

Information integration is considered one of the most significant ways to change the structure and function of organizations. In its most simple conceptualization, information integration allows managers to work at the same time, with the same information drawn from multiple disparate sources. It has the potential to support the transformation of organizational structures and communication channels between and among multiple agencies working in different locations. The question remains, not whether we should invest in integration initiatives, but which initiatives should be pursued and what barriers must be overcome in order to be successful?

Information sharing and integration is a relatively new challenge for public agencies. Traditional governmental structures have organized the capture, use, and management of information along agency lines. Overcoming these deeply entrenched program and information "silos" is the particular challenge agencies face as they pursue the benefits of integrated information. Justice agencies, in particular, need to share information in a timely and effective way in order to secure public safety. As a result, a number of efforts⁽¹⁾ within the justice community are seeking to build knowledge and understanding about information integration. This current practices study contributes to this community-wide knowledge building effort by examining the factors that influenced the success of selected criminal justice integration initiatives.

This study⁽²⁾ was conducted to help practitioners respond to questions about which initiatives to pursue, what barriers they will encounter, and what are some effective strategies for overcoming those barriers. A snapshot of current research on barriers to information integration is presented first followed by strategies, drawn from the six cases, found to be effective in overcoming the barriers to information integration. Each case is then presented in terms of five elements: 1) goals of the project, 2) brief description, 3) key players, 4) critical success factors, and 5) challenges and future plans.

It is important to emphasize that there is no "one size fits all" solution. Solution strategies are context specific. The reader is urged to consider the barriers in each case and the strategies employed for overcoming barriers in terms of their own environment and the specifics of their initiatives. Specific information is provided about each integration initiative so the reader may be aware of the context within which these strategies were effective.

Understanding the objectives and the benefits of any particular integration initiative is necessary to the identification of barriers and the development of strategies for overcoming those barriers. The following sections presents two frameworks for expressing the objectives of an integration initiative and a set of categories to support the identification of benefits.

Integration Objectives

Not all integration initiatives are the same. Some focus on a specific problem, others on building systemic capacity. Table 1 shows one way to classify integration initiatives in terms of their focus and the associated level of organizational involvement. Analysis of the cases supports the observation that there is a logical, yet highly simplified, progression of complexity. Specific characteristics of the initiatives such as the number of participants or the institutional framework will influence the final result. However, in general terms, moving from an initiative of type A to one of type F introduces a wide range of new issues.

Table 1. Types of Information integration initiative

Organizational Level	Focus on meeting a specific need or problem	Focus on building a systemic capacity
Inter-Governmental	E	F
Inter-Organizational	C	D
Intra-Organizational	A	B

These two dimensions help to illuminate the challenges being faced. For example, inter- governmental initiatives that focus on building systemic capacity can be generally understood as more complex than intra-organizational initiatives that focus on a specific need or problem. Most of the cases selected for this report can be identified as being in cells D, E, or F. Therefore, they are considered initiatives that involve high complexity and the way they overcome different challenges provides valuable lessons for other similar or less complex information integration initiatives.

Initiatives can also be classified based on the objectives of their integration; comprehensive, incremental, and selective. These groups are not mutually exclusive. Initiatives categorized as comprehensive can have some

characteristics of selective or incremental strategies. In fact, many counties and states have complex initiatives with a mix of comprehensive, selective, and incremental components. In addition, some initiatives start as selective or comprehensive and become incremental due to the changing nature of the technology and the needs of the justice community.

Comprehensive integration initiatives attempt to integrate information from many different organizations and levels of government in a relatively short period of time. They are the most likely to be both inter-organizational and inter-governmental in nature and typically involve building systemic capacity rather than solving a specific problem. Colorado Integrated Criminal Justice Information System, initially developed over a four-year period, is an example of such a strategy.

Selective integration initiatives integrate information only in certain areas or types of organizations (e.g.: courts, law enforcement, etc.). Normally, these projects attempt to gather information about one function from different levels of government. However, sometimes the projects focus on different functions in the same level of government. The Oklahoma Offender Data Information System (ODIS) which is focused on managing the state's law enforcement agencies' data, is an example of a selective integration initiative.

Incremental integration initiatives take an incremental approach to developing information integration in a limited number of organizations and levels of government, typically pursuing a more comprehensive information integration project in the long-run. An example is Harris County's Texas Justice Information Management System. This system has been in place for over 20 years and the plans for system enhancement extend well beyond basic law enforcement and court procedures to include open warrants, address records, pawnshop data, gangs and gang members, and vehicle registrations.

Integration Benefits

As Dawes (1996) points out, information integration, as well as information sharing, offers organizations a greater capacity to share information across organizational boundaries, to discover patterns and interactions, and to make better informed decisions based on more complete data. Bellamy (2000) adds that information integration in the justice enterprise can lead to improved safety and more coordinated justice services. Decentralization, improved decision making, high quality services, empowerment, and greater productivity have been mentioned as potential gains from information integration projects. Increased productivity, improved decision-making, reduced costs, increased revenues, and integrated services (Kuan and Chau, 2001; Roldán and Leal, 2003) have been identified as positive results as well.

Understanding the type of information sharing being pursued and the challenges associated with achieving the stated objectives is important to understanding the benefits that organizations can expect to realize. The benefits realized from information integration differ from organization to organization and according to characteristics of specific projects. However, there are certain types of benefits that can be expected in almost any information integration or information sharing initiative. Dawes (1996) classifies these benefits into three categories: technical, organizational, and political.

Technical benefits are those related to data processing and information management. Caffrey (1998) notes that information integration reduces duplicate data collection, processing, and storage and therefore reduces data processing costs that attend every public program. Furthermore, as Dawes (1996) suggests, an information sharing initiative can also promote better standards and shared technical resources. Some of these technical benefits are identified in information systems literature as system-related benefits. System reliability and accessibility are two well-known examples.

Organizational benefits, known also as business or firm benefits, are benefits related to the solution of agency-wide problems or the enhancement of organizational capabilities. Improving the decision making process, broadening professional networks, improving coordination, increasing the quality of services, and reducing costs are some examples of organizational benefits (Walton, 1989; Andersen and Dawes, 1991; Roldán and Leal, 2003). In the information science literature organizational benefits are treated separately but are considered complementary to technological and environmental benefits.

Political benefits might include better appreciation for government-wide policy goals, more public accountability, more comprehensive public information, integrated planning, and improved service delivery (Andersen and Dawes, 1991). According to Jane Fountain (2001), political benefits can also be considered as individual benefits for public officials as a result of the use of specific technology characteristics or applications.

Despite the tremendous benefits, information integration, like many other IT-related initiatives, presents

organizations with tremendous challenges. Those challenges result, in large part, from the reality that integrating criminal justice information involves, ultimately, large parts of, if not the whole criminal justice enterprise. This is made even more challenging by that fact that these enterprises differ so greatly among states and localities. Those involved in justice integration initiatives must be aware of the differences, and the implications of those differences, as they look to their colleagues for guidance and best practices. This study provides insight into some integration objectives, strategies, barriers, and current practices. It presents, along with those insights, case information so that the insights shared can be considered in their original context and then explored, by potential adopters, in terms of their own environments.

(1) Some examples of these efforts are projects funded by the US Department of Justice such as (1) Consequences of Inadequately Integrated Justice Information Systems, developed by the Center for Society, Law, and Justice, University of New Orleans, (2) And Justice for All: Designing Your Business Case for Integrating Justice Information, developed by the Center for Technology in Government, University at Albany, (3) Applying Security Practices to Justice Information Sharing developed by the Security Working Group of the Global Justice Information Sharing Initiative, (4) Integration in the Context of Justice Information Systems: A Common Understanding, developed by SEARCH, The National Consortium for Justice Information and Statistics, and (5) Increasing Information Sharing Effectiveness: A Capability Assessment Model for the Justice Enterprise, developed by the Center for Technology in Government, University at Albany.

(2) The results are based on a review of relevant research and of case studies and other materials related to information integration in the criminal justice enterprise. Additional information was gathered through interviews with participants from selected initiatives.