

Results from experimental and design thinking driven programs

Saku J. Mäkinen¹

¹CERN Switzerland/Tampere University of Technology, Dept. of Industrial Management, Finland

*Corresponding author: saku.makinen@tuni.fi

This issue includes a number of papers from the *Innovation 4 Change* program led by Silvia Petocchi, Chief Executive Officer, and Raghu Movva, Director, at the Collège des Ingénieurs, in collaboration with Politecnico di Torino during the spring of 2019. Tuuli Utriainen has also been involved in the program as a facilitator from CERN IdeaSquare.

This is the first time that CIJ has been involved in a collaboration with an experimental and design thinking driven educational program. Our aim has been to add another pedagogical layer to enhance learning at Masters and Doctoral candidate level in this type of project-based programs. The results show for themselves, as we have 5 manuscripts in our issue representing results from this program, in addition to regular submissions.

The first manuscript by S. Palomäki deals with the influence of experimental educational programs on the entrepreneurial intentions of attending students. The manuscript finds evidence that problem-based experimental courses increase students' perceived feasibility of self-employment and propensity to act upon it. This is rather remarkable as the data set spans across temporal and contextual grounds.

The second paper by C. Marcelloni investigates how Social Innovation Labs function and finds that time, techniques and tools (coined as 3 T's framework) can be used to understand their functioning. According to the study, Social Innovation Labs use this framework to navigate complex, social, experimentally driven innovation processes to balance multiple stakeholders' differing views in solving problems.

A. Ricchiardi and G. Bugnotto exhibit in their manuscript how servitization could be used to solve unsustainable practices in the fashion industry. Specifically, they consider renting practices and multi-stakeholder, complex collaboration mechanisms.

Liang et al. consider in their manuscript inclusive community engagement in smart city evolution. Specifically, their contribution looks into criteria needed towards inclusive mobility as a socio-material entanglement of multiple constituencies.

B. Bussi et al. look into the process of innovating during project-based design thinking programs. They find that early on co-location matters more than later on and consequently later in the process remote working groups may be even preferred and more effective.

M. Capra et al. delve into freshwater pollution by fertilizers and seek a solution from algae growth. The paper presents an interesting solution and shows how challenge-based projects take multiple streams and how finding your way towards a solution is not straightforward.

F. Demichelis et al. investigate poor circularity of plastics value chains. The manuscript presents a novel platform for plastic-free life by increasing awareness of consumers and changing their behaviour.

In summary, this issue of the CIJ shows interesting and existing new developments developed by various teams and experiments. We will come back to the results from our experiment with the I4C program as we analyse the students' feedback.