Track 3 - Bringing responsibility to firm practices: how?

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Wednesday 28th 13:30-15:30 – Session 1 – Chair: Tatiana Iakovleva

Thursday 29th 08:30-10:30 – Session 2 – Chair: Luciana Maines

Friday 30th 13:20-15:00 – Session 3 – Chair: Arnt Floysand

Session 3
Chair: Arnt Floysand, Western Norway University of Applied Sciences, Bergen, Norway.

Abstracts

Innovation-Quality - An approach to responsible and more sustainable innovation

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From an entrepreneurial point of view, innovation is the key to staying in the market in the long term and remaining competitive[1]. At the same time, the pressure on companies to innovate is constantly increasing due to the ever faster world and the associated digitalization[2]. Innovation in a company is usually focused on efficiency, if not profit orientation. The aim is to fulfil the wishes of the market, design processes efficiently or even generate new needs. Innovation is therefore not only a blessing, but also a curse: not only is a better standard of living created, but global challenges (such as climate change, etc.) are also only made possible by innovation (negative external effects). This can be seen, for example, in the industrial revolution and its global consequences, e.g. through modern mobility[3]. The responsible implementation of innovations in the company often fails against the background of this corporate orientation. An extreme example of this is the Volkswagen emissions scandal, which pushed the focus on generating profits and competitive behaviour on the market to the fore. But even beyond such scandals (and corresponding misbehaviour), greenwashing - including in the social sphere - seems to be on the agenda in

[1] Cf. Zillner, S. & Krusche, B. (2012). Systemisches Innovationsmanagement. Grundlagen – Strategien – Instrumente. Stuttgart: Schäffer-Poeschel Verlag.
[2] Cf. Carbon, Faix, Kisgen, Mergenthaler, Muralter, Schwinn & Windisch (2021). Steinbeis-Innovationsstudie. Steinbeis-Edition, Berlin.
[3] Cf. Faix, W. G. (2024). Von Dampfmaschinen, Künstlicher Intelligenz und Quanten-Computing: Fluch und Segen von Innovationen. Steinbeis. Steinbeis-Stiftung, 61-73.

many places[4]. Many companies want to improve their image and are responding to the pressure of demand for more responsible behaviour. However, beyond this, business as usual is usually pursued and effects often fizzle out or do not find their way into the implementation of innovations[5]. In our presentation, we want to take a closer look at this area of tension in innovation within the company. The main hypothesis to be put forward here is that concepts of innovation quality manage to mitigate these tensions. In a first step, we want to define innovation in the entrepreneurial field in the Schumpeterian sense of creative destruction in order to analyse the outline of the problem of responsible innovation in companies presented above[6]. We will then argue in favour of a concept of innovation quality and how this can help to create more responsibility and sustainability[7]. Innovation, and its successful implementation in the company, is by definition always dependent on the value it generates in a society. This is a central aspect of innovation itself, which should be given appropriate consideration. Normative aspects can be identified as to how innovations in the company can be better evaluated and holistically integrated in this context. These aspects ensure more responsible innovation in the company and include the following aspects: i) Weighing up of innovations in complex multidimensional problems and along original corporate goals and visions (goal-orientated). ii) The procurement of information and the weighing up of possible (negative) external effects of innovations. This concerns the entire organisation/ company and society (indirectly or directly affected) in which an innovation generates value. iii) The transparent handling and communication of all aspects of innovation on the part of the company (within the company itself and the society). It has been shown that this in no way runs counter to efficiency criteria in the company, but instead generates more long-term growth through sustainable value creation[8].

Technology Assessment of Wide Area Surveillance Systems for Addressing Societal Benefits and Challenges: An Empirical Study from Aerospace Company

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This study, conducted within an aerospace company, represents a qualitative inquiry into exploring the societal benefits and challenges of Wide Area Surveillance (WAS) systems in Türkiye through the lens of technology assessment (TA). The overarching goal is to address societal benefits and challenges associated with WAS systems while enhancing responsible

4 Cf. Sauve, S., Bernard, S. & Sloan, P. (2016). Environmental science., sustainable development and circular economy: Alternative concepts for trans-disciplinary research. Environmental Development, 17, 48-56.

5 Exceptions can be found here if innovations and company goals are aligned accordingly from the outset and, for example, the "green energy" market is to be developed, etc.

6 Cf. McCraw, T.K. (2007). Prophet of innovation. Schumpeter and Creative Destruction. Cambridge: Belknap Press of Harvard University Press.

7 The foundations for approaches in this direction can already be found in Faix, W. G., Mergenthaler, J., Ahlers, R.J. & Auer, M. (2014): Innovations-Qualität. Über den Wert des Neuen. Steinbeis-Edition.

8 This can also be illustrated for companies whose corporate objectives indirectly include such processes, as is the case with AMRO Real Bank, for example.

WAS development in Türkiye. By exploring technological, political, social, ethical, environmental, and legal aspects, the study seeks to contribute to the development and implementation of WAS technologies, thus aligning with the broader attention for responsible innovation within firms and economic ecosystems.

At the heart of this study lies an exploration of the intricate tapestry of societal benefits and challenges woven by the integration of WAS technologies into the Turkish context. While these systems bear the potential for enhanced public safety, improved emergency response, and strengthened security measures, they concurrently raise profound social concerns. Privacy considerations stemming from constant monitoring, ethical dilemmas related to potential discrimination and misuse, cyber security vulnerabilities, and legal and regulatory uncertainties constitute critical facets of the societal landscape shaped by WAS systems. Within this overarching context, the study endeavors to address the following research question: What are the social benefits and challenges of WAS systems, and how can aerospace companies contribute to addressing these issues, considering the implications for technology and innovation policies and regulations governing the development and use of WAS technologies? In accordance with the underpinning research framework it employs, the main research question is divided into three components through the lens of technology assessment (TA) and responsible research and innovation (RRI) orientation.

To navigate these inquiries, our methodology employs a qualitative approach, specifically a focus group workshop, engaging participants from various departments within an aerospace company. Through participatory TA, the study seeks to unravel industry stakeholders' perceptions, insights, and recommendations, fostering stakeholder engagement. The findings reveal that WAS systems offer diverse societal benefits, including enhanced public safety, improved emergency response, and infrastructure security, but also pose challenges such as privacy concerns, ethical considerations, and the need for clear legal frameworks, emphasizing the importance of a comprehensive and balanced approach in their development and deployment. The findings of the study are expounded upon in the theoretical and practical implications of the discussion.

The aerospace industry emerges as a key player in navigating these challenges, with recommendations urging active participation in policy formulation, ethical guideline development, and collaboration with regulatory bodies. The emphasis on data security, diversification of product applications, and engagement with relevant governmental bodies aligns with corporate social responsibility principles.

As the findings are integrated into technology and innovation policies, the study advocates for a comprehensive and balanced approach that considers both the advantages and challenges associated with WAS technologies. Aligning with the existing literature, the conclusion reinforces the need for informed policy-making, prioritization of ethical and legal principles, and tailored technology development to address specific use cases.

This study contributes to the ongoing dialogue on the responsible development of WAS systems, offering a foundation for future research endeavors and guiding policymakers, industries, and stakeholders toward a more balanced and ethical integration of surveillance technologies in Türkiye's societal landscape.

The role of stakeholder participation in unlocking innovation in cross border health ecosystems

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As the healthcare landscape evolves, companies and organizations are increasingly seeking market insights from neighbouring countries to navigate the complexities within the health and care sector. By scaling innovations across borders, they can obtain a broader market for innovative solutions. This presentation shows the potential of cross-border innovation scaling, emphasizing the pivotal role of end user and stakeholder involvement in shaping firms' strategies, operations, and broader societal impacts. Living labs emerge as instrumental contributors to this process, by unveiling cross-border market insights, enhanced user acceptance and experience, enriched end-user insights and better productmarket fit. A critical link to Responsible Innovation is integrated, as ethical considerations and societal responsibility is inherent to this approach.

Demographic and health challenges are often similar in most European countries. Most countries are confronted with an increased demand for care and the 'Silver Economy', projecting substantial growth in health, care, and technology poses both challenges and opportunities. Innovative solutions can provide (partial) answers to the challenges of this changing landscape. However, the financial risks associated with product development and the need for a sizable market pose sustainability concerns. The creation of new European ecosystems, uniting neighbouring regions and stakeholders address shared challenges.

The presentation shares insights gained from various cross border collaborations gained within the health living lab LiCalab over the past 10 years. Living labs involve multiple stakeholders, including end users, in the exploration, cocreation, and evaluation of innovations within realistic settings. They guide developers in creating and testing new care concepts, services, processes, and products, placing end users at the forefront of innovation evaluation and development and thus have a huge potential to support organizations in developing and launching products for the international health market.

Experiences from EU-funded projects executed in different European countries between 2016 and 2023 illustrate the tangible benefits of cross-border collaboration. In these projects, living labs, such as LiCalab, provide tailored cross-border services, including co-creation, testing, validation, and internationalization support for SMEs. This presentation serves as a testament to the significant potential of stakeholder participation and cross-border collaboration in contributing to firm practices and strategies and to foster sustainable health ecosystems.

Green innovation systems, stakeholder participation and public technologies: Explaining business responses to marine pollution in costal Norway, 1960s-1990s

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How have stakeholder's participation contributed to firms' innovation processes, and what kinds of actors have orchestrated such involvement in corporate innovation?

Taking such questions from the literature on responsible innovation and innovation systems as its point of departure, this paper explores the issue of stakeholder participation in firms' innovation processes by means of empirical case studies from business history and environmental history. Specifically, it investigates how Norwegian electrochemical and metallurgical companies reacted to critiques of marine pollution from the late 1960s to the early 1990s and seeks to explain the subsequent measures taken to reduce industrial pollution of Norwegian fjords and coastal waters.

In order to explain the extensive pollution reduction in similar Swedish industries, business historians (Söderholm et al 2022; Bergquist & Söderholm 2011) have recently pointed to the combination of a trust-based bargaining system and concomitant pragmatic environmental licensing practices on the one hand, and the establishment of new research institutes by industrial companies and business associations on the other. By facilitating close cooperation between firms, researchers, and government, this green innovation system produced a number of new pollution-reducing – and profitable – technologies. As a consensus-oriented political system with compromise-seeking public advisory committees (e.g., Hesstvedt 2020), extensive industry representation in environmental governing bodies (Asdal 2015) and several industrial research institutes, one would expect these findings to apply to the Norwegian case as well.

While this paper does find notable similarities with the Swedish case, it argues that one must also pay attention to the involvement of other stakeholders in order to understand green innovation processes in firms. As Uekötter (2009) has indicated in studies of German and American air pollution control, for instance, trust-based cooperation between regulators and businesses often required the threat of less congenial alternatives. The paper therefore also explores why businesses would want to participate in trust-based environmental bargaining systems in the first place, and why companies in some cases even went "beyond compliance" (Rome 2020) with environmental regulations. Drawing on notions of public technologies (Trischler and Bud 2018) and "technologies of humility" (Jasanoff), the paper highlights 1) the involvement of a diverse set of stakeholders – environmentalists, ornithologists, fishermen, farmers, labor unions, municipal governments – in technological decision-making, 2) managers' and shareholders' interpretations and anticipations of public opinion, and 3) bourgeoning visions of alternative industrial uses of the fjords, in particular aquaculture.