



# The Determinants of Information Resource Management: Substantiating a Construct

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## ABSTRACT

This study analyzed the primary function of state-level information resource management (IRM) entities. As technology has advanced, states have changed the way they use these entities that are often mandated by law to control state agencies' information technologies (IT). Specifically, the state information resource policy entities have evolved into coordinating rather than controlling roles. A contemporary IRM construct is poised to receive validity as consistency was found across the descriptors. With a substantiated construct, the elevated positioning of IRM decision-makers and the importance of chief information officers among cabinet-level staff may be reinforced.

## INTRODUCTION

What factors influence the adoption of centralized or coordinated data processing functions? At the state level, nearly every citizen is affected by computer services. Whether or not to centralize the processing of data has been a long-standing debate (King, 1983; George and King, 1991). Yet, in terms of public management, no single event has placed information resource management (IRM) at the center of concern and attention (Caudle, Marchand, Bretschneider, Fletcher and Thurmaier, 1989). From 1965 to the present, adoption of IRM can be detected by analyzing core parameters as they pertain to an established construct.

## Definitions

Prior researchers have done a wide synthesis in an attempt to define IRM. Lewis, Snyder and Rainer (1995) have created a management-based construct and their inclusive domain is as follows:

IRM is a comprehensive approach to planning, organizing, budgeting, directing, monitoring and controlling the people, funding, technologies and activities associated with acquiring, storing, processing and distributing data to meet a business need for the benefit of the entire enterprise. (p. 204)

The words in the first clause can be found in a book by Forest Woody Horton on IRM (1985), as well as other IRM descriptions. Perhaps an alignment of these concepts can be reinforced.

Entwined in modern IRM is the long-standing debate about whether state information technology (IT) functions should be centralized or decentralized. In the mid-1960s, improvised centralization, at least for some states, was appropriate. However, unforeseen to many, the enveloping assumptions about centralization were temporary. Starting in 1987, a shift in IRM was observed from outright control toward more of a coordinating role (National Association for State Information Systems, 1987, 1988, 1989; hereafter NASIS). Patterns may be discerned considering *when* IRM is adopted if core variables, obtained from the construct, are examined.

## Information Resource Management

What are centralized and coordinated IRM entities? From state to state, different modes of operation have emerged over a forty-year continuum. In the formulation stages of that era, some national organiza-

tions were formed to monitor early data processing practices and activities. The Council of State Governments (CSG) was among the first to assemble automation information about the states. Subsequently, NASIS, which in 1989 became the National Association of State Information Resource Executives (NASIRE), which in 2001 became the National Association of State Chief Information Officers (NASCIO), assembled and cataloged state data processing practices. NASCIO continues to monitor IRM activities while assisting the states with the resolution of common problems.

From the initial emphasis on data processing operations and services, more focus was placed on telecommunications and policy issues. All but six of the 50 states have either a Chief Information Officer (CIO) or an IRM Commission (NASIRE, 1994, 1996) and other researchers have explored those implications (Lee and Perry, 2002). Unless a researcher uses detailed case studies, the timing factors of IRM can be glossed over. For instance, NASIS observed an increase in the percentage of funding from direct appropriations (1987; 1988; 1989), and that organization perceived it resulted from more "... departmental computers and micros" (1987, p. 7). The size of the files became less important, but the factors that influence control of the files became more so (King, 1983).

An attempt to explain what actually happened could be of benefit (George and King, 1991), and that is a goal of this examination. Factors may have included executive control, budget cycles and staffing. Approaching the mid-1970s, governors got more involved with data processing organizations. Political decentralization, according to authors of that time, emphasized having coordinating officers work in proximity to the programs they regulated, allowing them to be in closer touch with the end users. This was also applicable for budgeting and staff involved with IT. Having discussed the prevalence of IT previously, it is appropriate to discuss how central data processing divisions and, more specifically, IRM evolve.

According to NASIRE, IRM policy originates from three sources: IRM commissions, chief information officers, and state-level IRM management organizations (1992). First, IRM commissions include formal boards, commissions, committees or authorities. Among other functions, these assemble to make policy and standardization decisions. Second, CIOs make policy. These are often cabinet-level administrators of information resources and services. Third are state-level IRM management organizations, departments or agencies that have state-level authority over information management. Additionally, IRM service organizations can be separate or a part of state-level IRM management organizations (NASIRE, 1992). In a more recent analysis of the states, 36 had centralized information resource management (IRM) entities, 24 had IRM commissions and some have both (CSG, 1996). Modern IT policy-making, often leading to standardization, and can overlap and be intermixed throughout a jurisdiction.

## FRAMEWORK FOR ANALYSIS OF IRM

The discussion so far has focused on the development of IRM. A temporal aspect of a model, such as *when* a coordination of technologies

would be needed, could show revealing construct dimensions. This is especially so in terms of important technological breakthroughs. Thus, to detect the convergence of organizational functions, a longitudinal parameter may be desirable in operationalizing a time-series type of analysis.

#### Rationale for the Variables

The IRM construct suggests a set of factors that could influence why centralization occurs. In contrast to qualitative descriptions, NASIS systematically surveyed the states, and a high degree of regularity can be found in its publications. What is now sought is a synthesis of the state findings, allowing for factors that NASIS or other researchers may not have tracked. The early 1990s was the time when, according to some, the centralization/decentralization debate was over (George and King, 1991). Thus, it is within this approximate span of time that the data was collected.

Following the construct, some determinants of centralization may be gleaned from the base strengths of a state. These could include a governor's institutional power, budgeting parameters or the number of state employees. Other candidates could include a state's population, spending or intergovernmental revenue. Yet the states still vary widely in a key respect: the year in which they established a state information policy entity (NASIRE, 1991). A deeper analysis among the 50 states might suggest what accounts for those differences.

#### Expected Results

Like in the IRM construct, the planning, organizing and directing may be attributable to a governor's institutional power. If these elements are lacking, an IRM entity may be initiated by the chief executive. The government budgeting variable may also have an influence on centralization. The personnel-related variable may also be influential. Further, as the end of the IRM definition implies, the changing business needs should benefit the IT needs of a jurisdiction such as that of a state. At this point, *collaboration* may be more applicable (Dawes and Prefontaine, 2003) and, in some instances, a simultaneous centralization and decentralization may function (Fountain, 2001).

#### CONCLUSION

This study has reviewed some core components of IRM. The organizational element upon which the IRM variables were derived are congruous with the prior literature and the construct of Lewis, Snyder and Rainer (1995). The forthcoming results of three multivariate statistical models may show that they are markedly alike. Regarding centralized IRM functions in state government, this investigation suggests some determinants. Due to the publication space restrictions

the results and interpretation needed to be withheld. However, the implications of IRM on other disciplines such as public administration, organizational theory or computer science are noteworthy and the results and interpretation may be of interest to a wide range of publications. Since the ramifications of IRM are so far reaching, the positioning of the highest level IRM staff should indeed be a cabinet-level function. In a practical sense, most CIOs know that the role they perform for an executive is critical.

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