

Chapter 17

Emerging Standardization

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ABSTRACT

This paper discusses the dynamics associated with the implementation and deployment of an information infrastructure designed to standardize work practices. The analysis is based on a case study conducted in a pharmaceutical R&D organization. The infrastructure in use, comprising a computerized system and surrounding organizational procedures, seems to support work practices not always as originally planned. The paper discusses the role played by local characteristics, contingencies, and practices in shaping a standardization protocol implemented to standardize work practices. Building on actor-network theory, the paper concludes that the standardization of work practices is the result of the dynamic interplay between technology and its users, rather than the consequence of a planned and well-defined design project.

INTRODUCTION

Information and communication technologies (ICTs) have become one of the most common solutions implemented to standardize work procedures and information flows in private and public organizations. Many authors have discussed how to develop, choose, and implement these technologies in the most effective way. In this context, research on information system development methodologies have proposed and discussed procedures for making the process of developing information systems more efficient and effective. Similarly, managerial studies have focused on

researching optimal solutions for analyzing and choosing ICTs to leverage organizations' performances. However, less attention has been given historically to the study of how ICTs enforce and shape work practice standardization. Nevertheless, scholars have recently shown increasing interest in the study of the definition, development and evolution of technological standards and in the role standards play in the deployment of ICTs, designed to define, support and improve organizational practices. Building on actor-network theory, we intend to better explain the complexity of the process which shapes the intertwined effects ICT has on work practice standardization.

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This paper discusses how an information technology, designed to standardize the process and quality of data collection and analysis in a pharmaceutical company, evolves, changes, and is shaped within the practices of the organization using it so that, rather than standardizing these practices, it changes with them. The paper initially summarizes the debate on the nature and evolution of standards and standardizing technologies and their effects on work flow standardization. It follows a case study conducted at a pharmaceutical company, here referred to as Alpha Company (the names of the organization, its departments, products and applications have all been changed), where an ICT system has been implemented to standardize the work practices involved in collecting data during the drug registration process.

THEORETICAL BACKGROUND

The study of work practice standardization and other means of homogenizing the variety of work behaviours lies at the centre of a vast and multi-disciplinary literature. Historically, the importance of standards and classification protocols as ways of making work procedures and practices uniform has been discussed from different perspectives. Bureaucracies have been described as organizations which rely on rules, norms and routines to reiterate behaviours when similar circumstances occur. Bureaucracies rely on standardized answers, classified and ordered to provide homogeneous paths of responses to similar events whenever they occur (Mintzberg, 1983), to reduce transaction costs and the complexity of an organization's tasks (Ciborra, 1993; Moe, 1984).

The role of norms, rules and resources in a social setting, meanwhile, can be thought of as the set of standards (structure) that affects the process that shapes social order, and therefore organizational practices. Giddens (1984), for example, identifies social structures as being

composed of rules and resources that facilitate and/or constrain interaction in social settings. Rules and resources provide the contextual constraints individuals draw upon when acting and interacting. These rules and resources are the categories through which social orders are constructed and reconstructed recursively. An organization's action is therefore the result of structural processes that are deeply affected by the norms and rules that constrain the organization's action. Similarly, Avgerou (2000) discusses institutional theory, identifying the nature of institutions as taken-for-granted standardized sequences of activities, which establish and maintain the *modus operandi* of the organization. This path of action can create powerful myths (Avgerou, 2002), which act as the background upon which changes in organizational activities are constrained but also enabled.

These different perspectives show that, at a macro level, the key characteristics of standards and norms are their being the product of social institutions which produce but also reinforce them over time (Douglas, 1986).

Moreover, norms, rules and standards permeate our daily lives as citizens, workers and members of social systems. Our way of coordinating activities, finding places we are looking for, understanding context and other tasks, are mediated by systems of classification which are built on specific norms, rules and standards. These systems of classification are often considered to be in the background of our action, as if they were invisible (Bowker & Star, 1999). However, they are not in the background of the occurring event. They often define the event itself. Think, for example, of the system of classification that defines the admission requirements to a university college. In this case, the system of classification is an important factor in selecting the students who will be accepted to the college and those who will not. The population of the college is hence also defined by the specific system of classification used to filter and rank the submitted applications.

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