



Chapter XVII

Stories and Histories: Case Study Research (and Beyond) in Information Systems Failures

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ABSTRACT

Information systems development failures are prevalent in many domains and countries. The aim of this chapter is to explore some of the issues related to the study of such phenomena. Failure situations are not set-up in advance as the subject of studies. Analysing causes and relationships retrospectively depends on the ability to obtain rich and subjective contextual information that can be utilised for shedding a light on the circumstances that precipitate failures. This chapter makes the case for the use of case history and ante-narrative methods for understanding such rich and complex scenarios.

INTRODUCTION

Researchers with a keen interest in information systems' failures are faced with a double challenge. Not only is it difficult to obtain intimate information about the circumstances surrounding such failures, but there is also a dearth of information about the type of methods and approaches that can be utilised in this context to support such information collection and dissemination. The purpose of this chapter is to highlight some of the available approaches and to clarify and enhance the methodological underpinning that is available to researchers interested in investigating and documenting failure phenomena in context-rich and dynamic environments. The focus of the discussion is on approaches to information systems failures that value the situational meanings and knowledge of participants and on a naturalistic research perspective, while at the same time advocating a mixture of quantitative and qualitative evidence and analysis.

The chapter begins by introducing forensic software engineering and the need to understand failures through the consolidation of a diverse range of subjective accounts offered by participants. Knowledge relating to failure is fragmented, distributed and hidden within the context, requiring a naturalistic enquiry process. Moreover, untangling causes is inherently pervasive due to emergent properties and the inability to delineate causes and effects. The solution in the form of case-based methods provides an approach that can capture subjective knowledge and situational meaning but requires a new perspective offered through detailed and chronological case histories of failures. The chapter concludes by proposing the supplementing of case histories with antenarrative inquiry, which extracts fragments of stories that emphasise the multiplicity of views and perceptions and their critical interactions during the lead-up to disaster. This supports the capturing of shared knowledge pertaining to failures, thereby enabling a better understanding of conflicts and issues as highlighted by stakeholders.

SETTING THE SCENE

The popular computing literature is awash with stories of IS development failures and their adverse impacts on individuals, organisations, and societal infrastructure. Indeed, contemporary software development practice is regularly characterised by runaway projects, late delivery, exceeded budgets, reduced functionality, and questionable quality, which often translate into cancellations, reduced scope, and significant rework cycles (Dalcher, 1994). Failures, in particular, tell a potentially grim tale. In 1995, 31.1% of U.S. software projects were cancelled, while 52.7% were completed late and over budget (cost 189% of their original budget) and lacked essential functionality. Only 16.2% of projects were completed on time and within budget; only 9% in larger companies, where completed projects had an average of 42% of desired functionality (Standish, 1995). The 1996 cancellation figure rose to 40% (Standish, 1997).

The cost of failed U.S. projects in 1995 was \$81 billion; cost overruns added an additional \$59 billion (\$250 billion was spent on 175,000 U.S. software projects; however, \$140 billion out of this was spent on cancelled or over-budget activities; Standish, 1995). In fact, Jones (1994) contended that the average U.S. cancelled project was a year late, having consumed 200% of its expected budget at the point of cancellation. In 1996, failed

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