

Data management, statistics and data analytics for sustainability goals

During the last decade, enormous attention has been given to the assessment and improvement of the performance of productive systems. The use, both in the private and in the public and regulatory sectors, of performance measures has become pervasive.

The assessment of performance has economic, accounting and management science dimensions (Agovino et al., 2022; Dyson, 2000). Their integration promises more powerful assessments. The revival of the performance measurement culture has brought closer previously unconnected disciplines that are, by nature, deeply involved with the assessment of performance, such as statistics and information systems. It is well known that statistics plays a key role in performance measurement and, together with data analytics, can lead to the improvement of performance measurement systems (De Luca et al., 2021; Rapposelli and Za, 2020). In particular, statistical techniques can be used to provide decision support for planning as well as to assess performance in a control mission (Agovino et al., 2020). Data management is fundamentally concerned with making data actually usable for the abovementioned purposes. Among others it involves questions of governance, quality, and protection of data. Given high efforts organizations spend for making data usable, data management is a key enabler for performance measurement (Dallemler and Davenport, 2017; Schilling et al., 2020).

To this purpose, the aim of this track is to explore the interactions of data management, analytics and statistics with decision making, strategy and performance measurement supporting the achievement of sustainability goals. Sustainability is now recognized as a key business imperative that drives both cost savings and value creation. Whilst many organizations already have a strategy in place, there is a growing need to interlink it with the actual business, in terms of operational excellence, risk management, product innovation, growth and governance. Sustainable Performance involves the harmonization of financial, environmental and social objectives in the delivery of core business activities in order to maximize organizations' value (Agovino et al., 2021; Lombardi et al., 2021). Statistics is a key aid to strategy formulation as well as to policy evaluation by means of efficiency measurement methods. Besides, it is well known that an efficiency evaluation approach can assist decision-makers and pursue actions to improve levels of efficiency. Hence, this track also aims to investigate the impact of performance measurement in the strategic planning process, by mapping the current practices of strategic planning in different sectors and processes.

From this perspective, as organizations strive to integrate more and more data to support the execution of their core business processes, many interesting research opportunities related to data management, business analytics, and data science arise. On the one hand, organizations are facing novel technological challenges, as fundamentally different system architectures are required to process and create knowledge from an ever-growing volume of data with vastly increased velocity and variety. On the other hand, a wide range of interesting social, economic, environmental, psychological, and organizational questions arise, concerning our ability to develop, maintain, operate, and use complex information systems (Benbya et al., 2020; Haki et al., 2020).

Hence, this track aims to provide a forum to discuss and promote research related to these exciting developments, by exploring the state-of-the-art of research spanning all areas of analytical and empirical research.

Submissions on the theory and application of economics, econometrics, information systems, management science, operational research and statistics related to the areas of productivity and efficiency measurement are highly encouraged. In particular, papers related to measuring, understanding, incentivizing and improving the productivity and performance of different processes are welcomed, as well as scientific research emphasizing modelling, optimization, computation and data analytics in identifying and solving management problems and making decisions in complex systems. We also welcome submissions that develop novel system architectures, analysis procedures, data management frameworks, and visualization techniques. We

invite investigations of related social and organizational challenges, such as cognitive overload or data management and related data governance issues, as well as empirical descriptions of applied data science to improve processes in domains such as marketing, finance, supply chain optimization, and healthcare.

Track main topics

Authors are encouraged to submit research-in-progress as well as complete full papers presenting empirical and conceptual contributions to advance knowledge in this field. Contributions should be open to multi-disciplinary approaches. Topics of interest include, but are not limited to, the following ones:

- Algorithmic advances
- Applied Data Science
- Business intelligence and decision support
- Business process management
- Cloud migration
- Data-driven Business Process Automation
- Data Governance
- Data Quality
- Data Management/Business Analytics System Frameworks and Architectures
- Data Management/Business Analytics System Development and Operation
- Data/Service-driven methods to manage and measure customer experience in services
- Decision making
- E-Business and competitive strategy
- Efficiency measurement
- Forecasting and predictive analytics
- Healthcare information systems
- Human perception of complex data
- Innovation and productivity
- New organizational processes, roles
- Operations management
- Productivity and welfare
- Project management and organizational setup of Data Science
- Service design
- Service engineering and service management
- Service productivity and service quality
- Service science models
- Supply chain and logistics management
- Sustainability
- Tools to support Data Science (visualization, data mining, ...)
- Transportation systems and management

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