers it was not without cost. This type of detailed costing necessitated high overhead costs as each manager now had to keep a service catalog complete with rates for each service type requested. Other shared service environments have been successful with far less detailed costing processes. This leads to a question for further research: *How do the types of costing processes in an IT shared service effect the outcome of shared services adoption?*

7.4 Limitations

Although this research provides several insights and contributions, as with any research there are always limitations. First, this study utilized data obtained from a single shared service organization in a public university setting. It is not possible to claim that the conclusions of the research will apply in other settings such as private sector organizations.

Finally, a hired consultant heavily shaped the realization of shared services. Had a different consultant been hired, the outcome may have been similar but a different trajectory may have emerged.

Finally, this research addresses issues experienced by managers, not line-staff. This stems from the decision to rely on top-level and mid-level management data sources. Researchers were given access to managers, and only limited interaction occurred with line staff. Although managers often spoke of issues stemming from staff actions and concerns, little access was given to researchers to interview or observe them during the 24-month data collection effort.

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9 APPENDIX

9.1 Appendix A

9

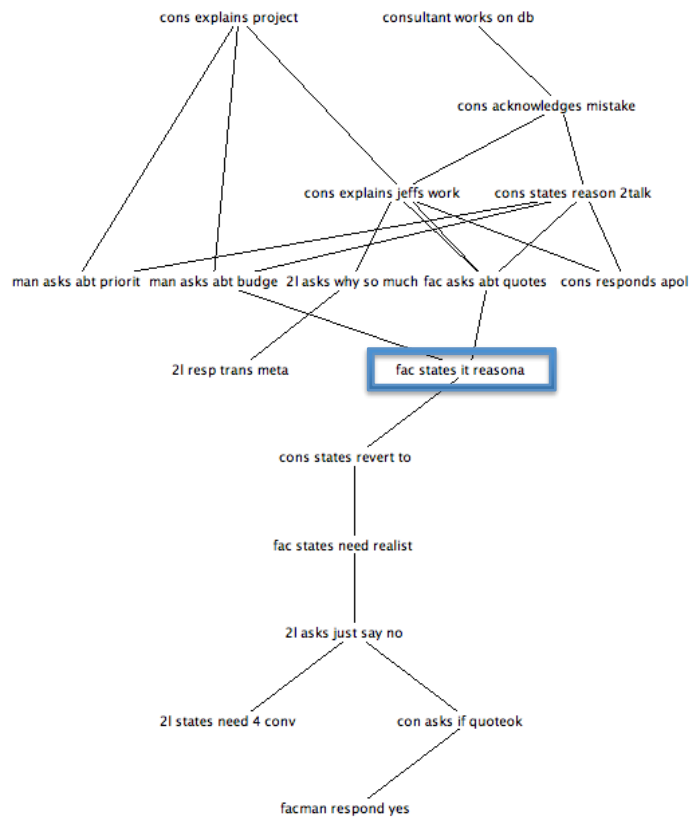
Table 9.1 List of Meetings Attended, Recorded, and Transcribed

Date	Meeting Type	Duration (hrs:min)	Transcript Numbers	Meeting notes made available?
5/27/2009	Domain Statements	7	not recorded	N
5/28/2009	Domain Statements	6		N
5/29/2009	Domain Statements	5		N
6/9/2010	Walkthrough Training	6		N
6/10/2010	Walkthrough Training	6		N
6/11/2010	Walkthrough Training	6		N
6/16/2009	Walkthrough Training	9:52	n/a	N
6/17/2009	Walkthrough Training	4:57	21, 21b	N
7/7/2009	Walkthroughs	6:03	27, 29, 30	Y
7/8/2009	Walkthroughs	5:47	32	Y
7/14/2009	Walkthroughs	3:11	41, 42, 43	N
7/15/2009	Walkthroughs	5:04	47	N
8/11/2009	Walkthroughs	1:49	n/a	Y
8/12/2009	Walkthroughs	2:54	52, 53	Y
9/9/2009	Rostering	1:35	n/a	Y
9/11/2009	New Hire Training	0:47	67, 68	Y
9/15/2009	Walkthroughs	4:23	70, 70b	Y
9/29/2009	Press Conference	3:43	78	Y
10/13/2009	Migration	2:34	79, 80	Y
10/20/2009	Migration	3:24	88, 89, 89b, 89c	Y
10/27/2009	Migration	3:04	90	Y
11/3/2009	Leadership Workshop	4:50	93, 97	Y
11/10/2009	Walkthroughs	1:39	n/a	Y
11/17/2009	Walkthroughs	2:33	101, 101b	Y
12/1/2009	Walkthroughs	2:48	105	Y
12/8/2009	Walkthroughs	3:43	106, 107, 108, 109	N

1/12/2010	Leadership Meeting	2:53	113, 114	Y
1/19/2010	Leadership Meeting	0:39	116	Y
1/26/2010	Leadership Meeting	2:57	119, 120	Y
2/2/2010	Leadership Meeting	4:13	123, 124, 127, 130, 130b	Y
2/9/2010	Leadership Meeting	3:39	135, 137	Y
2/16/2010	Leadership Meeting	3:19	138, 139, 140	Y
3/2/2010	Leadership Meeting	2:19	147	Y
3/16/2010	Leadership Meeting	2:22	156, 158, 159, 160	Y
3/23/2010	Leadership Meeting	1:55	164, 165, 167	Y
4/6/2010	Leadership Meeting	2:07	176, 177, 178, 179	Y
4/13/2010	Leadership Meeting	1:38	181, 183	Y
4/27/2010	Leadership Meeting	1:26	185	Y
5/4/2010	Leadership Meeting	1:18	189, 189b, 191	Y
5/11/2010	Leadership Meeting	1:33	192, 195	Y
5/14/2010	Informal Conversation	0:19	196	N
5/25/2010	Leadership Meeting	2:49	197, 198, 199, 200	Y
6/28/2010	Culture Workshop	5:34	205	Y
6/29/2010	Culture Workshop	1:33	n/a	Y
7/6/2010	Leadership Meeting	1:09	210, 211	Y
7/20/2010	Leadership Meeting	1:44	213, 214	Y
7/27/2010	Culture Workshop	2:39	n/a	Y
7/28/2010	Culture Workshop	0:07	n/a	Y
8/31/2010	Internal Marketplace	1:17	224	Y

9/7/2010	Leadership Meeting	1:19	226	Y
9/28/2010	Leadership Meeting	1:48	228, 229	Y
10/5/2010	Leadership Meeting	1:39	232	Y
10/19/2010	Leadership Meeting	0:30	n/a	Y
10/26/2010	Leadership Meeting	1:43	239	Y
11/2/2010	Leadership Meeting	2:34	245, 247	Y
11/9/2010	Leadership Meeting	1:45	250, 251, 252	Y
11/16/2010	Leadership Meeting	1:55	254	Y
11/23/2010	Leadership Meeting	1:37	262	Y
11/30/2010	Leadership Meeting	1:01	263, 263b	Y
2/1/2011	Culture Announcement	1:06	n/a	N
2/8/2011	Culture Announcement	1:23	n/a	N
2/9/2011	Leadership Meeting	1:02	272	Y
2/22/2011	Leadership Meeting	1:39	277	Y
Totals:	Recorded Hours:	145:37	Unique Transcripts:	94

Figure 9.1. Event Structure Analysis for Critical Incident #15



9.2 Description of Critical Incidents

In this appendix we provide a detailed description of the seventeen critical incidents identified in our model. This detailed analysis formed the basis of the analysis presented in Chapters Four and Five. The names used in this section, as in the main body of the dissertation, have been changed in accordance to IRB protocol.

E1 Initial Creation of Service Catalog	
<p>Gap:</p>	<p>Cause: CIO had no means to measure cost of service (MS) when pressed by university administration to defend why larger budget was necessary (TS)</p> <p>Coding: (MS) Planning and Controls vs. (TS) Product Technology</p> <p>Resolution: Punctuated Change. CIO hires consultant who directed staff to enumerate which services they sold, thereby kicking off a change initiative</p>
<p>Horizontal Interactions: E1, E6, E12, E15 (Intrapreneurship)</p>	
<p>Vertical Interactions: I1, I7, I11, I13 (Process Improvement)</p>	
<p>Context: Uni-IT had told other departments around campus that they were too busy to take on any more projects. The university administration grew frustrated, as they knew of the large IT budget of \$21 million dollars. Uni-IT began to sense distrust in their constituency. The university administration demanded to know how the budget was being spent, challenging the IT department to defend their position of not having time to take on new projects. Unfortunately Uni-IT had no ability to track the cost of providing service. As a result of this source of friction, Uni-IT brought in a consultancy whose expertise was helping service organizations understand the “full cost” of providing services.</p>	
<p>Description: The consultant asked all managers in the organization to write down each service that they provided internally to “clients” and externally to “customers” in the university community. This proved to be no small task. Jason was charged with collecting this list of services from other managers, and spent two months educating and persuading managers to take the time to do this. Jason expressed that for many people this was difficult as it constituted a large paradigm shift from managers thinking about what they do at work towards beginning to see what they do as “selling services” to other managers or end customers.</p> <p>Other exercises would begin to push managers to think about what they “sold” rather than what they “did”, however, this was the first and perhaps the hardest as it required writing down each service. Once this was done and the list of services were combined, it allowed the managers to plainly see how often duplicate services were provided. The creation of a “rainbow organization chart” (see Figure 5.2) allowed managers to easily see the extent to which services were duplicated.</p> <p>The “rainbow organization chart” consists of a map of the organization, as it existed at the time, overlaid by 8 different colors of similar types of services. The varying colors represented the duplication of services across divisional silos. A manager describes some of the problems the organization faced due to this structure.</p> <p><i>“We had a lot of duplication so frankly, people could drop ball right and left and there was someone to pick it up gain, but you were also losing economies of scale, people with the same depth expertise in two different areas, that should have been collaborating but they were</i></p>	

actually competing.” (291:6)

Significance: Asking 40 managers to put in writing all the services they provided proved to be a very challenging task. However, two significant things emerged from this. First, managers began to see what they did at work in terms of creating services to “sell,” instead of what they “did”. This constituted a radical departure from traditional paradigms, and enabled an awareness and sensitivity to service thinking.

This result of this service catalog task was the realization of how inefficient and problematic the organizational structure was. Managers came to see that they were providing the exact same services as others elsewhere in the organization. They came to openly acknowledge that they were competing directly with each other, and that the current state was untenable. Reflecting on the state of the organization at this time, a manager later described what this exercise caused them to realize:

“In the past in one way, shape or form the customers request would get in the door, usually they would have to beg, borrow or steal to even get in in the door, so somehow a request gets in the door, plays hot potato for a while until someone actually grabs it and decides it is a project they want to tackle, then they would pitch it to CIO or just start working on it not acknowledging the fact that it had dependencies all over I&ST. ”I put it in but now I broke something else, or I now I need someone else to help me finish it” ... basically we had 80 right hands not telling 80 other left hands what we were doing, and all going off in 80 different directions.” (291:1:05)

E2 Consensus on New Organization Structure	
<p>Gap:</p>	<p>Cause: Managers discovered extensive and unsustainable (PE) amounts of duplicate services (ST) in Uni-IT</p> <p>Coding: (PE) Roles, Skills and Knowledge vs. (ST) Authority and Responsibility</p> <p>Resolution: Incremental adaptation. Over a four day period 40 managers came to consensus on new structure which would eliminate internal duplication of services</p>
<i>Horizontal Interactions:</i> E3, E5, E8, E10 (Roles); E3, E6, E16 (Political)	
<i>Vertical Interactions:</i> I2, I4, I5, I8, I9 (Individual Learning)	
<p><i>Context:</i> With the inefficiencies with their current structure fresh in their minds, the consultant presented a seminar on organizational structure to a large team of managers responsible for creating the new organizational structure. After this presentation, each member of the team had two weeks to create an organization chart for the organization. They were to convene to share their ideas and arrive at consensus.</p>	
<p><i>Description:</i> This event took place over a four-day period when the design team - a team of managers responsible for building the new organization – met in an off site location. They came on the first day “ready to really impress each other” (78:1) with their nicely formatted charts. Each chart was presented over the period of two days and the merits of each were discussed. A manager later recalled the difficulty of learning how they would now seek to group the organization:</p> <p><i>“One of the first hurdles that we had to get over was the old way of thinking -- the silos that we were used to working in and thinking in terms of the tasks that we were all doing.” (78:1)</i></p>	

After filling the wall with post it notes depicting their individual views on the best way to structure the organization, the team used consensus to combine different roles. One manager gave a simplified description of the process of developing lines of service. “We made boxes for who was going to ask the clients what they wanted, who was gonna build that stuff, who was gonna fix it, who was gonna answer questions about it and then ultimately who is going to go back and ask the client if they were happy with what we gave them.” (78:1) New roles were even created for services that were currently not provided, but was felt should be provided if resources were made available. At the end of day two, there were many roles defined by post-it notes on the wall, however, there was no grouping of roles or organizational structure. More importantly, there were no names assigned to each of the new roles. On the third day, the post-it notes were clustered and the names of roles were changed until a consensus was reached. Teams were then assigned to discuss how each clustering of roles or ‘domain’ would interact with the rest of the organization, as well as the services and responsibilities they would assume. On day four, decision time came. All 44 of the design team members individually committed to the CIO that they were ready to support the new organization, without knowing what new role they would assume.

Significance: During this time, the team worked several days late into the evening. Passions and emotions ran high, however, the team coalesced around the objective of creating a better-structured organization. Many long held grudges and political differences that prevented people from collaborating in the past surfaced in the meeting. To overcome some differences in opinion, when there were disagreements a simple rule was invoked. If a small minority of people voted against the majority, they were asked, “Are you passionate?” meaning are you passionately in disagreement? If they were passionately in disagreement, they were given time to make their opinions known. This often led to great adjustments and change in the opinions of others. This group meeting skill stayed with the organization over the two-year change process that came.

E3 Domain Boundaries Cause Disputes	
Gap: 	<p>Cause: Managers (PE) were dis-engaged in meetings due to poor meeting process (MS) which allowed for unproductive arguing leading to ineffective meetings</p> <p>Coding: (PE) Roles, Skills vs. (MS) Meeting culture</p> <p>Resolution: Punctuated change. CIO issued an ultimatum, and laid ground rules for more effective meeting process.</p>
<p>Horizontal Interactions: E2, E5, E8, E10 (Roles) E2, E3, E6, E16 (Political)</p>	
<p>Vertical Interactions: Management System – People (Deprecated)</p>	
<p>Context: Managers had met a month earlier for three days to determine the precise services that each line of service was responsible for. These definitions called “domain statements” insured that two groups would not compete for or perform the same types of work activities. To account for future services yet to be invented, the document used abstract and legal language. This document was worked on as a group to achieve clarity and consensus.</p> <p>The event discussed below occurred on a Monday. During a meeting the prior Friday, the</p>	

management had heard rumors of ineffective meetings. During these meetings managers simulated how work would be performed in the new organization. These simulations – called “walkthroughs” – were meant to routinize working in these new organizational divisions.

Description: The CIO heard of rumors of meeting problems from the prior week. After an hour of the meeting passed, meeting problems such as two people arguing one point while 30 others in the room paid no attention arose. At this point, the CIO stood up and challenged the meeting participants by saying that he had heard rumors of a “bad meeting on Friday” and he wanted to see how the group worked together. He then gave his analysis of the problem:

“Heck, you’re disengaged. You’re surfing the net – you’re doing your work back at the office but you’re not engaged. If you want to be engaged, you need to be here. That means not just fanning and sitting in a chair. It means your mind is engaged, paying attention.” (21:1)

He then went on to say that if the managers wanted to keep their job, they must show him. He stated that he was sitting watching the lack of participation. He challenged them to speak up if unnecessary meeting events occurred by saying:

“If it’s not working, raise your hand and say, “Wait a minute. We’re going down the wrong path here.” Don’t just fade out to the Internet and search, surfing, you know, movie sites or something.” (21:1)

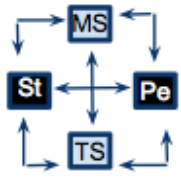
He felt that the managers had come to view one of the meeting facilitators or executives as the ones in charge of driving the meeting, then told them “It’s everybody’s job”. A guide was offered to managers to teach them how to engage and stop ineffective discussions in meetings.

“If you are feeling like you’d rather be on the net or doing some work from the office back home rather than here in this meeting, if you are feeling frustrated, how about the first thing you do is jump up and say, “You guys are losing me. I’m getting frustrated. This feels like it’s going no where.” (21:3)

In the end, the CIO also made an appeal to their individual and collective egos by reminding them of the significance of what they were doing, and how many people were looking at what they were doing.

“We are all going to be judged as a group. That means everybody is depending on everybody else’s performance. It’ll either be, “Well, Georgia State tried this and it’s the most wonderful thing in the world,” or, “Yes, they tried that. Oh, you’re a part of that group, huh?” Think about that as you go through this process because that’s basically what your mission is in front of you, is to make this a success.” (21:3)

Significance: This event had a profound influence on meeting processes. First, it allowed people to feel comfortable stopping a discussion that would be better held outside of the meeting. This was a common problem as managers had differing views about which services pertained to their areas of responsibility that they were to assume in the future. These clashing mental models created disagreements that were often better sorted outside of the meeting. Second, as a result of this event, one manager volunteered to be keeper of the ‘queue,’ a running list of who would like to speak. The ‘queue’ keeper was in charge of calling on people to speak and insured order to the meetings. This developed into a practice that was used for every meeting after this.

E4 Reluctance to Perform Walkthroughs	
Gap: 	<p>Cause: Managers (PE) were reluctant to commit to adhering to the new client intake process (ST) as the positions in the organization (ST) had not been filled</p> <p>Coding: (PE) Knowledge, Commitment vs. (ST) Unit Groupings, Coordinating Mechanisms</p> <p>Resolution: Incremental adaptation. Managers made a tenuous commitment to do walkthroughs for each new project even though they are months away from formally “going live”</p>
Horizontal Interactions: E7, E10, E15, E17 (Walkthroughs)	
Vertical Interactions: I2, I4, I5, I8, I9 (Individual Learning)	
<p>Context: This period was perhaps the most time-intensive of all for the managers involved in the new organizational structure. They had been asked to commit two days a week to meeting and working on issues related to the upcoming transition. They had heard reports that staff had taken note that they were gone for long periods, and had also heard reports of rumors from administrators that they would soon start charging for their services. Prior to this period, they had met for three concurrent days to map the budget and the cost of services to the new organization.</p>	
<p>Description: In meeting months before the new organizational structure would go “live,” managers committed to doing walkthroughs for each new project. The consultant defined walkthroughs in this language; <i>“Walkthroughs are a way of debugging the organizational design, as well as a way of rehearsing how teams will form and precise individual accountabilities in real life once we turn the switch.” (21:4)</i></p> <p>The team showed some reluctance to committing to performing walkthroughs for each new project as not all of the managers for newly created roles had been hired. At this point, walkthroughs required significant time, and the participation of many managers, so this commitment was a very serious and significant effort.</p> <p>This exchange captures a conversation between the consultant and a manager as they discussed the benefits to committing to do walkthroughs from this point forward:</p> <p>C: If we start every project with a walkthrough, then you will have all the costs upfront, known costs, to deliver basic standards of quality.</p> <p>M: We might need to specify that, as of when?</p> <p>C: How about now?</p> <p>M: How about when we have T1s and T2s in place?</p> <p>C: How about right now, with any new work that comes in. Wouldn’t it make sense to do a walkthrough? Why wait?</p> <p>M: Not if a T2 doesn’t know what a walkthrough is.</p> <p>C: We are going to get the new T2s in place as soon as we can; we are going to train them as soon as we can. But still, why would you bid a project now, without at least getting this team to do a walkthrough on it? Why wait? Are we making any new commitments for new projects coming in these days?</p> <p>C: But meanwhile you are standing in for them, I am just saying, if this organization is about to make a commitment tomorrow, to a new project, wouldn’t you want to do a walkthrough right here?</p> <p>M: Am I for it? Yes, that means people doing the jobs today have to become involved.” (21:4)</p>	

At this point the average walkthrough took at least two hours to perform, and it is understandable that managers did not want to take on the commitment of doing them for each new project.

Significance: This was a stressful time for managers for several reasons. First, they were already working longer hours than they traditionally worked because of the extra meetings and tasks they had been charged with. Second, although they knew what role they would assume in the new organizational structure at this point they had not assumed those roles. This made doing walkthroughs somewhat of an imaginary exercise, as at this point they had no practice performing the roles for which they were roleplaying. Third, not all of the managers had been staffed in the new organization so at times others would have to fill in for these positions. Fourth, managers were still carrying out their old duties in addition to all of these exercises.

This event shows the commitment to practicing how work would be done in the new organization even at times of stress and low availability of resources. They have discovered that they are highly dependent upon each other to accomplish work.

E5 Learning New Job Functions	
<p>Gap:</p>	<p>Cause: Assuming a new role, and lacking experience for it, a consultant (PE) expresses concerns with her role related to other roles (ST)</p> <p>Coding: (PE) Knowledge, Roles vs. (ST) Authority, Coordinating Mechanisms</p> <p>Resolution: Incremental adaptation. Consultant adjusts to working in new role</p>
<p>Horizontal Interactions: E2, E3, E8, E10 (Roles)</p>	
<p>Vertical Interactions: I2, I4, I5, I8, I9 (Individual Learning)</p>	
<p>Context: A major change in the shared service model was the addition of a new role in the organization -- the role of consultant. The consultant was charged with being the public face of the organization, meeting with clients to determine their needs, and then bringing these needs back to the leadership team where managers would then identify who would be the “prime” (e.g. prime contractor) on the project, and which individual managers services were necessary to complete the project.</p> <p>The change was significant because it changed lines of communication. No longer could managers initiate new services without the aid of consultants. This was done by design. In the old organization, managers would often only sell the services that they provided; thereby the organization would lose the opportunity to meet the needs of the customer with other services. The consultant was seen as the answer to this, an unbiased person who could sell the services of the entire organization.</p>	
<p>Description: Summary: During a meeting a consultant expresses her confusion about her new role. Her worries center on two areas 1) becoming a bottleneck, as she acts as the only liaison between technologists and the customer 2) technologists talking with the customer and only selling services which they provide, not services that others in the organization provide.</p> <p>In a weekly meeting that happened to be sparsely attended due to several managers being away at a conference, one of two consultants expressed a few issues that she had with her role. Several of the more senior members of the team, and leaders including the other consultant were away at a conference.</p>	

In the meeting the consultant expressed a concern that she felt that others had come to view the consultancy as a bottleneck to getting their business done “because all the technicians to go through consultancy and I’m only one person.” (41:1) Because of this view, she felt that managers would perform work without her and exclude her from conversations with the customer.

She expressed that what she feared would happen is that managers would work with the clients that they liked, and only pass her off to clients for which they did not want to talk to.

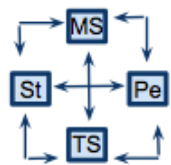
“One of the reasons why consultancies fail is because technologists don’t sell the whole store. Technologists sell business they know... Then you’re missing out on the opportunity to sell the store for the other things that person may need.” (42:5)

As this role had never existed previously, the consultant was worried that her role might be undermined by others who performed their jobs as they had done in the past – maintaining themselves as the prime contact with the customer.

Significance: In this event we see some candid concerns from a consultant – a role that had no precedent whatsoever in the organization. Two significant insights develop from the concerns shared by the consultant. First, her remarks suggest that she feared becoming the middleman in working relationships between internal managers and outside customers. She felt that this would lead to technical managers only giving her leads to customers whom they did not want to deal with. Second, she felt that by being sidestepped by technologists, this would lead to the loss in future work. She argued that her role was necessary so that she could continue to develop relationships with the customer to continue to grow business for Uni-IT. Both of these concerns were very real, and understandable. However, these concerns quickly faded, and did not become reality.

E6 Press Conference for Staff and University

Gap:



Cause: This event was brought about through months of planning, and was not the result of a “gap”. It is useful to include here for illustrative, and theoretical reasons.

Coding: n/a

Resolution: n/a

Context: The team had been planning a large announcement day for months. The goal of announcement day was to notify all the staff in the organization, as well as the university community, what changes they had made to the organization. A large 200-seat private theatre hall adjacent to the university was rented as the location. The team of thirty managers who had been charged with defining the new organization volunteered for various roles including speaking, hosting, audio/visual. Prior to the event, the team rehearsed their speeches, timing and queues several times. In addition, they invited several people from the community to speak at the event, including the provost and a university professor.

Two weeks earlier, the team had met to assign all staff to their new roles in the organization. For virtually all staff, the name of their organizational structure had changed but their roles only changed slightly. For some staff, their job functions changed considerably. It was at this meeting that the staff discovered which group they would

belong to going forward.

Description: On the morning of September 29, 2010, around 200 IT staff and other leaders from the campus community gathered in a private theatre for what was internally known as ‘announcement day’. The meeting consisted of 3 major parts, an introduction to principles of organizational structure, each domain manager introducing their domains, and announcements about the practicalities of going forward.

The event started by welcoming all the employees to the “New Uni-IT”. Several managers explained major problems with the current organizational structure and the importance of fixing them. Another manager explained the efforts they went through to arrive at the design for the new organization before the CIO gave remarks about the significance of the movement. At this time, the consultant spoke for around 40 minutes on principles of organizational structure and a few of the key elements of the new organizational design.

After a short intermission, each T1 manager introduced their domain and the major services provided by their domain as well as all of the T2 managers within it. After this, a short game was held to test the staff’s knowledge of services provided by each domain. At the end of the meeting, staff was instructed to continue to report to their same managers until their managers told them otherwise. Finally, the CIO welcomed everyone to the new organization.

Significance: This was a day managers had been planning and looking forward to for many months. It was the public view of all of the work they had put in for many months. The exact design of the new organization was kept secret from the staff for many months until it was polished and defined enough to share. This event was largely symbolic of the hard work that managers had put in. Some later expressed feeling similar to post-partum depression.

At this point, the weekly meeting with managers often lasted for four hours. The bulk of this time was spent doing walkthroughs – practicing how to initiate new service provisioning in the new organization. The length of meetings proved frustrating for some managers, as a result, the sought to make them shorter.

E7 Walkthroughs Moved Outside of Meeting

<p>Gap:</p>	<p>Cause: The core business process (TS) of conducting walkthroughs came to be seen as taking up far too much time during meetings (MS)</p> <p>Coding: (TS) Core Business Process vs. (MS) Planning and Controls</p> <p>Resolution: Incremental adaptation. Resolved immediately. Managers vote to move all walkthroughs outside of the meeting while presenting them at the weekly meeting</p>
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Horizontal Interactions: E4, E10, E15, E17 (Walkthroughs)

Vertical Interactions: I1, I7, I11, I13 (Process Improvement)

Context: A month had passed since the announcement of the new organization. Managers expressed excitement to demonstrate Uni-IT’s new role as a shared service unit to the campus community. Change facilitators had started to give direction on the migration process as managers shed a few responsibilities and took on new opportunities. Due to the time required during the changes, the team had grown accustomed to meeting for four hours weekly. These four-hour meetings continued after the new organization was announced publicly, with the bulk of the meeting used for conducting walkthroughs.

Some managers expressed discontent about being away from their staff for an extended period, and had started to grow uncomfortable with the long meeting times.

Description: At the beginning of a meeting, a manager asks a question that was likely on the mind of many managers “Do we have to do each walkthrough in here as a management team?” At this remark, the meeting facilitator hesitated – citing the importance of everyone being able to ask questions about the new project, thus necessitating having everyone in the same room.

“M: Do we have to do each walkthrough in here as a management team? Can we not put the quotes that we need out there and people who think that they are affected – can send an estimate of their time on walkthrough versus us sitting here and trying to do ten all together.

F: Well, I don’t know that we can or can’t do that --- it’s a big departure from the process that could make it harder for us to ask questions about that walkthrough.

M: Well, we could bring it back. Like say the key players meet, we bring it back, we still go through it. The majority of it should be done. Somebody else needs to jump in; they can jump in with their piece, but the majority of it is done.” (88:1)

After general agreement from other managers, another manager added another reason for completing the walkthroughs outside of the weekly management meeting: unproductive conversation.

“M-P: I think we can make walkthroughs immensely more effective with intelligent and appropriate progress outside. I have noticed on several occasions when it typically involves business units that are going through a good bit of migration, TEAE and Production Services. And we sit there and we spend our time spinning our wheels because maybe we are talking about something we didn’t do in the past or something that keeps migrating to Jared or something that keeps migrating to me, and the queue actually works against us there.” (88:1)

After this a manager called for a vote and the group voted on a resolution to do walkthroughs outside of the meeting but give their review the priority on the agenda each week.

Significance: This event stems from one major changes of operating in shared services: higher dependence on others. Walkthroughs were used to rehearse these new working relationships and piece together different services from various proving managers. Understanding these dependencies took much time. Understandably, managers were disgruntled at long meetings. For meeting facilitators – whose main responsibility was to facilitate change -- meetings were their time to facilitate and manage organizational change. Not facilitating walkthroughs meant giving up control over the change process. In addition, to giving up control, facilitators were no longer able to measure and track responsibilities which managers were assuming which made it impossible to follow up to see if commitments were kept.

E8 Confusion Over Migrating Responsibilities	
Gap:	<p>Cause: A manager erroneously states that he is no longer responsible (PE) for a particular service, as it had been migrated (ST)</p> <p>Coding: (PE) Roles, Education vs. (ST) Coordinating Mechanisms, Authority</p> <p>Resolution: Incremental adaptation. Resolved over time as</p>

	responsibilities are assumed through a step-wise process
Horizontal Interactions: E2, E3, E5, E10 (Roles)	
Vertical Interactions: I2, I4, I5, I8, I9 (Individual Learning)	
<p>Context: After “announcement day” official operations under the shared services organization began. This was a stressful time for managers as they had several responsibilities related to this transition: assuming new responsibilities, handing off responsibilities, and training staff on cultural and procedural issues. In addition to these tasks, they now had customers inquiring with questions related to what exactly they were doing and their motives. Managers discussed these questions during the weekly meetings.</p>	
<p>Description: When the meeting reached the topic of the migration of duties, Roger, a project manager, asked if a key student support system (Lucerne) had been migrated. He related a confusing experience that had happened earlier in the week when one manager said that Lucerne had already been migrated. After he said this, other managers expressed shock and anger.</p> <p>Roger: I mean, we were in a meeting that it was said that it was migrated. Dorian actually came in and said they’re Yeliz’s now.</p> <p>Maurice (Facilitator): Was he joking?</p> <p>Roger: No. He was serious, because we were asking about it, so I mean –</p> <p>Maurice: I’ll make sure, but he knows better. That he knows he is under no such illusion. (89b:4)</p> <p>After other managers tried to discern what would have caused Dorian to say this, the project manager protested that this was not a one-off issue, but was happening elsewhere in the organization. As a consequence his team wondered which customer they were to serve.</p> <p>M-PM: But it’s issues like that that keep coming up. Virtual computing lab is another one that’s a big issue. Because Morgan has been the prime running it for so long and now we are told, ‘No, it’s Dorian’s now, so that Morgan can focus on his sales team.’ And this is the comment that my team is giving me, ‘Now I have got two customers I have got to keep happy because I don’t know if it’s the old person or the new person.’</p> <p>The meeting then stressed the importance of informing all parties involved about the transference of duties. In large projects it was common to have many managers working together and each needed to be notified of the change.</p> <p>M-FM: If your project manager/facilitator doesn’t know whom he’s reporting to anymore, it’s not migrated because all the related parties didn’t know what was going on. The definition of migration is to make sure all of those steps get covered, and until all parties agree, it’s not migrated yet.</p> <p>At this point, Brian, an executive director, stated the importance of not just transferring duties as part of migration, but also training people to pass leads to the new owner. He referenced the language that Roger had used at the start of the discussion.</p> <p>Brian: One of the first things that we said when Roger was talking about this was, I was told, “I don’t do that anymore.” We really have to train our people to take that lexicon out of their vocabulary. We have to train them to say that, “Morgan now does that,” not,</p>	

“I don’t do that.”

Fac: Or, you know, “Let me get you to the right person.”

Brian: Yes, “Let me transfer you now” or, “I can take that request to them for you,” or something to help it get there, but “I don’t do that anymore,” can’t be an acceptable response.

The meeting ended with the managers concluding that at this point, a month after the organization had been announced to the public, although duties were in the process of migration, nothing had yet been completely migrated.

Fac: And in reality today, I mean, I could ask y’all, has anything migrated?

Everyone: No.

Significance: Shows difficulty of migration: working in old roles, while preparing to assume new roles.

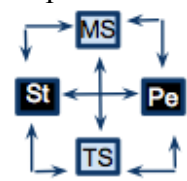
Shows importance of communication about responsibilities relinquished and assumed as it affects many others besides one party.

This event shows the difficulty of the migration process, and the concern for the customer that drove the heavily managed process. Some managers were eager to drop certain responsibilities that they were happy to pass-off to others. This caused confusion for other managers who were now unsure where to go for the services they needed for clients. The manager who historically provided the service announced that he no longer did, while the manager who was to assume the responsibility was not aware of the change.

The anger voiced by the other managers that this happened is indicative of their concern for the customer and making sure that all commitments were met before handing work off to a new manager. This concern was further illustrated when the idea arose to train staff to switch their vocabulary from “I don’t do that” to “Let me get you the right person”.

E9 Customer Protests Payment

Gap:



Cause: Managers have no consensus (ST) on how they should respond to customer inquires (PE) about why they now need to pay for *some* services

Coding: (PE) Roles vs. (ST) Authority and Responsibility

Resolution: Punctuated Change. Resolved through long and heated discussion where managers realize the goodwill they have created could easily be lost if they dwell on costs

Horizontal Interactions: E11, E13, E14 (Costing)

Vertical Interactions: I2, I4, I5, I8, I9 (Individual Learning)

Context: Having operated in the new organization for some time, work practices of IT staff were adjusting, and the campus community continued to react to the news.

Description: Jared, manager of application engineering services, started the meeting with a manager relating how a customer had recently asked him why they should have to pay \$400 for a service now, when they did not have to pay for it before. He wanted to discuss the answer to this question with the leadership team so that everyone would give the same answer to all customers.

He proposed a solution in which an independent steering committee would make a

decision if the work should be funded by the requester (fee-for-service) or be paid out of the core-IT budget. As a guideline the committee could base their decision on if the work would benefit the entire university or just the department. He argued that this would free the CIO from exposing himself by making that tough budgeting call.

“My proposal was going to be instead of [the CIO] hanging himself out, exposing himself making that call, maybe the ITSG should make that call as to whether services which do not benefit the university as a whole should be fee for service.” (101:1)

Dorian agreed that a higher authority was needed to determine funding for projects that did not benefit the university. In the past work was approved to be externally funded, but no additional funding had come in. He lamented that they need to stop “sucking it up”.

M-D: “I think what we need to stop doing in a big way is that, “just sucking it up.”

Because sometimes [work is approved by the steering committee] but we don’t get any additional funding for it. It’s your work, you should be paying for it.” (101:2)

Other managers agreed with Jared’s proposal, but felt that they had already been doing this for years. Roger, a project manager, expressed that he was worried about other departments accusing them of double-dipping, or comingling funds by using two funding sources for the same project.

MP: I know of 3 vice presidents who are cocked with a shotgun waiting to get told fee for service with the question, ‘Are you going to do that with contractors with people on your budget?’ If you manage the fee – they’re going to fire. (101:3)

At this, Christie, a consultant, offered her response when being accused of double dipping:

M-C: When my clients say to me, ‘You’re double-dipping.’ which I do hear, I say, ‘Core budget is committed. You’re coming in and asking for us to do something above and beyond and we need additional resources for that. Where those come from may be that your purser may want to free up some core budget to direct towards that project. Or you may come up with external funding.’ I never tell anybody that they will be forced to pay. I say, ‘I can tell you how much it would cost and that’s what’s going to be the outcome of this conversation.’ (102:6)

After discussing the issue of comingling funds, the discussion turned back to the criteria for determining what funds new projects would draw upon. All agreed with the need to have a purser to make budgeting decisions, but the entity who would act as a purser was not well defined. Dorian briefly proposed charging fee-for-service for projects which needed to be done right away, and putting it at the end of a long-queue if it was to come out of the core budget, effectively giving each checkbook its own queue.

Dorian: Actually, that would be one option to say, ‘Ok, look, it’s fee for service if you want it today. If you want it for free the queue is about 4 years long’. ... If you want it out of a different checkbook, you get in the line for that checkbook. (102:3)

Some managers had expressed reluctance to ever ask other departments to pay for services out of pocket. A manager expressed that he felt it would be a good thing if Uni-IT was not selected to provide the services as it would cause them to reflect on how they could change to win business in future.

M-B: So why is this a bad thing to ask the departments to pay for fee for services? If they don’t choose to use us as a vendor of choice, then we have a problem and we need to figure out how to earn their business rather than telling them the only way we’re going to give you services is that you pay for them because we’re not going to give it to you for

free. (102:4)

As the meeting was drawing to a close, a manager pointed out that most projects are not fee-for-service, yet the same level of cost detail was provided. They needed to be sure to point out that the money shown in the cost statement was just a representation of the budget that was being used in their behalf. No real money was changing hands. Finally, Jared, the manager who had started this discussion, pointed out that they needed to come to a consensus on this answer quickly.

We can't wait 3 or 4 months to come up with a nice, consistent, clean answer that we can apply. (102:7)

As a closing argument Juran argued that if they wanted to damage all of the goodwill which they had worked to develop in the university community related to the benefits of this change, the last thing they should do is start to send a message that they would not start to charge for services which they had not charged for in the past.

Juran: If we want to ruin our PR related to our restructuring, the best thing for us to do is to go out there and relate it to doing fee for service. We've all kind of jumped on this bandwagon like we're ready to go out there and start charging for things where we haven't charged for them in the past. We can start doing fee for service, but most of us aren't used to doing that very well and I don't see the need to rush into that. Uni-IT is not going to go out of business tomorrow if we don't charge to work on a project. We need the time to get this right. We've got to figure out something to say today until we get that right, but I'm not sure what that is yet. (102:8)

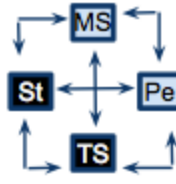
Significance: This event stems from the consequences of showing cost information to customers. This enables the customers to ask questions which they had previously never asked, such as "Why do I have to pay for the help desk?" In this case the customer had no intention of calling the help desk, yet they were told that they were paying a very small fee for this.

This question led to internal reflection at Uni-IT: What level of cost detail should we disclose? Which budget do funds for the project come from? Who should decide this? What if we are accused of pulling from two funding sources?

The general consensus was to let an independent steering committee determine if a project should be funded from the main IT budget for the university, or if individual departments would have to pay. Prior to this the criteria consisted of, if the project benefitted the entire campus, it would come from the core-IT budget, if not, the department would have to foot the bill. Another idea was to make the project fee-for-service if they wanted it today, otherwise it would be added to a long list of projects, and be done in several years.

This heated discussion by the managers about a traditional management issue of budgeting and costing is significant. A central element of shared services is operating like a business within a business, and these managers who a year ago had no idea what the costs of service was, were now tasked with managerial decisions involving costs and customer service. It also showed their excitement and confidence in their new model. While some managers contended that they need not be scared to asks customers to start paying for services, they cited that if departments did not want to pay for their services, then the onus fell to them to earn their business. Thus, by not being selected to provide services, they would be forced to figure out how to earn their business. This sentiment was called into question by a manager who warned that all the work and relationship

building the IT unit had done with the university would be destroyed if they started charging for services they had not charged for in the past. He argued that they needed time to work on how they would put out this message.

E10	Estimates Inserted Without Consent
Gap: 	<p>Cause: Authority of managers (ST) is usurped as consultant makes commitments for them due to change in core business process of walkthroughs (TS)</p> <p>Coding: (TS) Core Business Process vs. (ST) Authority and Responsibility</p> <p>Resolution: Incremental adaptation. Resolved as consultant learns from mistake and leadership changes core business process</p>
Horizontal Interactions: E2, E3, E5, E8 (Roles)	
Vertical Interactions: I10, I12, I17 (Task-independence)	
<p>Context: One of the consultants had been talking to a faculty member about a website she had developed at another university and her need to migrate it to Walden University. After gathering the requirements and modifications she would like to make to the website, the consultant emailed it to the service-line leaders to ask them for their input. The consultant knew that the faculty member needed to apply for a research grant, and wanted to give her an idea of how much this would cost so she could have time to work it into her research grant proposal. To stimulate the development of the proposal the consultant had put in budget and time estimates for several managers.</p>	
<p>Description: After the consultant presented the requirements of the project, and presented the estimates for other managers services, a discussion arose where managers express dismay regarding what happened:</p> <p>“M-G: It's not my range so I would prefer if you take it off until I can get my own numbers.</p> <p>M-C: Don't take those lines out though, because we'll give you an opportunity to review the lines.” (106:43)</p> <p>The consultant defended his action of putting in estimates without the approval of the respective service manager by saying he planned on giving them the opportunity to review each line in the meeting. However, even with this explanation, a meeting facilitator took issue and said:</p> <p>“Others can't decide what rates budget managers will sell their products and services by. We can't make commitments for each other. That's been a common theme throughout this reorganization or realignment so I think that's the root of the problem here.” (106:45)</p> <p>Clearly, one of the organizational issues that sparked the restructuring of the organization was an issue of people making decisions and commitments for each other without consent. Although the consultant had good intentions for including estimates for others without their consent the level of pushback that he received indicated the degree to which each manager viewed themselves as autonomous service providers. A different manager spoke out against this practice:</p> <p>“Go ahead and mark mine in red because that's not my estimate. Now the more we can do it with everybody in the room all at the same time, the better, because the feedback of ideas amongst us is good and valuable. But we don't have to always be in the same room at the same time but what we absolutely cannot do is commit for each other, okay. That's</p>	

got to be a cardinal rule. I've heard all sorts of reasons why we should commit for each other which is the customer wants it faster, it's important, it's only a little bit of money, okay, but we can't do that. You can die a thousand paper cuts that way.” (106:48)

This language clearly conveys this manager’s feeling about having others commit for him or others. He later went on to acknowledge that he knew that by having things done fast they could please the client and achieve more sales. But explained that just because the customer wants something done fast this is not a reason to bypass getting a quote directly from him. He then continued to explain how he should not be held to his estimate amount for a functional requirement:

“The other thing is functional requirements. You may have done a round of functional requirements, that doesn't mean that every question in the universe is answered. The idea that the functional requirements are done, finite, we have generated a quote based solely on that and can't ever reopen the issue when we find out that there's a gap in them can't fly here. Okay, cause else we're just guessing at that point and again that leaves us making commitments we can't keep.” (106:50)

Another manager explained a difficulty he had with walkthrough and estimation process. As a service manager for hosted applications, he worked as the ‘prime’ or the manager responsible for getting the ‘subs’ (managers providing supporting services e.g. subcontractors). He explained this challenge:

But what happens is the onus then falls on the prime to chase down everybody to get him or her to do his or her part of the business and I don't think that that's the way teamwork is built, okay. Because what you're saying there is, ‘I don't have to go to the meeting, it's the prime's responsibility to find me and explain to me what it is that we're doing and how much that we're going to put effort and time into this.’ I'm going to be spending a whole lot of time chasing people to get them to give me their portion of a quote so that I can give it to [the consultant] so that [he] can go back and go to the customer. I don't think that's the right way to do business. That's just my opinion. (106:54)

At this point the meeting facilitator stopped heated discussion that this comment initiated between managers and said that people had been saying the same things over and over. She mentioned how the consultant never intended to send this estimate to a client, and was just bringing it to the meeting for discussion. She acknowledged that one of the sentiments she had heard discussed for the prior hour was the difficulty in getting everyone together for a meeting. Emailing functional requirements to the team had enabled some legwork to be done outside, but she argued that working on things together in a meeting is “just so much more productive.” Another manager asked, “Is this meeting going to continue?” At this she described the importance of not getting rid of this meeting:

This meeting -- it may not be four hours -- exists precisely for the reason of doing walkthroughs and project quotes. Look how many of us there are. There is no way to get all of us together unless we schedule it far in advance so don't think that this meeting is going to completely disappear from your calendar. Personally, I think it's too beneficial, for all of us to be in the room on a regular basis. (106:1:01)

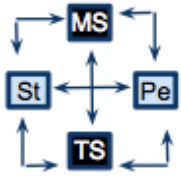
Other managers agreed with this, with one acknowledging “the truth of the matter is we're amateurs at this.” He felt that the both the meeting times and the time it would take to do walkthroughs would significantly decrease once they got more experience.

Significance: This event shows the significance of function interdependence. This

interdependence inherent in the shared service model had three effects: the inability to commit for other managers, a communication burden for primes, and long meetings. After learning that their services were requested, each manager was responsible for submitting a quote which consisted of the service-line item requested, and the amount of hours necessary. A dollar amount could then be calculated based on the current rate of that business manager. This required managers to constantly report estimates for new projects. On occasion the managers were slow to report and the consultant inserted an estimated number of hours without their consent because they failed to respond to emails with their estimates.

Each project had a point person (known as the 'prime') who was responsible for coordinating the work of others and ultimately delivering the final product to the customer. Often the prime faced issues in finding time to get all contributors to a project together.

In conclusion, this event demonstrates the importance of meetings in an interdependent environment. A few managers were becoming vocal in their disdain for long meetings. Months prior, this had led to walkthroughs being performed outside of the weekly meeting. The issues with managers committing for each other as demonstrated here caused the walkthroughs to be moved inside the meeting once again.

E11 Fast Incomplete Response vs. Slow Complete Response	
Gap: 	<p>Cause: Managers were not happy with response times (MS) from customer request for service to quote delivery (TS)</p> <p>Coding: (MS) Planning and Controls vs. (TS) Core Business Process, Tasks</p> <p>Resolution: Incremental adaptation. Resolved as managers change coordination process of walkthroughs placing higher priority on responsiveness</p>
Horizontal Interactions: E9, E13, E14 (Costing)	
Vertical Interactions: I1, I7, I11, I13 (Process Improvement)	
<p>Context: Because there had been many questions and conversations regarding the process of responding to requests for service, the meeting facilitator had spent time creating a model of this process. The process documented the point from which they were initially made aware of an opportunity to Uni-IT's response to the client including a proposal and a rough estimate. In this event, the facilitator presents this process model for feedback from the leadership team.</p>	
<p>Illustrative Quotes:</p> <p>Okay, so first of all just to frame what this is, this process, what I've documented here extends from the point in time when the client -- we're initially made aware of an opportunity or another way of putting it, the client needs something. Where this ends is our first response. The first time we're able to get back to the client with, "Here's a rough estimate. Here's a proposal and a rough estimate." Could be multiple proposals with multiple rough estimates if there are multiple primes. Okay. So it's not -- this doesn't extend through the entire solution. They accepted the proposal and we're going to the next steps. This is just the initial response. How fast can we turn around a request to a proposal? ----- And this -- the notation I'm using is more or less BPMN notation. I'm still getting better at it. That probably only means something to Steven who's going to</p>	

call me out when he sees where all the errors are but for the most part it's going to look like the normal flow chart symbols that I think most of you are used to. Starting here, with the consultants, they are made aware of an initial client opportunity. Obviously there are some things not captured in this diagram like that opportunity could go to Ron who then passes it to the consultants or from another customer, whatever. I'm just saying it ends up with the consultant. ----- First question they are going to ask is, "Do functional requirements exist?" If...

"There's a number of things that I -- that concern me with this approach. Just the length of the time, a seven day window of trying to figure out who's going to even start doing anything."

Reference:

Technical requirements don't come directly from the customer. They may be implied; they certainly are driven by the functional requirements. A customer will say, "This has got to be up 24/7 with subset with a maximum of 10 seconds outage a year." Well, that drives a heck of a lot of technical requirements that they don't want to know frankly. And should have to tell them to qualify. So you ask them what we're going to use there (inaudible) but you might want to go -- "You said 10 seconds of down time a year. What if I could give it to you for five minutes down time a year at half the cost?" That's a clarification to me on the functional requirements.

I just want to make sure I'm clear on what you mean by technical requirements at this point. We're still pre rough cost, right? I think the answer is yes, right. We're still pre rough cost. We haven't started selecting technologies to propose yet. I think -- it sounded to me what you're talking about is you might just need to know that all your end users are seeing some of the things that have come before in a country in Africa that doesn't have high end broadband or something. That we're talking about their known technical requirements, not what OS we might choose to run this on. We aren't to that yet. We shouldn't be to the point of talking about the OS.

I'd like to respond to what Kerry brought up before, getting that interactive process to come up with the functional requirements. Let's remember what this process was being designed to do was give the customer a rough cost estimate in a very short period of time. So what you're suggesting is we do a lot more back and forth which is just going to increase the time, so I'd like to know much like what Nathan recommended, what your recommendation would be to how we get enough information to do that rough cost estimate in a very short period of time and get it to the customer. Instead of telling us this doesn't work, tell us how it can work.

I was just going to say that I think the dilemma is trying to scope the project right up front. Most of our customers have a champagne and caviar appetite and they got a hamburger and Coke checkbook. And that's the problem is it's just like what we went through with Clive. George has got an application he's developed in-house for 100

students, he's doing it out of his time and effort more or less. To scale that for an institutional 30,000 students the cost differential is absurd. So the thing is you have to educate them right up front. We're talking a half million dollars to get started here. You want to go forward with this or not? I mean sometimes those kinds of just practical things will -- and they don't want to hear it but that's the reality of the situation. Now if they're willing to take on that effort to try and find the money, which is kind of what the whole talk was here with Sally, then that's okay. We'll go ahead and scope it out but you can do some of those things right up front to find out whether they're really a customer or not.

Significance: N/A?

E12 Cost Transparency Causes Internal Reflection	
<p>Gap:</p>	<p>Cause: A 'prime' manager does not think it ethical or savvy (TS) to charge his customer four times more than they could get the same service externally because of costly internal services provided (ST)</p> <p>Coding: (TS) Task, Process vs. (ST) Authority and Responsibility</p> <p>Resolution: Punctuated Change. Resolved same day. Managers involved in service delivery stay after to discuss how costs can be reduced to be more competitive, becomes a landmark in realization of shared services</p>
Horizontal Interactions: E1, E6, E15 (Intrapreneurship)	
Vertical Interactions: I10, I12, I17 (Task-interdependence)	
<p>Context: Jared the server hosting manager who acted as prime on a project was about to meet with the performing arts center -- a revenue generating entity of the university -- to give them a quote of the cost to install a new ticket and seating management system. He had felt uncomfortable with the high prices included in the quotes, so he decided to bring them up in the weekly meeting.</p>	
<p>Description: After time for his agenda item arose, Jared wasted no time beating around the bush. He explained that he had "ethical" problems with presenting a quote that contained line items that were three times the amount charged by competitors. He confronted one of the most expensive line items on the project by comparing a competitor's price.</p> <p>"This is a basic VMware server with Windows on it. Okay? If you go out and you look on the internet to our competitors, and that's what we have to be concerned about is what our competitors are charging, most of our competitors aren't even charging for a setup configuration and to load the operating system on. And, they are doing it in two hours."</p> <p>"Now, I understand that we don't do it all the time, and I understand that it does require us to do extra hours of work with stuff, however, if that's the what the industry norm is, and I take this bid out or this invoice out, I am going to have to be ethically correct, I am going to have to show them what else is available out there." (135:3)</p> <p>Jared proposed that perhaps they should broker the deal with an outside vendor, due to the difference in costs.</p> <p>"Maybe by us brokering the deal for them, maybe we still become the vendor of choice, but we are really hurting ourselves. I don't know whether it's because we haven't done enough of this, or because we have never really looked at this or never really thought about what we are actually doing, and what it really takes for us to be competitive. I don't</p>	

know what the answer is on that.” (135:4)

This prompted a discussion around the question, “If we can’t be competitive in this business, should we even be doing it?” The technician stated that competitors have infrastructure that allows them to produce virtual servers in high quantities at low costs, infrastructure which IST has not invested in. The CIO asks, what the break-even point is for virtual servers, gauging if it makes sense to enter this market, and invest in such infrastructure.

The service manager states that cost transparency also invites the customer to compare prices:

M-B “We have gone through selling people on the idea that we are opening the books, letting you see everything, well that also opens the books on doing the same thing Jared did, which is go, surf around and find out whatever everybody else is charging for these things. This is a good thing, but this new -- this system makes us do this. Because in our old model there was no pressure to ask these questions, we didn’t.” (135:6)

Bill then explained that this change necessitated figuring out which business they wanted to be in, and what it would take to be in the businesses that they wanted to enter. The next step was spreading the cost appropriately to the customers:

M-B “What we need to on a higher level is figure out which of these we want to be in the business on and what it’s going to take and then in the meantime, not kill our customers that are going to be suffering while we get our act together. There is some things we may decide, ‘you know what, we don’t want to do that’. I got to think that virtualizing servers is something we are going to want to do, because we are going to want to do it internally as expediently as possible – you know, even if we don’t do it for outside customers.” (135:8)

M-D “The answer to that is, there are things that we can do more efficiently than industry today and things that we do less efficiently than industry today. If we just float everything at its full cost, then we are going to win some business by a lot and the rational decision of our customers is to give all the stuff we don’t do more efficiently than industry. We either charge more for the things we do efficiently for and use that profit to subsidize the things we are inefficient in, until we can, you know, invest in getting them more efficient or yeah, we are going to lose that other business because any rational external decision is, all the things you are cheaper for I buy them from you and anything you’re not I don’t.”(135:8)

At this point the CIO asked how large the market was for virtualized servers, and Jared responded that he had four customers currently waiting, and anticipated more. He urged that the needed to soon conclude if they would enter this business or not.

So we have got to figure what we are going to do, because the annual fee that we are charging, \$3500 on the low end. What the commercials are charging is \$1500 - \$1600 a year.” (135:9)

M-J “I actually even went to the University of Arizona website and I showed it to Bill yesterday as to what they are charging to do their services and we are way above what – we are twice as much as what the industry is charging and we are about 1/3 more than what the University of Arizona is charging.” (135:10)

M-B: “What I would suggest we do is maybe artificially fix the price at that for this time

so we can get ready to do it on a regular basis. Price it like they were going outside and then we can have the defensible numbers. We say, “It is a little more than you can get on the outside, but you have people on campus that you can grab by the neck instead of somebody out of town. You have our basically infinite bandwidth across campus that is going to constantly have the internet up and we know how that can get at the end of the day.” So we have some defensible reasons to have a premium, but it gives us something that Jared can defend and that’s better than saying, “Jeez, Paul, you’re telling me \$400 a month when I can go online to the number one ranked people in the world and get it for \$100.” (135:10)

At this point, discussion on this topic had gone on for some time and the meeting facilitator acknowledged that it was an interesting and important conversation to be having, however it was important to arrive at a solution for the task at hand. The server-hosting manager had a customer he had to speak with shortly.

“These are awesome conversations to be having. This is really the right thing. Two years ago there was no flipping way you would have had this conversation without blood on the floor. And there would be no resolution.” (135:11)

Significance: As the words in the preceding paragraph explain, the managers knew the significance of this event and the resulting discussion. This event was significant in for the first time, Uni-IT showed detailed costs to customers through the quotes which they provided. This enabled customers to compare prices without outside vendors. As a result, the “prime” or the person who was responsible for meeting with the customer did not want to have a quote for four times the cost of what the most expensive competitor provided.

Others asked if virtual servers were the only line item that was uncompetitively priced. The prime then revealed that virtually every line item was more expensive than the competition, and 33% more expensive than quotes from the University of Arizona. Jared on busying services, and analytics....

“I am sitting here thinking about all of this and I’m like, okay that sounds great, is that we can’t price ourselves out of business – you know, I have got to be able to sell this, right? And as I add things, each of these things that we are adding on as we add on and we add on, we are adding on to the price of what it is going to cost the customer to get the service. Right? We have got to remember; we have got to stay as the vendor of choice, right, to be able to sell this. Okay? And I don’t disagree with the idea of buying training, or any of that kind of stuff, but it has got to be at that point where it’s, like, you know, it doesn’t make sense. What is my break-even point to be able to sell this?” (138:1)

Much of the cost stemmed from the cost to setup a virtual server, so the prime pushed the manager in-charge of the virtual server as to why his prices were so high. This led to a group discussion about the question of if IS&T should be in the virtual server business if they could not be competitive.

The team then went through each line and asked each responsible sub-manager if they could somehow lower their respective service costs by lowering the hours of work required.

This cause managers to check the prices of competitors as well, and if they are deemed too costly to push back against the sub-managers, and ask them why their individual estimate is priced high.

Discussion about how internal sales are done, how Jared does things.

“M-F: Paul at the end of the day, is going to look at his rates and whether he does it or contracts with someone to do it for him, he has to compare those rates – he has to determine what the value is.

M-M: But I think your customer would determine that value, if you did a metric on it.

M-J: My customer would definitely – it’s real easy too. “Why am I paying that?”

M-M: I guess my point was that anybody sitting in this room that thinks they can sell something to Paul, the time to do it is in that internal marketplace.

M-M: Go ahead and put it into your rows, you know, and it’s going to be an internal sale at that internal marketplace, and the decision will be made. So if you think that you can sell ‘Document Editing’ [for a project], put it in your row.” (138:3)

Eventually, they arrived at a satisfactory solution, and the meeting concluded with the facilitator remarking that these were “awesome conversations” and that “Two years ago there was no flipping way you would have had this conversation without blood on the floor. And there would be no resolution.”

E13 Trouble Winning Small Business	
<p>Gap:</p>	<p>Cause: Using detailed planning and budgeting tools (MS) managers struggle to produce a quote (TS) for a budget strapped customer</p> <p>Coding: (MS) Planning and Controls vs. (TS) Tasks, Processes</p> <p>Resolution: Incremental adaptation. Resolved as team decides to have customer choose most important design features that they are willing to pay for</p>
Horizontal Interactions: E9, E11, E14 (Costing)	
Vertical Interactions: I1, I7, I11, I13 (Process Improvement)	
<p>Context: Christie, a consultant, had been working for months on a service requested by one of the colleges on campus. They had requested help replacing a database that they used to track internships. After fixing some simple problems with the database Christie told them about functionality which could be added to their existing feature set. The consultant worked with the head of application development on estimating the price to deliver all the features requested. After months of work the manager had estimated a price of \$200,000. Senior management urged her to present this to the management team for feedback before presenting this quote to the client. This caused a long discussion that is the crux of this event.</p>	
<p>Description: Christie first began apologetically, acknowledging that she was “remiss in not bringing this to leadership team first”. Repentant, she stated “I will now be bringing everything to the group as soon as I get functional requirements.” She had been working with application engineering to price a solution to upgrade the internship database. After two months of pricing the quote, it was discovered that the quote was beyond the budget of the client.</p> <p>She sought the teams’ opinion; should they start the requirements gathering process over, or present the client with an alternate, less expensive solution? With such a huge discrepancy between the project estimate and the college budget, discussion revolved around if this was a reasonable quote to bring to the client. Some questioned if this quote would be embarrassing to show to the college fearing that they may tell other</p>	

departments how unreasonable Uni-IT was. Other managers had argued that the entire reason why they began the move to shared services was to be able to show the cost of providing service and initiate a conversation about providing an alternative which met requirements but was less costly. This quote captures this sentiment:

“It’s my opinion that what we have produced right here is entirely reasonable to bring back to the client. It may not be what they want to hear, it may be beyond all of the things that they would like to do with their existing application and it may be beyond their budget. We have to be prepared for the fact that we’re producing numbers that are to a level of accuracy I don’t think we’ve ever had and there exists the opportunity for people to stand up and say “I can do that for x; all I need to do is buy a PC, so that’s what it costs you.” Well, we all know he’s not building in the full cost, but some folks might be able to sandbag us like that. We just have to be realistic about the total cost for us to provide what they want and then hopefully provide alternatives..” (185:22)

The conversation began to revolve around alternative solutions. A manager asked how other universities do this, and surmised that there would be an off the shelf product. Another talked about repurposing an existing system to meet the needs of the customer. A manager seeing the futility of this discussion when the customer was not there to state what they required stated:

We can’t burn any more hours into overhead examining alternatives to solutions they hadn’t asked for. (185:27)

Other managers agreed on the need to find out customer requirements in further detail otherwise they could ponder infinite possibilities until retirement. Another manager interrupted the conversation by asking:

“Is every one of you guys comfortable with having this quote from Uni-IT floating around so that when somebody says, hey they wanted \$100,000, \$200,000 to do X, are you okay with that? (185:39)”

An answer came quickly from a senior manager:

Everybody’s worked really hard on the functional requirements. Put it out there, that’s my vote. I mean, put it out there, and show it to the customer. If a customer wants to run around campus telling people that they cost \$200,000 to add PDF, if they just spewed the wrong information, to me that’s not our problem, it’s their problem. (185:40)

Another manager agreed with this assessment and further adding his opinion that if they win this contract they should not be disappointed:

“I don’t read our new methodology as being one where we should sacrifice everything to go after the very smallest corner of business on campus. I think part of the process was supposed to be to demonstrate to our customers how much we really cost. That shouldn’t be an inflated cost, but it shouldn’t be a cut rate we can’t really deliver on that cost either. I think if we can’t compete on a piece of business this small, I’m not sure we should be brokenhearted about it. (185:41)

Another manager provided counter-point to both of the arguments above by calling attention to the huge expense of building a customer internship tracking application.

I think one of the elephants in the room is some of us are having a really hard time digesting \$200,000 for a custom app. We all looked at this and went, “Holy crap, its \$200,000.” That’s a lot of money! We can’t possibly go talk to our client about that.

That’s why everybody stopped on this and that’s why we’re having this discussion.

Maybe we do need a little bit of education ourselves about why does a custom app cost

that much. This is about a year of somebody’s time; don’t act like this takes a year to build. (185:42)

Conceding this point, another manager proposed a metaphor that they could use to approach the client. “*We figured out they want a Lamborghini and we figured out they can’t afford one.*” (185:30) He suggested telling the client, “you can’t afford a Lamborghini”, however, “are you willing to entertain public transportation?” (185:45) After this great discussion the meeting ended with the consultant concluding that the client would be given a list of which of their prioritized requirements could be accomplished given the budget limitations. This had the benefit of not showing them the huge estimate and letting the client determine the priorities given a pricing list.

Significance: This event is significant as it demonstrates the impact of transparent costs on customer relations and internal working relationships. The impact of transparent costs can be illustrated by the central debate in the meeting, which pertained to the permissibility to show a quote for a requested service to a client even though it significantly exceeded their budget. Those who supported the motion argued that the reason they adopted shared services was for this exact purpose – to show the customer the costs of services they request. The large price tag would hopefully help the customer adjust their requirements. This sentiment was indicative of the level of support these supporters had given to managing by costs. The first question asked by the group of managers after the consultant had made introductory statements was “what is the budget?” This statement shows the transformation that had already occurred in Uni-IT. One year prior to this, managers had no tools or knowledge of measuring IT costs, therefore they could have never asked a question about budgets in a meeting. Now that they had these tools and were using them daily for their own work, this was the first question on their mind.

Transparent costs had a dramatic impact on working relationships between Uni-IT managers as it allowed each manager to be skeptical of other manager’s costs. As one manager stated, it caused them to reflect on why the application cost was \$200,000, a huge sum. In this case, as in others described, this caused managers to question quotes from internal customers and try to reduce these rates. It also caused managers to reflect on how they could explain these high costs to customers. The metaphor of ‘the Lamborghini and public transportation’ is indicative of the tension between demands of customers with the limited resources of the university IT department.

E14 Manager Questions Internal Purchase	
Gap: 	<p>Cause: Manager hesitates buying internal training service (ST) out of concern (MS) for driving up cost</p> <p>Coding: (MS) Planning and Controls, Incentive Schemes vs. (ST) Coordinating Mechanisms, Authority and Responsibility</p> <p>Resolution: Incremental adaptation. Resolved quickly as manager concedes to buy the service</p>
Horizontal Interactions: E9, E11, E13 (Costing)	
Vertical Interactions: I14, I16 (Bureaucracy)	
<p>Context: A month earlier, the financial manager had stated during a meeting that they had budgeted to sell two million dollars more of services than they were on track to sell. While acknowledging that these budgets were not ‘real’ money only an accounting of</p>	

where money was being spent, he called attention to the importance of budgeting, as rates for other services were impacted by sales forecasts.

When this event occurred, a month later, Uni-IT was engaged in the internal sales process. During this time all managers list services that they plan to provide to other service lines over the coming year. The costs of these services are added to the rates of the services to which they contribute. For example, one group that provides training might forecast that they will sell training services to another group who installs new operating systems on user desktops.

Description: A manager is reviewing the services that other service managers expect to sell to him. The service of training arises. He says that he has never provided training in the past and is reluctant to “buy” this service from another manager, as it would drive up his rates, and ultimately lead to a higher price tag for the customer. The manager then successfully persuades him to buy the service as he says training has changed significantly.

Farah: Ah, training?

Adam: Yeah.

Jared: I mean what-what training? I don’t think we offer any training for Windows XP.

Adam: Um, well, just because you didn’t do it before doesn’t mean you shouldn’t do it now. Um, I think Windows 7 is a pretty big change from XP, so it would be useful to have some classes in our PC lab.

Jared: You know, we’ve never had much interest in those types of classes. I mean, I’m not against the idea, I’m just saying...

Adam: Our classes actually are pretty full these days, so I don’t know what your experience was previously, but it might be a bit different now.

Jared: Okay.

Adam: You know, I think you should give it a shot. I’ll say that.

Jared: All right.

Significance: Once a year the department met to conduct internal sales forecasts for the coming year. Prior to this meeting any manager could mark on a spreadsheet planned internal sales. Later the receiving manager would have the opportunity to accept or reject this proposed sale. The conversation above shows that a high level of subjectivity occurred as managers decided to purchase from each other. Initially Jared was hesitant to purchase training services from Adam, as it would drive up his rates. Adam continued to make the sale and eventually sways Jared who consents to buy the training service. Each internal sale made the billable rates increase for each receiving manager. While the billable rates served as a good indicator for how much work a manager had on his plate, the numbers were often subjectively composed and often not useful when trying to bill clients.

E15 Walkthroughs Performed by Listing Participants Only	
Gap:	Cause: Managers become adept (PE) at walkthroughs necessitating a change in meeting process (TS) Coding: (PE) Roles, Education vs. (TS) Process Technology, Core Process

	<p>Resolution: Incremental adaptation. Managers change business practice naturally</p>
<p>Horizontal Interactions: E4, E7, E10, E17 (Walkthroughs)</p>	
<p>Vertical Interactions: People – Technical System (Depricated)</p>	
<p>Context:</p>	
<p>Description: A project involving an event management system installation for the student recreation center that would allow students to schedule rooms was discussed briefly in a meeting. Christie, a consultant, was trying to get the right people involved to meet with the client. A manager requested that a walkthrough be performed. Christie had already prepared a list of people who should be involved on the project, based on a walkthrough for a similar service that was done previously. She proceeded to identify the managers who should be involved while others managers were free to suggest that they should be included.</p> <p>Christie: Okay, I'm going to read through the list of who I've got and see who we've left out or do you guys want to call it out?</p> <p>Scott: It might be helpful if you called out those, I can record them and then if anybody else wants to jump in.</p> <p>Sally: PS app.</p> <p>Scott: Let's break it out into implementation as well as operation to make two lists of participants.</p> <p>Christie: All right, support and operations, so it's PSA App, PS Stat, PSPSS, TEPSE [acronyms of various roles] (228:3)</p>	
<p>Significance: This event is significant as it shows the maturation of dealing with interdependence among the various service groups. For over a year, walkthroughs had been performed to ascertain which managers should be involved. Eventually this process matured to a point where they could be done in a matter of minutes instead of hours.</p>	

<p>E16 Managers retain autonomy over roles</p>	
<p>Gap:</p>	<p>Cause: A manager seeks to improve (MS) the customer service by creating a one-stop shop for software downloads but is impeded by other managers who seek to retain their sovereignty (ST) over how they deliver services</p> <p>Coding: (MS) Incentive Schemes vs. (ST) Coordinating Mechanisms, Authority and Responsibility</p> <p>Resolution: Incremental adaptation. Not immediately resolved</p>
<p>Horizontal Interactions: E2, E3, E6 (Political) E1, E6, E12, E16 (Intrapreneurship)</p>	
<p>Vertical Interactions: I14, I16 (Bureaucracy)</p>	
<p>Context: In the meeting the prior week, the CIO had asked each manager to verbally commit to an effort to change the organizational culture. He stressed the importance of first changing meeting habits and setting an example for the staff to follow. Changing culture was something which leaders in the organization had long pushed for in the hopes of instilling personal accountability, and developing a service culture. At the next week's</p>	

meeting a server-hosting manager was granted time on the agenda of the weekly management meeting to discuss an idea to improve service.

Description: At the beginning of a meeting, the server-hosting manager related, “biggest complaints that we have from customers right now is the fact they can't find software to download.” Typically they had to go to a location on campus and purchase the software on a physical medium such as a compact disc. Often the discs did not work correctly, or had an older version of the software. To address this problem. The manager wanted to have one webpage that anyone on campus could download the software they needed. He said, *“I'm going to fix that right away. Thank you. We're going to put it in one spot. (254:19)”*

After some discussion another manager stated, *“You asked a question that piqued my interest. You said if there's anybody else in here that owns software -- that piques a quick domain question. (254:14)”* This pointed to the fact that even though the manager who was proposing this new project to organize software access “owned” or held responsibility for providing most of the software, there were other managers who also had responsibility.

One of the managers protested that this project would require changing the documentation for hundreds of applications, which would be a serious project and would require other managers to give up control over how they “ran their business”.

The server-hosting manager protested the red tape, “I don't think that we have to wait till 2020 to get this done. I mean we've just got to fix this, folks, because it makes us look bad, right, that our documentation doesn't work, period. (254:19)” Another manager agreed that it sounded like a good idea, however he said, *“you're saying we're going to rewrite all of the documentation for those pieces of software. All I'm saying is those pieces of software belong to a domain. The state of their documentation for a piece of software that they distribute ought to be their thing and they want that to be updated and they should, they need to start something to go do that. (254:25)”*

Here another manager appealed that each individual manager responsible for providing the software should seek to improve customer access, and thereby change the documentation for each piece of software. After this argument, the discussion of the topic fell quiet.

Significance: This event shows the coordination problem caused by the intrapreneurial sovereignty. A manager sought to take a course of action that would improve the customer experience by centralizing the location where software could be downloaded. Although the majority of downloads fell into his responsibility, many other managers also provided software to users. Managers had the liberty of deciding how they would provide software to their customers. Although what Jared proposed was useful, protocol required that deference be given to each manager to decide how to run their business, and the course of action which Jared was pursuing was seen as stepping on their toes. Thus the intrapreneurial sovereignty of managers caused roadblocks in the endeavor to work together for the common good of the customer.

E17 Customer Feedback Changes Meeting Protocol	
Gap:	<p>Cause: Negative feedback from important customer (TS) necessitates re-evaluation of coordinating mechanisms (ST)</p> <p>Coding: (TS) Tasks, Process Technology vs. (ST) Coordinating</p>

	<p>Mechanisms Resolution: Punctuated Change. Directors react swiftly, enacting changes are made to client intake process and walkthrough initiation</p>
<p>Horizontal Interactions: E4, E7, E10, E15 (Walkthroughs)</p>	
<p>Vertical Interactions: I10, I12, I17 (Task-interdependence)</p>	
<p>Context: Three months earlier, a consultant had initiated contact with the administrator in charge of new student orientation. The administrator expressed a desire to utilize iPads to allow new students to register for classes and approached Uni-IT for service. A walkthrough was performed, and service managers who needed to be involved were identified. After several back-and-forth sessions with the customer, the key requirements were identified and an estimate was given to the administrator. Since the money for this quote was not coming from core budget, but from the budget of the administrator receiving the services, extra measures were taken to be precise on the pricing of services. The larger contextual setting for this event included an effort to change organizational culture in Uni-IT. A large document and training initiative went underway roughly a month before this event occurred. The cultural movement was seen as a way to remove some of the habits and routines that inhibited behaviors that inhibited customer service.</p>	
<p>Description: The CIO and other leaders in the organization received an email with negative feedback from the administrator in charge of the new student orientation. The administrator related that he had spent dozens of hours preparing for this project over three months and was still getting conflicting stories about resources required. He became disappointed with the level of detail and ranges provided on the estimate stating “you’re suggesting to me that it might take 2 to 10 minutes for your staff to configure each iPad” and “they will move three to five carts on average back and forth”. Due to this detailed analysis he had grown to prefer to “stay out of the details of this estimate and just give a sum amount to cover my fair share of the project.”</p> <p>Citing the length of time it took to complete an estimate, and the large range of numbers and costs involved, he concluded the email by calling into question the practice of creating estimates in the first place:</p> <p>“It really does worry me that so many people in your shop and mine--including you and me--have devoted so much time, not to executing the project that the President and Provost have instructed us to execute, but to working on and talking about an estimate that is neither very helpful nor very meaningful. (Email 3/21/2011)”</p> <p>The managers at Uni-IT took this email very seriously. The next day the head project manager sent an email to the leadership team stating,</p> <p>We would like to use the next leadership team meeting to walk through the initiation of this project and determine any lessons that can be learned in order to improve the process for future project requests from customers.</p> <p>The T1 managers had already met to discuss the implications of this event, and they desired all the T2 managers to meet without their presence to come to an unbiased solution. The email stated a few ground rules for the meeting:</p> <p>The customers’ perception is reality. The focus on the discussion will be on those items that Uni-IT can control.</p> <p>We WILL NOT focus on individuals, but instead look at roles and how to improve the</p>	

process for everyone. We will discuss lines of authority, and how to ensure that items are not missed or dropped in the process.

Everyone will engage as a part of the process and everyone's input is important. Even if you were not involved with the current project, you will be involved with future project requests from customers. (Email 3/23/2011)The project management office was asked to lead a lessons learned discussion in the weekly management meeting. Although the customer was not pleased with the amount of time it took to get the final estimate, the project was a complete success and other departments later requested iPads for use in similar events. However, the lessons learned from this event lead to many process improvements in the organization.

Significance: This event is significant as it shows grave concern by management which leads to swift corrective action. Senior leadership was quick to learn from the customer feedback, and quick to respond. Previously, such feedback was never brought to the group at large as they were “*powerless to change anything in the organization*” (291:114) and could only resort to taking the person out to lunch to make amends. This event was a “starting point” for improving the estimation process. Efforts were undertaken to reduce the time necessary to respond to customers. This change included a weekly deadline of 5pm on Friday for new leads or opportunities to be put on the agenda. Each manager was given time to review each opportunity and identify if their services should be included on the project charter.