Chapter 7.6
Trust and Clinical Information Systems

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ABSTRACT

Our study of the use of clinical decision support systems by general practitioners in New Zealand reveals the pervasive nature of the issue of trust. "Trust" was a term that spontaneously arose in interviews with end users, technical support personnel, and system suppliers. Technical definitions of reliability are discussed in our chapter, but the very human dimension of trust seems at least as significant, and we examine what is bound up in this concept. The various parties adopted different means of handling the trust question, and we explain these. Some paradoxical aspects emerge in the context of modern information systems, both with the question of trust and with the provision of technical or organisational solutions in response to the existence of trust. We conclude by considering what lessons may be drawn, both in terms of the nature of trust and what this might mean in the context of information systems.

INTRODUCTION

The use of information technology (IT) in healthcare highlights some issues in the social domain surrounding such technology that might otherwise go unremarked. This chapter discusses the nature of trust and the meanings that this concept might have in the context of computer systems. "Trust" in relation to IT is usually taken to convey an aspect of dependability or security (McDermid, 1991), but it might be that "trust" is both a richer and a

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more useful concept in relation to some computer systems than in the sense of the narrower, more technical definitions such as "dependability" or "reliability" that software and hardware engineering tend to employ. Trust as a human phenomenon in relation to IT is starting to be discussed, and the concept's use (Raab, 1998) and misuse (de Laat, 2004) have been noted. For the field of computer ethics the term has the advantage that an implicit ethical dimension is captured. We found, when investigating clinical decision support systems (CDSS) in New Zealand, that the term was used unprompted by several different stakeholders when discussing their relationships with other stakeholders and with the technology itself. It seems that trust is an ever-present factor in joint human activity, however technically based that enterprise may initially appear to be.

After a brief discussion of the nature of trust we describe the health sector environment in New Zealand, define clinical decision support systems, introduce the case study, go on to a discussion of our findings, and finally present some conclusions about the meaning of trust in the context of IT.

THE NATURE OF TRUST

If, as Bottery (2000) says, "Trust is the cement of human relationships" (p. 71), then we may expect it to feature in the worlds of business and technology as much as in individual relationships. Fukuyama (1996) advances an extensive argument relating the flourishing of business and macroeconomic success to the societal prevalence of stable, predictable, trustworthy dealings possible between individual and organisational actors. Echoing this, Bottery remarks how the absence of trust tends to result in, amongst other things: "detailed accountability, exhaustive legal agreements, and extensive litigation … it can mean vastly increased transaction costs, which can have important implications for the efficient use of time and money" (p. 72). O'Neill (2002) takes up these themes of accountability and litigation to develop a broadly Kantian perspective on trust. She argues that, whilst suspicion and mistrust *appear* to be increasing in the developed world, the world of the "audit society" (Power, 1997), nonetheless "We constantly place trust in others, in members of professions and in institutions" (O'Neill, 2002, p. 11). Often we have no ultimate guarantee, and at some point, we have to trust in a chain of information and the judgement that it informs: "Guarantees are useless unless they lead to a trusted source, and a regress of guarantees is no better for being longer unless it ends in a trusted source" (p. 6). O'Neill goes on to note the paradoxical circumstance that the proliferation of sources in the "information society" not only does not make trust redundant; it makes it if anything more problematical. Who should we trust in this world of instantaneous and burgeoning communication? How can we make informed judgements in a world of "information overload" and, sometimes, deliberate misinformation?

O'Neill (2002) offers that trust is needed "because we have to be able to rely on others acting as they say that they will, and because we need others to accept that we will act as we say we will" (p. 4). Borrowing the concept from monetary instruments such as banknotes or coins, some writers have called this ability to accept something (or someone) at face value as "fiduciary," and this fiduciary aspect is no less relevant to the duties of the IT professional, as Gotterbarn (1996) has tellingly argued. Noting that as professions gain in maturity so the nature of their ethical codes change, he writes of maturer professions: "The function of the code is not to protect the profession, but to establish the standards of trust required in a fiduciary relationship ... The fiduciary model is an adequate model of professionalism for computer practitioners" (p. 11). Nearly all definitions of trust share the condition that one party (the truster) must willingly place himself or herself in a position of vulnerability to or risk from another party (the trustee) (Gallivan, 2001; Gotterbarn, 1996).