Chapter XI

The Cultural Construction of Information Technology

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In this paper, I propose a research framework called the “cultural construction of information technology.” It extends the more widely known concept of the social construction of technology (SCOT) and defines the concept of a cultural infrastructure for the application of information technology in other contexts than the one in which it is developed.

Whether or not today’s economy is characterized best by the term globalization, the interweaving of economic processes and the growing number of internationally operating organizations in the world are matters of fact. The shaping of such a “global economy” is facilitated, among others, by information technology (IT) as it enables the crossing of both organizational as well as national borders. However, as in the case of so-called cultural universals, the universal applicability of IT is a myth also. It is therefore my contention that notwithstanding the blurring of borders, acknowledging the specificity of national cultures remains important, maybe even more than before, and should not be overlooked in the international application of IT. This is what we call the globalization paradox of information technology. The paradox consists of both a global, border-crossing dimension of IT, as well as a local/national context dimension of IT thrust. Resolving this paradox is an important issue regarding the global application of IT. Thus, the application of IT across national boundaries stresses the growing awareness of cultural diversity, and ultimately, the need for the development of IT taking into account heterogeneous “target environments.”

Apart from the fact that the target environment, or “host culture,” should not be conceived of as a cultural homogeneous environment, technology itself should not be conceived of as a culturally neutral phenomenon (Pacey, 1993). Rather, information technology is value-loaded; it reflects the values of the culture in which it is developed (Kumar and Bjorn-Anderson, 1990, in Jarvenpaa and Tractinsky, 1995). Consequently, information systems can be conceived of as “carrying and communicating a worldview packed with assumptions, marked by the interests and ideologies that conceive them” (Depres, 1996, p. 17).

The application of IT in another context than the one in which it emerged, that is, the country in which it is designed and developed, often causes problematic implementation and
ultimately a low appropriation of IT. The reason for this is found in the fact that the values of its home country disagree with the norms and values of the target environment. Because culture significantly impacts the different effects of the introduction of the same information technology within different cultural contexts, we will address this cultural dimension of IT by introducing a research framework called “the cultural construction of information technology” (CCOIT).

The cultural construction of IT extends the more widely known concept of the social construction of technology (SCOT) (Mackenzie and Wajcman, 1985). In the SCOT approach, “technology is treated as part of a system of different but interlocking elements—physical artifacts, institutions, and their environments” (Sahay et al., 1994, p. 249). The social constructionist approach to technology is drawn from the sociology of knowledge, i.e., “[t]he study of how styles of expression and the character of ideas or systems of thought are related to different social contexts” (Bullock et al., 1988, p. 457). It expresses the resistance to the existence of cultural universals and verges on the theories of cultural relativism. Thus, the social construction of knowledge argues that “knowledge is a social construction rather than a (more or less flawed) mirror held up to nature” (Bijker & Law, 1992, p. 13). In the same line of reasoning, the SCOT approach holds that “technologies and technological practices are built in a process of social construction and negotiation, a process often seen as driven by the social interests of participants” (Bijker and Law, 1992, p. 13).

The CCOIT, then, not only views technology as an outcome of the working of society, but holds that viewing technology as part and parcel of a society entails investigating information technology in interaction with “culture.” Questions arising in the field of CCOIT concern, for one, the way that culture influences technology. Apart from this Weberian tradition, which questions how values constrain or enable technological practices and development, we extend the notion of SCOT in that it does not dismiss the deterministic properties of (information) technology (Orlikowski, 1992). This calls for a Marxist examination of the way that information technology also influences cultural values. In this tradition one could investigate, for instance, how cultural boundaries and conflicts arise under the influence of technological developments. A third area of research that CCOIT covers concerns the introspection of the technological community. Investigated in this area are the ways in which the internal working of the technological community and the norms and values of its members affect the technological outcome (cf. Alexandrov, 1994).

It should be said that we limit ourselves to the introduction, implementation, deployment, and maintenance phases of information technology infrastructures in “alien” target environments as divorced from their preceding processes of design taking place in the home country. This centers our focus on the ways culture influences the application of IT and how culture actually transforms the technology in use. This focus is based on the Duality of Structure as advocated by Gidden’s structuration theory which states that “the structural properties of social systems are both medium and outcome of the practices they recursively organize” (Giddens 1984, p. 25). The duality of technology consequently comprises the idea that technology is both created and changed by human action as well as used by humans to accomplish some action (Orlikowski, 1992).

Furthermore, we posit the practice of IT as a Geertzian form of “cultural interpretation.” This acknowledges the role of the actor and stresses the need to study culture from within, reconstructing the native’s point of view as much as possible by trying to distill the meaning of the world as given by the people themselves who live in it. The “interpretative flexibility” of (information) technology is derived from the conviction that people in different contexts interpret the meaning of technology in different ways (Winner, 1993). These interpretations...
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