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7. THREE THEORIES AND ONE CASE STUDY OF TOP-DOWN, MIDDLE-OUT AND BOTTOM-UP PROCESS INNOVATION

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Abstract

A case study of an outsourcer adoption of 16 processes relating to servitizing their IT Operations was evaluated from three theoretical lenses: Governance, Innovation and Institutions. Governance Theory implies a top-down approach would be most appropriate to IT process change; Innovation Theory implies that a combined bottom-up and top-down approach would be best; Institutional Theory implies that all three take place over time in most organizations but does not specifically make any recommendations. The case organization, an IT Outsourcer, without knowingly drawing on any theory, applied change efforts at all three levels to effect change for 16 processes across 14 organizations in eight countries to achieve ISO/IEC 20000 certification, all within two years. Institutional Theory which posits regulative, normative and cognitive methods for developing compliance to an organizational change appears to fit the situation of complex, multi-national, multi-cultural change in an IT organization better than the competing theories.

Keywords

Governance, Innovation, Institutional Theory, Case Study, IT Service Management.

1. Introduction

Theories on governance, innovation, and institutions all predict that when innovations, whether process or technology or both, are introduced involuntarily into an organization, the introductions are likely to fail (Rogers, 1995; Weill & Ross, 2004; Scott, 1995). This research shows that these theories do not all apply for process innovations within an IT organization. This research demonstrates through a case study that innovations, such as best practice framework processes for IT service management can be introduced using a variety of techniques that support all levels of the organization.

Governance is a management domain activity that determines IT organization success (Weill & Ross, 2004). Top-down governance emanates from the Board of Directors who decide decision rights and organization structure (Weill & Ross, 2004). Major decisions required by the governing body relate to IT principles, infrastructure, applications, expenditures, and architecture. The body of work describes operations at the top of the IT organization but ignores the actual work. As a result, when innovations are initiated from the top-down, they are expected to be more successful than innovations introduced from other directions.

Yet, in immature organizations, individuals who come from disciplined organizations can impose their methods on their peers. Once seen as successful, methods and processes can spread throughout a local organization and be adopted at a higher organization level for middle-out or top-down initiatives (Lavinia & Su, 2008). This is a hit and miss activity subject to petty jealousies and lack of confidence by those in charge of the organization. But, it has been known to be successful. The problem with bottom-up

innovation is that, like e-mail and other contagious adoptions, it is successful to the extent that everyone participates.

Middle-out management starts with recognition of the need for change by middle management, which is loosely defined as below the "C-level" (e.g., CIO) but having managerial responsibility.

This paper introduces relevant tenets of three theories, discussing the recommended best practices for innovation and change introduction. Then, top-down, middle-out and bottom-up innovation initiatives within a single outsourcing organization are discussed.

2. Theoretical Background

Governance, innovation, and institutional theories are discussed in this section.

2.1 Governance Theory

Governance 'theory' is at present an inductively developed set of tenets based on numerous case studies of high-performing, primarily U.S., organizations. Developed by Jeanne Ross and Peter Weill of MIT and many colleagues, the theory initially recommended the definition of decision rights and organization as constituting governance for information technology (IT) organizations.

Then, after a series of more specifically targeted cases, governance theory developed more specific stages of organizational maturation in their use and management of IT that led to prescriptions relating to the way high-performing organizations conduct their IT activities. Organizational decisions relating to IT include principles and policies, architecture, infrastructure, applications, and capital expenditures (Weill & Ross, 2004). The way high-performing organizations make those decisions depends on whether strategic directions relate to growth or efficiency (Weill & Ross, 2004). High growth firms tend to use a federated approach to IT governance decisions, integrating executives from central business organizations, de-centralized business units, and IT organizations in the IT steering committee. Efficiency motivated firms tend to use a more centralized approach, with the IT steering committee composed of central business unit executives and IT executives.

IT maturity is seen as moving through stages from technology and application silos, to standardized technology, to processes optimized and supported by rationalized data, and to a modular approach to IT (Ross, 2003). The maturity stages are based on case studies and imply a singular path to IT maturity. Further, the lens of maturity is that of business user looking from a high level at IT versus an IT person looking at his own organization and how it does/not serve its customers. Thus, top-down developments for all IT projects are implied as the optimal way to manage.

2.2 Innovation Theory

Diffusion of Innovation theory, posited by Everett Rodgers (1995), identified key factors and stages in successful adoption of new techniques and technologies in organizations. Rodgers identified stages of adopter behavior from early adopters to early majority, to late majority, and to laggards with an "S" shaped curve of adoption activity (Rodgers, 1995).

IT innovation research refined the success factors and, over the years these were whittled down to several in the Technology Adoption Model (TAM) posed by Fred Davis and many colleagues. IT innovation success factors included voluntariness, relative advantage, compatibility, image, ease of use, result demonstrability, visibility, and trialability (Moore and Benbasat, 1991). The TAM set includes usefulness and ease of use (Davis, et al., 1989; Venkatesh et. al., 2003). These factors tend to focus on the individual level of innovation adoption, ignoring organizational issues. Thus, the TAM implied direction of adoption success is bottom-up, working to ensure that the key factors, whether those of Innovation

Theory or those of TAM, are palatable. These perspectives also imply that top-down directed implementation will be only partially successful, if not a complete failure, if these success factors are ignored.

Innovation research conducted at the organizational level implies the opposite, that a top-down approach to research is most likely to lead to success. Studies evaluating the adoption of EDI, telecommunications technology, IT implementations (Iacovou, et al, 1995; Grover & Goslar, 1993; Coor & Zmud, 1990) show that communications, innovation characteristics, and the social system are all key to successful adoption. The few studies that evaluate organization level innovation suggest that when the locus of impact is within the IT organization, functionality and efficiency are the dominant success factors (Prescott & Conger, 1995).

The IT research to date has not led to an integrated Theory of Innovation nor has it attended in any significant way to organizational issues or issues relating to the IT artifact (Lucas, et al., 2007). Further, in all discussion of the “IT artifact” the implication is that this is some technology – application, hardware, or software. Process innovation without related technology, for the most part, is ignored. Process plus technology studies of data administration and information center adoption have found that the greater the knowledge requirements, the slower the adoption rate (Fichman & Kemerer, 1993). The lack of research that teases out issues relating to only process innovation is a shortcoming of this research in IT and suggests a need for further research on the success factors of process innovation within an IT organization. In any case, IT innovation research appears to advocate both top-down and bottom-up approaches, although no research found has studied each approach simultaneously.

2.3 Institutional Theory

Governance and innovation have developed as critical success factor-based theories, while Institutional Theory focuses on the processes by which organizational changes, such as rules and norms, become established as accepted organizational behavior (Scott, 2004). Institutions are vaguely defined as cultural and normative structures and thus, can apply to voluntary as well as involuntary, for-profit and not-for-profit, and government, public or private organizations. The level of analysis, for our purposes, is the firm level but can also be a group of firms or an industry.

The independent variables in Institutional Theory are the application of regulative, normative and cognitive methods for developing compliance to an organizational change. Five theory elements explain how institutions change – basis of compliance, compliance mechanisms, logical appeal, key indicators, and basis of legitimacy (Scott, 1995). One example of how these apply is demonstrated through key indicators, which in the regulative form are comprised of policies, procedures, and sanctions; in the normative form are evidenced by certifications and accreditations; and in the cognitive form are evaluated by their prevalence and isomorphism to organizational behaviors (Scott, 1995).

Institutional theory can be seen as occurring in stages, each stage both able to be studied as if it stands alone but also as a re-enactment over time. Organizations impose rules and policies, demanding compliance via regulative means, at the same time that, individuals in the organization re-enact the requested behavior, thus supporting it and further imbedding it in their daily behavior as both normative and cognitive acceptance. An organization might seek to engage elements of all methods for compliance with more or less success of each at different stages of the adoption and diffusion processes. If we view top-down as relating to the regulative elements of Institutional Theory, and middle-out relating to the normative elements, and bottom-up relating to cognitive elements, the implication is that for innovations to be successful, all three levels require attention during innovation introduction. Thus, Institutional Theory implies that all three levels of introduction, simultaneously applied, could lead to a successful adoption and that any one level alone would likely lead to a partial adoption.

3. The Outsourcer

Over the last twenty years, a global shift to a service economy has resulted in about 84% of the global workforce working in some service capacity (Karmarkar as cited in Hefley, 2008). IT organizations have been slow to make this same shift, partly because of inertia, partly because the servitizing changes are difficult and complex, and partly because there is no clear definition of 'IT services' (Conger & Schultze, 2008). This case study offers a view of the changes organizations are undergoing in servitizing their IT organizations.

A semi-structured interview protocol was followed for data collection. The same set of open-ended questions was discussed with each interviewee. The researchers developed follow-up questions as interviews progressed based on the answers received to the common questions. Ten interviews were conducted with five individuals who represented all levels of the project organization. Interview questions related to the adoption of process innovations to shift from silo-technologies to a service-orientation. Questions related to the project, project organization, role and duties of the interviewee, their activities throughout the innovation, including problems and resolutions, things they would do differently given the opportunity, and the like.

In February 2005, Outsourcer¹, a Fortune 500 provider of IT and business process outsourcing services, embarked on BS 15000 certification which converted to ISO 20000 December 15, 2005, the IT service management standard associated with ITIL. Outsourcer conducts business in 370 locations in 100 countries with 58,000 employees. By December 2005, Outsourcer's achieved certification in six of its IT operations (ITO) centers; by May 2007, another seven ITO sites were certified.

Each year since 2005, the manager of the certification effort, now Vice President of IT Service Management, has developed a new initiative to further institutionalize the changes. The major initiatives are listed in Figure 1 starting with the first.

Year	Initiative	Outcome
2005	Convene the project team. Design, document, and implement 16 processes in seven mainframe organizations Vertical, location, audits of all ISO 20000 processes are conducted to ensure that each organization is likely to achieve certification	Achieve ISO/IEC 20000 certification for 7 organizations
2006	Revise, test, document, and implement all 16 processes to accommodate mid-range as well as mainframe ITOs. Vertical audits are again conducted on each organization. Horizontal audits, of single processes across all organizations, are conducted to ensure that each process is enacted the same in all organizations, and to identify systemic issues that would not be found in a vertical audit, non-conformances to the norms, or general areas for improvement. Job descriptions change to include services management success in all IT organization jobs (senior executive bonuses to tape handler duties)	Achieve ISO/IEC 20000 certification for 14 organizations 50% reduction in service level agreement fines
2007	Service Management is moved out of the IT-only realm and spread to processes and activities of Marketing & Sales	Additional 50% reduction in

¹ This is a pseudonym. In order to maintain anonymity, all names and places have been disguised. However, all information contained in this case study is factual.

	organizations.	service level agreement fines
2008	<p>Certifications are maintained in all 14 organizations.</p> <p>Evaluate and implement software suites to standardize integrated process support across the 14 ITOs.</p> <p>Organizational audits that include IT service-providing organizations and non-IT service users are conducted to ensure consistency and completeness of practice, and that value is added by the service provision.</p>	<p>Renew all 14 ISO/IEC 20000 certifications.</p> <p>Acquisition of a suite of ITIL-compliant ITO support software.</p>

Figure 1. Summary of Servitizing Initiatives

4. Top-Down, Middle-Out and Bottom-Up Initiatives

4.1 Top-Down Initiatives

The top-down nature of the original 2005 project was evidenced by executive support and the project organization. The initiative was the third-such endeavor undertaken by the company with the first two ending short of successful change due to changes in management structure that forced a rethinking of the projects. For this effort, an Executive Sponsor, a Vice President of the corporation, decided that a standardization effort was needed to accommodate multi-national customers who were, at the time, forced to learn different ways of conducting business with every Outsourcer location. The major goal for the project was to standardize processes that affected customers' work with the Outsourcer. Minor goals were improvements in service level penalties and outages.

The Executive Sponsor worked with the rest of the executive committee to ensure periodic statements of support for the ISO certification effort were issued and also provided communications between the team and the executive committee.

The Executive Sponsor developed the policy to servitize operations by obtaining ISO/IEC 20000² certification. The policy was the coercive sanction that the project would be executed. Further, a mantra was voiced by the Executive Sponsor that there was "No option for failure" when he charged the project manager with her responsibilities. The Project Manager then passed this mantra down to all involved in the project who, in turn, used the mantra when encountering normal change resistance. The mantra is a simplifying governance mechanism but also the inviolable rule.

Another major top-down activity was overall project management and oversight for the project. The Project Manager and three direct reports comprised the 'project office,' coordinating all activities and quality assuring and editing the policies and procedures developed by others. All decisions on project process and conduct for instance, standard processes developed by the middle-out efforts but documented and standardized by the central team, and any decisions that were unresolved in the various teams (see next section) were made by the project manager.

Outsourcer's other top-down effort related to education and training. Two levels of training were provided. As part of the project kick-off activities, the central project team, Process Owners and Site Owners (about 35 people) were sent to three days of off-site vendor training in ITIL. Training for everyone else was developed and conducted by the central managing organization guided by the Project Manager. Approximately 10,000 hours of training for approximately 500 individuals was delivered in

² Originally, the goal was BS 15000, the UK ITIL standard, but when the ISO standard was ratified in December, 2005, the goal shifted to the global standard.

2005 to all whose jobs were affected by the change efforts. An additional 2,500 individuals have since been trained across other affected organizations.

4.2 Middle-out Initiatives

There were also three primary implementation groups, which comprised separate teams – Process Owners, Site Owners, and Site Process Representatives, all part-time matrixed individuals from each of the affected organizations. These matrixed groups are evidence of middle-out activities in support of successful adoption for the innovation.

The 16 Process Owners, one per process, performed the initial design, implementation and long-term, continuous improvement of one, standard, ISO-compliant process. One of the key challenges was that each process needed to be site-, client- and technology-agnostic, as Outsourcer served a multitude of clients, each with specific and unique needs, from a number of different data centers, which did not use the same support technologies, e.g., the data centers did not use the same helpdesk management system. Thus the designed processes needed to be able to accommodate the special processing commitments that the sites had to their clients. Additionally, process owners were responsible for not only incorporating a minimum of three key process indicators (KPIs) into their process, but also for reviewing these measures on a monthly basis to determine whether further service improvements were needed.

To design and improve processes that would meet both the needs of the standard and Outsourcer's client commitments, process owners drew on the knowledge and expertise of Site Process Representatives, who were familiar with the process' functioning in their site. These process representatives interacted with each other and the process owner on a weekly basis, discussing the current process and related issues or concerns. Another main responsibility was to educate the employees in their site about their specific process.

Site Owners were recruited to represent each of the sites that were part of the initial certification. An ideal Site Owner was someone who was not beholden to an area of site operations and therefore able to integrate across the functional silos in the data center. Site Owners were typically not the data center managers as they were deemed to have too many other duties and responsibilities already. Instead, examples of Site Owners included directors of compliance or program managers.

A Site Owner's primary responsibility was to act as a conduit between the project leadership team and the site. As such, they were expected to communicate relevant details about the initiative to the people at the site and to field questions about such things as ISO/IEC 20000 training and documentation. They were also called upon to keep Site Process Representatives engaged throughout the project. They facilitated the conversion of documentation related to the ISO processes into repositories compliant with the standard's requirements, and assessed the site-specific process KPIs on a monthly basis. The Site Owners were also responsible for remediating any process problems found at their site by the internal audit assessment team. Once the processes were implemented, Site Owners spent 20-35% of their time on activities related to their site-owner role.

The use of the matrixed organization was evidence of both top-down and middle-out management of the effort. The matrixed organization was developed through a top-down request from the Executive Sponsor for the ISO certification project. But, he had no direct authority over the participating organizations. Therefore, participation was achieved through assignment by a top-down directive from each location's managing director.

The actual work of Site Owners and Site Process Representatives was a middle-out effort with middle-level managers who were related to, but not directly involved in, daily operations activities at each location. Site Owners and Site Process Representatives jointly managed the change effort locally. As

they were involved in and protective of the design of processes for their organizations, they became the local advocates charged with ensuring understanding by local staff.

4.3 Bottom-up Initiatives

One bottom-up effort was the charge given to everyone as the processes were implemented. All staff were asked to report any problems and to take 'ownership' of the processes in the initiation of a change request for process improvement. Though slow to become established, the practice became institutionalized as part of rewritten job descriptions in 2006 and the practices have since become more standard although some resistance remains.

Another bottom-up effort was to transfer responsibility for knowledge to each individual in the organizations. Many change efforts rely on management coercion and oversight for success of the change effort. Outsourcer did use management oversight but also provided measures of all activities and provided feedback through a series of drill-down Intranet dashboards so that each person could monitor their own progress and compliance. Everyone was made responsible for their own management and were rewarded through recognition programs, extra compensation and other reward programs for noticeable compliance.

5. Discussion

A clearly defined and articulated goal -- ISO 20000 certification within one year -- provided project focus. Everyone involved in the project was able to articulate the mantra and the goal, which provided a means for directing their own actions (Broadbent & Weill, 1997). Both the goal and mantra were constantly reinforced throughout the duration of the project as reinforcing measures for those remaining reluctant to change. All of the management team articulated the "Failure is not an option" mantra. Every person interviewed interpreted the mantras in the same way and all cited examples of using the mantra on reluctant change participants, indicating cognitive reinforcement that is consistent with Institutional Theory (Scott, 1995).

IT service management reengineers IT processes with significant change that requires management support. The level of support depends on the scope of the effect (Prescott & Conger, 1995). Sustainable improvement may require new organizational roles. Moving from technology silos to service orientation, and the related maturity of that move, leads to an understanding that implementation of processes is not 'service management' but a prelude to it. As a result, new organizational roles to manage both processes and services are needed.

Top-down management alone, could not have been successful in this multi-national, multi-cultural environment. Distrust of the headquarters staff, resistance to change, and the difficulty of reigning in several 'hero' organizations to adhere to standards all could have led to a failed effort.

Likewise, middle-out management alone likely would not have led to success. The managers involved had no daily oversight of activities affected by the 16 processes; therefore, their ability to actually effect the changes was dubious. Without the support from the headquarters organization and the periodic statements of support by the CEO, the changes may not have been successful even with the other top-down efforts.

Similarly, the bottom-up efforts, just training individuals, would not have been successful without the other efforts. Training alone does not effect change. In fact, when no one else is practicing a new technique or others are resisting the change, training is likely to effect no change.

In any case, all three efforts combined appear to have been required to effect the complex change required to alter 16 processes in 14 organizations, moving from silo management to cross-functional service

management, and any combination of efforts without the other two likely would have been less successful.

No overt attention to social setting or culture was included in the development or deployment of project actions. As a result, after three years, some resistance remains and is evidenced by comments that the changed processes are 'not part of my real job.' This resistance is mostly in the second set of organizations that felt that attempts to standardize mid-range sites would and should fail.

5.1 Governance Theory

The Outsourcer's ISO certification project was initiated by the executive team but not as an explicit strategic direction. That has now changed and the company efficiency and effectiveness goals relating to further project improvements now emanate from the Executive Committee.

Governance Theory would presume that matrixed organization and other middle-out and bottom-up efforts would be viewed as unnecessary. Other aspects of the case organization discussed by Governance Theory -- infrastructures for hardware, data and software -- were not affected by the ISO/IEC 20000 certification effort. The single policy, that servitizing would be done, emanated from the Executive team and was consistent with Governance Theory (cf. Weill & Ross, 2004).

Process infrastructure clearly was affected with Outsourcer developing a formal architecture of IT management processes where there had been none. Outsourcer's process architecture altered 'silo,' technology-oriented processes into integrated services. But, these changes were not decisions of an IT Steering Committee as Governance Theory would suggest but of the middle-out process teams. The overall centralized project team is consistent with the Outsourcer's high growth strategy according to Governance Theory (Rolls, Weill, & Robertson, 2006).

Governance Theory implies that all major initiatives should be top-down, launched through an IT Steering Committee directive and reporting progress to the committee. However, in any company, some initiatives are not sufficient in scope of the project or its impact to ever reach a steering committee. For instance, the starting point for many ITIL or ISO 20000 initiatives is to better manage infrastructure, software, or process changes and their transition to operational status. Initial efforts only affect the IT organization with a secondary effect on users in that computing outages are reduced. Such an activity does not necessarily have to be initiated at the direction of an IT Steering Committee as it has few clear strategic implications for the organization at the outset. Governance theory does not account for such activities. Further, the top-down governance perspective seems to miss key IT internal activities relating to cutting across technology and application silos that were important to this case. Thus, the top-down approach appears inadequate to guarantee success at the lower IT organization levels.

5.2 Innovation Theory

Two innovation factors – relative advantage and image – were hoped for outcomes of the project sponsor; however, these factors did not impact the project in any discernable way. Voluntariness, a key to individual adoption, was missing as compliance to the changed processes was mandatory. The lack of voluntary usage may explain some of the lingering resistance to full process compliance.

Compatibility, ease of use, usefulness, and trialability all are relevant to Outsourcer's success but not in the sense of either Innovation Theory or TAM. From the perspective of the process development teams, compatibility and usefulness were central engineering goals of their tasks. Trialability was applied during implementations to ensure compatibility, minimal bureaucracy, and usefulness to the tasks. As issues were found, further engineering was applied, deployed and retried. Ease of use was an issue only as a process design goal. Process development was a complex cognitive task requiring understanding of general process design, the current and desired states of the processes, the ISO/IEC 20000 requirements, and possible alternatives to accommodate the standard. There are no road maps. Thus, the process teams

experienced initial frustration from the lack of actionable guidance from either ISO/IEC 20000 or the ITIL standard. This frustration ultimately was liberating as the teams realized that as long as the resulting process was compliant, they had complete freedom to do what they felt was best for the company.

Similarly, at the individual adoption level, some staff voiced dismay at 'having to account for every minute' or not being 'allowed to be creative' in their job execution. These comments morphed into appreciation that the standard and processes helped their bosses better understand why some tasks took longer than others of the same type.

Ease of use was also negatively affected by the need in each location to ensure that software supporting each process was properly and completely customized. Several years of inability to customize the support software fully led to the 2008 initiative to standardize through an ISO-compliant software suite.

Thus, Innovation Theory and TAM do not explain Outsourcer's process innovations well. Either the factors were not relevant, or were contrary to the theory, or changed over time from a negative to a positive state. None of these relationships would be predicted by the theories. Further, the factors that guided process design, while consistent with the theory, are inadequately theorized to predict their impacts in the process engineering environment (Lucas, et al, 2008).

5.3 Institutional Theory

Unlike Innovation Theory, Institutional Theory appears to describe the project design and management as well as the implementation tactics used. Ironically, no one on the project team consciously addressed the theoretical concepts supported by their actions.

Figure 2 summarizes aspects of the Outsourcer actions that indicate Institutional Theory support. The policy, engineered processes, project structure and makeup, and subsequent institutionalizing actions such as changed job descriptions and reward mechanisms, all are components of Institutional Theory that support it as the better approach to explaining the success of the Outsourcer ISO/IEC 20000 project.

Concept	Regulative	Normative	Cognitive
Compliance mechanisms	Policy on business direction with non-compliance as a fireable offense	Peer pressure in each unit from Site Managers and Site Process Representatives; Reward change	Job description change
Change mechanisms	Policy, "No option for failure"	ISO/IEC 20000	Each person measured
Logic	Behavioral standardization	Engineered processes	Practice supported
Key Indicators	Policy with fireable non-compliance	Certification supported	Best Practice through ISO standard
Basis for legitimacy	Policy	Structural relevance	Intranet feedback

Figure 2. Institutional Evidence of Outsourcer Actions

6. Summary

Governance can be viewed from top-down, middle-out, or bottom-up. This research looks at a case study relating to servitizing IT and shows that all initiating levels top, middle, and bottom contributed to project success. Each approach addressed a different facet of the change effort needed for successful

management of the IT process change. The multiple approaches were complementary and not mutually exclusive, and each had pros and cons. This successful effort argued for complex organizational projects to be initiated and managed from top-down, with clearly articulated goals. Further, middle-out initiatives to engage people in each location in substantive project participation that gives them a stake in project success appeared to be critical to overall change effort success. Finally, bottom-up aspects to the initiatives also were critical to reinforce the other levels of effort in institutionalizing the changes. This organization paid no attention to corporate culture, having 14 of them to contend with, demanding that the participants act as one in moving toward a service orientation with their 16 processes. As a result, institutionalization did not fully begin until the third year of the project when job descriptions were changed to clearly articulate job expectations relating to the change efforts.

While Governance Theory addresses key aspects of organizing IT organizations and while Innovation Theory's recommendations on key success factors should be attended to, Institutional Theory appears more appropriate for explaining the ultimate success of Outsourcer's implementation of 16 processes that led to their ISO/IEC 20000 certification in 14 locations in two years. Without attention to the top, middle, and bottom of the organization with an overall top-down effort but with a middle-out implementation management, the project would probably have been less successful.

This research has many practical implications. First, while Governance and Innovation Theories were not as successful in explaining this case's success, they are nevertheless valuable resources to be considered in any change effort within the IT organization. Governance Theory explains good practice in IT organizing and can be used to consciously set up the initial governance structure if it is lacking for without adequate governance, any large scale IT change effort is likely to fail. Innovation research should be evaluated to ensure that key constructs are applied to the project such as identification of a project champion and, possibly an IT project champion. This case study had both types of champions and both appear to have been necessary to the project's success. Finally, Institutional Theory appears to explain not only the case's successes but also its shortcomings, e.g., lack of cultural acceptance and related resistance two years after the initial implementation. Therefore, Institutional Theory appears to be a valuable source of a cognitive map for inspiring complex, multi-national project activities.

References on request.