Adoption & Implementation of IT in Developing Nations:
Experiences from Two Public Sector Enterprises in India

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EXECUTIVE SUMMARY

This case describes challenges in the adoption and implementation of IT in two public sector enterprises in the postal and distribution businesses respectively, in India. In spite of similarities in the scale of operations and the general cultural contexts, the IT adoption processes and outcomes of the two organizations were significantly different. While one failed to implement IT in its crucial processes, the other responded effectively to changes in external conditions by developing and using IT applications for critical functions. The case illustrates how differences in organizational factors such as top management commitment, unions, middle management participation, capabilities of IS professionals and specific aspects of organization culture resulted in such differences. The case is interesting and significant because it is representative of experiences of many government-aided organizations in India, which have undertaken IT modernization as a response to external changes and government mandates. The findings can also be generalized across similar organizations in other developing countries.

Keywords: end users; information technology adoption; IS evolution; IS/IT planning; MIS implementation; senior management support

ORGANIZATIONAL BACKGROUND

Introduction

The adoption of IT in large public sector organizations poses some interesting challenges and issues. These are related to specific characteristics of these organizations with regard to their entrenched processes, culture, the role of bureaucracy, performance measurement criteria and decision-making processes (see for example, Caudle et al., 1991). This case describes challenges in the adoption and implementation of IT in

two public sector enterprises in India. The enterprises were in the postal and distribution businesses respectively.

Public sector enterprises (PSEs), in the context of the Indian economy, are companies that are largely administered and supported by the government. They exist in different areas such as transportation, goods distribution, postal services, telecommunications, and other manufacturing and service sectors of the economy. There are different types of PSEs (Mathur et al., 1979). Some of them are statutory corporations established through legislative resolutions of the Parliament. The Parliament is the executive branch of the Government of India, similar to the House and the Senate in the United States. Many other PSEs are departmental agencies, functioning directly under a particular department of the government. Others are established as companies with limited liability under the Companies Act of India. A few PSEs, like those in the Railways sector, function exclusively under one ministry of the government.

The government plays an important role at the strategic level, in activities such as policy making and financial outlay. At the operational level, PSEs run directly by government departments are staffed through a cadre of bureaucrats and administrators. In PSEs that are established through legislative acts, professional managers and technical specialists manage the operations. These bureaucrats, administrators, professional managers and technical specialists are responsible for achieving annual objectives in terms of activities accomplished and budgetary goals. Policy implementation with respect to modernization and IT adoption is the responsibility of organizational employees, who have autonomy over operational details of the implementation process, within a broad framework specified by the government.

National Couriers Limited (NCL) was in the business of providing postal, courier and information transfer services to different parts of India. It functioned directly under a government department. The company also provided limited banking services such as money transfer, insurance and certificate of deposit services. It had about 90,000 employees working in offices in various states in the country. Eighty-five percent of the personnel of the company were unionized and were either unskilled or clerical level workers. The remaining were professionally trained administrators.

National Traders Limited (NTL) was a distributor of agricultural products, particularly food grains, to different parts of the country. It was created by a Parliament resolution. It provided services such as procurement of these products from producers, their storage and management in warehouses, and distribution to non-producing consumers through retail outlets. During the 1970s and 1980s, the organization had played a key role in encouraging farmers to increase their production, by providing them with an assured market and stable purchase prices. Subsequently, the major function of the company had been to collect part of the surplus agricultural produce, and suitably store and distribute it, so that it could be used during lean production seasons and in places where emergencies and natural calamities happened. The organization procured, distributed and transported about 22 million metric tons of produce, annually. Most of the purchasing centers were located in the northern part of the country. Consumers were located all across India and also in the islands off the southern part of the country. NTL had about 63,000 employees, 95% of whom were unionized.

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