



PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 38th cycle

PARTENARIATO PNRR Research Field: MEASURING MULTI-STAKEHOLDER ACCEPTANCE OF DATA DRIVEN TECHNOLOGIES FOR SUSTAINABILITY

Monthly net income of PhDscholarship (max 36 months)

€ 1450.0

In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity

Motivation and objectives of the research in this field

The PhD research project is aimed at evaluating emerging data-driven technologies for sustainability in terms of adoption and market diffusion actual and potential, in order to identify those that can most likely become consolidated technologies in the future. In detail, the PhD candidate should develop and test an innovative methodology to assess the role antecedents and the influence that other stakeholders exert on the decision to adopt data driven technologies. Data-driven technologies for sustainability consist in technologies for tracking and tracing product to report about sustainability performance, advanced forecasting analytics to plan effectively the consumption of resources, smart farming or other data-driven supply chain innovations. The research will be focused on a multi-industrial setting, focusing on industries in which such technologies have the higher potentials of adoption and diffusion, including agri-food. Acceptance and desirability content-based indicators should be defined, applied and tested to understand the antecedents of adoption for such technologies. Acceptance and desirability evaluation will not be focused on the single supply chain stage, but should have a multi-stage scope and can also allow to measure propensity at the level of the society, thus including a measure of social acceptance. The adoption of data-driven technologies and their potential to increase different facets of sustainability has been studied extensively in literature. Nevertheless, these



	<p>technologies struggle to achieve high market diffusion. Understanding barriers hampering their adoption or, on the other ends, some antecedents of adoption with an analysis from the point of view of multiple stakeholders is the aim of this research project.</p> <p>The scholarship is partially funded by a PNRR grant (Centro Nazionale per le Tecnologie dell'Agricoltura, AGRITECH).</p>
Methods and techniques that will be developed and used to carry out the research	<p>The research implies an initial review of the scientific and grey literature on: i) data-driven technologies to derive typologies and contexts of applicability; ii) methodologies for quantitative and qualitative acceptance or propensity, looking for possible innovative approach (e.g., content-analysis on media, sectorial publications, etc). Then the candidate is asked to study at least two specific contexts of applicability of these technologies (one of which will be agri-food) and the key stakeholders to consider, perform case studies to understand possible qualitative antecedents and then perform a quantitative investigation to derive innovative indicators. The candidate should then define an overall methodology to assess acceptance and propensity of adoption.</p> <p>The methodology will then be applied in the chosen contexts of application, including agri-food, and considering a supply chain scope. This will result in a set of guidelines addressing policy makers, supply chain professionals, technology providers or organizations standards definition, to provide them with tools to overcome issues and barriers in the adoption of data driven technologies.</p>
Educational objectives	<p>The involved PhD student will learn (i) to understand and analyze sustainable technologies and practices and the necessary organizational and process innovation along the respective supply chain; (ii) to design and apply indicators or measurement scale to assess multi-stakeholders propensity/diffusion; (iii) to interact with public and private stakeholders for research, practical impact and policy purposes</p>
Job opportunities	<p>Upon PhD completion, the candidate will be tasked with</p>



	empirical research activities in interdisciplinary groups engaged with sustainability-oriented transformation, also developing team leadership competences. Public sector agencies and international organizations engaged with policy design and assessment are also a prospect employer, along with consulting organizations that advise companies and authorities on sustainable innovation.
Composition of the research group	4 Full Professors 2 Associated Professors 3 Assistant Professors 5 PhD Students
Name of the research directors	Proff. Federica Ciccullo e Margherita Pero

Contacts	
federica.ciccullo@polimi.it margherita.pero@polimi.it	

Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents (more than 80Km out of Milano)	--

Scholarship Increase for a period abroad	
Amount monthly	725.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>The PhD candidate will have the opportunity to attend courses on Management Engineering methods, sustainability-oriented innovation and agri-food sustainability at Politecnico di Milano and other Universities and research centres. He/she will be supervised by the research director through frequent meetings, and will receive feedbacks on his/her intermediate results during regular meetings with the Doctorate board and scientific conferences. The candidate will be involved in some teaching and communication activities, which are seen as a major opportunity to practice with dissemination of own and other relevant research results. He/she will be offered a desk and PC at the DIG building. The Food Sustainability Lab research projects that are related to the PhD research topics include PNRR's Agritech center and Food Sustainability Observatory initiatives (https://www.osservatori.net/it_it/osservatori/food-sustainability).</p> <p>The research group cooperates with several academic groups and research centres, and various public, private and non-profit stakeholders, such as the Dunning Centre for International Business network, CIRAD Montpellier, Laurier Centre for Sustainable Food Systems at the Wilfrid Laurier</p>



University in Waterloo, Canada; the National Research Institute on Agronomy (INRA); Cardiff University; Wageningen University, Roskilde University, Fondazione Banco Alimentare, the Milan Urban Food Policy Pact network.

CCUP: D43C22001410007

Decreto Direttoriale Avviso:

Avviso è il Bando, nel vostro caso D. D. 3138 del 12/16/2021 rettificato con D.D. 3175 del 18/12/2021 Avviso pubblico per presentazione Proposte di intervento per il Potenziamento di strutture di ricerca e creazione di campioni nazionali" di R&S su alcune Key Enabling Technologies da finanziare nell'ambito del Piano Nazionale di Ripresa e Resilienza, Missione 4 Componente 2 Investimento 1.4 Potenziamento strutture di ricerca e creazione di campioni nazionali di R&S su alcune Key Enabling Technologies finanziato dall'Unione europea - NextGenerationEU

Decreto di concessione: D.D. 1032 del 17/06/2022