S&G 16 (2021), pp. 109-110

S&G JOURNAL
ISSN: 1980-5160

LESSONS FROM THE PANDEMIC: THE GLOBAL DEVELOPMENT MODEL CHALLENGED BY COVID-19

Marcelo Pompermayer de Almeida
marcelo@valorainova.com.br
Fluminense Federal University – UFF, Niterói, RJ, Brazil.

Jessica de Freitas Delgado
jessiicafdelgado@gmail.com
Fluminense Federal University – UFF, Niterói, RJ, Brazil.

Leonardo da Silva Lima
leodslima@gmail.com
Fluminense Federal University – UFF, Niterói, RJ, Brazil.

Fabiana Cunha Leão Pompermayer
fabiana.educato@gmail.com
Fluminense Federal University – UFF, Niterói, RJ, Brazil.

Estefan Monteiro da Fonseca
oceano25@hotmail.com
Fluminense Federal University – UFF, Niterói, RJ, Brazil.

Beginning in December 2020 in Wuhan, China (Braun, 2020), the outbreak of the new coronavirus has imposed a new reality of restrictions on the world, commercial and industrial stoppages, it reduced transport flow, among other immediate global impacts. Adjustments in the functioning of society were used as a measure to contain the spread of the COVID-19 pandemic, directly or indirectly impacting the current system, in various social sectors, such as the economic and environmental ones. Thus, the aforementioned virus directly affected the current modus operandi of human survival based on globalization (De Troi and Quintilio, 2020).

In the specific case of the global economy, the impacts of the COVID-19 pandemic have generated negative repercussion and will continue to do so. For instance, the World Trade Organization (WTO) estimated the reduction in international trade between 13% and 32% due to the pandemic. Effects in different macroeconomic intensities of different countries and microeconomic in global production and consumption chains will continue to be experienced (Senhoras, 2020).

If, on the one hand, this episode represents an unprecedented global catastrophic event, on the other hand, it consists of a laboratory for evaluating the functioning of human relationships. Contrary to popular belief, globalization must be seen not only as the product of international trade, but as the result of the exponential growth of human communities that, at a certain point, would inevitably interact and exchange information. This growth, however, has had negative effects, mainly on social habits, with the growth of individualism and the lack of interests in favor of the collectivity, which resulted in exaggerated consumption (Garcia *et al.*, 2018). Additionally, the negative impacts can also call into question the sustainability of the current model of civilization.

Since microorganisms represent the basis of the development of living beings on Earth, a parallel is established between the life cycle of these microorganisms and the human model of subsistence, which may clarify the fragility of the sustainability of this model. Over the past few decades, scientists have argued that bacteria lived as individual cells, looking for nutrients, with independent habits, and multiplying when under favorable conditions. Nowadays, however, these organisms are recognized as colonial beings that use elaborate methods, being able to capture information originated by plants and other bacteria, thus indicating the existence of an interaction and communication between cells of the same strain (Whitehead *et al.*, 2001; Bai & Rai, 2011). This interaction mechanism used by bacte-

PROPPI / DOT
DOI: 10.20985/1980-5160.2021.v16n2.1746

S&G Journal
Volume 16, Number 2, 2021, pp. 109-110
DOI: 10.20985/1980-5160.2021.v16n2.1746

ria is called “quorum sensing”. This “proto-communication” system is based on the ability of these agents to sense the presence of other individuals in the vicinity, through the production and response to indicator molecules, known as autoinducers. Such system allows bacteria to assess population size by concentrating signals. When this signaling reaches the critical level, microorganisms start to act as a single multicellular organism, becoming capable of producing unified responses favorable to population survival (Fuqua *et al.*, 2001; Pinto, 2005; Ammor *et al.*, 2008). Thus, according to this mechanism, in large populations, the key to sustainability may lie in the health of the community, and not just in the situation of an individual or a group of isolated individuals.

Projecting this essay on the current civilization, and supported by the global effects that the pandemic generated, it is clear that the health of the “Cepa Sapiens”, as known as “the human race”, should have a direct relationship with the well-being of the entire community.

Within the aforementioned pandemic framework, this issue of Sistemas & Gestão magazine presents the effects of the Pandemic on the information flow in the food service supply chain during the COVID-19 pandemic period. Other works also present solutions for the impacts on the market, such as the use of public policies of economic incentives to promote eco-efficiency in civil construction, proving that despite the premises of the “Minimum State”, the public authorities are not exempt from the responsibility to offer the bases for the development of the economy. Other methodologies, such as working in distributed teams and the use of information and communication technologies, including the use of the 8D Report as a product improvement tool, are also objects of other articles that defend production methods in this issue.

Finally, innovation and sustainability are always present as development tools. This issue presents the technical and financial feasibility of innovation processes: a comparative study for installing solar energy systems in homes.

REFERENCE LIST

AMMOR, M. S.; MICHAELIDIS, C.; NYCHAS, G. J. Insights into the role of quorum sensing in food spoilage. Journal of food protection, Des Moines, v. 71, n. 7, p. 1510-25, jul./2008.

BAI, A. J.; RAI, V. R. Bacterial Quorum Sensing and Food Industry. Comprehensive Reviews in Food Science and Food Safety, Amsterdam, v. 10, n. 3, p. 183-193, May/ 2011.

Braun, Julia – VEJA (2020). Quarentenas e restrições reduzem poluição na Itália, China e em NY. Disponível em: https://veja.abril.com.br/mundo/quarentenas-e-restricoes-reduzem-poluicao-na-italia-china-e-em-ny/. Acesso em: 15/07/2021.

De Troi, M. e Quintilio, W. (2020). Coronavírus: lições antinegacionistas e o futuro do planeta. SciELO em Perspectiva. Disponível em: https://blog.scielo.org/blog/2020/03/31/coronavirus-licoes-anti-negacionistas-e-o-futuro-do-planeta/. Acesso em: 15/07/2021.

FUQUA, C.; PARSEK, M. R.; GREENBERG, E. P. Regulation of gene expression by cell-to-cell communication: Acyl-Homoserine Lactone Quorum Sensing. Annual Review of Genetics, Palo Alto, v. 35, p. 439-468, 2001. RUMJANEK *et al.*, 2004.

PINTO, U. M. Quorum sensing em bactérias psicrotróficas proteolíticas isoladas de leite 2005. 87f. Tese (Doutorado em Microbiologia Agrícola) Universidade Federal de Viçosa, Viçosa.- MG.

SENHORAS, E. M. “Novo coronavírus e seus impactos econômicos no mundo”. Boletim de Conjuntura (BOCA), vol. 1, n. 2, 2020.

WHITEHEAD, N. A.; BARNARD, A. M. L.; SLATER, H.; SIMPSON, N. J. L.; SALMOND, G. P. C. Quorum-sensing in Gram-negative bacteria. FEMS Microbiology Reviews, Amsterdam, v. 25, n. 4, p.365-404, ago.2001.

Received: August 17, 2021

Approved: August 17, 2021

DOI: 10.20985/1980-5160.2021.v16n2.1746

How to cite: Almeida, M.P., Delgado, J.F., Lima, L.S., Pompermayer, F.C.L., Fonseca, E.M. (2021). Lessons from the pandemic: the global development model challenged by COVID-19. Revista S&G 16, 2. https://revistasg.emnuvens.com.br/sg/article/view/1746