

SOCIO-CULTURAL PERSPECTIVES TO INNOVATIVE TECHNOLOGIES AND DESIGN: MODULE DESCRIPTOR

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| Module Title: | Socio-cultural perspectives to innovative technologies and design |
| Module Coordinator: | Sanna Kuoppamäki, PhD, KTH |
| Module Name: | Socio-cultural perspectives |
| Assessment Type: | 2 Short reaction papers (individual) (20 %) Group Written Report (40%) Group Presentation (40%) |
| Individual/Group: | Individual and Group |
| Dates | Nov 30 th – Dec 11 th 2020 |

AIMS:

The students will learn about the relationship between technology and society, to understand the interplay between technology and social and cultural factors. Successful innovative technologies need to be adopted and accepted by the society, and be relevant to intended user groups. *But what makes users choose to engage with a new technology, and what not?* This course provides a fundamental basis for designing technological innovations in a socially conscious manner. What are the predominant theories that explain the socio-cultural processes behind technology? How are technologies adopted and used by different user groups? What methods can we use to learn about the user? What social and cultural perspectives should we consider when we design technologies? Why is a critical perspective important for developing innovations?

The course provides insights on the adoption and use of technologies from the social and cultural perspective, to understand user engagement, involvement and diversity. The course offers an important preparation for students interested in creating social impact through the design of innovative technologies. It will offer insights into the fundamental perspectives on technology and social change, provide empirical examples, and teach the most prominent practical methods to understand the role of technology for users and their everyday context.

THEME 1:

- Understanding of the adoption and use of digital technologies among different user groups in social, cultural and economic contexts. Students will be introduced to theories and concepts of Social shaping of technology, Domestication theory and Social practice theory to address the conditions and possibilities through which technological innovations become integrated to everyday life, habits and routines of users. Students will be provided

conceptual tools to identify and analyse social, economic and cultural mechanisms and factors behind adoption and use of technological innovations in health care and other empirical contexts. Students will learn how to reflect, analyse and synthesise knowledge through short reaction papers.

THEME 2:

- Applying quantitative and qualitative research methodologies when understanding users and ways of use in empirical contexts. Students will be introduced social science methods, such as surveys, qualitative interviews and ethnography to understand how to investigate social, economic and cultural factors explaining technology use. Students will gain knowledge of why and how to apply these methods as a part of the design and development process of technology. Students will produce independent group work consisting of a study proposal, where students will select a real-world situation from health care or other empirical context for developing innovative technologies in a socially conscious manner.

THEME 3:

- Students will learn design methodologies and approaches to involve technology users in the design and development process of innovative technology. Students will be introduced concepts of co-design and participatory design and the application of these methods in the design and development process of technology. By introducing the concepts of user representation, script and configuring users, students will learn how innovations are done in design practice and how designers and engineers work can influence the user. Students will be provided practical case examples of successful initiatives of involving users in the design process, and how users can build and create new ideas for innovations by themselves.

LEARNING OUTCOMES:

After passing the course, the student will have knowledge of:

- Recent initiatives and interdisciplinary research in socio-cultural perspective on technology and innovation at KTH
- Differences and similarities between research methodologies in learning how to understand users and the contexts of use
- How new technologies can tackle future challenges in medical healthcare and other empirical contexts
- How to apply the learned concepts and methods to concrete real-world situations of technology use
- Knowledge about the benefits, but also about the barriers and of innovative technologies
- How to produce a study design that involves users in the design process of technology in an innovative manner