

Exploring the Impact of Technology Adoption on E-prescribing Roles and Routines

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Abstract— E-prescribing is touted as the entrée to more robust healthcare information system adoption in outpatient medical offices. Yet adoption has been slow with less than two percent of 2007 prescriptions done electronically in the United States. The discovery of widespread use of surrogate prescribers and evidence of unintended artifact usage suggests that the intended design has overlooked existing manual prescribing practices (e.g., roles and routines). If these changes can be traced to documented existing practices reported in the literature, these insights may allow designers to anticipate the impact of their designs as new technologies are introduced. Changes induced by e-prescribing systems are identified using a roles-artifact-routine analytical framework applied to the prescribing activities in physician offices and pharmacies. The model of the prescribing process, both manual and electronic, is synthesized from the broader medication management literature that extends beyond those studies focused on e-prescribing alone. Several artifact-induced changes to roles and routines surfaced by this framework suggest that the adoption challenges of e-prescribing technology go beyond those previously identified (e.g., financial barriers).

Keywords— Healthcare systems; electronic prescribing; process management; organizational roles; routines; workflow

BIOGRAPHY

Include author bio(s) of 150 words or less.

Nelson King is an associate professor with the Industrial and Systems Engineering Department of Khalifa University. His research interests

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Bijan Azad is associate professor at the Olayan School of Business, American University of Beirut and director of *Samih Darwazeh Center for Innovation Management and Entrepreneurship*. His research interests are in how actors enact innovative technologies and procedures in organizations within the public sector, hospitals and private sector. He earned his Ph.D. and Masters degrees from Massachusetts Institute of Technology, Cambridge, Massachusetts, U.S.A. Bijan Azad has over 20 years of experience in the systems integration industry before re-joining academe. His research has been published in *Journal of Strategic Information Systems*, *European Journal of Information Systems*, *Government Information Quarterly*, *Information Systems Journal*, *Journal of Global Information Management*, and *International Journal of Accounting Information Systems*, *Academy of Management Best Paper Proceedings*, *America's Conference on Information Systems Proceedings* as well as several practitioner publications. He was the Organizational Communication and Information Systems Division's recipient of the *Best Conference Paper Award* at the Academy of Management 2008 annual meeting.