

Field: Social Science

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Session Topic:

Acceptance of New Technologies

Despite their anticipated advantages in technical terms and their foreseen economic potentials, many new technologies do not find the public acceptance their inventors and developers would wish, and originally expected, them to find. Cases in point in many countries are agricultural biotechnology and nuclear power generation. As a consequence, the scientists and engineers giving rise to these technological advances as well as the companies or industries intending to exploit them often complain about the public ignoring the “true” facts and failing to acknowledge the technological progress and the economic potentials arising from it. Policy makers join in this chorus when referring to this lack of technology acceptance or even hostility against a technology as to a negative factor with regard to the competitiveness of the national or regional economies.

Notwithstanding the fact that, often, public acceptance of a technology does not correlate with the revealed demand for the related goods, the desire of stakeholders (i.e. scientists, developers and managers) and policy makers to influence this bad acceptance would require that they are able to rightly interpret the meaning of the technology’s acceptance in the public and, additionally, understand the reasons for the coming about of such a bad reputation. In actuality, however, it was found that, for instance in the case of genetic modifications in agriculture, the actual motivation for the low acceptance among ordinary citizens differed significantly from the motivation subsumed by the stakeholders and politicians. While the latter assumed ignorance about scientific facts, misinterpretation of related risks and selfishness of consumers to be the main reasons, the consumers’ real reasons were found to be concerns about benefits and risks, their assessment and division between stakeholders (i.e. aspects of fairness), and (mostly past) experiences about the government’s (lack of) willingness and capability to (also) pursue the interests of the consumers.

Results like these shed important light on the basic nature of the attitudes towards a given technology of different stakeholders within society and the process of their formation. As Mito Akiyoshi (Senshu University) and Harald Heinrichs (University of Lueneburg) point out, neither the “formation of a (social) attitude“ towards a technology nor any attempt of “raising its acceptance” are reasonably considered as isolated, single-sided processes. Instead, the acceptance of technologies as well as its changes is the result of processes of social construction. Accordingly, various stakeholders experiment with technologies, explore their potentials and risks and eventually change their assessments after communicating or negotiating them with other stakeholders. Especially the latter aspect can be intensified by a variety of participatory measures. As a result of this two- (or multiple-) way communication process the acceptance as well as the acceptability of a technology are raised or declined, depending on whether the potentials or the risks prevail.

In the second part of this session, the above framework is used to illustrate the adoption of specific new technologies in different socio-cultural settings. Takashi Kurosaki (Hitotsubashi University) uses a micro-economic approach to explain how the incompleteness of markets and the asymmetry of information (both representing a communication deficit faced by the suppliers) can inhibit the adoption of seemingly superior new technologies. In a different methodological approach, Magdalena Sawicka (Research Centre Juelich) uses the appraisal of nature and the trust in institutions as variables that may explain cross-cultural differences in the acceptance (and acceptability) of genetically modified food in Germany and the USA.