

4<sup>th</sup> International Conference on

# BUSINESS ETHICS & CORPORATE COMPLIANCE

May 15-16, 2023 | Paris, France

## Prioritization of vaccine doses against COVID-19: A quantitative study in the state of Rio De Janeiro (Brazil)

**Marco Aurelio Carino Bouzada**

Unigranrio University, Brazil

Developing countries are still struggling to contain and mitigate the spread of covid-19 disease, and world leaders are demanding equitable distribution of vaccines to trigger economic recovery. Despite the numerous prevention strategies used to control covid-19, the best method to contain this disease is vaccination. In Brazil, the state of Rio de Janeiro was considered to have the highest lethality rate, with one death in every 20 infected by the “new” virus. The first phase of the vaccination campaign against the disease in the state had only 488,320 doses of the vaccine. With this, this research aimed to investigate the problems encountered by the public administration regarding the distribution of immunizers, pondering the indication of the best

municipalities that could possibly be prioritized regarding the initial supply of the first batch of vaccines in that state, with a view to reducing mortality rates and impacts on life expectancy of the population of Rio de Janeiro. Several scenarios were simulated, varying vaccine effectiveness to allow the analysis of lives saved and years saved if there was a prioritization of the distribution of vaccines within municipalities with higher lethality. For this, a clustering with machine learning was carried out. It was then possible to conclude that vaccination concentrated in the city of Rio de Janeiro to the detriment of the other clusters would bring better results both in terms of the number of lives saved and the number of years saved.

### Biography

Marco Aurelio Carino Bouzada holds a degree in Production Engineering from UFRJ, a master’s and doctorate in Administration from the Coppead Institute of Administration/UFRJ. He is currently a permanent professor of the Master’s and Doctorate programs in Administration at UNIGRANRIO, coordinator and professor of the Professional Certification in Purchasing and Supply Chain at alumni coppead (UFRJ). He has more than 50 articles published in national and international journals. He is one of the founders of the Brazilian Data Science Society and organizer and main author of 5 books in the area of Quantitative Methods.

marco.bouzada@unigranrio.edu.br