

**ANGLO-AMERICAN RISKY TIME RECKONING:
THE QUEST FOR REVENUE STREAMS IN
BIO-TECHNOLOGY NETWORKS AND ITS IMPACT ON INNOVATION**

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Abstract

The biomedical innovation process has become increasingly complex and problematic. Despite scientific and technological advancements, most notably, the success of the Genome project, development time and costs are increasing across most therapeutic areas and the number of Food & Drug Agency (FDA) approvals is decreasing (Congressional Budget Office, 2006). Considerable government and industry effort in the UK and US is being directed towards these problems and in some areas e.g. anti-infective biological drugs, times have been cut quite dramatically, largely as a result of the direct involvement of the FDA (Booth and Zimmel, 2004, Hopkins et. al, 2007). Nevertheless recent research conducted in the UK and US has highlighted significant policy issues and industry practices which appear to militate against improvements being made in reducing time and development costs (Pisano, 2006, Robertson, 2007, Swan et al, 2007). Researchers generally agree that the biotechnology revolution has not materialized and delivered on its promise (Hopkins et. al. 2007). In this paper, we develop a temporal analysis of the biomedical innovation process which, we argue, may provide some explanatory power for a number of the problems faced by the sector.

We contend that understanding the problems currently being experienced in the UK and US requires extension to the perspectives on time associated with the structuration orientation in the organization sciences (c.f. Barley, 1983, 1988, 2004, Orlikowski & Yates, 2002). Our aim is to construct theoretically informed 'analytically structured narratives' that incorporate the tension between action and structure (Clark 2000: 113) The approach we use espouses an analytic repertoire of

concepts grounded in temporality that broadens the structuration perspective to include strategic time reckoning (Clark, 1980), entrainment (Ancona, & Chung, 1996) and organizational time frames. By extending the temporal structuring perspective of Orlikowski & Yates (2002) we demonstrate the way in which the impact of different stakeholders' temporal orientations to the past, present and future in combination with differing attitudes to risk and uncertainty, shape the practices of the various stakeholders involved in biomedical innovation. We draw upon a longitudinal empirical study of 11 biomedical development projects conducted in the UK and US¹ and numerous other secondary studies to demonstrate the way in which the time reckoning systems of the FDA, biotech's, clinicians and venture capitalists are in contention and lack temporal alignment. This we suggest leads to problems of co-ordination and hasty (sub-optimal?) decision making, which does not help to improve success rates or development time and costs.

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