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3rd NIBES research session - Sustainability Research in Business and Economics

PROGRAM

Session I 11:00 AM - 12:00 PM (CET)

Welcoming Remarks

Vesna Zabkar - University of Ljubljana
Ülkü Gürler – Bilkent University

Cross-cultural insights into predictors of attitudes and intentions for sustainable consumption

Vesna Zabkar - University of Ljubljana

Societal (Macro) Marketing Perspective to Enhance the Well-being of Stakeholders in an Alternative Food Network

Ahmet Ekici – Bilkent University

Local Grand Challenge in a multi-stakeholder context: The case of the conservation and development of a historical and natural site

Anne Albert-Cromarias & Angéline Pinglot - ESC Clermont Business School / CleRMa

Transition to a new regional identity: exploring the legacy narratives in a region's construction and infrastructure projects

Heather Fulford – Robert Gordon University

12:00 PM - 12:15 PM (CET) B R E A K

Session II 12:15 PM - 1:00 PM (CET)

Putting words and numbers into action: The extension of material flow cost accounting – Towards more resource-efficient production processes

Aline Hendrich - Institute for Industrial Ecology (INEC), Pforzheim University

The challenge of scope 3 emission balancing for companies

Alexandra Vogt - Institute for Industrial Ecology (INEC), Pforzheim University,

Cleaner Technology Choices under Carbon Emissions Taxation: How much is too much?

Emre Berk – Bilkent University

1:00 PM - 1:15 PM (CET) B R E A K

Session III 1:15 PM - 2:15 PM (CET)

Sustainable Finance and Sustainable Development in Georgia : A country case study

Mariam Kharashvili - Caucasus University

Governing the transition of socio-technical grid-based systems: promoting security of supply and accelerating renewable energy innovation in Nigeria

Racheal Adedokun – Robert Gordon University

The Effects of IFRS Adoption: A Systematic Review of Top Papers

Erekle Pirveli - Caucasus School of Business, Caucasus University

Best practice examples for resource efficiency measures in the manufacturing industry of the federal state Baden-Württemberg

Christian Haubach - Institute for Industrial Ecology (INEC), Pforzheim University

Session IV 2:15 PM - 2:30 PM (CET)

Concluding Remarks

Emre Berk & Ahmet Ekici – Bilkent University

Vesna Zabkar – University of Ljubljana

PRESENTATIONS
The authors and abstracts

1. Cross-cultural insights into predictors of attitudes and intentions for sustainable consumption

Petar Gidaković
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Mila Zečević
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Abstract

Unsustainable consumption is recognized as an important issue resulting from the discrepancy between consumers' attitudes and their consumption intentions. The attitude-intention gap (Miniero, Codini, Bonera, Corvi, & Bertoli, 2014) has been intensively researched through the lens of multi-attribute models such as the Theory of Planned Behavior (TPB; Ajzen, 1985), to which we add the Theory of Trying (ToT; Bagozzi & Warshaw, 1990) to explain the pursuit of more "demanding" behaviors (Xie, Bagozzi, & Troye, 2008, p. 113). On average, the younger generation shows more interest in the environment and sustainable consumption (Yadav & Pathak, 2016). In addition, different cultures differ in terms of factors that influence consumer decision-making, such as the accessibility of products, the strength of attitudes, or the importance of social norms (Chan & Lau, 2002). We conducted online surveys among young consumers (combined n = 564) in five countries divided into Western (Denmark, Germany), Eastern (Poland), and Southeastern (Croatia and Bosnia & Herzegovina) European countries. Predictors of attitude in terms of ToT, predictors of intentions in terms of TPB and intentions to purchase eco-labeled products were measured using scales established in the existing literature. The scales were reliable and met the standards of convergent and discriminant validity, partial metric invariance was achieved. Differences in predictors of attitudes and intentions were found between countries. Past behavior had a significant positive influence on intentions in all domains. The results suggest that young generations in different

parts of Europe and cultures generally have similar intentions regarding sustainable consumption, yet the different drivers of these intentions between cultures are worth noting. Dealing with cultural differences through appropriate communication to inform and educate the young public about sustainable consumption can be crucial.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior *Action control* (pp. 11-39): Springer.

Bagozzi, R. P., & Warshaw, P. R. (1990). Trying to Consume. *Journal of Consumer Research*, 17(2), 127-140.

Miniero, G., Codini, A., Bonera, M., Corvi, E., & Bertoli, G. (2014). Being green: from attitude to actual consumption. *International Journal of Consumer Studies*, 38(5), 521-528.

Xie, C., Bagozzi, R. P., & Troye, S. V. (2008). Trying to prosume: toward a theory of consumers as co-creators of value. *Journal of the Academy of Marketing Science*, 36(1), 109-122.

Yadav, R., & Pathak, G. S. (2016). Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of Cleaner Production*, 135, 732-739.

2. Societal (Macro) Marketing Perspective to Enhance the Well-being of Stakeholders in an Alternative Food Network

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Abstract

Alternative food networks (AFNs) or short food supply chains generally refer to emerging networks of producers, consumers, and other actors that represent alternatives to the more standardized industrial mode of food supply. AFNs can be characterized with their concern about the social, economic, and environmental dimensions of food production, distribution, and consumption. This presentation focuses on a particular AFN in Turkey, and through a qualitative approach that involves interviews and on-site observations, explains the “success” of the organization via the lenses of micromarketing and macromarketing. The findings suggest that the organization distinguishes itself from other similar operations mainly due to its societal (i.e., macromarketing) orientation. Taking a macromarketing orientation not only ensures the sustainability of the “business” but also results in enhanced well-being for other stakeholders.

3. Local Grand Challenge in a multi-stakeholder context: The case of the conservation and development of a historical and natural site

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Abstract – Provided by the authors upon request

4. Transition to a new regional identity: exploring the legacy narratives in a region's construction and infrastructure projects

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Abstract:

It is becoming common practice for major projects to include legacy claims, giving indications of how sustainable benefits will be realised alongside core project deliverables. To date, research on legacy has been concentrated on events such as Olympic Games and FIFA World Cups. These are contexts in which significant investment and structural changes to host cities are often justified by the promise of specific legacies to benefit future generations of residents. By contrast, the research discussed in this presentation comprises an exploration of legacy claims made during recent construction and infrastructure projects undertaken in Aberdeen City and its surrounding region in North East Scotland. This region has a masterplan to transition away from its established oil and gas sector identity to a more diversified economy incorporating clean energy, tourism, and food and drink production. Document analysis of projects focussed on the region's sustainability and regeneration is being undertaken to identify the nature of the legacy claims made and plans for how those legacies are to be managed. Interviews with project stakeholders are being conducted to investigate motivators for incorporating legacy into the projects; the challenges of planning and managing legacy; and the project lifecycle stages into which legacy concepts are being incorporated.

Keywords: sustainability; legacy; transition; diversified economy; project lifecycle; regional identity; transformation

5. Putting words and numbers into action: The extension of material flow cost accounting – Towards more resource-efficient production processes

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Abstract

Material Flow Cost Accounting (MFCA) is an excellent method to improve the resource efficiency of production processes. Based on a material flow model including physical and monetary data, the method differentiates the outputs strictly between products and losses or waste. As a result, the saving potential associated with the losses can be evaluated in both physical and monetary terms as well as avoidable CO₂ emissions.

Stemming from environmental management, MFCA has the major strength to unite economic and ecological goals. It was developed in Germany around 1990 and was standardized as ISO 14051 in 2011. However, it has not yet gained the foothold in industry for which it has large potential. One main reason for this is the difficulty to realize the identified saving potentials. This requires the derivation for and implementation of measures that avoid the losses. So far, there is no guidance how to systematically derive suitable measures within an MFCA.

Material Flow Based Improvement Assessments (MaFI_mA), a joint research project by INEC Pforzheim and IFU Hamburg, strives to close this gap with a software tool that functions as a solution assistant in an MFCA project. It has been shown that the measures can be categorized according to technical process type. Moreover, the use of existing examples is a promising research avenue. As a result, the MFCA method will gain more practical relevance and tackle the challenge of resource efficiency and thus sustainable development.

6. The challenge of scope 3 emission balancing for companies

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Abstract

Establishing a corporate greenhouse gas (GHG) balance for companies is challenging for operational practitioners. GHG-emissions do not only occur due to manufacturing processes (scope 1) or the generation of purchased energies (scope 2), but also in the supply chain (scope 3).

Emissions from the extraction of raw materials and upstream production stages is one part of scope 3. These upstream emissions have a crucial impact and should not be neglected in corporate GHG-balances. For example, a research of Scholz et al. (2020) showed that the GHG-emissions of metal use in Baden-Wuerttemberg, a region with strong economic activity, have a similar volume as the traffic emissions.

Therefore, the Institute for Industrial Ecology and Sustain Consulting GmbH are developing the "scope3analyzer", a freeware and web-based tool. The tool is based on environmentally extended multi-regional input-output-analysis, which provides indication of the origin of emissions by country and industry sector or product group. This approach makes the estimation of scope 3 emissions in supply chains feasible for companies, in view of today's complex and extensive supply chains.

In the beta testing phase of the "scope3analyzer", the researchers will be working closely with SME and large-scale enterprises in the German federal state of Baden-Württemberg like BOSCH GmbH and ZEISS AG.

Literature: Scholz, J., Severith, M., Nill, M., Schmidt, M. (2020): Analyse des Einsatzes von Metall-rohstoffen für Baden-Württemberg. Sustain GmbH: Hamburg.

7. Cleaner Technology Choices under Carbon Emissions Taxation: How much is too much?

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Abstract

One of the stated objectives of emissions regulations is that firms switch to more eco-friendly alternatives and sources in their procurement of production inputs. Under all conditions for an economically rational firm, carbon taxation serves this purpose well. Another of the stated objectives is that firms invest in cleaner production technologies with the same or different inputs. In this case, the evidence is not as straightforward. This work examines the latter question of technology improvement choices of firms in the presence of carbon emissions taxation.

We consider firm operating in a multi-input production setting described by a stylized, economic production function. Technology choices are assumed to be embedded in the productivity factor only and input elasticities are not affected by the firm's technology choice. This would be reasonable for short- to medium-term decision horizons. To further delineate the impact of carbon taxation, the firm is envisioned to have minimum and maximum contractual obligations to serve a market of a given size at a prescribed price for its output. A typical such firm would be an energy company serving a geographic region with government-regulated prices and service obligations.

Our analysis reveals that the impact of taxation rates on technology improvements (i) are not monotone (always increasing/decreasing) for a given firm, (ii) differ greatly across firms on the basis of overall input elasticities experienced by firms, and that (iii) carbon taxation may result in lower social benefits (outside of environmental gains) although firms adopt cleaner

technologies. We identify specific characteristics of firms for each of these effects. Our research contributes to our understanding of environmental regulations on cleaner technology adoption, the inherent trade-offs for regulators, and the impact of firm heterogeneity on technology adoption.

Keywords

Clean Production; Technology Selection; Carbon Taxation; Economic Production Functions

8. Sustainable Finance and Sustainable Development in Georgia : A country case study

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Abstract

In recent years the climate change, sustainable development, and related economic costs have been some of the most widely discussed topics. However, the year 2020 and the devastating events that took place in 2020 shed a different light on the matter. The economic cost of the pandemic has been overwhelming. However, there are some silver linings for the post-pandemic world. The pandemic brought together scientists, healthcare professionals, economists, public and private sectors to fight the consequences of Covid-19. It also strengthened the understanding, that collective efforts are required at an early stage to mitigate such risks and, indeed, everyone has a role to play in it. This paper discusses how Georgia fits into this global picture from the perspective of sustainable development and sustainable finance. The analysis covers the comprehensive study of Georgia's strategic documents and existing policy framework. The paper also investigates the dynamics of sustainable finance developments in Georgia by looking into qualitative and quantitative ESG information disclosed by commercial banks and discusses the potential challenges FIs might face while transitioning towards more sustainable behavior. The analysis shows that though Georgia is a part of many international initiatives and has made commitments to reduce GHG emissions, it lags in the implementation part, which might further contribute to the transition risk in the future.

9. Governing the transition of socio-technical grid-based systems: promoting security of supply and accelerating renewable energy innovation in Nigeria

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Abstract

The current global concern on climate change demonstrates the importance of renewable energy (RE) in meeting growing energy demand, access, and security for sustainable economic development. Nigeria committed to international obligations by creating policies to provide alternative clean energy. However, on-grid RE implementation has not been achieved missing all milestones. This study contributes to socio-technical transition by applying the multi-level perspective theory which seeks to understand the status of RE development, enablers, and inhibitors of on-grid RE strategies implementation in Nigeria and suggests possible pathways for transition towards sustainable development as most studies have been conducted from a technical or economic standpoint. This study adopts a qualitative data collection method through an inductive approach and 28 in-depth semi-structured interviews with experts using purposive sampling. The preliminary findings demonstrate a strong societal acceptance of RE technologies. Furthermore, there is landscape pressure on existing regime and the multifaceted challenges of the grid system has created opportunities for niche development. However, the incumbent socio-technical regime, conflicting multiple actors' interests and the system's inefficiency is reinforcing the incumbent regime (technology lock-in). This study proposes the establishment of an agency to beef-up the niche and RE innovations with appropriate support mechanism established to accelerate transition.

10. The Effects of IFRS Adoption: A Systematic Review of Top Papers

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Abstract

An international adoption of International Financial Reporting Standards (IFRS) is perhaps one of the greatest accounting phenomena of all times. It has stimulated debates and research among the policy-makers, academics and investors, that has resulted in a vividly mixed result. We have systematically analyzed *top* 200 Scopus-based papers to provide a clearer understanding of the effects of IFRS adoption on firm/market performance. Findings show that the effects of IFRS adoption significantly vary across studies: about half (48%) of the studies report a positive outcome (revealed in improved accounting quality, comparability, liquidity or analyst forecast precision), while the rest of the studies conclude either a negative (16%), a 'no' (18%) or ambiguous (18%) effect of IFRS adoption. The effects of IFRS adoption are moderated by the mode (voluntary or mandatory) of the adoption and the strength of enforcement. The findings of the paper are of relevance for the field scientists, investors and policy-makers to devise informed decisions on the deliberations of the effects of IFRS adoption.

Keywords

IFRS; IFRS adoption; IFRS effects; IFRS determinants; Accounting quality; Literature review

11. Best practice examples for resource efficiency measures in the manufacturing industry of the federal state Baden-Württemberg

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Abstract

The efficient use of raw materials and supplies is a crucial topic for more and more companies in order to assure their existence and competitiveness. Therefore, the German federal state of Baden-Württemberg has commissioned the Institute for Industrial Ecology (INEC) at Pforzheim University to evaluate more than 100 company case studies on resource efficiency measures in the local manufacturing industry focusing in particular on material efficiency (Schmidt et al. 2018). Due to the great international response, this study is currently being continued with further case studies. While many studies on energy efficiency in production have been published, empirical studies on material efficiency and expectable saving potentials are scarce, although material costs have a stake of around 40 % in the cost structure of the manufacturing industry and energy costs only account for 2 %. This fact underlines the importance and the leverage of resource efficiency. The evaluation and comparison of the completed case studies revealed the strong interlinkage of energy and material usage, or more precisely, that an increase in material efficiency is the precondition for various energy efficiency improvements. Another common scheme which can be seen in the case studies is that successful resource efficiency measures require cross-functional and interdisciplinary teams within and beyond the companies. Technology adoption or innovation which is often necessary for an increase in resource efficiency could only be realised in close collaboration with equipment manufacturers. Furthermore, the cases show the diversity of approaches by which improvements in resource efficiency lead to higher circularity and lower climate impacts.

Schmidt, M. et al. (2018): 100 Pioneers in Efficient Resource Management. Best practice cases from producing companies. 530 p., 600 illus. Springer: Heidelberg.