3 Information Systems and Organisations

3.1 Introduction

Information systems are used in the context of organisations. It has become very much of a truism to state that in modern Western economies the success of organisations is frequently very much dependent on the success of its information systems. In this chapter we discuss a number of models for organisations and how the concept of an information system and the development of such information systems fits within the framework of each model.

3.2 Organisation Theory

Researchers have been debating the issue of what constitutes an organisation for at least a hundred years. Much of this debate can be discussed in terms of a number of distinct perspectives on organisations. In this chapter we call each such perspective a model of organisations (Jirotka et al., 1992). Each model determines its own particular slant on the use and utility of information systems.

3.2.1 Organisations as Structures

The most pervasive model of organisations sees them as structures that are divided into parts or functional departments. Each department is characterised by a pattern of precisely defined jobs. Jobs are organised in a clear hierarchical fashion with designated lines of authority from superior to subordinate. This hierarchical structure is so well formalised that it can be captured in an 'organisational chart' (Fayol, 1949).

This classical account of organisations is related to the ideas underlying the idea of 'scientific management' popularised by Frederick Taylor in the US in the early years of this century (Taylor, 1911). Scientific management focuses on three principles:

1. Managers should be given total responsibility for the organisation of work; workers should concentrate on manual tasks. A 'thinking' department of managers should be set up to be responsible for task planning and design.
2. All tasks should be examined and if necessary redesigned to improve efficiency. By studying the approach adopted, the tools utilised and the fatigue generated for any task, an optimum procedure for the task can be generated.
3. Methods should be adopted for the selection, training and monitoring of labour to ensure that work is done efficiently.

The underlying assumption of this approach is that the actions of people can be rationalised and closely defined. This model is clearly associated with that type of organisation known as a bureaucracy (chapter 2).

3.2.2 Organisations as Networks

As a reaction to Taylorism, attention shifted within organisation theory from a focus on tasks to a focus on ‘human’ issues. The famous Hawthorne studies of the 1920s and 1930s were initially concerned with discovering the effects of fatigue, accidents and labour turnover on rest pauses and the physical conditions of work (Mayo, 1933). However, as they progressed the studies became broader in outlook and investigated other aspects of the work situation such as workers’ attitudes and their social environment and the effect of such factors on worker productivity.

The significance of the Hawthorne studies is their interest in informal organisations based on friendship networks and spontaneous, unplanned interactions between members of such networks. This informal organisation is seen as working in parallel with, and sometimes opposed to, the formal organisation (chapter 2).

3.2.3 Organisations as Environments

Many organisational theorists have insisted that the environment of an organisation is essential to understanding how an organisation is defined both in terms of its relationships with the outside world and in terms of its internal structure. The organisation itself is seen as an open system made up of a series of interdependent subsystems with problematic interfaces. This means that organisations need sensitive management in order to balance internal needs with external environmental changes. It is management’s responsibility to obtain a good fit between the task of the organisation, the environment in which the task will be performed and the style of management.

One variant of this approach is to try to identify various relationships between successful organisational forms and different environments. Burns and Stalker (1961), for instance, suggest that mechanistic or bureaucratic forms of organisation are appropriate in stable environments; organic, or less formalised organisations are more appropriate in uncertain environments. Hence, in public sector environments where change is relatively slow one would expect mechanistic forms to thrive; in private sector environments that are more volatile one would expect more organic forms to exist.