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Abstract

This research study seeks to provide a more thorough understanding of the role of information systems (IS) leadership in both the public and private sector. Current studies focus mainly or exclusively on only one of these sectors. This study will use a grounded theory approach to identify similarities of and differences between IS leadership roles in each sector as they relate to mission, technology, and culture. The findings will contribute to a more insightful conceptualization and understanding of IS leadership.

Introduction

Organizational expenditures and dependence on information systems (IS) continues to expand at accelerated rates. The emergence of Internet technologies as a significant medium for connecting IS resources and managing inter and intra-enterprise activities has further fueled the dependence on IS for organizational success. IS has had a dramatic impact on the way businesses operates today compared to 30 or even 10 years ago. Hardware advances, cost reductions, improved usability, and the increased ubiquity of IS throughout all parts of the organization contribute to a continuous process of revolutionary change – with no end in sight (McLean and Smits, 1998).

Effecting organizational change through the employment of IS can be a complex process, and effective IS leadership is vital to this reengineering activity. In addition, IS leaders have seen their roles transformed as they achieve success in changing organizations (Radding, 1989). As business has become more dependent on advances in technology to remain competitive, the role of the IS leader has grown in importance and visibility (Vedder and Guynes, 2002; McLean, Smits, 1998). Similarly, government has become more dependent on IS in delivering public services to citizens, interacting with other areas and levels of government, and providing regulatory, defense, and judicial functions (Bernard, 2001).

While there are similarities in the revolutionary impact that IS has had on business and government, significant differences exist in the underlying motivations and activity drivers in each sector. For example, the profit motive of business is analogous to the service motive in government, each of which has different goals. The culture of business is different from that of government on several dimensions including how policy is developed/implemented and definitions for meaningful participation and success. Yet in spite of these differences, the role of IS in the public and private sector is similar… to enhance the effectiveness and extend the capability of the organization. Understanding how IS leadership roles are affected by these similarities and differences and whether there are "universal" roles applicable to both sectors are the primary focus areas of this study.

The Nature of IS Leadership Roles

Two related constructs have been developed over the years in the area of leadership (McLean and Smits, 1998). *Management* is the process of coping with complexity through organizing and staffing, planning and budgeting, and controlling and problem solving. *Leadership*, on the other hand, is the process of coping with change through setting direction, aligning people to a shared vision of the future, and empowering and motivating them to meet the challenges created by the shared vision. Two distinct schools of thought have developed as researchers have studied the phenomenon of organizational leadership. One group argues that there is no difference between leadership and management (Bradford and Cohen, 1984; Pavett and Lau, 1983; Mintzberg, 1973). While another set of researchers contend that the two constructs are separate (Schein, 1985; Zaleznik, 1977; Kotter 1990).

In the area of information systems, there is wide-ranging support for the belief that effective management and effective leadership require distinct sets of skills. For example, one study of corporate IS planning documents found that, contrary to the more traditional role, today's CIO is more involved in strategic planning and often serves as project leader in the process (Gottschalk, 2002). Similarly, in an in-depth interview, the CIO of a technology company reported having to fill both a strategic and tactical role (Planes and Castillo, 2002). The CIO described the tactical role as the need to keep the IT infrastructure going and to support the current business with that infrastructure. The strategic role was describe as the need to see what the company needs to be doing to grow the business, acquire new customers and provide better service. Another recent study of firms suggests that some IS executives posses strong technical expertise but lack an adequate understanding of the business (To and Lai, 2001).

We adopt the perspective that the IS leadership function is multidimensional and dynamic, as IS leaders are called upon to emphasize different dimensions of their roles as the situation in their organization as well as the external environment changes. One very useful model of IS leadership roles describes the executive's responsibility to serve as an enabler, a technologist, an innovator, and a strategist (McLean and Smits, 1998).

Examining Current Theory

Relating mainly to the private sector, the McLean/Smits model of leadership is based on longitudinal, in-depth interviews with 35 senior IS executives. The model posits that the primary *focus* of the IS manager will shift depending on the *business climate* faced by the organization. The organizational climate can range from one that is fairly static with little change to one that is extremely turbulent with constant, rapid change. The focus of the IS manager's attention can either be on information technology that underlies the delivery of IS services or on the relationship between the users and the managers in the host organization. Four roles for IS leaders are identified in the model (see Table 1).

Table 1. IS Leadership Roles (McLean and Smits 1998)

Technologist	Uses technical expertise to develop and maintain cost-effective information systems, advises business managers regarding matters relating to information technology, stays abreast of emerging technological developments, and projects their potential impact on the IS function and the business
Enabler	Works closely with the user community to help them maximize the business uses of the present information systems capabilities, networks, communicates with users to understand their present and future IT needs, and acts as their advocate within the organization.
Innovator	Strives for state-of-the-art IT processes by re-engineering existing systems, updating existing technology, re-tooling the IS staff, and creating an environment for experimentation and innovation.
Strategist	Serves as the boundary-spanner between the IS function and business strategists to ensure that the business is aware of the strategic opportunities made possible through the IT and that the IS organization is ready to provide support and leadership for new business initiatives.

There are two types of leadership in the model that encompass the four roles: 1) transformational – needed to produce innovation and effectiveness, and 2) transactional – needed to achieve stability and efficiency. The technologist and enabler roles are examples of transactional leadership, while the innovator and strategist roles demonstrate transformational leadership. The implication is that in static business climates, transactional leadership is more appropriate while transformational leadership is necessary in turbulent environments.

Relating to the public sector, the IS leadership model, known as "Clinger-Cohen Core Competencies", was published in 2000 by the Federal CIO Council's IT Workforce Committee. This model identifies areas that Federal agencies should be knowledgeable in to be effective in IS management, as well as to be compliant with the mandates of the Clinger Cohen Act of 1996. This model identifies the following twelve competency areas, each with a list of several specific learning objectives for IS leaders:

Policy and Organizational	Leadership/Managerial
Process/Change Management	nformation Resources Strategy & Planning
IT Performance Assessment	Project/Program Management
Acquisition	Capital Planning & Investment Assessment
IT Security	E-Government/E-Business/E Commerce
Technical	Enterprise Architecture

While the CIO Council was chartered to assess the hiring, training, classification, and professional development needs of the Federal Government with respect to IT resources management, it has not addressed underlying theory or proposed on how IS leadership roles should function in the Federal and/or general public sector.

It is important to point out that roles and competencies are two different concepts, yet in reviewing the way that these terms and concepts were used in the McLean and Smits model and the Clinger-Cohen model, enough similarity is seen in the author's intent (as evidenced in their descriptions and discussions) to support the comparative use of these models in conducting research.

Research Methodology

This study will use a grounded theory approach to conduct research identifies similarities and differences of IS leadership roles in each sector as they relate to mission, technology, and culture. Grounded theory research primarily involves the evaluation of existing theory and models and the development of extended and/or new theory. This will be accomplished through subjective analysis involving induction, deduction, and verification to identify and interpret data (Strauss and Corbin, 1994; Schwandt, 1997). Content analysis software will be used to help identify areas of similarity or difference in IS leadership roles as documented in the studies utilized in Research Area (1) as well as the McLean/Smits model and Clinger-Cohen model. More specifically, the 500 learning objectives in the Clinger-Cohen model will be grouped and labeled for comparison to the four IS Leadership Roles proposed by Mclean (1998). Similarities and differences will be identified and explained to provide a richer understanding of the phenomenon.

Findings and Conclusions

From this research, findings and conclusions will be developed to interpret the results in the context of current literature and theory. Use of the grounded theory approach will allow us to identify similarities of and differences between IS leadership roles in each sector in relation to mission, technology, and culture leading to a more insightful conceptualization and understanding of IS leadership.

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