



PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 38th cycle

PNRR_351_DOTT_RICERCA Research Field: INVESTIGATING HOW OPERATIONAL EXCELLENCE APPROACHES CAN BE USED TO IMPROVE 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	
<p>Motivation and objectives of the research in this field</p>	<p>In the last years, more and more attention has been devoted to sustainability. Operations is the area of the company that has the greatest impact on sustainability due to its intense use of resources (energy, material, whater) and people. A large portion of resources is wasted in processes (e.g. 17% of food produced every year in the world is wasted). Operational excellence methods and tools are extremely effective in both addressing waste and in boosting companes' performances.</p> <p>Therefore it is extremely interesting to deepen the knowledge on how to adapt Operational Excellence methods and tools to increase Company's sustainability with a direct impact on the triple bottom line (People, Planet, Profit) that is a main goal for PNRR and the future of Europe.</p> <p>The research aims to define frameworks and tools that support companies in three different areas of action:</p> <ul style="list-style-type: none"> - Analysis of present processes: so to highlight the impact on sustainability. E.g mapping tools and methodology that help to better understand the impact of each process on the total use of energy. Or on the carbon print - Generate innovative solutions: so to implement changes to the processes that are viable, and improve the triple bottom line. - Change the culture of the people and the company, and its stakeholdes (customer, suppliers, partners), so to dramatically increase the attention to sustainability and



	<p>the pace towards becoming a sustainable company. The impact is massive: for example, in a recent G20 meeting it has been highlighted that 50% of electricity is produced from fossils sources. If we could reduce energy waste by 5%, we could reduce by up to 10% the use of fossile sources with a huge impact on environmental sustainability.</p>
<p>Methods and techniques that will be developed and used to carry out the research</p>	<p>The following methodologies will be applied in the research project:</p> <ul style="list-style-type: none"> - Literature analysis in order to map the situation of research at international level; - Case studies, in order to analyse the best practices of problem solving and innovation management of companies that have already developed new good practices; - Action research project to work on tools for process analysis in order to identify improvement opportunities.
<p>Educational objectives</p>	<p>The research is multidisciplinary in nature: the candidate will develop advanced research skills in the areas of Sustainability, Operational excellence, and Business model innovation. She/he will learn how to design and conduct a research project, adopting the proper methodologies for conducting a literature review, data collection and analysis (survey, structured interviews), to validate results, and to present and publish results in both academic and practitioner outlets.</p> <p>Such learnings are extremely useful in all the further development of the professional career of the PhD candidate.</p> <p>And introducing people with such a higher level of education in the economic system gives a strong contribution to increase its competitiveness and degree of innovation.</p>
<p>Job opportunities</p>	<p>Because the subject is at the center of the attention of virtually any company, job opportunities are easily available in any manufacturing company. In addition, consulting companies also value the specific competences on the subject, and also the methodologies learned.</p>



Composition of the research group	1 Full Professors 0 Associated Professors 2 Assistant Professors 2 PhD Students
Name of the research directors	Alberto Portioli Staudacher

Contacts	
alberto.portioli@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

National Operational Program for Research and Innovation	
Company where the candidate will attend the stage (name and brief description)	
By number of months at the company	0
Institution or company where the candidate will spend the period abroad (name and brief description)	The PhD student will spend a period of at least 6 months abroad to interact with researchers and participate in joint activities potentially foreseen in the project, according to specific needs. Indeed, the project is highly interdisciplinary, and this favors the collaboration with foreign research centers where the candidate can acquire in-depth knowledge on the theme.
By number of months abroad	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
Funding for educational activities: 4.900,00 Euros for three years. Teaching assistantship: There are various forms of financial aid for activities of support to the teaching practice. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations. Desk availability: shared use Computer availability: individual use