

Assessing Capability for Justice Information Sharing

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ABSTRACT

Enhanced information sharing among criminal justice agencies is a critical concern and a goal of much IT investment. Understanding agencies' capabilities to achieve this goal is central to successful planning and investments, but indeed a difficult endeavor. The difficulty rests in part on the multiple and divergent theory frames for describing and understanding capability. This paper proposes a way of describing and assessing capabilities that goes beyond traditional resource-based models of organizational capability to include ideas from institutional and practice based perspectives. In this new perspective, capabilities are seen as multidimensional phenomena that are resource based and embedded in organizational routines, but we argue they are enacted through work practices, located in and bounded by their institutional contexts. The paper draws on literature from strategic management, information systems and organizational studies as well as practice theories to support this perspective. It then describes how this multidimensional perspective was used to develop an assessment tool for use in the criminal justice information initiatives. This is followed by a brief description of how the capability assessment tool was developed with a national panel of practitioners responsible for justice information integration initiatives and then applied within the context of one initiative. The test results illustrate the potential of the extended model in building a fuller understanding of the dimensions of organizational capability in practice and the utility of practical tools based on these dimensions.

Categories and Subject Descriptors

K.6.1 [Project and People Management]: Life cycle management techniques (e.g., PERT/CPM), Staffing, Strategic information systems planning, Systems analysis and design, Systems development, Training

General Terms

Management, Performance, Human Factors.

Keywords

Digital government, capability assessment, justice information sharing, collaboration, organizational routines, institutions

1. INTRODUCTION

The work on capability assessment reported here grew out of concern for a specific problem: how to improve information sharing among criminal justice agencies in state and local governments. There are substantial incentives for these agencies to share information more effectively. But there are equally substantial problems of technical and organizational change they

encounter in attempts to better integrate information across their diverse, often highly specialized work practices and cultural differences. As a result, these kinds of organizational and information technology (IT) innovations are complex and failure prone endeavors. Before making large organizational commitments and financial investments in such high risk initiatives, therefore, it is valuable to know whether the necessary capabilities are present or can be made available. A systematic and effective method for assessing capability, particularly in advance of major investments, would therefore improve prospects for success and assist in planning and designing these kinds of initiatives. This paper describes how such an assessment method was developed and tested, including the theory approach and the data collection methods used.¹

Capability for successful government information technology (IT) innovations, is particularly important when collaboration and information sharing across domains are central to success. In such a context, organizations must establish and maintain collaborative relationships for effective knowledge sharing. These are essential for resolving the inevitable problems of divergent data definitions and structures, diverse database designs, highly variable data quality, and incompatible network infrastructure. In addition, information integration typically requires collaborative creation of new work processes and organizational structures, which are in turn embedded in larger political and institutional environments which shape goals and circumscribe options. Thus the capability assessment problem spans many organizational and technical issues.

The need for a fuller understanding of organizational capability is especially true of information integration initiatives in the criminal justice domain and other domains of government requiring multi-organizational and multi-jurisdictional coordination. The JNET Project in Pennsylvania, a statewide justice information sharing effort that has developed a secure network infrastructure, illustrates the kinds of complexities involved. JNET provides web-based sharing access for such things as a portal for access to driver license photos, mug shots, criminal histories and court case data, advanced photo imaging for investigations, and capacity for email and pager notification of security events or arrests. The Harris County (Texas) Justice Information Management System (JIMS) is even more complex.

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It was over a decade in development and involves 281 public agencies in the county (including Houston), and covers most aspects of both criminal and civil justice functions. The range of capabilities needed for such an endeavor is similarly broad.

To deal with this depth and complexity, the capability assessment approach described here draws on several sources. These include research on and models of strategic management, information systems and organizational studies as well as social practice theories. This theory material was used to construct a preliminary methods for assessment. This was then reviewed and further developed by a panel of scholars and practitioners in justice information sharing. The panel helped ensure the practical value and relevance of the methods and their feasibility for use in project settings. The result of the panel's work was reviewed by a wider panel of experts and then subjected to field testing in three active information sharing initiatives. The field test results illustrate the potential of the extended methods in building a fuller understanding of the dimensions of organizational capability and the utility of practical tools based on these dimensions. These results contribute to our understanding about organizational capability generally and provide effective methods for practitioners engaged in these kinds of complex digital government initiatives.

2. CAPABILITY FOR JUSTICE INFORMATION INTEGRATION

The main theory problems in crafting a capability assessment method for justice integration are choosing from and integrating material from the several applicable sources. Our aim was to tailor the method as much as possible for relevance to this particular context (justice information sharing), but still draw upon the widest appropriate range of theoretical material. A broad view of relevant theory is thus needed to deal with the broad view of capability used as the foundation for the assessment method.

That view considers capability in terms of two closely related but distinct components needed for creating new multi-organizational justice information sharing systems: the capability to create effective collaboration across organizational boundaries, and the capability to develop the new information sharing systems and procedures. In successful projects the first component enables working together and making plans and decisions; the second enables the building of systems and inter-organizational processes used to share and integrate information. These kinds of distinctions among sets of capabilities are common to many complex organizational processes. Constructing a new building, for example, requires certain legal, financial, technical, and organizational capabilities for planning and decision making. Once these capabilities have been employed to execute the necessary contracts and plans, the construction capabilities (excavation, masonry, framing, plumbing, etc.) can be effectively employed to raise the structure. Lawyers don't plumb, and plumbers don't write contracts, but both capabilities are necessary for a successful construction project.

Theory useful for dealing with this compound view of capability can be found in four main bodies of work: the capability maturity model approach, studies of strategic management, information systems research, and theories of practice. Capability for multiorganizational information sharing resembles in some ways assessing the capability for software development, represented in the well-known Capability Maturity Model [1]. Some of the

concepts employed in that work informed the development of the assessment methods. Strategic management studies are concerned with resources and their use in organizational routines as a source of organizational performance or competitive advantage. This resource and routines-based view of capability is the source for several of the dimensions in the assessment tool. Recent work on dynamic capability development (e.g., Zollo & Winter) is included in this body of research. These two sources, however, do not adequately deal with the dynamics in organizational structure and practice changes that are central to multi-organizational information sharing. We therefore include material on practice and organizational change from information systems research, organization, and practice theory.

2.1 Capability and Maturity

The idea of maturity levels that forms the foundation of the capability maturity model (CMM) is a useful but limited starting point for exploring information sharing capability. That some forms of capability are foundational for others and that capability can be developed (matured) over time are central parts of both the CMM and the capability assessment method. However the underlying logic of assessing capability in terms of maturity levels for software improvement does not fit the larger scope of organizational action of interest here. The factors taken into account in the CMM and the emphasis on standard procedures do not adequately represent the issues of goal alignment, social relationships, and uncertainty critical to successful efforts at multiorganizational information sharing. Moreover the process management capability reached at the highest level in the CMM is rather an early requirement for the development of new cross-organizational and technical processes for information sharing.

2.2 Capability and Resources

Organizational and economic treatments of capability began with what has come to be called the resource based view (RBV). Richardson's [2] seminal description of an organization's capability in terms of the "appropriate knowledge, experience, and skills" (p. 888) introduced the concept in its current form, which is based in part on Penrose's [3] resource based analysis of firm performance. Penrose suggested that the optimal growth of the firm involves a balance between the exploitation of its existing resources, or "bundle of potential services" (p. 25), and the development new resources and capabilities. The two major propositions that underlie the foundation of the resource-based model are: (1) resources and capabilities possessed by firms are heterogeneous because of market imperfections and 2) those differences in resources and capabilities have long-lasting effects on firm competition, providing a few competitive edge over others [4-6].

In the RBV, resources are defined as "stocks of available factors that are owned or controlled by the firm." (p. 34) [7] These stocks include an organization's physical assets, such as physical infrastructure, equipment, and location, as well as intangibles such as trust between management and workers, organizational culture, and the ability to acquire resources externally when needed [8]. Enacting this capability includes the ability to deploy resources to effectively achieve some end results [7, 8]. Such capabilities are information-based, process-oriented, and developed over time through complex interactions [7]. As such, these kinds of capabilities are not necessarily stable, since they can be affected by changes in an organization's internal and external environment [9-11].

The resource-based view attributes differences in organizational capability to differences in the distribution of strategic resources among organizations [12]. But the resource based view of capability does not hold that any particular mix, or level, of resources produces a corresponding capability but that variations across diverse mixes of resources produce capability differentials [13]. Such an approach is useful in accounting for differential performance among a class of organizations but of limited use in predicting whether any particular group of organization will be able to successfully share important information.

This limitation makes the resource-based models of organizational capability less than fully appropriate for the public sector context of interest here. The strategic management focus of most resource-based views of capability deals primarily with accounting for competitive advantage of firms. This focus is only partially relevant to the work of government. Moreover, efforts to enhance information sharing across justice agencies depends heavily on inter-organizational collaboration and joint development of IT systems, not competition. Some recent work is more relevant, employing a broader view of resources and capability that include relations among organizational resources, capabilities, and knowledge. The research used in developing this assessment method use an extended idea of organizational performance, including organizational innovation [14], learning [7, 15], and some capability development processes [8, 15-18].

2.3 Capability and Organizational Routines

Some recent work takes a broader view of resources and capabilities, using a combination of economic, behavioral and cognitive approaches [7, 19-22] to show inter-relations between organizational resources, capabilities and knowledge [19, 23]. This work goes beyond a static view of capability to include organizational innovation [14], learning [7, 15] and capability development processes [8, 15-18]. Winter [24], for example, sees organizational capability as a

“high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization’s management a set of decision options for producing significant outputs of a particular type” (p. 991).

Similarly, Andreu & Ciborra [15] suggest that capabilities are developed by using resources with the aid of organizational routines in a certain organizational context. Thus, organizational routines are central to capabilities [25, 26]. Feldman and Pentland [27] define organizational routines as “repetitive, recognizable, patterns of interdependent actions, involving multiple actors” (p. 96). Organizations can develop and refine particular routines to be very efficient and effective [15].

These routines can become the primary way an organization carries out much of its daily activities as well as repositories of knowledge [28-31]. Nelson and Winter [30] note that “routines play the role [in organizations] that genes play in biological evolutionary theory” (p. 14). They embed organizational knowledge that is historically acquired through learning [28, 30, 32]. Developing organizational capability therefore involves learning how to use, combine, and recombine organizational resources with a set of organizational routines [16].

This routine-based aspect of capability can account for some major problems in creating new interorganizational processes and sharing routines. The interplay among an organization’s resources, routines, and capabilities is a dynamic process that

evolves over time [15]. Since routines are results of local learning processes, organizational capabilities are path-dependent [4, 5, 25, 30] and highly specific [4, 15, 33] historically, locally, and relationally to an organization. Because of path-dependency and specificity, capabilities are transferable to other organizations only to a limited extent [4, 5, 34].

3. DEVELOPING A CAPABILITY ASSESSMENT METHOD

The available body of knowledge about organizational capabilities reviewed above provides a useful but incomplete foundation for building an assessment method for this problem context. The foundation is incomplete in two main respects: (1) it does not include a way to relate these various concepts directly to capability in the justice information sharing context, and (2) it did not show how to assemble and analyze valid and useful data on which to base specific capability judgments. Two separate but related strategies were used to fill these gaps. The first was to identify dimensions of capability that were related to both the existing theory and knowledge base as well as to the institutional setting of justice information sharing. The second was to develop data collection methods based on those dimensions and grounded in the institutional practices of this context. The first step was to tentatively identify the dimensions of capability relevant to the institutional problem setting. Those dimension were then reviewed by and tested against the judgments of persons knowledgeable about the practice of developing justice information sharing systems. Those results were then used to develop and test a data collection tool based on the combined practitioner and research based dimensions. The tool provides a practice-based foundation for judging the capability for interorganizational information sharing in the justice domain.

3.1 Dimensions of Capabilities

The dimensions had to be relevant to justice information sharing but sufficiently broad to serve for many kinds of initiatives. Our identification of the dimensions of organizational capabilities was similar to Leonard-Barton’s [35] categorization of organizational capability, though other dimension descriptions are similar [19, 35]. These include various dimensions of capability identified and described in work on strategy, innovations and learning in organizations [14, 36].

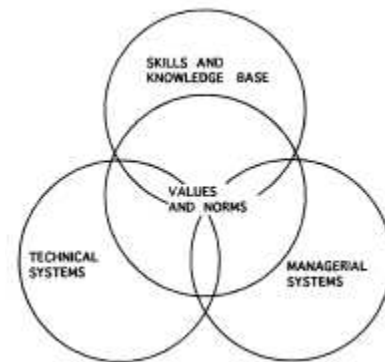


Figure 1. Leonard-Barton’s [35] Capability Dimensions

Leonard-Barton’s framework (Figure 1) is similar to our initial knowledge-based approach. This framework identifies four broad dimensions of organizational capabilities: (1) employee knowledge and skills, (2) technical systems, (3) managerial

systems, and (4) values and norms associated with knowledge management and processes of knowledge creation. The most fundamental among these four dimensions are employee knowledge and skills that are created or acquired through effective human resource management practices, coupled with knowledge embedded in technical systems [19]. Effective managerial systems are critical for the evaluation and transmission of knowledge and skills in an organization and are linked to the structure of organizational incentives [2]. They are also important for collaborating and coordinating tasks among various functional parts of an organization [19]. The first three dimensions are deeply rooted in the organizational culture, which interacts with the management and development of such capabilities [35].

3.2 Capability in Information Systems Research

Dimensions of capability should be relevant to information systems development, which is central to creating new information sharing processes. Information systems research, informed by the RBV, is a source of possible dimensions. This research has identified IS/IT resources and capabilities, their configurations, and how they contribute toward superior organizational performance [37, 38], [39],[40]. These are consistent with the idea that capabilities are resource based, multidimensional and process oriented [41, 42]. IT has also been shown to have a role in developing dynamic organizational capabilities [15]. There are very few micro-level studies showing relationships among organizational capabilities, resources, and routines. One useful work is Montealegre's [43] longitudinal case study of the electronic commerce formation strategy and implementation at an Ecuadorian stock exchange. These results show how capability development in support of a new strategy is a gradual process, cumulative, expansive, and dependent on the unique ways resources and human actions come together at specific times.

3.3 Capability in the Public Sector Context

Characteristics of the public sector locus of justice information sharing further shape the choice of dimensions. The particular public sector characteristics include: (1) goals in terms of public interests, i.e., if the benefits or losses are communal or individual, (2) public access and openness of facilities, resources, and information, (3) agency, i.e., public organizations acting in their own interests or on behalf of the public as a whole. [44] Government agencies are more subject to political and other institutional influences, such as external scrutiny and accountability. Their goals are numerous, complex, and often ambiguous [45] and they tend to have elaborate hierarchies [46]. Also, managers in public organizations have limited autonomy due to constraints such as civil service rules [46].

3.4 The Practice-Based Strategy

Connecting the various components of capability to the contextual considerations for justice information sharing required a linking strategy. For this we looked to the idea of practice, in both the theoretical and practical senses. That is, we sought to identify how components of capability might impact justice information sharing initiatives by examining the practices of those engaged in those initiatives. In the practice setting, capabilities come together with the demands and problems of building a particular initiative. Understanding how to assess these capabilities affect results, we

argued, should be in the context of where and how the work is done.

The transformation of practices is central to this problem area. Capability is manifest in transforming practices in the ways necessary for establishing new information sharing interactions across organizations. That is, the meaning of capability in this context is based on novelty: producing information interactions among organizations that did not previously exist. To achieve these new interactions, those engaged in the project must adapt existing practices in some ways, and often create new ones. This is equivalent to Lavie's [47] model of capability reconfiguration. This reconfiguration is particularly difficult because the participants face three distinct but related kinds of problems. First, the desired information transactions will require new interorganizational relationships, with attendant risks, barriers to communication & collaboration, and issues of reconciling divergent practices. These are the typical problems of creating network forms of organization [48] [49-51]. Second, new information sharing practices require new organizational arrangements, practices, and technical resources, i.e., innovations that typically engender resistance. Third, project participants do not initially know in advance all the tools or resources needed or how to acquire them, or precisely what configuration of old and new capabilities will be needed to achieve project goals. Therefore knowledge acquisition, sharing, and discovery are likely to be important elements in capability. Knowledge sharing and creation are important elements in practice-based analyses of IT development, both from the perspective organizational studies [52-56], and also in IS research [57-59].

In theoretical terms, this strategy brings together the resource and routine based views of capability together with the work practices and institutional influences of a specific context. This strategy is related to Feldman's [60] institutional view of organizational resources and consistent with the works in information systems and organizational studies based on structuration [61] and social practice theories [62]. From an institutional perspective, resources are dependent on the configuration of organizational fields and the utility of resources change as the relationships among the participants in the field change [63, 64]. This relational aspect of resources are critical to understand the mutability of resources in the enactment of organizational routines in everyday work practices [60]. Further, an institutional approach includes attention to the range of cultural-cognitive, normative, and regulative elements in the practice setting [65].

Looking at interorganizational information sharing initiatives as the creation of new practices provides a way to describe how resources and routines link to capability in terms of effective action. Practice, in this sense, is the set of activities in which resources and routines are used purposively to achieve a goal. The practice perspective merges social and technical aspects of the activities. This idea of practice is consistent with Lave and Wenger's [66, 67] description of what happens in communities of practice as informal groups engage in shared learning and work activities. In such communities, "social structure and meaning are continually negotiated through participation" [68] (p. 152). Such communities may extend across organizational boundaries, facilitating information sharing.

This practice perspective is also found in work that focuses specifically on information technology use and development as a social and technical phenomenon. Orlikowski's framing of a practice perspective [69], for example, treats technology use in

terms of organizational structuration following Giddens [61]. Related work by Lyytinen, [70] Levina [71], and Schultz and Orlikowski [49] shows how technology resources and related practices emerge and affect organizational action. This practice perspective prompts examination of the reflexive relationship between technologies and social structures. That is, neither social structures nor technology structures are treated as determining causes of practice, but rather interacting in mutual influence and restructuring. The role of feedback in these dynamics has been shown to be important in capability for IT systems development [47, 72]. This view of practice is similar to the reflexive nature of social and technical structures in Bourdieu’s view of practice [62]. In this view practice is neither social nor technical, but action that is both influenced by and influencing the social and technical dispositions in which it is embedded.

To develop the assessment tools it was necessary to link these concepts of practice and capability to the specific practices in justice information sharing. For that we used descriptions of successful projects and direct participation in framing and testing dimensions of capability by justice professionals. The successful project descriptions were collected through interviews with project participants and document review. These descriptions were collected from projects in US justice agencies.²

For direct participation of justice professionals we engaged a panel of domain experts to help identify and refine set of dimensions and indicators. The panel, composed of 37 practitioners from state and local justice agencies, researchers, IT developers, and other government officials, met in three two-day sessions over an 18 month period to develop the materials. In the first two meetings they reviewed and developed the dimension descriptions judged to represent the important capabilities and a set of possible indicators for each dimension. That process elicited 16 dimensions with between seven and sixteen indicators for each (180 indicators in total). In the third session the panel reviewed and revised the assessment methods proposed by the research team for collecting capability assessments using the dimensions and indicators. The sixteen main dimensions are listed in Table 1 below, along with how they relate to the main theory dimensions described in Figure 1 above. The overall assessment approach was then reviewed by additional practitioners and field tested in three information sharing initiatives: one county-level project and two state-level initiatives.

4. Field Testing the Capability Assessment Toolkit

The draft toolkit was tested in four separate test scenarios. The first was a review of the document by a panel of experts from the Integrated Justice Information Systems Institute (IJIS), an association of justice information systems vendors and consultants. They were asked to review the draft for clarity, construct validity, and feasibility. Following this review and related revisions, three field tests were conducted under separate conditions. Participants in the Pennsylvania JNET project reviewed the toolkit for feasibility in their project setting and suggested changes to improve usability. Second, a panel of officials from the Cook County (including Chicago) justice

integration initiative agreed to test the group deliberation and rating scheme used in the tool kit as applied to their project. The CTG team meet with this panel for a day-long session in Chicago and observed the rating process and gathered review comments.

Table 1. Challenges and Capability Dimension

Dimensions	Challenges			
	Mobilizing Resources	Uncertainty & Knowledge Acquisition	Aligning Routines & Practices	Operational Control & Coordination
5. Business Model & Architecture Readiness		X	X	
6. Collaboration Readiness			X	X
7. Data Assets & Requirements		X	X	
8. Provisions for Governance	X			X
9. Information Policies		X	X	X
10. Leaders & Champions	X			X
11. Organizational Compatibility		X	X	
12. Performance Evaluation		X	X	X
13. Project Management	X			X
14. Resource Management	X			X
15. Secure Environment		X	X	X
16. Stakeholder Identification & Engagement	X	X		
17. Strategic Planning	X			X
18. Technology Acceptance			X	X
19. Technology Compatibility			X	X
20. Technology Knowledge		X	X	X

Finally, a more complete test of the data collection process was made possible by a member of the toolkit development panel who was engaged with a large county-level justice information sharing initiative. The county is a local transportation hub, part of a major agricultural region, and near a major population center. It has a population of approximately 1.5 million, approximately one-third of which resides in the capital city. The justice information sharing issues in this mixed urban, suburban, and rural environment would be similar to those in many other areas of the US. Therefore the toolkit developers requested that this county initiative undertake a field test of the assessment and the official

² The results of this part of the research can be found at http://www.ctg.albany.edu/publications/reports/effective_strategies.

agreed to take the lead in conducting the assessment in his county initiative.

The county official felt that a capability assessment would be a valuable experience for the current information sharing initiative and might provide much information about the utility of the toolkit. Because he was already familiar with the toolkit he agreed to manage its use among participants in his county project. He arranged for the administration of the toolkit surveys to key participants in the county initiative and sent the resulting data to the toolkit development team for analysis. A member of the team then prepared a report and presented it to the executive committee and other participants in their administrative offices, where they were able to review and discuss the results.

In determining how to conduct the assessment, the lead official and toolkit developers agreed to focus on the three committees with responsibility for the initiative: an executive committee composed of elected officials responsible for overall conduct of the initiative, a management committee composed of those responsible for day-to-day operations, and a technical committee composed of those responsible for computing systems and infrastructure. There were members on each committee from each of the county agencies engaged in the initiative, from law enforcement, courts, corrections, prosecutors, and general county government.

The survey material for all 16 dimensions was not appropriate for all committee members, so the lead official selected subsets of the dimensions for each committee, with the more general dimensions applied to all. Overall 20 committee members responded to various parts of the surveys. The local official collected the paper forms with the responses and sent them to the CTG team for analysis. A selection of the results is presented here to illustrate the form such results can take and how they can influence action and capability in an initiative.

The assessment results come in two main forms: responses to a 5-point Likert-type scale, which produces a rating for each of the 180 sub-dimensions in the assessment tool. There is also opportunity for annotation of responses and adding text to the survey. This added text was added to the reporting of results back to the project participants. In this case, as mentioned above, not all respondents received the same mix of dimension rating items, so the overall results reflect these differences. The selection of results reported here are from aggregation of responses to selected rating scale responses.

The analysis resulted in a series of charts showing the relationships among the rating scales, similar to those shown below, and some text interpreting the findings. After reviewing the results, the executives in charge of that project invited a team member to present the results and discuss them with a meeting of project managers and county officials. That presentation generated a long and detailed discussion of results and recommendations for management changes discussed below.

5. LESSONS FROM AGREEMENT AND DIVERGENCE

The main points of interest for the managers discussing these results focused on areas of agreement and disagreement among management areas: executive committee, project management, and technology committee. The assessment results showed areas of both agreement and divergence of opinion among them about capability levels. One of the areas of strongest agreement was in

the governance dimension results, shown in Figure 2 below. All participants rated overall authority and structure items (charter, existence of a governance and body, and authority relationships) as high capability. They also agreed that more resources were needed. The only divergence indicated that the technology committee was concerned about under representation in governance. This high level of agreement across the main stakeholders was a source of encouragement and confidence among the participants.

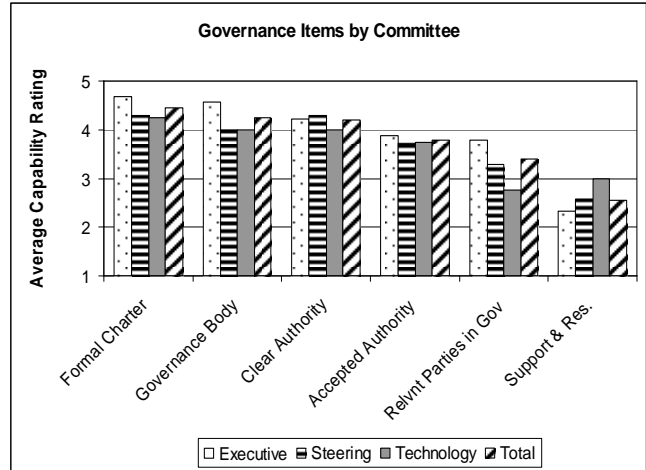


Figure 2. Capability Ratings on Governance Indicators by Committee

Some other areas were less positive. In particular the elected officials and managers were surprised and concerned by divergent views of capability between them and the technology committee members. These differences were highest in the areas of collaboration readiness, strategic management, overall executive leadership, and system security. An example of the scale of differences on some of the collaboration readiness indicators is shown in below.

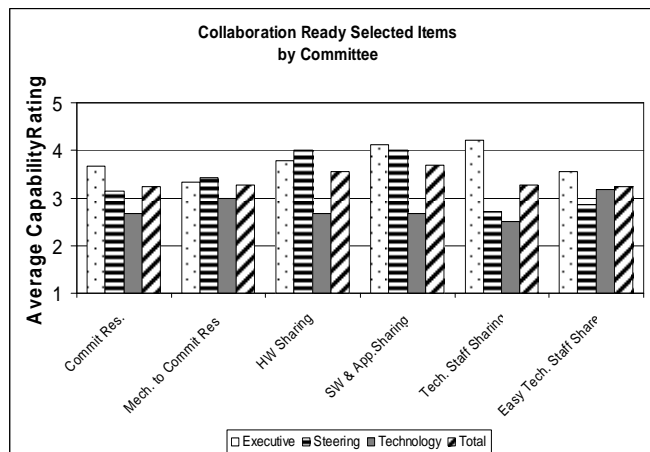


Figure 3. Capability Ratings on Selected Collaboration Readiness Indicators by Committee

There were other differences in areas of knowledge and resource sharing and compatibility of organizational culture. Most importantly, the technology committee's ratings in these and

several areas were consistently below those of executive and management committee members, often by nearly two points on a five point scale.

The participants took these results seriously. They accepted the validity of the results and did not question the significance of either the positive or negative ratings. In particular, the executive committee members took the consistently lower ratings of the technology committee members as evidence of possible capability problems and ineffective communication. There was a detailed review and discussion focused on the technology committee's lower ratings. The discussion focused on information seeking and clarification, rather than challenges to the technology committee members or the results themselves.

The capability assessment prompted more than discussion. A short time following this initial presentation, the lead official who administered the assessment reported changes in initiative management. The executive committee decided to change their reporting and meeting procedures to improve communication between managers, policy makers, and with the technology operations. Additional time was allocated to technology committee reporting in the regular executive committee meeting agenda and additional changes in reporting to managers were developed. Though not a major realignment of initiative management, these changes illustrate how even an exploratory application of this kind of capability assessment, enhancements in capability can result.

6. DISCUSSION & CONCLUSION

Understanding organizational capability is central both to overall theory about organizational action as well as to improving organizational performance. The concept of capability, in the terms employed in this paper, provides a way to focus material from some divergent research areas (organizational theory, strategic management, and IS research in this instance) on a particular problem domain. This is not a syncretic effort, but rather one of testing and applying the insights available in different perspectives, not arguing for their similarity or convergence. We argue instead that an eclectic approach to understanding and applying ideas about capability can yield both interesting paths to new theory development and useful practical results. In particular, the practice-based strategy proved quite useful in framing the diverse mix of capability concepts into an assessment tool with a meaningful theory foundation and practical utility.

The research and application of this new approach to capability has been extended to another domain in digital government: that of digital preservation of government records. Using the same approach of a combined expert panel and literature research, a similar set of dimensions and assessment methods had been developed [73, 74]. It is available to the government archive and library communities and plans for field testing and application are under development.

As outlined in the paper, the existing theories and ways of describing organizational capability are not well suited to capability assessment in a governmental information sharing context, and digital government research in general. This lack of fit derives in part from the grounding of current theories in strategic management and information systems. The resource-based view of capability, common in this literature, is useful but of limited relevance to the work of government. Our expanded

framing of capability provides a way of describing and assessing organizational capabilities that goes beyond traditional resource-based models to include ideas from institutional and practice based perspectives. This is both necessary and useful to move forward the current research on organizational and IT innovations in government.

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