Improving ITIL compliance using change management practices: a finance sector case study

Peter Yamakawa
ESAN University, Lima, Peru
Claudio Obregón Noriega
Yanacocha Minerals, Lima, Peru
Alfredo Novoa Linares
Rímac Insurance, Lima, Peru, and
Willy Vega Ramírez
Scotiabank Perú, Lima, Peru

Abstract

Purpose – Although various practices to facilitate organizational change are proposed in the literature, very little is known about how these practices impact on ITIL adoptions. Therefore, the purpose of this study is to address this gap in the literature by offering insights on how change management practices impact on levels of ITIL compliance.

Design/methodology/approach – This exploratory research reports on four case studies of completed implementations of IT service management using the process – based ITILv2 framework. The firms studied are from the Peruvian financial sector. Data were gained primarily through semi-structured in-depth interviews with managers involved in the implementation process. Compliance was measured using the itSMF self assessment questionnaire, which assesses the overall process capability.

Findings – This study finds that not all of the case firms took full advantage of change management practices while implementing the ITIL framework. The results show that the firms with a higher use of change management practices achieved higher levels of ITIL compliance. Additionally, change practices related to change preparation were used more frequently and fewer practices related to the implementation and consolidation stages were reported.

Originality/value – Few studies have examined change management practices in the context of ITIL implementation projects. This study also uses the levels of ITIL compliance as an outcome measure.

Keywords Information technology, Service management, Information technology infrastructure library, Organizational change management, Organizational change, Change management

Paper type Case study

1. Introduction

Service firms are searching for ways to deliver higher levels of information technology (IT) service as well as demanding more from their information systems (IS) groups, expecting quick responses to new business opportunities, to support critical processes efficiently and to satisfy their customers and internal staff. Hence there is a growing...
interest in adopting IT service management (ITSM) and best practices such as the Information Technology Infrastructure Library (ITIL) (Galup et al., 2009).

ITSM is defined as “the implementation and management of Quality IT Services that meet the needs of the business” (ITIL, 2007). ITSM is a discipline for managing IT service operations, which is process orientated, sharing this theme with other quality improvement methods and as such it is different from traditional technology-oriented approaches due to its focus on customer relationships (Galup et al., 2009). A main benefit reported by ITSM adopters is an increase in customer satisfaction (Cater-Steel et al., 2009). ITSM concepts are often implemented through the ITIL framework; a sector specific quality and best practice guide on the management of information technologies (Iden, 2012). The operational benefits expected from ITIL implementations are the alignment of IT services with business needs, improved quality of the IT services themselves, and a reduction in the long term costs of service provision (McNaughton et al., 2010).

One of the main challenges faced by companies during the adoption of ITIL is the organizational change required to attain a service-oriented culture (Cater-Steel et al., 2007; Spafford and Holup, 2010). Various practices to facilitate organizational change are proposed in the academic and professional literature (Buchanan et al., 2005; Kanter, 2001; Kerber, 2001; Kotter, 1995; Spafford and Holup, 2010), and most of this literature argues that the use of change management practices (CMPs) has a positive effect on the speed and quality of the change process and on results for the organization. Nevertheless, there is little published in terms of these practices as they relate to ITIL implementations.

Therefore, this paper presents the findings of a multiple case study investigation, which examines the experience of four Peruvian financial companies implementing the ITIL framework. The cases offer insight into how the organizational change management processes supported the ITIL implementation and identifies which organizational CMPs were more frequently used.

The paper is organized as follows; next Section 2 introduces the ITIL framework, followed by Section 3, a review of the literature on CMPs concluding with the study’s research questions. Section 4 provides details of the methodology used. Section 5 provides the case profiles, the findings and the cross-case analysis. Finally, the conclusion sums up the findings, presents the studies limitations and offers a direction for future research.

2. Information technology infrastructure library

ITIL is a framework that describes best practices and provides guidance on the management of IT processes, functions, roles and responsibilities in ITSM. It was first developed in the 1980s by the UK Government agency, the Office of Government Commerce (OGC) in response to the government’s growing dependence on information technologies (Galup et al., 2009), to promote efficient IT operations and to improve IT service delivery and operations within government controlled computing centers (Salle, 2004).

Version one of ITIL consisted of 40 volumes covering “best practices” in different areas of IT service provision. In 2000, ITIL version one was replaced by the seven volume ITIL version two (ITILv2) consolidating the practices within an overall framework. The two primary components of ITILv2 are service delivery and service support which consist of ten core processes and the service desk function (Table I).
In 2007, ITILv2 was further enhanced to become ITIL version three (ITILv3), now consisting of five volumes: strategy, design, transition, operation and continuous improvement, which extend the ITILv2 model and processes by organizing them around a service lifecycle model.

2.1 ITIL adoption and implementation
The ITILv2 has become the de facto framework to implement the ITSM concepts (Cartlidge et al., 2007; Cater-Steel et al., 2009) despite the recent release of ITILv3 (Pollard and Cater-Steel, 2009).

ITIL defines a glossary to ensure a common vocabulary and defines a set of conceptual processes to outline best practices (Galup et al., 2009). ITIL does not specify how the implementation should be performed and recent studies on the adoption of ITIL in organizations have focused mainly on the verification of the benefits of the program and the study of the implementations themselves, including success factors and barriers.

In terms of benefits, Hochstein et al. (2005) found, an increase in customer orientation and service and the efficiency and transparency of IT processes the main benefits. They also suggest that the biggest challenge in the adoption of ITIL is resistance in the form of reluctance to accept new processes and a lack of

<table>
<thead>
<tr>
<th>Service delivery level – organization orientated</th>
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<tr>
<td>Service level management (SLM)</td>
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<tr>
<td>Financial management</td>
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<td>Capacity management</td>
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<td>IT service continuity management (ITSCM)</td>
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<td>Availability management</td>
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</table>

**Table 1.**
Core components of ITILv2

Source: Adapted from Office of Government Commerce (2007)
understanding of why these processes are necessary. Cater-Steel et al. (2006) identified
that ITIL implementation provided firms with a more predictable infrastructure,
 improvéd consultations between the IT groups within the organization, agility in
 negotiating service level agreements and consistent services; also identifying that
cultural change is a significant challenge when adopting ITIL. Cater-Steel and Tan
(2005a, b) found that the IT staffs skills, adaptability, and quality of training were
considered more important for successful ITIL implementation than issues related to
clients, external consultants and technology. The importance of IT staff adaptability
and change management was in turn identified in a subsequent investigation by
Cater-Steel et al. (2007).

In terms of ITIL implementation, Tan et al. (2009) identified that a change
management strategy that aims to transform the organizational culture towards being
service-oriented, is a critical success factor. While, Pollard and Cater-Steel (2009)
reported the difficulty of changing the culture of the organization when adopting the
new ITIL processes and they identified three further critical success factors for ITIL
implementations; creating an ITIL friendly culture, giving priority to the processes and
the design of customer-focused metrics. Cater-Steel and McBride (2007) findings
highlight the importance of involving staff and the promoting interest in ITIL as a way
of overcoming resistance to the new processes; facilitating an improved understanding
of them. Spafford and Holub (2010) found that resistance to organizational culture
change is a major impediment in implementing ITIL, such that improved processes are
achieved in less time and less cost when a formal change management plan is
implemented than for projects where the organizational change component is neglected.

3. Organizational CMPs
Kerber (2001) identifies three approaches used in organizations to enact organizational
change:

(1) Direct change, which is motivated from senior management, wielded by
authority and achieved through compliance.

(2) Planned change, which originates from any level in the organization but is
managed through the top management layer and that seeks the commitment
and involvement of the organization through CMPs that mitigate resistance.

(3) Guided change, arising from the within the organization and the through
commitment and the contribution of staff toward the organizational objectives.

Kerber and Buono (2005) argue that the effectiveness of the approach to the
management of change depends on contextual variables such as:

• the complexity of the business environment;

• socio-technical uncertainty of the tasks or problems;

• the ability to change the organization; and

• the risks associated with the alternatives of not changing or changing slowly.

Other factors may add complexity to the management of change, for example the
cultural context (Martinsons et al., 2009) and the interaction between different agents
of change namely; senior management, middle management, external consultants
and work teams who have different experiences and perspectives (Caldwell, 2003;
Choi et al., 2011). On the other hand, management support is considered key to the success of organizational change (Abraham et al., 1999; Spafford and Holup, 2010), as is the allocation of adequate resources (Becker, 2010). Although, following a change program is not a guarantee of successful outcomes (Choi et al., 2011).

Kotter (2007) presents a set of eight sequential CMPs that allow for successful organizational change. Kotter’s approach is well known and has been applied frequently (Aiken and Keller, 2009; Smith, 2011) (Table II).

CMPs are commonly proposed in temporal sequences such as preparation, implementation and consolidation (Raineri, 2011). Research has found that change agents show a preference for CMPs related to the preparation stage because; it is easier to prevent errors in early stages, which lessens implementation failure at later stages (Holt et al., 2007); they have the ability to place more resources at the beginning of a change project (Raineri, 2011) and; the preparation stage requires more analytical skills of which managers tend to have more training in, compared with the more political and

| Establishing a sense of urgency | About the need to make changes in order to alert and raise awareness among stakeholders of the dangers of maintaining the status quo, to motivate staff and raise expectations, showing the benefits of change or the consequences of not changing. Nadler and Trushman (1989) claim that a sense of urgency that is based on emotional aspects is more effective in initiating the process of change. |
| Forming a powerful guiding coalition | Comprised of senior managers that can overcome resistance and obstacles to other managers or influencers. That is, form a team with enough influence and power to support change. |
| Creating a vision | That means developing a vision and strategies to achieve the desired result. Creating a vision is a practice suggested by various authors for their importance to focus efforts and drive change. (Kanter, 2001; Nadler and Tushman, 1989; Tushman and O'Reilly, 2002) |
| Communicating the vision | In order to facilitate the acceptance and understanding of the need for change. Kotter explains that communication of vision, not only involves diffusion, but also a strengthening and internalization process. |
| Empowering others to act on the vision | In order to eliminate obstacles to change, allocate resources, improve processes and systems, and motivate and encourage staff to be so involved in the process of change. |
| Planning for and creating short-term wins | Also recommended by Kanter (2001) and Kerber (2001), in order to show that change is possible and the implications of this in practice, also serving as a motivation to achieve higher long-term changes in. |
| Consolidating improvements and producing still more change | Regarding the use of the credibility of the results obtained with short term to promote more changes in the structures and systems that are not consistent with the vision of change and who have not yet been questioned. |
| Institutionalizing new approaches | In order to avoid a reversal in progress. To do this, you should contact the organization and show how new approaches to generate a position higher than before the change. In addition, ensure that new employees and managers to adopt new approaches |

**Table II.**
Change management practices

*Source: Adapted from Kotter (2007)*
interpersonal skills required in the later stages of implementation (Shipper, 1999). Similarly, Raineri (2011) found a higher frequency of preparation practices in comparison with the implementation stage and that the use of CMPs has a significant impact on objectives and deadlines achievement. Abraham et al. (1999) found that the key factor in achieving change towards a culture of quality is top management support, with the lesser factors of the clarity of vision, participation, communication and appropriate resources. Becker (2010) found that the understanding the need for change, the level of organizational support and training, measuring the change, the positive experience and informal support, a history of organizational changes and the outlook previous expectations and individual feelings are factors that influence adoption.

Considering the lack of focused research on ITIL implementation and managed change it would seem useful to investigate this phenomenon by studying firms that have implemented the ITIL framework and assess which organizational CMPs more frequently used and whether their influence on the ITIL implementation outcomes can be observed. Therefore, two research questions were formulated for this study:

- RQ1. How did financial companies in Peru that have implemented the ITIL framework use organizational CMPs?
- RQ2. How are the levels of ITIL compliance achieved by financial companies in Peru influenced by the CMPs that were used?

4. Research method
The study employed the multiple-case design method proposed by Yin (2009) as the principal method to gather data to answer the research questions. The case study is an appropriate research method to analyze a phenomenon in its natural environment when the researcher has no influence over events and when the context is considered relevant (Benbasat et al., 1987; Yin, 2009). The case study methodology allows for in-depth questioning and the capture of important aspects of the complexity of an organization. But it is recognized that the conclusions of an investigation by the case study method can be limited, with the generalization of the findings being a common criticism (Gable, 2010; Lee, 1989). However, the problems of validity and generalisability can be addressed by using competent research methodologies (Meredith, 1998; Eisenhardt, 1989).

The case study method was considered appropriate for this study as it allowed the phenomenon, the ITIL implementation, to be studied in its natural setting (Meredith, 1998), to have questions of the “how and why” type posed and answered (Yin, 2009) and it is an appropriate methodology for studying new topic areas (Eisenhardt, 1989). The design of the investigation involved four sites each studied in depth using multiple data sources and a range of collection methods (Eisenhardt, 1989).

A single industry was selected for the study, in order to control the influence of contexts and for different environments and resource availabilities across industries. Four companies from the Peruvian financial sector that had implemented the ITIL framework were identified. The focus of this study is on the ITILv2 implementation for while the ITILv3 was recently released, ITIL v2 is still the most commonly used (Pollard and Cater-Steel, 2009). The four companies had each implemented the 11 processes of ITILv2 and in all the cases, the ITIL implementation projects were supported by management and had been allocated sufficient of resources for completion.
Data regarding the implementation were collected through separate, semi-structured interviews with various staff involved in the project including, top management, operations and IT managers and users of the IT services. Confirmatory data were gathered through secondary sources such as internal documents and progress reports.

Through a review of the literature on research related to ITIL adoption and practice of organizational change management a list of questions based on the change management framework of Kotter (2007) was developed. The survey instrument was developed in the Spanish language by native Spanish speakers and all of the respondents speak and write in Spanish as a normal part of their work. The interviewees were given the set of open-ended questions about their strategy, motivations, problems and use CMPs used during the ITIL implementation, before the interview. During the interview, a discussion following the question format was initiated with the answers to these questions recorded digitally with additional notes taken by the researchers. Raineri (2011) found a likely bias from interviewees who were also project implementers that they would be more inclined to say they had used CMPs. Therefore, to reduce this bias the data were corroborated with other participants of the ITIL implementation.

The interviews were transcribed verbatim and underwent content analysis. Responses were coded against the question structure and stages of CMPs implementation following the seven steps allowing the researchers to gauge CMP usage for each case. To guard against bias in the data analysis, each interview transcript was content analyzed twice to verify the results. Each case was then written up and subjected to a cross-case analysis, identifying the similarities and noting differences in themes and patterns across the cases.

To determine the level ITIL compliance the researchers selected the itSMF self-assessment tool (itSMF, 2003). The itSMF instrument compares an organization's performance with the ITIL best practices, assessing the level of compliance with the ITIL processes, producing its results based on a framework of capabilities through a five point scale (McNaughton et al., 2010). Case firm IT managers were each given an itSMF questionnaire to complete. The questionnaire results provided each case with a score, between 0 and 5 for each of the ITIL core component’s compliance to best practice, enabling case comparison.

5. Results

5.1 Case profiles
The cases sites are four financial institutions operating in Peru coded as A, B, C and D. Table III presents the profiles of the case sites and data on their ITIL implementations. All four cases confirm there was support of management and commitment of adequate resources to complete the implementations. All cases placed an emphasis on training and development during the project implementations. Cases C and D opted to use external consultants as part of their ITIL implementations. The cases chose phased execution as their preferred implementation method.

5.2 Case results
Table IV presents data on the frequency of the use of the seven CMPs. The four cases show relatively high use of change practices in the preparation phases, with fewer practices being used in the later stages of implementation and consolidation. Case D seemed to have institutional features that supported the use across the phases of the
ITIL implementation. For example, case D has internal policies and practices that led to a significantly higher use of the empowerment practice than all of the other cases combined. In contrast case B showed the least commitment in terms of resource allocation and staff stimulus in later phases of the change process. In general there is one group where there seems to be stronger institutionalization (cases C and D), and another group (cases A and B) where there is less evidence of change practices consistently being used.

The division between the two groups is equally apparent when comparing the case ITIL compliance scores. Table V presents the ITIL compliance scores, on a scale of 0-5. Table V shows that overall cases C and D achieved higher ITIL compliances than cases A and B. Case D consistently scores high across the categories, especially in those processes involving customer contacts such as service desk and incident management. Both cases A and B tend to score lower in the service support level functions despite having moderate scores for their ITSM level.

5.3 Cross-case analysis
In general, the analysis of the case data shows that the preparation stage practices are the more frequently change practices used by these Peruvian financial firms.
<table>
<thead>
<tr>
<th>Change practices and frequency of use</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
<th>Case D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishing a sense of urgency</td>
<td>Communicated adequately 2</td>
<td>No sense of urgency 1</td>
<td>Communicated adequately 10</td>
<td>Comprehensive communication 10</td>
</tr>
<tr>
<td>Number of processes where CMPs are reported</td>
<td>The heads of the IT and operations area to guide teams 11</td>
<td>The heads of the IT and operations area to guide teams 11</td>
<td>The head of IT was solely in charge 10</td>
<td>Coalition formed with the different leaders for each process 11</td>
</tr>
<tr>
<td>Forming a powerful guiding coalition</td>
<td>The vision contains aspects of good practice, efficiency, optimization and control, assisted by experienced staff from abroad 9</td>
<td>The vision contains aspects of good practice, efficiency, optimization and control, with the emphasis on staff training 11</td>
<td>The vision contains aspects of good practice, efficiency, optimization and control, using the support of an external consultant for some processes 11</td>
<td>The vision contains aspects of good practice, efficiency, optimization and control using the support of an external consultant for some processes 11</td>
</tr>
<tr>
<td>Number of processes where CMPs are reported</td>
<td>Communication adequately 6</td>
<td>Inconsistent and adequate 5</td>
<td>Consistent and comprehensive 10</td>
<td>Consistent and comprehensive 10</td>
</tr>
<tr>
<td>Creating a vision</td>
<td>Adequate resource availability 6</td>
<td>Partial resource availability leading to internally developed solutions 11</td>
<td>Full resource availability for all processes 11</td>
<td>Full resource availability for all processes 11</td>
</tr>
<tr>
<td>Number of processes where CMPs are reported</td>
<td>No formal system of incentives 1</td>
<td>No formal system of incentives 0</td>
<td>Partial incentive system 7</td>
<td>Comprehensive existing formal system of incentives and a clear career path policy 11</td>
</tr>
<tr>
<td>Empowering others to act on the vision</td>
<td>Sought to systematically generate short-term results 11</td>
<td>No system to generate short-term results, partially achieved 9</td>
<td>Sought to systematically generate short-term results 9</td>
<td>Sought to systematically generate short-term results 9</td>
</tr>
<tr>
<td>Planning for and creating short-term wins</td>
<td>Team confidence and commitment increased 6</td>
<td>Staff satisfaction stalled progress on consolidation 0</td>
<td>Partial consolidation of changes 6</td>
<td>Leveraged change consolidation into other processes 6</td>
</tr>
<tr>
<td>Consolidating improvements and producing still more change</td>
<td>Little institutionalization 0</td>
<td>Little institutionalization 0</td>
<td>Adequate institutionalization 3</td>
<td>Comprehensive institutionalization 4</td>
</tr>
<tr>
<td>Institutionalizing new approaches</td>
<td>Number of processes where CMPs are reported</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of processes where CMPs are reported</td>
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</table>
Figure 1 shows the frequency of the CMPs employed in each stage across the cases. The most frequent are: “forming a powerful guiding coalition”, “creating a vision” and “planning for and creating short-term wins”, and to a lesser extent and “communicating the vision”. The practice “establishing a sense of urgency” was used significantly more by cases C and D. The CMPs less frequently used were “institutionalizing new approaches”, “consolidating improvements and producing still more change” and “empowering others to act on the vision”. The two groups found in the case analysis are easily seen in Figure 1, with cases A and B providing little evidence of activities to communicate, empower and progress the implementations in terms of using CMPs.

The most frequently used practices are related to the change preparation stage in contrast to the implementation stage practices. This result is consistent with Raineri (2001, 2011) findings, where the agents of change showed a preference to the use of CMPs related to the preparation stage.

However, the results also show a key implementation practice “planning for and creating short-term wins” is frequently used. This may be due to the implementation
method chosen by the cases. All cases used the phased implementation approach that may have facilitated the use of this CMP – for as one respondent stated “successful results on the initial phases of the implementation were used to motivate the implementation of the rest of the processes”. Spafford and Holup (2010) also suggest the phased strategy provides benefits sooner and thus contributes to a gradual reduction of resistance to change.

The compliance data reveals that in general, the greater the use of CMPs the higher the level of ITIL compliance achieved, suggesting that the use of CMPs has a positive influence on the compliance outcomes. Figure 2 shows the score for ITIL implementation compliance against the number of CMPs used on each process implementation. Cases D and C score high in change practice use and the levels of ITIL compliance, with cases A and B that used less practices have lower compliance scores.

Cases A and B that have a low use of implementation and consolidation phase practices also reported change resistance problems. This observation is consistent with Siegal et al. (1996) who reported that resistance to change problems can be attributed to deficiencies in the management of the change process or in part are a result of the actions and inactions of change agents (Ford et al., 2008; Tavakoli, 2010).

There are some institutional factors that have some bearing on the patterns revealed in the cross-case analysis. First, the use of outside consultants may have had a significant impact on project success. Pollard and Cater-Steel (2009) attribute the use of consultants to be a critical success factor for ITIL implementations. That cases C and D opted for consultants may have strengthened their ability to achieve higher compliance scores and to undertake more CMPs. Second, the formation of teams and leadership of the project was undertaken differently across the cases. At cases A and B the team of leaders was formed by those at the functional level, while at cases C and D the leaders

Figure 2.
CMPs and levels of ITIL compliance
involved tended to have more influence within the organization. While it is difficult to directly attribute this factor to the lower compliance scores, the demonstrated the support of senior managers to uphold change initiatives and reduce change resistance is well documented (Spafford and Holup, 2010; Abraham et al., 1999; Kotter, 2007).

6. Discussion and conclusions
This study aimed to investigate the importance of applying managed change as part of an ITIL implementation. To this end four Peruvian financial sector firms were chosen as cases and a multi case study investigation was undertaken. The study undertook to ascertain which CMPs were being used and their level of influence on ITIL compliance.

This study finds that not all firms take full advantage of CMPs while implementing the ITIL framework. The cases showed that higher levels of CMPs achieved higher levels of ITIL implementation compliance. This result suggests that the use of CMPs has a positive impact on the outcomes of ITIL implementations. It was also found that the firms that used less CMPs reported the resistance to change during the implementation. However, it important not to discount that the higher scoring firms may have had valuable or rare resources and competencies which they utilized in times of change giving them an advantage over others (Barney, 1991).

The case studies also demonstrate that more change practices related to preparation and fewer change practices related to implementation and consolidation were used during the ITIL implementation process. This result may be attributable to institutional strengths of the firm, for as case D showed, it seemed to have institutional policies and practices that supported the ITIL implementation across all of its phases, and case B seemingly having the least commitment in terms of resource allocation, sustainable change and staff involvement. Likewise, the participation of an external consultant during the adoption of ITIL may favor the more frequent use of practices related to all three change stages (Pollard and Cater-Steel, 2009) allowing those firms that used consultants to use more CMPs. In addition, the choice of implementation methodology may contribute to some practices being more evident than others. All of the four case studies presented applied a phased implementations; a strategy, which favors the use of the change practices the “generation of short-term results”.

The main limitation of this study is the small number of cases analyzed, so the findings should be viewed with caution. The cases support the theory that managed change assists the implementation of ITIL processes. However, it was undertaken in a single industry, which tends to have homogenous processes and systems and the firms were all of a similar size. However, when examining cases of different size, system processes and industries divergent results may be produced, but these results are necessary to properly extend the case theory in question (Meredith, 1998). Future research may wish to extend the themes of this paper to design and undertake research on which CMPs provide the most impact to the levels of ITIL compliance using a suitable quantitative research instrument and method.

In conclusion this paper makes three contributions. First it provides an exploratory study of the links between ITIL implementations and the use of CMPs. Second in terms of results it provides evidence of a link between ITIL implementation and managed change, which is important information for practitioners who may be planning future ITIL projects. Finally, this study adds to the literature of ITIL implementations, particularly with respect to organizational change.
References


**Further reading**


About the authors

Peter Yamakawa holds a PhD and MSc in Engineering, from Osaka University, Japan, an MBA from ESAN University, Peru, an Engineering degree and a Bachelor’s degree in Electronics Engineering both from the National University of Engineering, Peru. He also holds PMP professional certification from the Project Management Institute. He has held managerial and executive positions in international telecommunications companies. At present he is the Vice-President for Research and Director of Consultancy Services at the ESAN University in Lima. Peter Yamakawa is the corresponding author and can be contacted at: pyamakawa@esan.edu.pe

Claudio Obregon Noriega is the Administrator of IT Projects at Peruvian mining company, Yanacocha Minerals. He has recently graduated from ESAN University with a Master of Information Technology degree.

Alfredo Novoa Linares is the Head of Communications at Rimac Insurance in Lima. He has recently graduated from ESAN University with a Master of Information Technology degree.

Willy Vega Ramirez is the Head of Satellite Applications for Scotiabank Peru. He has recently graduated from ESAN University with a Master of Information Technology degree.