

# Chapter 7.10

## Studying Human Resource Information Systems Implementation using Adaptive Structuration Theory: The Case of an HRIS Implementation at Dow Chemical Company

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### **ABSTRACT**

Research on Human Resource Information Systems (HRIS) implementation lacks theoretical depth and richness. For that reason this paper applies a theory to HRIS implementation developed by Gerardine DeSanctis and Marshal Scott Poole originally for studying information systems implementation, namely Adaptive Structuration Theory (AST). AST is based on Structuration Theory, a theory from sociology, and assumes that information systems and organizations are fundamentally interrelated. They influence each other mutually. In this chapter concepts from AST are applied to a HRIS implementation at Dow Chemicals. The case shows how

a HRIS' philosophy through appropriation by end-users is being realized in HRIS outcomes.

### **INTRODUCTION**

Human Resource Information Systems (HRIS) research lacks theoretical depth and richness. For that reason this chapter applies a theory to HRIS implementation developed by DeSanctis & Poole (1994), originally for studying information systems implementation, namely Adaptive Structuration Theory (AST). AST assumes that information systems and organizations are interrelated. In this paper concepts from AST are applied to study the HRIS implementation at Dow Chemicals. In this way the case of Dow shows how an HRIS' philoso-

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phy, in AST terms called spirit, is brought to life through appropriation by end-users and is shown in expected and unexpected HRIS outcomes.

In this first section, HRIS research up to date is summarized. Subsequently, Adaptive Structuration Theory will be described and some interesting results provided with the help of this theory presented. In section three the research methods applied are described, and after that in section four the HRIS implementation at Dow Chemicals will be presented.

### **Human Resource Information Systems Research Up to Date**

In this paper we define HRISs as all IT-based information systems and applications, either stand-alone or networked, for human resource management purposes, be it for facilitating HR practices, policies or strategies. In earlier studies HRISs have been excluded from the e-HRM area since some authors were of the opinion that there was a fundamental difference between HRIS and e-HR in that. Basically, HRISs were directed towards the HR department itself. Users of these systems were mainly HR staff as these types of systems aimed to improve the processes within the HR department itself (Ruël, Bondarouk & Looise, 2004).

In this paper however, we consider the term HRIS to encapsulate the whole area of IT, internet technology and HRM. The commonly used terms nowadays like e-HRM, web-based HRM, and IT based HRM are considered as developments within the area of HRISs. Although we agree that HRISs in the early days concerned mainly IT-based information systems for the HR department, we do not agree that a line can be drawn between IT-based information systems for HR and internet-based HR applications, they are basically similar: IT technologies for HR activities, whether performed within the HR department or outside the HR department, for example by line managers and employees.

HRISs in their current appearance emerged from a number of developments in society and business. Following Lengnick-Hall & Moritz (2003) the first building block for HRIS' was the worldwide distribution of PC's that facilitated managers and employees with the hardware to perform HR tasks electronically. However, with the availability of PCs computer literacy had to increase in order to enable managers and employees to use the technology. The Internet opened the way to connect PC's and to communicate in real-time. In this way many physical hurdles that before formed obstacles for efficient interaction and smooth business processes were bypassed. On top of that enterprise resource planning (ERP) systems created the opportunity to link all business processes. Databases that before were isolated could be integrated and "into a seamless whole for real-time transaction processing and decision making" [3; p. 367]. The final stage arrived when HR professionals and information technology specialists joined forces and developed electronic information systems "that moved HR information and decision making from file drawers to computers" [3; p. 367]. HR processes were reengineered to eliminate steps and to speed up cycle times.

Broadly speaking, HRISs appear in three types: operational HRIS's, relational HRISs, and transformational HRISs. This division is based upon Ruël, Bondarouk and Looise (2004). The first type, operational HRISs, concern systems that are used for basic HR activities in the administrative area, such as payroll and personnel data administration (employee's personal data, job description, CV, holiday leave etc.). The second type, relational HRISs concerns more advanced HRM activities, those that involve interaction between a professional source, a HRIS application and employees and/or management. Examples of relational HRISs are recruitment and selection systems, training and development systems and performance management systems. The system contains the professional instruments, such as a professional questionnaire assessing an employee's develop-

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