Chapter 81
Governance in Technology Development

Aygen Kurt
Middlesex University, UK & London School of Economics, UK

Penny Duquenoy
Middlesex University, UK

ABSTRACT

With an increasing focus on the inclusion of considering the ethical and social impact of technology developments resulting from research in the European Union, and elsewhere, comes a need for a more effective process in technology development. Current ethics governance processes do not go far enough in enabling these considerations to be embedded in European Union research projects in a way that engages participants in technology development projects. Such a lack of engagement not only creates a distance between the technology developers and ethics (and ethics experts) but also undermines the legitimacy of decisions on ethical issues and outcomes, which in turn has an impact on the resulting innovation and its role in benefitting individuals and society. This chapter discusses these issues in the context of empirical work, founded on a theoretical base, undertaken as part of the EGAIS (Ethical Governance of Emerging Technologies) EU co-funded FP7 project.

INTRODUCTION

Governance of technology development is a central focus of the European Commission's (EC) funding strategies and the main economic development programme of the European Union. According to the EC's 2002 Science and Society Action Plan, "if citizens and civil society are to become partners in the debate on science, technology and innovation in general and on the creation of the European Research Area in particular it is not enough to simply keep them informed" (European Commission 2002, p.17). This statement convincingly reflects that governance of technology is to be considered as a public policy concept at national, European or global levels[1] and particularly includes the "public" in technology development processes through to the market (diffusion) stage of technological innovations.

Different approaches to governance to solve specific systemic and coordination problems in areas such as economics, health and technical

DOI: 10.4018/978-1-4666-6433-3.ch081

developments have received increasing attention over the last decade. Governance, according to Edler (2010) is "an ill-defined, amorphous concept (analytically and empirically)" but one which involves "some form of cooperation, persuasion and reflection."In recent years governance has been understood to refer to "a basically non-hierarchical mode of governing, where non-state, private corporate actors (formal organizations) participate in the formulation and implementation of public policy" (Mayntz, 2003, p.1) and further "By definition, governance refers to the solution of collective problems and the production of public welfare." (Ibid, p.7)

However, when it comes to understanding the contextual and horizontal differences or applications which certain governance structures could entail, a more focussed definition is needed. We take governance – especially when related to technology development and technology policies – as a complex structure including a number of actors not necessarily with equal power structures but who can only act in interdependence and interaction with each other. As Jessop puts it, governance is:

The reflexive self-organisation of independent actors involved in complex relations of reciprocal interdependence, with such self-organisation being based on continuing dialogue and resource-sharing to develop mutually beneficial joint projects and to manage the contradictions and dilemmas inevitably involved in such situations (Jessop, 2003, p.1).

Hence the reciprocal relationship among actors results from an on-going interaction and learning among actors in order to reach mutually acceptable and useful end-results. A significant question that arises in this context is in the realm of democratic processes and how democratically motivated decision-making processes should drive governance of technology development especially in relation to emerging technologies[2]. In order to understand such processes and establish well-functioning governance structures for technology development, we need to bring "ethics" into consideration, realise the uses and utilise the applications of ethical governance mechanisms before, during and after a technology is developed.

The objective of this chapter is to present a snapshot of governance tools in technology development projects funded by the European Commission and demonstrate their link to some governance models. The snapshot is taken from a number of projects analysed as part of the empirical work of the Ethical Governance of Emerging Technologies (EGAIS) project[3], based on a theoretical framework developed in the first stage of the project[4], and provides an overview of such approaches and their meanings. The following section sets the context for the empirical study, reports on the key findings and discusses their implications.

ETHICS, GOVERNANCE AND REFLEXIVITY IN EU-FUNDED TECHNOLOGY DEVELOPMENT PROJECTS

Integrating ethical considerations within EU co-funded technology development projects necessitates bridging a disciplinary gap (humanities and computer science), as well as introducing sets of values to the project that may challenge original technical or political objectives[5]. Various ethics governance mechanisms have been, and are still, deployed such as ethics check lists, external and internal ethics advisory groups. The consideration of ethical aspects of a technology project (whether EU co-funded or otherwise) is generally seen as the responsibility of the 'ethics expert', and the application of the recommendations of the 'ethics expert' is set in the domain of the technology development team, both having particular domain language and motivations. This arrangement gives rise to a divide between the technical community and the ethical community in integrating ethi-