Chapter 4
Technology Traps: Who Is Responsible?

Peter B. Crabb
The Pennsylvania State University at Hazleton, USA

Steven E. Stern
University of Pittsburgh at Johnstown, USA

ABSTRACT

Technologies can have harmful effects on users' psychological health, on society, and on the environment. "Technology traps" arise when users and societies become stuck with technologies and the harmful consequences produced by these technologies. In this paper, the authors describe five technology traps: incompetence, self-miscontrol, misbehavior, techno-centrism, and environmental degradation. The authors then examine the share of ethical responsibility for these traps among end-users, businesses, and government.

TECHNOLOGY TRAPS: WHO IS RESPONSIBLE?

Technologies are often ambivalent to the well-being of users and society. Despite the many benefits modern technologies have conferred on the human species, there are also costs in the form of undesirable or unexpected consequences (Ellul, 1954, 1964; Perrow, 1984; Sarason, 1984; Tenner, 1996). When societies adopt technologies that produce undesirable consequences that are difficult to separate from the benefits, situations arise that resemble what Platt (1973) called social traps: "traps formally like a fish trap, where men or organizations or whole societies get themselves started in some direction or some set of relationships that later prove to be unpleasant or lethal and that they see no easy way to back out of or avoid" (p. 641). In this article, we examine a subspecies of social traps we call technology traps, characterized by the use of technologies that provide immediate benefits but that pose unavoidable longer-term costs to the well-being of individual users, society, and the planet. We
describe five technology traps that plague modern society and then examine the issue of attributing responsibility for these traps.

To illustrate what we mean by technology traps, we consider cellular or mobile telephones. The perceived benefits of cell phones (mobility, immediate communication access) are accompanied by numerous costs. Cell phones cause disruptive ringing and intrusive conversations in public and in the workplace (Monk et al., 2004); they can increase the risk of having a motor vehicle accident by more than 500% (Violanti, 1998); among teenagers, they can promote addictive behavior (Baldacci, 2006), codependency (Gross, 1999), disruptions in schools (Chaker, 2007), and assault, robbery, and homicide (Leo, 2006); they have been used for taking privacy-invasive “upskirting” and “downblousing” photographs (Gostomski, 2005); they have been used to detonate roadside bombs in war zones (Cloud, 2005); they have led to the demise of the public pay telephone, thus reducing telephone access for people who do not use cell phones (Maurstad, 2003); and cell phone technology mars landscapes with unattractive transmitter towers (Brunsman, 2006) that kill millions of birds annually (Woodall, 2002). As long as cell phones are considered “standard equipment,” individuals and society will be stuck with these undesirable side-effects. That is the essential character of technology traps.

FIVE TECHNOLOGY TRAPS

The Incompetence Trap

When technologies do what people could do themselves, there is little or no opportunity or incentive for people to learn and maintain the skills that the technologies embody. Thus, such technologies can “deskill” users, rob them of manual and cognitive skills, erode self-efficacy (i.e., beliefs that one can successfully perform a task), and increase dependence on tools and technical experts (Kipnis, 1991).

Everyday life is filled with technologies that take over skills that people could master themselves. For example, alarm clocks automate the task of awakening at a target time, with the result that users feel incompetent at self-awakening and are completely dependent on the devices (Crabb, 2003). Use of automatic cameras similarly robs people of opportunities to develop photographic skills, and routine use of ready-to-eat foods prevents people from learning how to cook (Stern & Kipnis, 1993).

The transfer of skills and self-efficacy from person to machine has a variety of costs. The routine use of electronic calculators to solve math problems results in more negative moods, decreased motivation, and more negative attitudes toward math than doing math problems with paper and pencil (Stern, Alderfer, & Cienkowski, 1998). In industrial settings, automation often creates conditions that are less satisfying and more tedious than skilled manual work (Blauner, 1964; Chadwick-Jones, 1969; Persson et al., 2003).

Technical knowledge and skills themselves become trivialized by automated technologies that only require that users know the proper sequence of pushing buttons (Fromm, 1955; Shaffer, 1981; Skinner, 1986). People do not understand how everyday technologies work (Bandura, 1995), and all that is required is that they know how to use the device and when it is time to throw it away.

The Self-Miscontrol Trap

Modern automated technologies make it unnecessary and often undesirable for human users to exercise control over their own behavior. One consequence of this is that users may experience a failure of self-control when their behavior is controlled by technological devices rather than by social norms, considerations of health, or even laws (Carver & Scheier, 1981).
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