

BIG DATA based analyses of Eco-innovation in a Brazilian and Danish Context

DTU Management Engineering is currently inviting applications for PhD/Post-Doc positions in the area of BIG DATA analysis of eco-innovation/green innovations. As we are witnessing a global transition towards a green economy there is an increasing need for new types of data and analytical methods to understand the very complex relations between environmental degradation, technological change and economic development. The emerging 'eco-innovation' research field is trying to fill out this gap seeking to build up indicators and analyse drivers and barriers for eco-innovation. Generally, there is a lack of rigorous statistics and indicators on eco-innovation, including for developing countries where data and analytical insights about eco-innovation activities at the micro level (firm) and meso level (industry and technology) as well as regional levels (cities, municipalities, nations) are insufficient.

Big data is a rapidly expanding research area spanning the fields of computer science, data mining, and information management targeted at understanding and solving complex problems in different disciplinary fields. Big data thus offers promising unexplored opportunities to gather and synthesize large and different types of data sources highly relevant to analyse the very complex eco-innovation theme. Recently, new initiatives are emerging applying BIG DATA analysis to eco-innovation, especially at city levels, e.g. in some Danish cities whereas firm or sector level applications are lacking so far. Denmark has a very high standing when it comes to data availability.

This research project should develop new quantitative methods for a better understanding of trends and dynamics in green technological change and green market development. Empirically, the projects should recognize and compare Brazilian and Danish eco-innovation activities and suggest methodological improvements and novel indicators for both Brazil and Denmark.

The results should be of importance both for companies and municipalities strategizing in order to highlight green business opportunities and to achieve a better understanding of the conditions for eco-innovation in different business areas and regions. Better indicators should be of interest for policymakers too; as the greening of the economy has been presented as a strategy for countries' development after the economic crisis such analysis could shed some light on the strengths and weaknesses related with eco-innovation activities in both regions, and especially useful for Brazilian policymaking towards development strategies aimed to achieve both economic, social and environmental development. The research is carried out in cooperation between DTU Management Engineering (Technology and Innovation Management Section) and DTU Compute with supervision from both institutes.

Skills: The project requires ideally both strong computer science, machine learning, and innovation economic skills. Interest, but not necessarily prior insights, into eco-innovation and sustainability issues are desirable too. Realizing these skills are hard to acquire in one person we may contemplate 2-3 research projects based on different competencies with close collaboration between them. The projects may focus on specific sub-themes within green technological and corporate change or target firm, industry or regional levels.

Contact for further info: To indicate your interest in a PhD or postdoctoral position, please send your CV with a short covering letter to Associate Professor, PhD Maj Munch Andersen (mmua@dtu.dk).

Requirements: All applicants are required to submit a standard application to Science without Borders. Candidates may apply prior to obtaining their master's degree, but cannot begin before having received it. Limit of tenure for PhD positions 3 years, Post-Docs 2-3 years.

Links:

http://portalen.dtu.dk/Institutter/DTU_Management/