



Chapter XV

DSS for Strategic Decision Making

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EXECUTIVE SUMMARY

This chapter describes and analyzes the experience of the Egyptian government in spreading the awareness of information technology and its use in managing socio-economic development through building multiple information handling and decision support systems in messy, turbulent and changing environments. The successes over the past 10 years in developing, implementing and sustaining state-of-the-art decision support systems for central governmental decision making holds many lessons for the implementation of sophisticated systems under conditions of extreme difficulty. The experience offers insight into a variety of problems for designers, implementers, users and researchers of information and decision support systems. The chapter focuses on two main themes; the use of information in development planning and the use of decision support systems theory and applications in public administration. These themes reflect the government attempts to optimize the use of information technology to boost socio-economic development which witnessed the initiation, development and implementation of a supply-push strategy to improve Egypt's managerial, technological and administrative development. The chapter demonstrates how the nature of decision making at the Cabinet and the information needs related to such a strategic level necessitated the establishment of an information vehicle to respond to the decision-making requirements. Finally, the chapter provides some case analysis showing the implementation and institutionalization of large information and decision support systems in Egypt, their use in unconventional settings and their implications on the decision-making process in public administration.

BACKGROUND

The importance of information technology has been greatly emphasized in most developing countries (Goodman, 1991; Lind, 1991) where the government has played a vital role in its diffusion (Moussa & Schwabe, 1992). These governments, through their policies, laws and regulations, still exert the largest influence throughout various organizations and entities (Nidumolu & Goodman, 1993). Recently, the extensive benefits of information collection, analysis and dissemination, supported by computer-based technologies have been sought to enable decision makers and development planners to accelerate their socio-economic development programs. Thus, many developing countries have been embarking on medium and large scale information technology and computerization projects. In practice, most of these projects have sought to introduce computer technologies to realize socio-economic development. However, frequently, it concentrated more on large scale capital expenditures rather than on human capital investment such as training and human resource development (UNESCO, 1989), and therefore, failed to achieve their goals resulting in a generally negative conventional wisdom which defined information technology as inappropriate to developing countries.

Consequently, developing countries, gaining from the experiences of the past, have been extensively investing in training, consultancy and the establishment of a strong and efficient technological infrastructure that could move them into a state of self sufficiency and help build an information infrastructure that could help boost their socio-economic development efforts. However, to realize concrete benefits from the implementation of information technology, there was an ultimate need to apply the appropriate technology that do fit the country's values, social conditions and cultural aspects as well as the identification of information technology needs, and its related policies and regulations that could provide the proper environment for its implementation.

Realizing the enormous impact of information technology and its important role in socio-economic development, the government of Egypt has been striving to implement a nation-wide strategy to support the realization of its targeted objectives. Therefore, it adopted since the mid-1980s a supply-push strategy to improve Egypt's managerial and technological infrastructure. The objective was to introduce and diffuse information technology into all ministries, governorates, and government organizations which necessitated the development of an infrastructure for informatics and decision support, a software service industry and a high-tech industrial base in the areas of electronics, computers and communications. Consequently, the government, late in 1985, established the Cabinet, Information and Decision Support Center (IDSC) to support the Cabinet and top policymakers in key socio-economic issues through the formulation of information and decision support projects reaching 600 in 1996.

SETTING THE STAGE

Decision support systems (DSS) imply the use of computers to assist managers in their decision processes in semi and ill-structured tasks, support rather than replace managerial judgment, and improve the effectiveness of decision making rather than its efficiency (Keen & Scott Morton, 1978). Decision support systems were mainly developed and applied in profit-oriented organizations which are managed through market

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