An Organisational Change Approach to Implementing IT Service Management

Research-in-Progress

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Abstract

Although an increasing number of organisations implement the IT Infrastructure Library (ITIL) with the aim to improve Information Technology (IT) services to their customers, a significant number of ITIL implementations do not achieve the expected outcomes. Enterprise Resource Planning (ERP) and Business Process Reengineering (BPR) projects have similarities with ITIL implementations. ERP and BPR researchers using a socio-technical work systems lens have identified that using a formal change management strategy incorporating a socio-technical approach can assist in implementation success. The proposed explanatory research described in this paper seeks to identify if using a socio-technical approach to organisational change can influence the success of ITIL implementations. This paper presents the preliminary findings based on two case studies and provides a detailed view of the strategies and actions of organisations implementing ITIL. This research aims to contribute to practice and research by establishing a model for effective strategies for ITIL implementation.

Keywords

IT Service Management, ITIL, Organisational Change, Socio-technical Approach, Case Study.

INTRODUCTION

It has been estimated that global spending on Information and Communication Technology (ICT) would exceed US$4 billion in 2012 with IT services accounting for 21 percent of this investment (WITSA 2010). Increasingly organisations expect that their Information Technology (IT) suppliers, internal or external, provide them with continually improving services (Pollard and Cater-Steel 2009) and that service delivery is customer-focused (Galup et al. 2009). IT Service Management (ITSM) is a strategy for the improved delivery of IT with a focus on IT services and customers. ITSM can provide benefits including an improved IT service at a lower cost and more service-oriented than technology-focused (Iden and Langeland 2010). Organisations that adopt ITSM principles implement the Information Technology Infrastructure Library (ITIL®) (Tan et al. 2009). ITIL is a process-based framework that assists in the management of IT related activities of an organisation (Iden and Langeland 2010).

Increasing numbers of organisations globally are implementing ITSM (Galup et al. 2009). The implementation requires a major financial investment and will require employee training, processes, technology, changes to culture and organisational change (Ming-Shian et al. 2011). Many organisations find that their implementation of ITIL has not achieved their expectations (Pollard and Cater-Steel 2009). Our research into this significant problem considers organisational change strategies in response to the call for research to consider organisational change factors that influence the success of an ITIL implementation (Pollard and Cater-Steel 2009).

This research aims to identify the organisational change strategies being employed by organisations that have effected a successful ITIL implementation. The expected contributions of the study are both practitioner and academic-oriented in nature. There is an identified need to determine how organisations implement ITIL and what factors influence the success of the implementation (Pollard and Cater-Steel 2009). The research aims to add to practical knowledge by providing organisations with successful organisational change strategies for the deployment of ITIL such that implementations are successful. Organisations will be able to use the knowledge gained to provide more effective use of resources and control over costs during implementation. Overall organisational performance can be improved as a result of an effectively managed ITIL implementation and improved provision of IT services. Strategies that will successfully implement ITIL will contribute to increasing
The knowledge of ITSM and ITIL as this area is currently under-researched. The theoretical contribution is the establishment of a model for effective strategies for ITIL implementation. The paper is an example of process-oriented theorizing that aims to explain (Gregor 2006) how successful ITIL implementation is achieved.

The remainder of this paper is organised as follows. In the next section we review relevant literature on IT service management and organisational change and then present the research questions that underpin our study. In the following sections we provide details of the research design and methods. Then, we present a brief summary of two cases and a preliminary analysis leading to a discussion of the use of socio-technical approaches in ITIL implementation. Finally, we draw conclusions from the study and identify further research directions.

LITERATURE REVIEW

To provide a theoretical background and analyse prior studies we review prior research that has been undertaken associated with the proposed research. The literature review includes the topics of IT Service Management, IT Infrastructure Library, organisational change, organisational development and socio-technical systems.

IT Service Management

ITSM is a strategy for the delivery of IT that focuses on IT services and customers. It achieves this by establishing agreements for the quality of IT services being provided. These are referred to as Service Levels. The delivery of IT is then managed by the IT organisation according to a series of processes to meet the business’ agreed service levels (Iden and Langeland 2010). There are different reasons for implementing ITSM. There is an expectation that ITSM will provide benefits including an improved IT service at a lower cost. Importantly it aims to drive an organisation to deliver IT as a service to customers rather than just as a technology (Iden and Langeland 2010). The majority of organisations that are implementing ITSM are following ITIL guidelines (Tan et al. 2009).

IT Infrastructure Library

ITIL is a process based framework that provides managers with guidance for IT related activities of IT divisions and the organisation as a whole. Processes consist of formal activities designed to produce specific outcomes. ITIL is now recognized as the global standard for ITSM with the international standard for ITSM, ISO/IEC 20000, based upon ITIL (Iden and Langeland 2010).

There are signs that ITIL will be deployed by more organisations around the world in increasing numbers. Forrester Research reported in 2008 that they were receiving an increasing volume of enquiries about implementing ITIL (Pollard and Cater-Steel 2009). A rising number of organisations have implemented ITIL (Iden and Langeland 2010). Implementing ITIL requires an organisational change management process (Tan et al. 2009); there is a need to research organisational change factors that influence the success of an implementation (Pollard and Cater-Steel 2009).

Although ITIL is becoming increasingly adopted, not all implementations are successful. An Australian survey of 108 businesses that had implemented ITIL identified that only 56 per cent believed that the implementation had achieved expectations (Pollard and Cater-Steel 2009). However, there is some confusion as to how ITIL should be implemented. ITIL does not provide information regarding a strategy for implementation. There has been very little academic research into the adoption of ITIL even though there is not a clearly defined implementation strategy. At least one study has identified that there is a concern with the success of the implementations (Pollard and Cater-Steel 2009).

ITIL Implementation Strategies

Implementing ITIL is complicated and will have an impact throughout the IT division and the organisation as a whole. There will be a need for change in the way in which work is performed, the structure of the organisation and the roles of the IT staff. There will also be a requirement for new skills and a new way of thinking about delivering IT services. Implementing ITIL is not just the implementation of new business processes, The ITIL implementation represents a significant organisational change. The ITIL implementation typically includes changing the culture of the employees, providing training, new IT tools and a restructure of the organisation (Ming-Shian et al. 2011). The ITIL processes are supported by IT systems that enable the management of processes. There is therefore the requirement to select and implement the IT system to support the processes (Iden and Langeland 2010). An ITIL implementation is a combination of changes to processes and technology (Iden and Langeland 2010). There will be a requirement to engage resources across the organisation and in different roles and to manage processes (Shang and Lin 2010). It can be anticipated that an ITIL implementation will span a significant period of time which could take a number of years for completion (Iden and Langeland 2010).
The implementation of ITIL has been identified for its similarity to the implementations of other frameworks including ITIL studies researchers have looked to ERP implementations because of the similarity to ITIL implementations (Tan, Cater-Steel, & Toleman 2009). A primary common feature is that they are both systems that are based upon processes and that implementation requires changes to business processes. A key factor of the research into ERP implementations is that there is a need to change culture in an organisation and a need to use a change management approach to ensure that barriers to change are overcome. A case study research into an ITIL implementation in a large government department identified that a change management approach is necessary to ensure that the IT division transforms from delivering technology to delivering services (Tan et al. 2009).

Organisational Change

Organisations have a need to constantly change to ensure that they meet the changing requirements of their customers or to respond to external or internal forces (Price and Chahal 2006). Organisational change is change that affects the roles of the staff, the way in which work is performed, organisational structure, technology and goals. Organisational change can be planned with the objective of moving the organisation from one state to a preferred and improved state. There are many different models of planned change processes. Planned change is the intentional move of the organisation to a preferred condition (Linstead et al. 2004). Planned change includes the socio-technical systems approach focusing on the relationships that exist between organisational factors of technology, people, structure, and processes (Price and Chahal 2006).

Socio-technical Systems

A socio-technical system is one model of planned change; it involves an interaction between people and technology (Dalpiaz et al. 2012) and represents relationships between organisational factors (Newman and Zhao 2008). ERP is an organisation-wide IT system that is associated with redesigned business processes in order to provide an improvement opportunity for the organisation (Al-Turki 2011). Business Process Reengineering (BPR) refers to redesigned business processes supporting an ERP service (Huq et al. 2006). The socio-technical system model can be applied to ITIL as ITIL comprises a series of business processes that are supported by an IT system (Iden and Langeland 2010). ITIL is a socio-technical system, as are ERP and BPR. The socio-technical system has been represented by the Leavitt Diamond as displayed in Figure 1. The Leavitt Diamond comprises four organisational factors of technology, structure, people and task (El Sawy 2001).

![Leavitt's Diamond](el-sawy-2001)

The socio-technical theory considers that work systems are comprised of two components, social and technical (Grover et al. 1995). The social components include organisational factors of structure and people while the technical components includes technology and tasks (Bostrom and Heinen 1977). The theory identifies that if there is a change to one of the four factors then there will need to be an appropriate change to the others so that
they stay equally aligned (El Sawy 2001). This model shows that any change to one part of the work system will create a requirement elsewhere; this includes a change in processes (Galliers and Baker 1995).

Consequently it can be considered that if new business processes are introduced then there may need to be changes to technology, people skills and organisational form. The socio-technical system recognises that there is a need for equal emphasis on both the technical and social aspects of an organisation. If one part is changed then other parts will also need to be changed. It is necessary to understand that changes that involve technology do not involve only the technology but also that the emphasis cannot be on process in isolation if new processes are being implemented (Galliers and Baker 1995).

**Implementing Socio-technical Systems**

Organisational change that is planned and managed will address requirements of an organisation such that the Leavitt Diamond remains balanced and the change is implemented successfully. The requirement for the change is that each of the factors is adjusted according to needs to maintain that balance (El Sawy 2001). As has been identified with ITIL adoptions the implementation of ERP and BPR results in changes to processes, organisational culture and organisational structure (Huq et al. 2006). The failure of the implementation of ERP systems has been identified as resulting from both technical and social issues of the change (Shah et al. 2011). One study identified that between 60% and 90% of ERP implementations fail. The critical success factors of ERP implementations consist of social and technical organisational factors (Kwahk and Ahn 2010). It has also been identified that managing the implementation of ERP has been successful when it has been conducted as an organisational change (Newman and Zhao 2008).

Implementing a socio-technical system, such as ERP or BPR, has emphasized the need for the technical and social factors to receive an equal share of the focus (Galliers and Baker 1995). Often when processes or technology are changed, additional required changes affecting people and organisation structure are overlooked. The involvement of users of the systems and also the management or people issues through the use of human resource practices has resulted in an increased rate of success of implementation (Grover et al. 1995). Implementing socio-technical systems as organisational change attempts to bring multiple organisational factors to an alignment and involves technology, people, process and organisational structure. A change management approach provides opportunities to overcome barriers and bring about the change (Grabski et al. 2011).

**Implementing ITIL with a Socio-Technical and Change Approach**

Applying a socio-technical approach to an organisational change may result in positive outcomes (Galliers and Baker 1995). The Leavitt Diamond, as a socio-technical system model, shows that work systems are related and that change can affect many parts of an organisation. A socio-technical approach to change considers an organisation in the context of multiple factors that interact when planning change is a socio-technical approach to change. Designing a new work system must take into consideration social and technical aspects of an organisation as well as the four factors of technology, structure, people and task (Bostrom and Heinen 1977).

Figure 2 presents a representation of the initial conceptual framework of our study showing the introduction of an ITIL implementation impacts on the four components of the socio-technical work system.

![Figure 2. A Socio-technical System affected by an ITIL implementation (Adapted from Bostrom and Heinen (1977))](image-url)
Research Questions

The research aims to address the following research problem: What change strategies are organisations employing to successfully implement ITIL? Based on the literature review the following questions are formulated to address the research problem:

RQ1. What change management strategies are organisations using to implement ITIL?

RQ2. How does a socio-technical approach to the implementation of ITIL influence the success?

RQ3. What organisational change factors determine success or failure of an ITIL implementation strategy?

RQ4. How does Leavitt's Diamond identify the relationships between socio-technical factors during implementation of ITIL?

STUDY DESIGN AND METHOD

This research uses a positivist epistemological multiple case study approach to collect the data required to answer the research questions. This approach is accepted and widely used in information systems research (Cavaye 1996). As we intend to build a theory on ITIL implementation, an inductive research approach will be used (Saunders et al. 2009).

Method

The research is conducted as multiple case studies. Case studies are suitable for qualitative research with supporting data available from a number of different sources (Yin 1981). The case study approach enables multiple organisations to be the subject of the research (Benbasat et al. 1987).

The collection of empirical data is by multiple methods including semi-structured in-depth interviews and secondary data. In-depth interviews are appropriate to gain information from subjects considered experts (Milena et al. 2008). Interviews are supplemented with secondary data comprising emails, web sites, intranet sites, memos, reports and documents (Saunders et al. 2009). The semi-structured interviews and identification of secondary data have been planned to gather the data necessary to answer the research questions.

The participants in the case study are recruited from eight Australian organisations that have successfully or unsuccessfully implemented ITIL within the last two years. Care was taken to include organisations from various sectors and geographic locations. The interviews were conducted with senior managers at a wide range of organisations including two universities, three public service departments, a major Australian financial organisation, a global mining and chemical conglomerate and an energy distributor. The organisations are based in five different Australian states. This study considered success as achieved if organisations “reported achieving a more predictable infrastructure from improved rigor during system changes, improved clarity in roles and responsibilities, reduction in system and service outages, improved coordination between functional teams, seamless end-to-end service, more documented and consistent ITSM processes across the organisation, consistent logging of incidents, enhanced productivity, reduced costs, and improved customer satisfaction” (Pollard and Cater-Steel 2009).

Data Collection

The participants were identified and recruited through a number of methods. Letters requesting assistance and support were sent to the Chief Information Officers of several large organisations of various types throughout Australia. The IT Service Management National Forum was targeted as an event at which potential participants would be in attendance. A former colleague was also approached and an associate identified potential organisations. All organisations had recently implemented ITIL or were currently implementing ITIL. Those organisations part way through their ITIL implementation had progressed sufficiently to determine the success of the components completed to date. Many organisations that were approached declined to participate or did not respond to the request. A senior manager at each organisation agreed to participate and was interviewed. The participants in the interviews were all Chief Information Officers or the program leaders of the ITIL implementation. The participating interviewees each advised that they had a detailed understanding of the ITIL implementation and also of the outcomes of the implementation. The organisations were not required to identify the success or failure of their programme prior to the data collection. This was to be explored as part of the data collection.

A semi-structured interview protocol was designed and revised in light of feedback from a pilot test. Care was taken in formulating the interview questions to ensure the definitions, themes and propositions were well defined so that relevant output could be assured (Stemler et al. 2001; Strijbos et al. 2006). Ethical concerns were considered and the interview protocol reviewed and approved by the university ethics committee.
The participants were interviewed for periods of approximately one hour. The interviews were semi-structured and consisted of a series of questions or topics that were explored during each interview. The participants were cooperative with the flexibility that existed in the semi-structured interview format. This allowed for additional questions or the further development of the topics depending upon the responses received and the opportunity for pursuit of additional information. The interview questions were designed to gather information about the organisation, the prior service management delivery, the ITIL implementation programme, success criteria of the programme and the organisational change strategies applied. Particular focus was provided in the interviews to the four aspects of the socio-technical approach and the conformance to the Leavitt Diamond model. The intention was not to just identify if the change approach included the four socio-technical factors but if they were affected equally or in other proportions. The flexibility of the interview approach enabled further examination of the responses with additional scrutiny and exploration of the answers provided. The collection of secondary data has been less successful. The research participants were all fully cooperative in interviews but tended to be reluctant to provide supporting material (e.g. plans, reports). Only three of the research participants provided secondary data. Two other case studies consisted of interviews that included multiple participants supporting a consistent view of the ITIL implementation, success and organisational change strategies.

The interviews were recorded in their entirety and transcribed verbatim for analysis. The transcriptions were reviewed by interviewees to ensure accuracy. Content analysis is conducted on the transcriptions using NVivo software. The initial coding categories mirrored the interview protocol and were derived from the original conceptualization of a socio-technical approach to ITIL implementation.

Currently, the interviews transcripts are being analysed based on a two-step process (Eisenhardt 1989). First, the intra-case analysis aims to reveal the particular characteristics of each case and thus will allow for a thorough understanding of the specific activities performed during the implementation of ITIL. Second, the inter-case analysis identifies points of commonality across the eight cases, as well as unique factors.

**PRELIMINARY FINDINGS**

The examination of the data from the interviews has focused at this stage on the socio-technical change strategies. The analysis of the data is in progress. This research-in-progress paper reports findings from two of the eight organisations that have participated in the research.

Organisation A is an Australian national organisation with approximately 2000 desktop PCs. The organisation’s IT department consisted of eight operational capability sections that determined its own methods of servicing end users. A program to implement ITIL was initiated by the Senior Manager of IT. The implementation was not conducted with a formal organisational change strategy.

Organisation B is a global organisation with approximately 10,000 desktop PCs. The ITIL implementation was part of a wider program to globalize the IT delivery. The organisation consists of regional based operations with a duplication of IT across regions. The objective of the ITIL implementation was to provide a consistent IT service experience for users through reliable, common solutions and standardized global IT processes. Although the globalization of the IT delivery was a significant impact on a large and widely distributed organisation, a planned organisational change strategy was not developed for the ITIL implementation or the wider IT program.

**Socio-technical systems approach**

The participants were asked questions about their socio-technical systems strategy. This did not include a question directly referring to that term but questions were asked relating to each of the four components of an organisation as displayed in Leavitt’s Diamond. The intention of the questioning was to identify if they had approached the ITIL implementation with consideration for socio-technical components of the organisation: process, technology, structure and people. The further intention was to identify if the socio-technical components had been considered in equal amounts or at least proportionate amounts according to the scope of the ITIL implementation. The research is in reference to an ITIL implementation and as ITIL is a process based framework it is to be expected that each organisation implemented new processes. The primary interest therefore is in the approach to the implementation and whether this included attention to the four components. Table 1 displays the changes made to organisational factors as modelled in the Leavitt Diamond framework.

<table>
<thead>
<tr>
<th>Organisational Factors</th>
<th>Organisation A</th>
<th>Organisation B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>New incident, problem and change management processes</td>
<td>New incident and change management, request fulfilment, configuration and knowledge management processes</td>
</tr>
</tbody>
</table>
Table 1. Summary of Socio-technical Factors Identified

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>Adapted existing toolsets</td>
</tr>
<tr>
<td>Structure</td>
<td>No new positions</td>
</tr>
<tr>
<td></td>
<td>New roles</td>
</tr>
<tr>
<td>People</td>
<td>Process training</td>
</tr>
</tbody>
</table>

Organisation A implemented the ITIL processes of incident, problem and change management. An existing but basic configuration management process already existed. The processes were all designed within the organisation based upon ITIL book examples and with relationships to each other. The leader of the programme was an experienced and certified ITIL practitioner who oversaw the writing of the processes with an objective of meeting the needs of the organisation. Applying the capabilities of internal employees with ITIL experience resulted in consultants not being required for the implementation. However, a consultancy organisation had been engaged to conduct a baseline assessment of the ITIL delivery prior to the commencement of the implementation. Organisation A utilized existing technology rather than implement new technology. The existing toolsets were adapted to support the new ITIL processes. The organisation already used an ERP system and this was modified to meet the requirements. The ERP system was capable of recording the Incident, Problem and Change records. The employees were already familiar with the tool and consequently training was not required. The organisation structure was changed to support the ITIL delivery, however new positions were not created. Additional roles were created and applied to existing positions. The funding was not available for new positions with the result that rather than appoint process managers as specific roles, existing IT managers became accountable for support of the processes. Training was considered to be a significant factor of the implementation program. Each person in the IT department was provided with ITIL training. Resistance to the programme was encountered particularly with the new processes. The employees were required to work to new processes and this resulted initially in additional work for them. This was overcome with education and information sessions. The end result of the programme was to offer streamlined delivery in a consistent manner. This was reinforced to IT staff throughout the implementation. The benefits of the programme became apparent to them as they adjusted to the new method of working.

Organisation B implemented incident and change management and request fulfilment in phase 1 and configuration and knowledge management in a second phase. A new cloud-based tool was implemented in conjunction with the development of the processes. This approach was to ensure that the processes and the tool were compatible. The implementation of a cloud based tool was considered straightforward and consultants were engaged to write the processes in conjunction with the tool deployment. The tool had some flexibility to adjust to process requirements. The tool and processes were deployed globally in ten languages. The process development was facilitated by consultants working with the process leads. The consultants did not manage the programme but supplemented the knowledge within the organisation which was lacking ITIL and process skills. The organisation structure was changed with new roles of process managers and new positions for the roles. Fifty new roles were created from existing positions with new positions for process managers. Training was provided to the IT employees for both process and tool. The process training included 140 members of the IT department completing the ITIL practitioner training. As well, all IT employees received training in the use of the tool. The example was provided that 120 employees were trained in the ITIL change management module. Consultants were engaged to deliver the majority of the training.

DISCUSSION

The preliminary findings identify that neither organisation A nor B implemented ITIL with an organisational change strategy that included a socio-technical approach. However, each organisation still addressed the components of the organisation as displayed in the Leavitt Diamond. The organisations implemented new ITIL processes but only one implemented a new tool to support the processes. Each organisation established new roles to support the delivery and management of ITIL. Additionally each organisation conducted training to ensure that the skills of the employees were suitable for the ITIL delivery and the chosen tool. Both organisation A and organisation B describe the implementation of ITIL as a success. The preliminary findings provide a partial response in regards to each of the four research questions.

RQ1. What change management strategies are organisations using to implement ITIL?

Although the ITIL implementation was planned and conducted as a project, neither organisation developed or used a change strategy. The implementations were conducted as projects with tasks identified as necessary to be completed. Budgets were established and a programme of work managed to determined outcomes. However, a formal change management strategy was not adopted. The implementations were not conducted as organisational
The preliminary results may indicate that a successful outcome of an ITIL implementation can be achieved without an organisational change strategy provided the organisation focuses on all the socio-technical components of the organisation. Given the preliminary nature of our analysis and findings, this paper provides an initial view of the use of organisational change strategies adopted by organisations implementing ITIL-based
IT Service Management processes. This paper develops some insights into an area of research that is currently lacking. Significant numbers of organisations are implementing ITIL with varied success and this paper begins to develop increased knowledge that may provide benefit to organisations by increasing the effectiveness of their implementation strategies.

**Future Steps and Expected Contributions to Theory and Practice**

This research will contribute to practice by providing a strategy for IT managers that will improve the success rate of ITIL implementations. Prior research suggests that effective planning of implementation of ITIL is essential for success (Pollard and Cater-Steel 2009). This research aims to provide strategies that organisations can employ to achieve their implementation objectives.

The research project will increase knowledge in the growing field of management of IT services. ITIL is increasingly being adopted but the level of knowledge associated with it is significantly less than for other socio-technical systems such as ERP or BPR. Researchers have identified that additional knowledge is required in the area of implementing ITIL (Pollard and Cater-Steel 2009). This research intends to contribute to the knowledge that other researchers recognize is insufficient at this time.

While the preliminary findings do provide a view of the strategies of organisations implementing ITIL there is a need to analyse all eight case studies in further depth. In our further research the analysis will seek to determine a greater understanding of the importance of the organisational change strategies and the socio-technical approach and establish a model for effective strategies for ITIL implementation. We believe that exploring the topic of socio-technical approach to ITIL implementation offers fresh promise and hope that future studies on this subject will yield a deeper understanding of how organisations and IT providers can reap the potential benefits of improved IT service management.

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**REFERENCES**


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