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CAUSAL EXPLANATION IN THE COORDINATING PROCESS: A CRITICAL REALIST CASE STUDY OF FEDERATED IT GOVERNANCE STRUCTURES

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Appendix A

Data Collection

In order to gain broad exposure to the emergent properties of the relevant structures and to counter potential biases in the research process (Wynn and Williams 2012),[1] we employed multiple data collection methods to explore the coordinating process at Large Pub. These included semi-structured interviews, passive observations, review of archival data, and informal conversations with key participants. The data collection process took place between October 2003 and January 2007. A summary of the data collected is presented in Table A1.

The primary data source was the interviews of key informants which included 24 interviews with 20 ITAC participants, and 12 interviews with 12 BPA participants all totaling 49 hours (see Tables A2 and A3). The interviews included almost all of the primary participants in both coordinating efforts. The interviews were semi-structured, starting with a standard interview guide and evolved based on participant insights and prior findings. For participants who were re-interviewed, the same basic interview guide was used with the focus on confirming prior findings and identifying changes. All interviews were conducted by the first author, and approximately one-half by both. Interviews typically lasted about 1.5 hours, and all but four were digitally recorded and transcribed verbatim. Interviews were supplemented with extensive field notes. To insure each interview accurately conveyed the participant's thoughts, each was given an electronic version of the interview transcription and asked to review for accuracy.

In addition to interviews, extensive observations were made by the authors as passive observers of regularly scheduled ITAC meetings. A total of 26 monthly ITAC meetings were observed between March 2004 and October 2006. Other observations included two multiday off-site retreats of the ITAC, two meetings held to present BPA consultant reports, several organization-wide meetings related to IT at Large Pub, and meetings of other IT coordinating bodies. Extensive field notes were taken during all observations and later electronically transcribed.

[1]This study utilized the qualitative case study method. The variety of qualitative data types and informants addresses the principle of multimethods as described by Wynn and Williams.

Table A1. Summary of Data Collected

Data Source	Number	Total Data
Semi-Structured Interviews	**36**	**49 hours**
ITAC	24	29 hours
BPA	12	15 hours
Unstructured Interviews		
Interim CIO Discussions	16	20 hours
Observations		**92 hours**
ITAC Monthly Meetings	26	52 hours
Other ITAC Meetings	5	8 hours
ITAC Retreats (4 days)	2 (4 days)	28 hours
BPA Meetings	2	4 hours
Archival Data		
ITAC	100+ documents	500-600 pages
BPA	25+ documents	100-200 pages

Table A2. ITAC Interviews

Informant	Date	Length
Interim CIO	Jun 2004[a]	62 minutes
CIO	Nov 2004 Mar 2006 Jan 2007[b]	52 minutes 75 minutes 56 minutes
ITAC Chair and major Division IT Director #1	Jun 2004 Nov 2006	95 minutes 141 minutes
Former ITAC Chair and Division IT Director #2	Nov 2004 Dec 2006	90 minutes 100 minutes
Division IT Director #3[c]	Jun 2004 Dec 2006	76 minutes 67 minutes
Public Service Sub-committee Chair #1	Sept 2004	85 minutes
Advanced Computing Sub-committee Chair #1	Sept 2004	104 minutes
Admin Sub-committee Chair #1 (and AVP HR)	Mar 2005	63 minutes
Associate CIO and ex-officio member	Jun 2005	99 minutes
Division IT Director #4	Nov 2006	104 minutes
IT Managerial Committee Rep (and Division IT Director #5)	Nov 2006	86 minutes
Former ITAC Chair and Division IT Director #6	Nov 2006	84 minutes
Public Service Sub-committee Chair #2	Nov 2006	92 minutes
Admin Sub-committee Chair #2	Dec 2006[b]	100 minutes
Advanced Computing Sub-committee Chair #2	Dec 2006	52 minutes
Senior Employee Council Representative	Dec 2006	60 minutes
Central IT Budget Director	Dec 2006	58 minutes
Technical IT Coordinating Committee Rep	Jan 2007	79 minutes
Chief Operating Officer	Jan 2007[b]	45 minutes

[a]Approximately 10 informal discussions, lasting 50 minutes on average, were held with the interim CIO from October, 2003 through June, 2004. Extensive field notes were taken during these discussions. Topics covered included the formation of the ITAC, other IT coordinating efforts, internal and external influences, and the concepts of coordinating within the federated governance model.
[b]Interview covered both ITAC and BPA.
[c]The first IT Director for this division was promoted; the second interview was his replacement.

Table A3. BPA Interviews

Informant	Date	Length
Senior Manager, Customer Information	Nov 2006	99 minutes
Vice President, Finance	Nov 2006	80 minutes
Director, Data Analysis and Reporting	Dec 2006	87 minutes
HR Director	Dec 2006	100 minutes
Director, Customer Accounts	Dec 2006	77 minutes
Director for Planning	Dec 2006	62 minutes
Central IT Budget Director	Dec 2006	54 minutes
Associate Chief Operations Officer	Dec 2006	78 minutes
Vice President, Human Resources	Dec 2006	86 minutes
Controller	Dec 2006	92 minutes
Chief Operating Officer	Jan 2007	45 minutes
CIO	Jan 2007	56 minutes

Appendix B

Final Code Categories

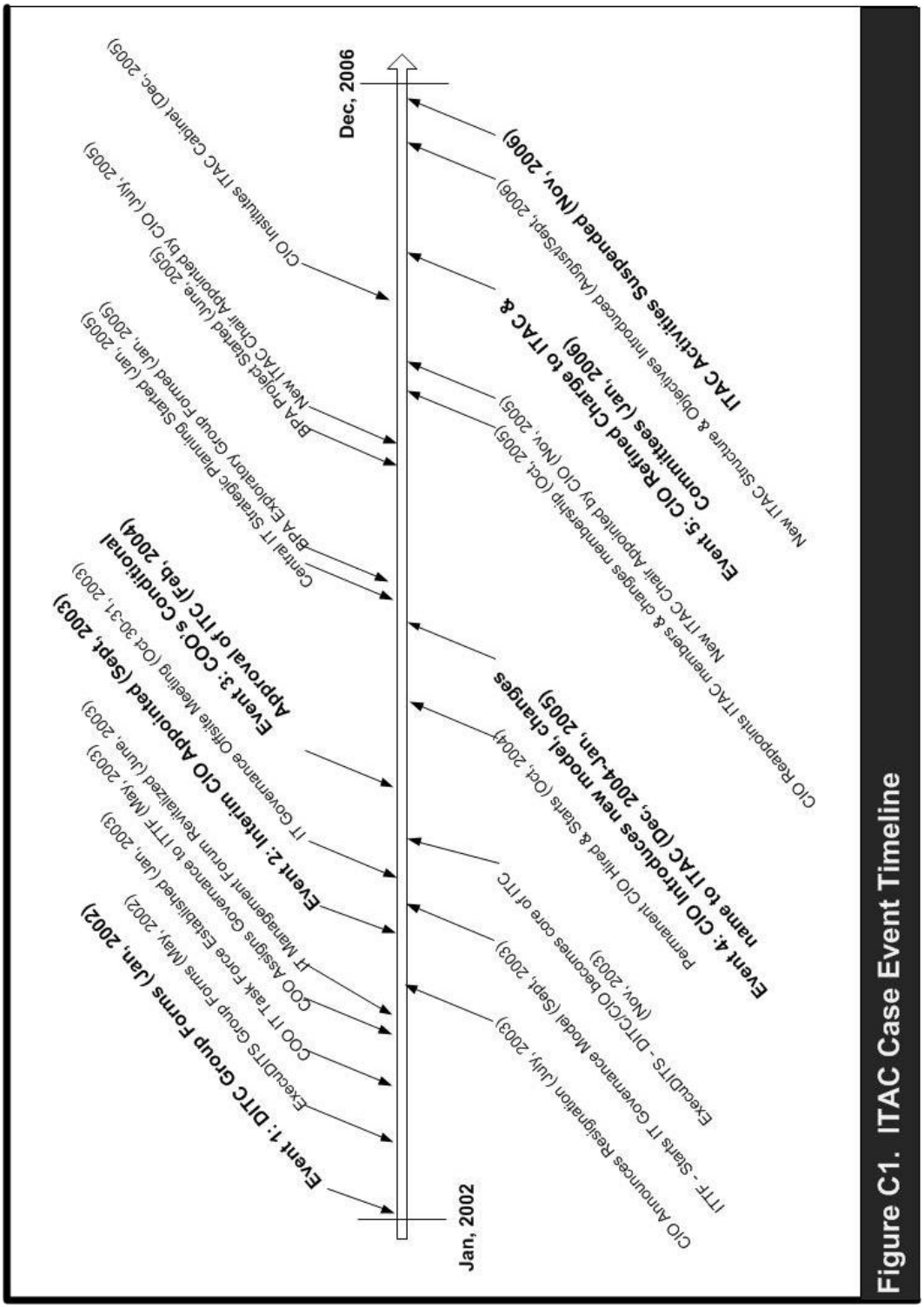
Category	Meaning	Sample Codes in Category
Coordination Mechanism – Formal	Groups created formally with specific coordinating or oversight objectives	Standing Committee Task Force
Coordination Mechanism – Informal	Non-structural activities to create interpersonal relationships	Direct Contact Networks
Operating Mode	Bases for fulfilling the objectives of a coordinating effort	Clarity of Purpose Plan & Method Defined Outputs Accountability
Engagement Logic	Influences that impact level of engagement from participants in a coordinating effort	Relevance Importance Action Oriented Impact
Coordinating Climate	Contextual attributes which influence the efficacy and outcomes of a specific coordinating effort	Leadership Executive Involvement Trust Open Communications
Composition	Attributes of the general composition and specific actors in a coordinating effort	Representation Size Status Unit Support
Purpose – Consensus	Align effort participants and larger organizational constituencies to support and implement specific initiatives	Build Consensus Exert Influence
Purpose – Managing Relationships	Establish and maintain networks of relationships across organization units	Communication Building Relationships
Purpose – IT Context	Specific domain of the creation, implementation and use of information technology to fulfill business and operational objectives	Common Infrastructure Data Integration Shared Software Information Security Knowledge Sharing
Purpose – Strategic Direction	Efforts to establish the IT strategic direction and to align IT strategy with overall organization strategy	Strategic Planning Resource Allocation
Inner Context	Inner mosaic of the organization	Culture Local Setting
Outer Context	Aspects of the environment external to the organization	Economic Legal/Political Technological
Politics	Organizational conditions in which decision making is likely to involve power and influence tactics	Power Sources Power Determinants Conditions for Use

Reliability was established for the codes and coding process using inter-rater assessment (Boyatzis 1998; Miles and Huberman 1994). A colleague familiar with qualitative data analysis but not associated with the research project was given the coding template, a summary of the research project and a brief description of the two cases. This material was discussed and all initial questions answered. The colleague and researchers separately coded large segments of the same transcribed interviews (representing approximately 30 minutes of an interview) for both the ITAC and BPA cases. The results were compared and any discrepancies discussed until consensus was established on the appropriate code. After three rounds based on three different interview segments, a total match percentage[2] of over 83 percent was achieved. This provides strong support for the reliability of the data coding and is consistent with existing IS research (Lapointe and Rivard 2005).

[2]Total match % = (# of matches / (# of matches + # of mismatches)).

Appendix C

Event Time Lines



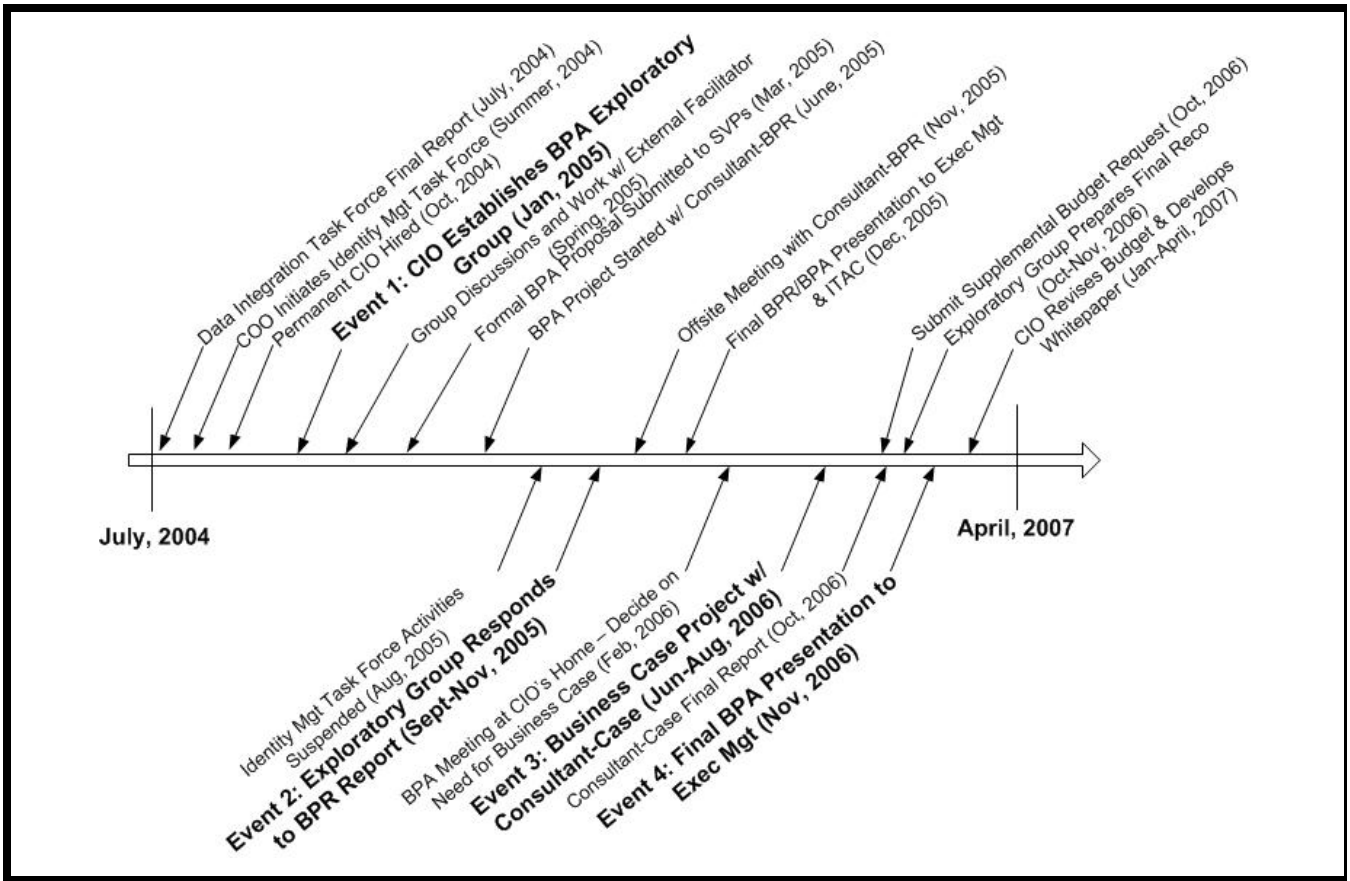
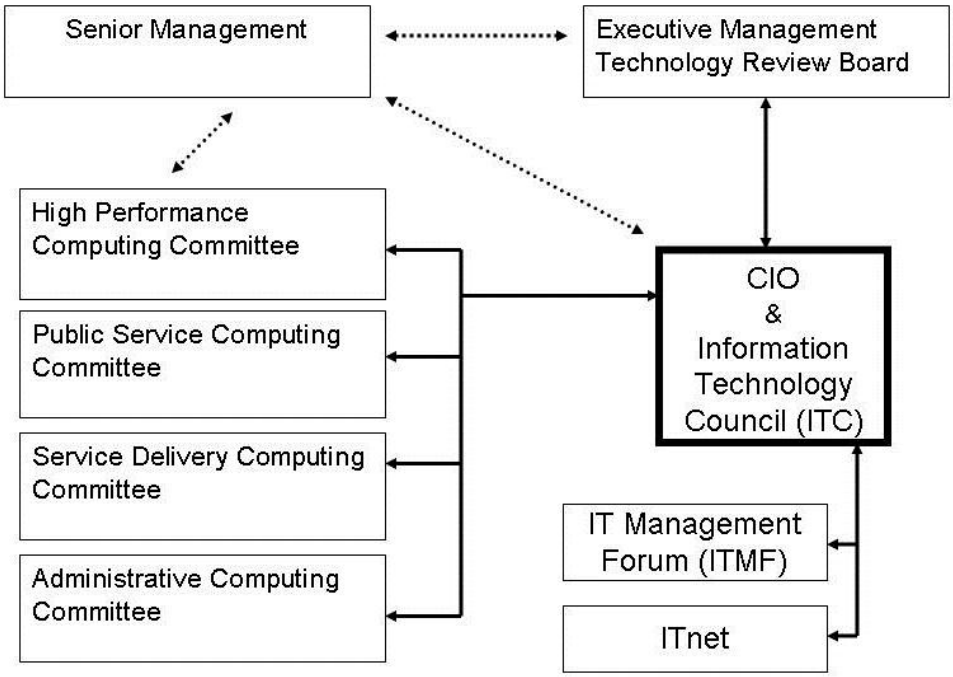


Figure C2. BPA Coordinating Event Time Line

Appendix D

Large Pub Proposed Governance Model



Appendix E

Empirical Corroboration

We sought corroboration of the hypothesized mechanisms in several ways: multiple participants, repeated confirmations over time and through multiple events, identification of other expected experiences, and multiple cases.

Data collection and analysis for this study took place over an extended period of time and involved nearly all key participants in both coordinating efforts. The participants were given the opportunity to review and comment on all interviews and preliminary findings. As important events and aspects of structure were identified and explicated, these were tested through subsequent interviews. Additionally, the analysis included explicit cross-case comparisons to confirm aspects of structure and the contextual environment and the role of the mechanisms in determining the observed events and outcomes.

The event-level analysis provides additional confirmation of the presence and influence of the mechanisms in two ways. First, through our descriptions of the mechanisms, the causal impact is demonstrated for multiple events and the ultimate outcomes for both the ITAC and BPA cases. For example, in the BPA case, we see the impact of consensus making first driving the tentative agreement for pursuing the business process review (BPA Event 2) and then the near breakdown of consensus and group function in the preparation and delivery of the final presentation (BPA Event 5). In the ITAC case, unit aligning was the dominant influence leading to the informal networking of the DITC group (Event 1) in order to improve spending effectiveness and service enhancements at the unit level in a resource scarce environment. The unit-aligning mechanism is also clearly evident in the failures of both attempts by the CIO (ITAC Events 4 and 5) to create a method of advice and advocacy on enterprise IT initiatives.

The second way that the event analysis provides corroboration of the mechanisms is to use the concepts of summative validity (Lee and Hubona 2009) to assess the mechanism by confirming other related events or activities that we would expect to see if a mechanism is present and activated (Wynn and Williams 2012). Within the BPA coordinating effort, for example, we see confirming support for the unit-aligning mechanism. The effort to develop a consensus recommendation was severely impacted by the lack of alignment from Finance. The perceived costs to the Finance area were too high in terms of changing highly customized business processes in order to implement a commercial off-the-shelf (COTS) solution that would better support organizational goals.

If the unit-aligning mechanism exists, and was at work in the coordinating effort, we would expect to see other functional areas converging on the enterprise-level objectives of Large Pub even if these conflicted at some level with functional unit needs and priorities. This happened in at least two areas. In the customer finance area, the existing systems satisfied the vast majority of its needs and conversion to a new packaged software solution would require major realignment of responsibilities across departments, and recreating a key system to support a special customer financing program (Director Customer Accounts, 12/06). In the Human Resources area, the lack of support from the legacy systems was widely recognized and the need for a new software solution was clear. Even with this need, the vice president of HR preferred to delay implementation in this area so as not to fully absorb staff bandwidth during an on-going effort to create sophisticated new services for Large Pub employees. However, both managers recognized the overall benefits to Large Pub and unequivocally supported full implementation of the single-vendor COTS solution to achieve data integration.

References

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