**Symposium Announcement and Call for Papers**

**Sustainability and Digitization: Researching and Working with**

**Social and Environmental Rebound Effects**

**Topic**: Sustainability, digitalization and rebound effects

**Date**: 23-24 May 2023

**Keynote speakers and presentations:** Stefanie Kunkel ([Research Institute for Sustainability, Helmholtz Centre Potsdam](https://www.rifs-potsdam.de/en/research/digitalisation-and-impacts-sustainability))[[1]](#footnote-2) and David Tyfield (Lancaster University)[[2]](#footnote-3).

**Attendees**:

Academics, researchers, PhD students, practitioners.

**Symposium Venue**

Online an Onsite at Jönköping International Business School, Jönköping Sweden.

**Background and Rationale**

This two-day symposium will offer opportunities to present papers and cases, discuss, learn about, and reflect on the complex relationship between sustainability, digitization, and social and environmental rebound effects. Digitalization claims to offer means for economic growth and sustainability advances through cost savings and efficiencies. The symposium will provide a friendly forum for investigating this and similar claims regarding the social and environmental sustainability impacts of digitalization.

**Submission Instructions**

Submissions (800-1,000 words) can be of two kinds: 1. Research papers: The focus here is on presenting research ideas for journal submission, funding applications and research proposals and collaborations. 2. Case studies: The focus here is on business and organizational cases that present digitalization projects that do not result in rebound effects or that promote social innovation and sustainability. All submissions to Mark Edwards (mark.edwards@ju.se).

**Important Dates**

31st March Submission Deadline

17th April Notification of acceptance

17th April Symposium registration opens

12th May Symposium registration closes

23-24th May Symposium

**Symposium website:** <https://mmtc.se/center/mmtc/conferences-and-workshops.html>

**Sustainability and Digitization: Researching and Working with**

**Social and Environmental Rebound Effects**

**Background and Rationale**

This two-day symposium will offer opportunities to present, discuss, learn about, and reflect on the complex relationship between sustainability, and digitization. The symposium will include keynote contribution from special guests Stefanie Kunkel (Institute for Advanced Sustainability Studies Potsdam) and David Tyfield (Lancaster University). Stefanie and David will present on ideas from their paper on the focus topic of the symposium – *sustainability and digital rebound*. In an environmental sustainability context, the general term ‘rebound effects’ refers to the unintended consequences of efficiency measures leading to a less than expected decline, and even increase, in resource use. Saey-Volckrick (2020) explains it this way:

Improvements in resource efficiency are usually regarded as an important strategy to decrease resource use. The rebound effect describes how the expected positive impact of increases in resource efficiency can be countervailed by increases in the demand for resources. Such rebound effects can lead to a smaller decrease in resource demand than expected, or even to an absolute increase in resource demand (the so-called ‘backfire effect’). (Saey-Volckrick, 2020)

In contemporary competitive-market economies, material and energy efficiencies can lead to lower costs, cheaper goods and, as a result, higher volume of sales, market growth and higher levels of general economic affluence. Hence, the absolute levels of resource use, and the concomitant negative impact on the natural environment, goes up (Brockway, Sorrell, Semieniuk, Heun, & Court, 2021; Font Vivanco et al., 2022; Kunkel & Tyfield, 2021; Murphy, Murphy, Love, LeHew, & McCall, 2021; Santarius et al., 2022; Wiedmann, Lenzen, Keyßer, & Steinberger, 2020).

A well-known example of the rebound effect comes from the aviation industry. Multiple technological innovations in aircraft design during the 1990s led to more efficient fuel use, higher speeds, greater carrying capacity and longer flights. Increased efficiency resulted in cheaper airline tickets, more people flying and an increase in the absolute level of carbon emissions, and resource use. Consequently, even with remarkable improvements in technical efficiencies at the firm and industry level, the global result was higher absolute levels of resource use and GHG emissions. A deeper issue at the core of this observation is the relationship between economic growth and environmental impact (Jackson, 2017; Ward et al., 2016). While efficiency can lead to relative decoupling between economic growth and environmental impact (decreasing environmental impact per unit of output), it is only absolute decoupling (decreasing environmental impact with equal or increasing output) that will address the global sustainability crises we now face.

**Sustainability and digitization – digital rebounds and social innovation**

Digitalization is frequently framed as a sustainability strategy (Del Río Castro, González Fernández, & Uruburu Colsa, 2021; Seele & Lock, 2017) and it is expected to contribute to the decoupling of environmental impact and economic output in industrialized and emerging countries. The environmental effects of digitalization in economic development processes, however, are uncertain – not least due to the “digital rebound effect”. With their paper “*Digitalisation, sustainable industrialization and digital rebound – Asking the right questions for a strategic research agenda*”, Kunkel and Tyfield (2021) apply this notion of rebound effects to the field of digitalisation. They state that:

“efficiency gains in material resources and energy associated with digitalization are prone to aggregate to macro-level growth (‘digital rebound’) that may exacerbate the ecological harm of industrialization, rather than alleviating it.” (Kunkel & Tyfield, 2021, p. 1)

Given that “ecoefficiency” is seen as a core area for sustainable innovation, it is especially relevant to reconsider, as Kunkel and Tyfield suggest, the role of digital rebound in the push for more sustainable economies. The importance of the digital rebound effect and its close association for efficiency-based strategies are central to one of the fundamental problems in global sustainability science. Why is it that there seems to be considerable activity at the firm level to address core sustainability imperatives like climate change and yet, at the global level, the state of the globes environmental condition continues to deteriorate? This has been called “the big disconnect” (Dyllick & Muff, 2016) in sustainability studies. Rebound effects resulting from the ubiquitous quest for efficiency might be one of the reasons for this disconnect. With digitalization becoming an ever-growing focus for investment and innovation, it is timely that researchers understand what digital rebound is and the threat it presents for reaching sustainability targets such as the United Nations Sustainable Development Goals (SDGs).

The question arises then, do all forms of digitization result in unintended rebound effects at the macro level? Kunkel and Tyfield suggest that rather than focusing purely on what they call, “micro-efficiencies”, as created by, “the default and dominant form of digital innovation” at the firm level, there are possibilities for more socially and environmentally engaged forms of digitalization. They argue that, social innovations and social businesses that adopt digitalization would “tend to support the deeper reshaping of digitalisation by initiatives concerned about the commons, and hence system-level phenomena like the digital rebound” (Kunkel & Tyfield, 2021, p. 5). Thus, digitalization for social innovation might be one avenue to explore for avoiding rebound effects. In contrast to the “machinic micro-efficiency model” of digitalization, digital innovation by social entrepreneurs and social businesses targets social outcomes that are not necessarily focused on efficiency. This alternative application of digitalization offers a fascinating area of research for digitalization and sustainability researchers.

Although both digitalization and sustainability are increasingly important fields of teaching and research with business administration and allied fields, little exposure has been given to their interact and relate to each other. This symposium is intended to provide for discussion, presenting relevant papers, exploring ideas, and developing explorative collaborations for digging into digitalization, sustainability, rebound effects and associated topics.

**Symposium Discussion Topics**

Given the above considerations we call for researchers to present their papers on relevant digitalization and sustainability topics. The following are suggestion for research and possible areas of paper presentation. Questions that could be considered at this symposium include (including suggestions from Kunkel & Tyfield, 2021):

* What openings are there to learn from how digitalization is unfolding to shift, challenge and/or transform such familiar techno-optimist approaches?
* How do digitalization projects shape firm-level understandings of sustainability and get shaped by them in turn?
* Do owners, boards and managers equate sustainability with digital efficiency?
* How can the social effect from digital rebound be ameliorated?
* What are the processes by which social digitalization might avoid rebound effects?
* How can more effective, human-centered models of digitalisation be supported, privileged, and prioritized in practice?
* How do projects of digitalisation for sustainability goals currently work, and for whom, such that digital rebound arises?
* How could they be arranged differently, generating different outcomes?
* How can the potential limitations and dangers of digital rebound be brought to researchers and practitioners?
* What research coalitions with business schools need forming to develop better understandings of the relationship between digitalisation and sustainability?
* How might researchers approach the topic of digitalization and sustainability and rebound effects to optimize and expedite practical impact?

**General Topics of Interest**

* Rebound effects and sustainability
* Relative and absolute decoupling and digitalization
* Social innovation, sustainability, and digitalization
* Social rebound effects
* Practitioners awareness of digital rebound
* Sustainability academics awareness of digital rebound
* Case studies of sustainability and digitalization
* Case studies of social innovation and digitalization
* Case studies of digital rebound effects
* Digital Sufficiency and Sustainability
* Digital rebound and circularity

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Submissions can be of two kinds:

1. Research papers: The focus here is on presenting research ideas for journal submission, funding applications and research proposals and collaborations.

2. Case studies: The focus here is on business and organizational cases that present digitalization projects that do not result in rebound effects or that promote social innovation and sustainability.

All submissions should be submitted to symposium organiser Mark Edwards via email (mark.edwards@ju.se) before the **31st March**. Submissions will not be accepted after this date. All submissions will go through the process of peer review by the symposiums organising committee. Submissions should contain the following sections.

Name and affiliation: Author(s) name and institutional affiliation

Title: Title of the presentation

Statement of General topic: See above topics of interest list for reference

Extended abstract: 800-1,000 words (including all references and tables and graphics)

Presentation: Online or Onsite

**Overview of Important Dates**

31st March Submission Deadline

17th April Notification of acceptance

17th April Symposium registration open

8th May Final program published

12th May Symposium registration closes

23-24th May Symposium

**Symposium website**

Please stay updated about the symposium via the MMTC website:

<https://mmtc.se/center/mmtc/conferences-and-workshops.html>

**Symposium Venue**

The symposium is hosted by the Media, Management and Transformation Centre, Jönköping International Business School. This is a hybrid event and will take place on campus (Jönköping, Sweden) and online via zoom (zoom link will be sent to registered participants).

At the Media, Management and Transformation Centre (MMTC), we take interest in the business and industry implications triggered by the driving forces of digitalization, transformation, sustainability and globalization. This includes the study of the market dynamics, innovations and strategic responses in the media and other industries. The work at MMTC builds on the tradition at Jönköping International Business School to explore and excel in the areas of Entrepreneurship, Ownership and Renewal. In 2023 MMTC celebrates our 20th anniversary. MMTC is a part of the Jönköping International Business School.

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1. https://www.rifs-potsdam.de/en/news/ideal-addition-helmholtz-association [↑](#footnote-ref-2)
2. https://www.lancaster.ac.uk/lec/about-us/people/david-tyfield [↑](#footnote-ref-3)