

Abstract

The Impact of Nanotechnology on the Environmental Design Process in Egypt

Design and technology are widely separated in the architectural professional practice, an issue often distinct in developing countries. Architects mostly use technology as a product to facilitate design decisions near final design stages a process that might dismiss many of the benefits that could have been attained had technology been engaged early on within a framework of informed appropriation. This dissertation accordingly studies the design process through design science and its relation to technology. The dissertation also looks at nanotechnology and nanoscience, and how nano-enhanced applications play a role in building technology. The dissertation then presents the findings of an ethnographic study that investigates how nanotechnology design knowledge introduced in early design stages, would affect design decisions. The study provides a thick description of the design decision making process of a group of architects working on a residential environmental project in an architectural firm in Egypt, and how it was affected by nanotechnology design knowledge in the early design stages. The study also presents an explanatory narrative that illustrates how the context of the design process in that firm influenced the designers' design decision making process.