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GUEST: A LEAN METHODOLOGY FOR MANAGEMENT SCIENCE AND OPERATIONS RESEARCH

Abstract: The management of real projects led MS&OR specialists to work in multi-disciplinary teams and multi-stakeholder environments. The challenges given to the Academic Community by research domains like City Logistics, Smart Cities and Multi-Sided Platforms imply to consider several aspects in the development of DSS and Optimization frameworks, like economic, social and environmental aspects, pushing the projects to another level of magnitude in terms of complexity. On one side this process is a source of innovation for the MS&OR community. On the other hand, it touches a scientific nerve in our domain: how can we transfer to non-OR people our results? How can we describe our models to non-OR people a mathematical model or a heuristic solution and to be sure that we are solving their problems? How can we reduce the time needed to move from the first meeting to the delivery of the solution while reducing backtrackings? In recent years, a new movement emerged in business management: Lean Startup [1]. This new way of living the business process led to an earthquake in business, forcing even big companies to rethink their structure. The problem of Lean Startup was (and is up to now) the extreme difficulty to decline it in a standardized and repeatable process. In this presentation GUEST, an engineered version of the Lean Startup, is presented [2]. Aim of the methodology is to guide the decisional process in Multi-Actor, Multi-Stakeholder systems and to control the problem-solving process. A specialized version of the process, developed for MS&OR projects, is introduced and two applications of the GUEST to real case studies related to City Logistics are presented. The first one is a benchmark between car sharing companies in order to evaluate their operational and business models. The second one is related to the development of a DSS for planning the waste collection. The analysis of the KPIs shows how, by applying the GUEST, the overall effort in time and human resources needed to converge to a factual implementation of a DSS can be reduced up to 40 %.

References

- [1] Osterwalder, A. and Pigneur, Y. (2010). Business model generation: a handbook for visionaries, game changers, and challengers. John Wiley & Sons.
- [2] Perboli, G. and Gentile, R. (2014). The GUEST methodology manifesto. Technical report, DAUIN - Politecnico di Torino.

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Ouvert à tous / Open to all

Organisateur / Organizer
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