Helping organizations to become more innovative together

A socio-technical transition is a major shift in the way a critical function in society is structured and performed. Think for example of the past shift from horses and carriages to motor vehicles. What changed then were not just the vehicles, but along with them also roads, fueling infrastructure, engineering and design principles, education, city landscapes, and eventually the lifestyle of people.

Presently, a whole wave of such (parallel) socio-technical transitions is upon us, in domains such as energy, mobility, food, and healthcare. Existing organizations are challenged by the major shifts in their respective industries. Many find existing products, services and business models challenged; all the while, opportunities for more sustainable new technologies, products, services, business models and organizational structures are also emerging. For any organization, new or old, the survival and success in transitioning domains thus depends on the ability of that organization to adapt to changing conditions and to continuously innovate. Against that background, I investigate in this dissertation how to design organizations that are successful at innovating in transitioning domains.

To tackle this topic, I take use of what is called a science-based design lens, where organizations are perceived as objects of deliberate design. Here, the job of the researcher is to develop scientifically well-grounded but practically relevant organizational structures, tools and interventions that can be applied to accomplish higher innovativeness in organizations. Such design knowledge has been developed looking at newcomers as well as incumbents - organizations that have been around for quite some time. The research methods applied are systematic literature synthesis, a longitudinal in-depth case study, iterative theory development with feedback from relevant stakeholders and theoretical argumentation with illustrative short case studies.

Towards both types of organizations, I have provided elaborate design knowledge on the ways these organizations could act in order to become more successful at innovation. For newcomers, the dissertation provides a set of principles on how to lead a network of simultaneously innovating organizations to accomplishing a complex product or service (combination). For incumbents, we have provided several hundred design principles that are structured by categories to form a toolbox to choose a fitting combination for implementation.

Finally, we have included in this dissertation the design of a qualitative modelling tool called Ecosystem Pie Model (EPM). This tool, equally applicable to newcomers and incumbents, helps managers and scholars to make sense of situations where innovation needs to happen simultaneously in more than one organization. The EPM has been heavily tested in practice and to date has been adopted by several corporations, consultancy agencies, scientific authors, and masters’ projects and engineering doctorates’ projects. EPM-workshops have shown to be eye-opening for participants to opportunities that were not seen before, both for what kind of products-services to develop, as well as what kind of partners to develop innovations with.

Title of PhD-thesis: Designing organizations for innovation in transitioning domains. Supervisors: Georges Romme (TU/e), Jan Holmström (Aalto University), Bob Walrave (TU/e) and Ksenia Podoyntsyna (TU/e). Other main parties involved: Aalto University, Erasmus Mundus Joint Doctoral Programme SELECT+, KIC InnoEnergy SE and BETA Research School for Operations Management and Logistics.