Politics of Computing: A Mismatch

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ABSTRACT

This paper synthesizes the major considerations that relate to the use of computer technology or information systems in the public sector by taking into account the technological issues and the publicness of the subject matter and its associated scholarly literature. Particular weight will be given to the work that expresses a major dichotomy of information systems in the public sector versus information systems in the private sector.

Keywords: Politics of computing, public management information systems, management rationalism, technocratic elitism, organizational pluralism, and reinforced politics.

1. STATEMENT OF THE PROBLEM

Computer technology offers a major hope for increasing the productivity and effectiveness of government through the efficient use and management of information systems. However, it poses a dilemma for managers in the public sector. This dilemma can be found in the politics of computing and the use of private sector's information systems model in the public sector. What are the differences between the public sector information systems management and the private sector information systems management? How does the politics of computing affect the administrative use of computer in municipal governments? These are the issues which the paper will address.

2. DISCUSSION

The differences between the public versus private sector's information systems management and politics of computing affect the administrative use of computers in the public sector. Therefore, this section synthesizes the major considerations that relate to the use of computer technology or information systems in the public sector by taking into account the technological issues and the publicness of the subject matter and its associated scholarly literature. The term "publicness," as used throughout the paper, means public policy checks and balances induced by the society, elected officials, appointed executives, employees, and public managers.

Particular weight of the analysis is given to the literatures that express major dichotomy of information systems in the public sector versus information systems in the private sector. Emphasis is placed upon the work that can be used to provide answers to the questions in the previous section. The discussion is based on the following—differences between public and private sectors' information systems management and political effects of computing.

The risk taken by adopting private sector information systems paradigm for the public sector is that its development may not ultimately account for the publicness involved in the management of the public sector.
However, two principles should guide elected or career executives to avoid this risk. First, there should be a distinction between the private sector's information systems paradigm and the publicness of the public sector. Second, for public sector information systems issues, there must be sensitivity dealing with elected officials, appointed executives, public managers, employees, and the general public. Therefore, the design of public sector's information systems which does not take into account the public environment would be a failure.

**Differences Between Public and Private Sectors Information Systems Management**

What are the differences between the public sector's information systems management and the private sector's information systems management? Northrop et al [1] used organizational context of "post-reform" approach to show the distinction. They emphasized that public sector's computer management should be based on political administration. With this, performance improvement could be achieved by stressing responsiveness of employees and the public rather than responsiveness to abstract internal principles of private management. Another distinction is that the private sector's information management is based upon competition. Whereas that of the public sector is based upon service. Caudle [18] supports this view.

In addition to Caudle [18], Bretschneider [19] provides other distinctions. He believes that the management information systems in the public sector contend with greater levels of interdependence across organizational boundaries than those of the private sector. This is true because the authority of public organizations is derived in part from legal and constitutional arrangements. Embedded in those arrangements are traditional concerns for checks and balances evaluated with oversight or external control of personnel and financial activities. This means that information systems evaluation in the public sector would face additional review by higher levels within the executive branch of government, including legislative and probably advocacy groups.

Stevens and McGowan [14] compares with Northrop et al [1]. They said that the public sector's interdependency is induced by checks and balances. This leads to greater procedural processes to execute a specific administrative action. Therefore, information systems managers in the public sector are contending with more administrative red tape than the private information systems managers. Horn et al [8] agrees with Stevens and McGowan [14] but applied their discussion on local government. They pointed out that the criteria for evaluating telecommunications hardware and software are different from information systems management in the public sector and private sector’s information systems management. The evaluation of information systems in the private sector is based on economic criteria such as cost-benefit, net present valve, and payback analysis. Whereas evaluation is based on procedural equity in the public sector.

Schiemacher [6] provide another example of the differences between information systems management in the public and private sectors. His discussion is focused on automation of government's functional process. He believes that automation will displace government employees. Therefore, automation should be based on administrative procedures rather than functional automation as used in the private sector. Following Schiemacher, in context, Fite [9] illustrates another differentiation between private and public sectors' information systems development and management based on competition, budget constraints, and information systems planning. Fite concludes that information systems planning in the private sector is based on competition. The level of this competition determines the information systems budget. But in the public sector there is no competition, thus information systems planning is thought of as an aftermath of budgetary outcome.

Furthermore, Sacco and Ostrowski [13] reviewed the planning, design, and the use of personal computers in the government. The planning and design of personal computer systems in the government are concerned with extra-organizational linkages, while that of private business is concerned with internal coordination to enhance
competition. Likewise, personal computer software used in the private sector would be different from the public sector. For example, accounting software used in the private sector would not be used in the public sector. This is true since the public sector does not emphasize profitability.

Kraemer and King [17] provides further differentiation of the subject matter as it relates to planning. Information systems planning in the public sector is different because of the high levels of interdependency involved in it. With this, information systems planning becomes a vehicle for linking public organizations rather than the strategic focus as used in the private sector. Matthews [15] adds another point of information systems planning in both the private and public sectors. He pointed out that the private sector uses steering committees to legitimize information systems importance and the use of strategic information systems to support business vision which in turn provides organizational competitiveness. This strategic use of information systems, including steering committees are not emphasized in the public sector.

Going further, Bozeman and Bretschneider [4] provided a framework which differentiates the management of information systems between public and private organizations. The framework is called public management information systems (PMIS). There are three levels of analysis associated with the framework. They are society, internal and external organization, and individual factors. Whereas the private MIS framework is based on environmental characteristics and process variables.

The PMIS framework is unique because it emphasizes publicness. This publicness could be derived from executive orders, legislative actions or injunctions from the judicial branch. Using this Davis and Hale [20] developed a strategic planning process which can be used in the state government. This would enable state government information systems planners to consider the impacts of a proposed information systems project on other agencies of the state. Of course, Davis and Hale [20] are not alone in their approach for strategic information systems planning in state government. They are joined by Rubin [5] who stressed the strategic application of information systems in all public organization. Rubin's approach calls for the inclusion of strategic focus in systems planning before development.

**Political Effects of Computing**

How does the politics of computing affect the administrative use of computer? Danziger, Dutton, Kling, and Kraemer [10] believe that management rationalism, technocratic elitism, organizational pluralism, and reinforcement politics would affect the administrative use of computer. This makes sense because interest groups could influence the development and use of computer technology.

With managerial rationalism, the public organization would use data to support its rationality and to maximize the interest of the organization. This type of organization is controlled by top public managers who ensure that decisions are extensively guided by a comprehensive decision process and high quality information or data. The computer is viewed here as a valuable organizational resource which can be strategically applied by those in managerial roles [3]. Mayors and councils, department heads, and chief administrative officers making all critical decisions about the design, implementation, and use of information systems in the local government are characterized by managerial rationalism. Ottensmann [12] supports this view, because the use of personal computer packages would enhance the quality and quantity of information available to government personnel. This would increase employees’ capabilities for analytical decision making and problem solving in general.

In the technocratic -- elitist view, those who have good skills in the manipulation of information systems would constitute the technical elite. They would make all the decisions about information systems. Therefore, the application of information systems to solve public problems would primarily be based on the elite’s
preference. King [11] contrasts with this elitist view. He recommends that schools of public administration should include computing technology management or information systems in training public administration professionals.

In organizational pluralism, many actors and groups who have some stakes in decision making will be active in deciding what computer technology would be used. With this, no single group dominates the decision process. Sartore and Kraemer [2] agree with this approach. This approach provides an avenue for many people and groups in the local government to be involved in information systems decision making. In addition, Kraemer and King [17], support this view because of its pluralistic thrust. Meaning that top managers, appointed and elected officials including employee representatives would have inputs to information systems planning.

Schrems and Duggar [7] are other authors that compare and support a pluralism approach to information systems planning, development, and application. However, Schrems and Duggar's [7] discussion is based on the financial aspect of computing and the allocation of computing resources.

Reinforcement politics of information systems suggest that there is a dominant coalition of groups in any given local government. This approach is based on impacts rather than on process. Newcomer and Caudle [16] adopt this concept in their discussion about information systems evaluation in the public sector. Decisions regarding information systems could be controlled by rational-managerial, technocratic elite or pluralistic array of actors. Therefore, information systems policies would reinforce the power of other actors.

3. CONCLUSION

In conclusion, there are differences that exist between information systems application in the public and private sectors. Present day public managers are barely equipped with information management skills. This would affect the type of decisions they make relating to computer technology or information systems in general. A local or state governments political orientation would affect information systems resource allocation and planning.

4. REFERENCES


