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Network and text mining analysis on social reporting to study business relationships

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Every year, more and more companies decide to support sporting, musical, and gastronomic events, enabling them to establish long-term relationships or strengthen existing collaborations. In this contribution, we randomly chose three events (Eurovision Song Contest, European Aquatics Championships, and Cous Cous Fest) that took place in three Italian regions in 2022. The existing relationships between thirteen companies that published at least one document of social reporting in 2021 are analysed exploratorily. Specifically, through Network Analysis, the relationships between the companies before and after 2021 are identified thanks to a Google search and then reported in two pre- and post-event adjacency matrices, also noting the relationship types to understand their nature. It is interesting to notice that despite the random choice of events, all the companies are connected. Then, we compare these networks to those deriving from a text-mining analysis with a latent Dirichlet allocation probabilistic topic model applied to social reports. The research is enriched by studying the statistical significance of revealed topics in the social reports. Our findings highlight some main topics (e.g., sustainability, accounting, and finance). The study intends to reflect on the possible association between existing company collaborations and the similarity among their documents of social reporting. Some of them show a high linguistic affinity between companies, which also reflects actual collaborations. Besides, the documents of some companies seem to be more sustainability-oriented, and the relationships initiated in 2022 show that some companies tend to collaborate with those that seem less sustainability-oriented in their social report.

Keywords

network analysis, social reporting, business relationships, text mining, sustainability

Topics

· Applications of network analysis in multidisciplinary fields

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